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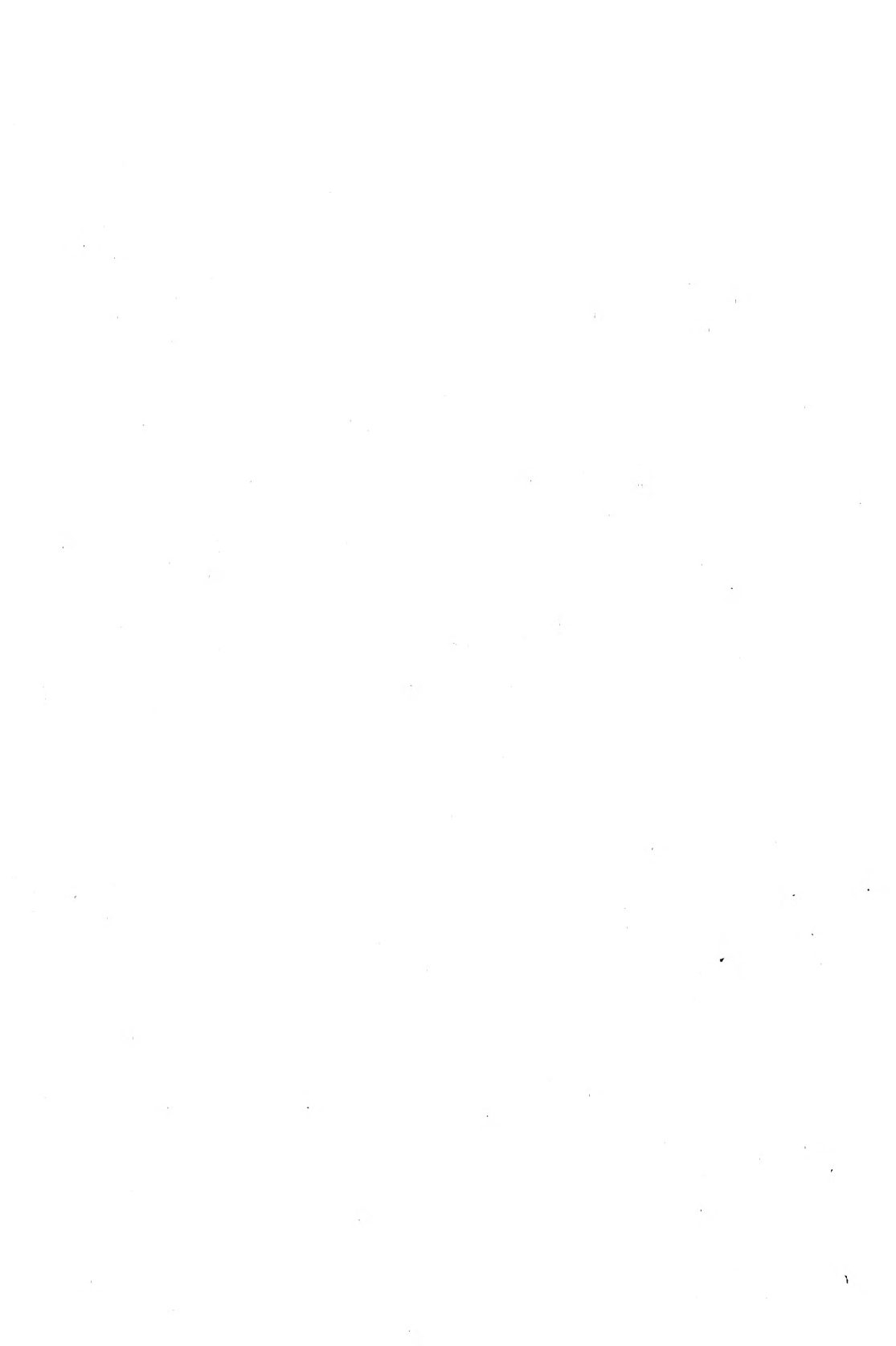
OF THE



MASSACHUSETTS
AGRICULTURAL
COLLEGE



V-87





JOSEPH CHEAL, V.M.H.

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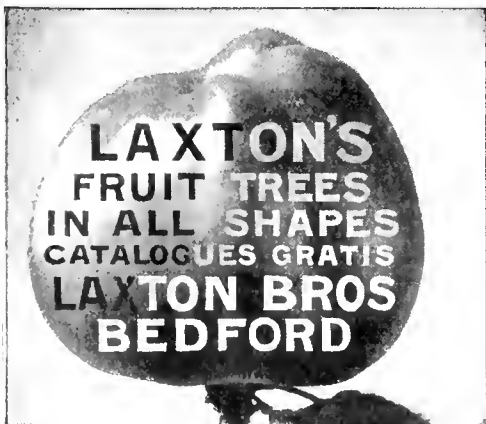
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No 2668.—Vol. LXXXVII.]

[JANUARY 6, 1923.]

THE BORAGE ORDER

Its Place in the Garden Scheme.

THERE are individuals who will have nought to do with mass planting in any shape or form. There are others who do not believe that any plant can be effective unless displayed in large masses. The truth in this, as in many other instances lies somewhere between these two extremes. If we cast our minds back and revisualise some especially effective mass planting or wide natural grouping, we shall almost certainly find that the colouring of the group in question was on the "cool" side. Certain it is that if really "hot" colours—vivid salmons, dazzling oranges, vermilion tones or some of the brilliant rosy magentas are to be used in masses, the eye must be, as it were, led up to them by the use of gradually strengthening colour. It is, therefore, particularly difficult to use masses of strong colour in a small garden.

"What has this," it may be said, "to do with the Borage Order?" Simply this! That this order—the Boraginaceæ—contains many of the most effective blue-flowered plants for massing and blue is a colour none too plentiful in the garden, especially in the summer garden. There are also some plants, belonging mainly to the genera *Pulmonaria* and *Mertensia*, which are valuable for providing patches of rather quiet opalescent colour caused by the flowers opening rosy-pink and changing with age to blue. Yellow shades are found in the genus *Onosma*.

Undoubtedly the most popular genus in the Order is that of the Forget-me-not, *Myosotis*. It is to be found in practically every garden in the land. Some of the varieties of *Myosotis dissitiflora* are invaluable for spring bedding. The variety, *Roll of Honour*, illustrated on

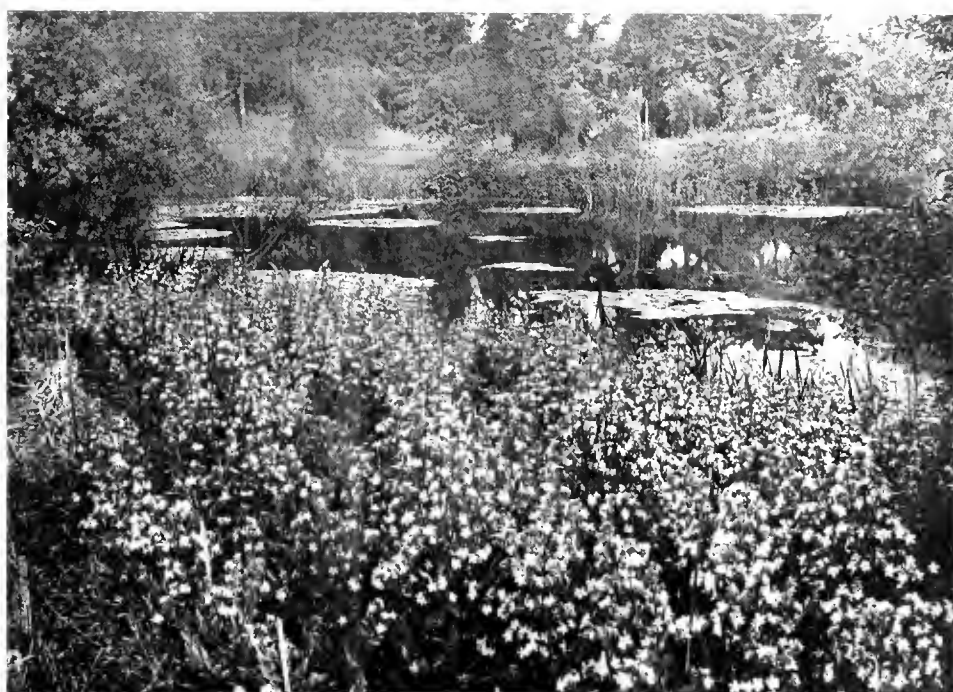
page 2, received an award of merit in 1920. It is particularly fine, but after all, for bedding effect the cloudy mass of the easily grown Sutton's Royal Blue would be equally, if not more, effective. For producing charming masses of brilliant blue by the waterside, the Water Forget-me-not, *Myosotis palustris* is excellent. There is something very charming and unsophisticated about the bright blue, yellow-centred flowers in rather loose corymbs. This species will succeed well in semi-shade, quite away from water, if given well cultivated ground with a good proportion of humus. There are improved forms on offer. When purchasing seed of bedding varieties of Forget-me-not, the sort selected should largely depend upon the purpose in view. The "stricta" sorts—like miniature flowering Cypresses—are most effective where "dot plant" effects are wanted, but should not be used where broad or rather cloudy colouring is wanted.

There is a number of Forget-me-nots which are suitable for the rock garden, including *Myosotis alpestris*, which, in a damp, shady corner of the

rock garden, is very beautiful, but the form or hybrid called *Ruth Fischer* is even more beautiful. *M. Rehsteineri* is a neat species for wet land or moraine, very much like a miniature *M. palustris*. *M. Welwitschii* is an exceedingly easy and free-flowering species which readily naturalises itself. *M. albo-sericea* is a scarce and rather difficult kind, remarkable for its sulphur yellow flowers and silvery silky foliage. Very close to the true Forget-me-nots is the King of the Alps, *Ertrichium nanum*, so admirable in its native mountains, so difficult and unattractive in gardens.

If Forget-me-not is the best known genus of the Borage Order, the Alkanet (*Achusa*) must run it very close in point of popularity. Always a valuable blue flower, *Achusa italica* has been much improved during our generation. The two best known forms are probably also the most desirable. These are the rich gentian-blue Dropmore Variety and the azure Opal. A popular and desirable plant for massing towards the front of the border is *A. myosotidiflora*, with not specially handsome cordate foliage, but bearing

masses of small azure flowers over a long period. It will tolerate semi-shade, but succeeds in full sunlight. Very closely related to the *Achusas* is that glorious blue Hounds-tongue, *Cynoglossum amabile*, which, indeed, might almost be described as a finely coloured dwarf and compact edition of *Achusa italica*. *Myosotidium nobile* is the so-called Chatham Island Lily, which is hardy only in the south-west. Neither the robust leathery foliage nor the blue and white giant forget-me-not like flowers is very handsome. Were it not just on the border line of hardiness and rather difficult to establish besides, few would bother to grow it!



ACHUSA ITALICA DROPMORE VARIETY MASSED BY WATERSIDE.

BARBERRIES FOR FLOWER, FRUIT AND FOLIAGE

TO-DAY we have our rose garden, azalea garden, bamboo garden and rhododendron dell. Who among the host of readers of THE GARDEN will be bold enough to deny the possibilities and beauties of the barberry garden of the future. It will be a place of interest and attraction throughout the year! Not only are Barberries ornamental in foliage, flower and fruit, but many have gorgeous autumnal leaf-tints; while some are valuable evergreens. In others the leafless branches claim attention by reason of their colour and spines. Consider what we can do in the pleasure grounds and shrubbery borders with bushes of such varied foliage as *Berberis japonica*, with leaves up to 1½ ft. long, and *B. empetrifolia*, the narrow leaves of which are only ½ in. to 1 in. long. In habit of growth there is an equally wide variation from the diminutive *B. Thunbergii* minor and *B. buxifolia* nana, 1 ft. to 1½ ft. high, and the robust luxuriance of *B. aristata*, 10 ft. to 12 ft. in height and 18 ft. to 20 ft. in diameter.

The introduction of many new species from China during the last thirty years has more than trebled the value of the Barberries in the garden, their most important feature being the luxuriance and beauty of the fruits of a large number in autumn and early winter.

One may safely place the Barberries among the easiest of hardy shrubs to cultivate in the generality of soils. During the long spell of drought in 1921, nothing, with us, withstood the drought better than Barberries, although there were that season a goodly number of newly planted young bushes. The majority of deciduous species, having an abundance of fibrous roots, are fairly easy to transplant from October to March, when the weather is favourable and the ground in good condition for digging. The evergreen species are best planted in autumn or late spring. The only section calling for special comment is the pinnate-leaved *B. japonica* and closely allied species and varieties. Always try to have these placed in their permanent stations when young. If necessary to transplant fair-sized bushes, we find late April and May the best time. Moving with good balls of soil attached to the roots is, even then, necessary.

Barberries are by no means gross feeders; in fact it is surprising how well many of them thrive on gravelly slopes and steep banks, where it is not possible to do much soil preparation. In these cases a spring mulch of farmyard manure is worth considering. The least satisfactory soil to deal with is that which is heavy and ill-drained. A few cart-loads of gravel, broken bricks and mortar rubble freely worked in will do much to transform heavy ground into a *Berberis*-growing soil.

As a general rule it is a mistake to crowd Barberries when planting. So many of them have a distinctive habit of growth which gives them a beauty all their own, but which is easily destroyed or, at any rate, largely destroyed by close planting.

To bring out to the full the ornamental characters of the family, open and sunny positions must be the rule. There are exceptions, these being generally found among the evergreens. Few will deny pride of place to the Mahonia or Oregon Grape (*B. Aquifolium*), as the best evergreen shrub to clothe the ground beneath deciduous trees. Some shelter is necessary in many gardens when an endeavour is made to cultivate the Nepal Barberry (*B. nepalensis*) or Fortune's Barberry (*B. Fortunei*). Though hardier, the Japanese Mahonias (*B. japonica* and vars. *hyemalis* and *Bealei*), thrive best in sheltered, but not much shaded, positions.

The fact that it has been possible successfully to introduce and speedily to popularise the Chinese Barberries is abundant evidence of the ease with which they are raised from seeds. Were further corroboration required we have it in the wealth of hybrids raised through the chance cross-pollination of the best fruiting Chinese Barberries growing in close proximity at Wisley.

While the ease with which cross-pollination is effected may have its advantages, if we desire to perpetuate a particular species, unless the plant in question appears to be isolated, we must increase it by cuttings, layering or offsets (division), to be sure of true reproduction. In the same way the delightful Wisley hybrids must be propagated vegetatively for, being crosses, they will not reproduce true, though, of course, in raising

Darwin's Barberry scores in the richness of its golden blossoms. More upright in habit, also evergreen, it however does not quite equal *B. stenophylla* for a hedge, not being so readily pruned with the shears and more difficult to keep furnished near the ground.

B. Aquifolium.—Perhaps because it is planted largely under trees, the value of this Mahonia or Oregon Grape as a flowering shrub is not sufficiently well known. Under normal conditions it produces a wealth of yellow blossoms borne on erect racemes from March to May. These are followed in late summer and early autumn by an abundant crop of blue-black fruits, hence the name Oregon Grape.

B. japonica.—This is an imposing evergreen shrub of upright habit having, in early spring, erect



BARBERRIES UNDER FROST

seedlings from a hybrid there is always a chance of getting something better.

Taking a broad view of the Barberry family we find them possessing a distinct value for general planting in the pleasure grounds, shrubbery borders and the open woodland; a number give glorious masses in flower or fruit when planted in wide stretches; while others claim distinction as lawn specimens. Their value for a particular purpose and the best species and varieties can be best described by giving a short list under each heading, beginning with the—

BEST FLOWERING KINDS.

B. STENOPHYLLA has been aptly named the Queen of Barberries and is too well known to need a long description here. It occurred as a chance hybrid in the Handsworth Nursery, near Sheffield, about 1860, the reputed parents being *B. Darwinii* and *B. empetrifolia*. Wreathed in golden yellow flowers during April and May it is one of our best shrubs to plant in large masses. As an evergreen hedge shrub *B. stenophylla* responds very readily to the shears to keep it neat and shapely.

B. DARWINII.—This is the only rival to the last-named. It lacks the graceful arching habit, but

racemes of pale yellow blossoms with a delicious fragrance. *Bealei* is a hardier variety with larger leaves and *hyemalis* a winter-flowering form. All form attractive upright-growing bushes 6 ft. to 10 ft. or more in height.

B. POLYANTHA.—A deciduous Chinese Barberry, the true species is a wide spreading bush 6 ft. to 8 ft. or more in height. During June the arching branches are laden with drooping racemes of yellow blossoms. There are frequently fifty, sometimes over one hundred flowers in a raceme, and they are followed in autumn by quantities of salmon-red fruits.

B. VULGARIS.—The common Barberry of our hedgerows is getting rather overlooked in our desire to possess more of the exotic species. Some of the best forms, however, are unsurpassed by any of the deciduous species when full of yellow blossoms during May and again with rich red fruits in autumn.

B. AGGREGATA and the closely allied *B. Pratteni* are distinct in having erect inflorescences freely borne at the ends of the shoots, thus showing to the best advantage both the yellow flowers and fruits. *B. yunnanensis* has a rather larger flower than most of the deciduous Barberries, growing up to 5 ft. or 6 ft. in height. The clusters of yellow

flowers are attractive in early summer and are followed by salmon-red fruits in autumn.

FRUITING BARBERIES.

Among these the Wisley hybrids, Autumn Cheer, Fireflame, Sparkler, rubrostilla and Sibbertoft Coral, lead the way, giving us a wealth of colour and interest in the garden during autumn and early winter. These are apparently the result of chance cross-pollination between the best of the newer Chinese fruiting species, which include *B. polyantha*, *B. subcaulata*, *B. Staphana*, *B. Wilsonæ*, *B. yunnanensis*, *B. aggregata* and the variety Prattii.

Selected forms of our common Barberry (*B. vulgaris*) deserve much more attention from planters. The fact that they grow so freely in the hedgerows is abundant evidence of their hardy and accommodating nature. For sloping banks, the lake-side and on the edge of the woodland, picture the effect of bushes laden with rich red fruits in autumn and early winter!

Unlike most berries or fruits, those of the Barberries (not the Mahonias) have an acid taste which the birds do not care for. Consequently we are able much longer to enjoy their beauty.

EVERGREEN KINDS.

Many of these are beautiful and interesting shrubs at all seasons, though particularly valuable and ornamental in winter. Three of the best, *B. stenophylla*, *B. japonica* and *B. Aquifolium*, have already been noted as valuable flowering shrubs. In addition to the value of the last named in the garden, its use for cutting is seen on every hand in the streets of London and the suburbs. The quantity sold in Covent Garden must amount to tons every week in winter. The foliage turns naturally to a bronzy-red hue in winter but, by placing the stalks in cold amine dye, the colour changes to dark red. In the home it is most valuable for vase decoration associated, among other things, with *Jasminum nudiflorum*, *Hamelis mollis* or *Forsythia spectabilis*.

B. SARGENTIANA is a particularly tree-growing and hardy evergreen, introduced from W. Hupch by Mr. E. H. Wilson in 1907. When home recently, Mr. Wilson said it was the only one among the evergreen Chinese species which had proved hardy in the Arnold Arboretum. The oval leaves vary from 2ins. to 5ins. long and 1in. to 1½ins. wide.

B. CANDIDULA forms a dwarf, close-growing bush, usually under 2ft. in height, the leaves shiny, dark green above and distinct blue-white beneath. For the front of the border or the rock garden it is a valuable and distinct addition.

B. GAGNEPAINI is a graceful and interesting shrub with distinct linear-lanceolate leaves, having undulating spiny margins, yellow flowers and blue-black fruits. In a wild state Mr. Wilson found it growing in Western Szechuan 100 to 200 ft. in height.

B. VIRENDOLENSIS is also from Western Szechuan, growing to 100 ft. in height, the leaves dark green above and blue-white beneath. The twigs are covered with a dense covering of small, round, orange-brown, scaly scales.

Autumn colouring is very good with Barberries. Each shrub has its own special preference. *B. yunnanensis* and *B. subcaulata* are excellent for colouring. *B. polyantha* is tall. Sprays cut for decoration of the house are especially so, and colouring best in appearance. *B. candidula* and *B. Thunbergii* are the best for colouring. *B. polyantha* has a month of its brilliant yellow, red, scarlet and crimson foliage in autumn. *B. polyantha* is another Chinese Barberry with golden red and yellow foliage, while very similar in colouring also is *B. dictyophylla*.

A selection for the rock garden should include *B. Wilsonæ*, *B. Thunbergii minor*, *B. empetrifolia*, *B. Darwinii nana*, *B. candidula*, *B. buxifolia nana*, *B. verruculosa* and last, but perhaps the most important of all, *B. concinna*. This has the largest and most fleshy fruit of any Barberry, approaching an inch long and correspondingly thick. It was first introduced by Sir Joseph Hooker from the Sikkim Himalayas about 1850. Low-growing and spreading in habit, it has rich green leaves which are white beneath and when raised on the boulders of the rock garden, it is very distinct and interesting.

In addition to the spiny character of the deciduous stems in winter, two species appear very prominent, the red twigs of *B. virescens*, and the grey-white stems of *B. dictyophylla albicaulis*.

These notes would not be complete without reference to one of the most robust of all Barberries, *B. aristata* of the Himalayas. It is a tall and wide-spreading shrub for the pleasure grounds, attractive in flower and fruit. The variety *Chitria* has the flowers in panicles (not racemes) and is an equally robust growing shrub.

The Kew collection of *Berberis* numbers about one hundred and thirty species and varieties. A. O.

GARDEN HEDGES

Planting and Early Treatment.

A WELL cared for hedge of any kind of suitable plant adds considerably to the general appearance of the garden. During the past twenty-five years I have visited hundreds of gardens, with the main object of assisting to award prizes in competitions. Even on private visits to gardens of larger extent I have observed good and bad hedges. In the case of those entered for competition the condition of hedges and paths were duly considered and, in many instances, made all the difference between success and failure for the main prizes. From my youth I have made almost a hobby of planting and training hedges in field and garden.

The present is a suitable time to plant new hedges or to renovate old ones, but only in special cases would I undertake the work of renovation, for patched hedges are seldom satisfactory; it is much the better plan to plant entirely new ones. Unless the position warrants it, the building up of a bank, on which to plant the hedge, is a mistake. Where ground is swampy or naturally very sour, a bank is advisable; also, where the hedge is required to be of a certain height and level, across deep hollows. In naturally dry places the planting of a hedge on a bank handicaps the plants

considerably in dry seasons and, always, the banks form suitable ground for coarse grasses and many kinds of weeds, besides entailing as much labour to keep tidy as the hedge itself.

A hedge with even, neatly trimmed sides right down to the level of the lawn, field or wood, always presents a pleasing appearance and, furthermore, is an effective guard to the ground enclosed.

THE BEST KINDS OF PLANTS TO FORM A HEDGE, WITH THE DISTANCES APART TO PLANT,

Beech	..	..	1ft. apart.
Berberis Darwinii	..	..	18ins. ..
„ stenophylla	..	..	18ins. ..
Cupressus Lawsoniana	..	..	1ft. ..
Holly	..	..	1ft. ..
Common Laurel	..	..	18ins. ..
Portugal Laurel	..	..	18ins. ..
Myrobalan Plum	..	..	1ft. ..
Thorn	..	..	6ins. ..
Evergreen Privet	..	..	6ins. ..
Thuja Lobbi	..	..	18ins. ..
English Yew	..	..	18ins. ..

PLANTING.

Usually one finds the natural soil rich enough, but, where it is decidedly poor, the greatest economy



A HEDGE OF BERBERIS STENOPHYLLA.

is assured by adding really rich soil and also some well rotted manure. I like to put in a reasonable quantity of the latter where the soil is good, as thereby one secures a hedge full of strong shoots near the base and, afterwards, it is a very easy matter to build up a handsome hedge by timely and judicious training and cutting. The height at planting should be about 18 ins., as small specimens possessing plenty of fibrous roots, grow more quickly and, as a rule, become established sooner, than those twice that size. Privet and Thorn especially should be cut fairly hard back at the time of planting or before new shoots grow. Near grass Privet may be used, but it is undesirable where crops are to be grown quite close up to the

hedge as it impoverishes the soil considerably and unduly robs the border crops.

During the first year after planting the chief pains should be to keep the young plants as clean as a row of Carrots in the vegetable quarters; to attend to watering if a spell of dry weather comes, and to firm the soil around the plants by treading directly frost has thawed and while the ground is dry. Twice, during the late spring and again in September, some cutting of the young shoots will be advisable. The hedge must be built up so that the lower branches will touch or almost touch, the ground and the hedge at the base, when fully grown, will be a few inches wider than across the top.

GEO. GARNER.

THE WINTERGREENS

THE Wintergreens (*Pyrola*) are one of the finest but, also, most difficult genera to grow in a garden. Few are those who can shew good patches of them in their collections and fewer still those who can grow them in the rock garden. They are as capricious as any high alpine, and seem to resist the gardener's tending. Of course the luxuriant *Pyrola rotundifolia*, the best of our European species, is relatively easy to introduce to the garden, and this especially in England, where I have seen large carpets of it. The plant is vigorous, makes in nature immense patches and bears splendid evergreen, leathery foliage, shining bright green above, reddish beneath, and this is in itself extremely decorative. The flower scapes are from 6 ins. to 10 ins. long and bear eight to thirty flowers in a terminal raceme, forming a spike similar to that of the Lily of the Valley. Hence its French name "Faux-Muguet." These flowers consist of creamy white waxen cups with orange scarlet style and anthers. They have a very agreeable scent. *P. rotundifolia* grows in shady woods under deciduous trees in ground rich in humus. Sometimes it is found on steep banks with a north aspect in heavy and damp soil (for instance, along the road leading to the Marchairuz path in the Jura). It is found throughout Europe, in Northern Asia and North America.

High up in the Alps the Wintergreen is *Pyrola chlorantha* (Sweet), which has greenish flowers, sparsely distributed along the stem, and smaller leaves. *P. arenaria* (Scheele) is a minute form of the type growing in the Val de Bagnes (Valais). *P. minor* (L.) is a rather small kind, with round leaves, shortly stalked. Its pink flowers (ten to fifteen of them) are disposed in a short spike. In this species the style does not project beyond the corolla. It grows in the woods of the mountain region. *P. media* (Sweet) is a very rare intermediate form between the last and *rotundifolia*.

In North America many nearly allied forms grow. *P. americana* (Sweet) seems to me to be only an American form of our *rotundifolia* (see the figure of it published in "Wildflowers of New York," Vol. I, page 190). *P. asarifolia* (Michx.) has reniform leaf blades, usually wider than long, and a raceme of nodding, purple or rose-coloured flowers one-half to two-thirds of an inch broad. It is a sub-Arctic species from the cold, moist woods and swamps of the north. *P. elliptica* (Michx.) has its leaves longer than broad, elliptical in shape and thin, with ten to twelve wax-white flowers, smaller than those of *rotundifolia* but borne on a long, erect stalk. *P. uliginosa* (Torr and Gray) has small foliage and small pink flowers, furnished with long, slender styles; these flowers are sparingly disposed (ten to twelve of them) along a feeble stalk. The plant is found in the bogs and marshes of North America,

Pyrola secunda (L.) is the commonest of all, and grows as a weed in the mountain, or even in lowland, forests. Its handsome, narrow foliage,



CHOICEST OF WINTERGREENS, PYROLA UNIFLORA.

shining light green in colour, adorns otherwise barren places of the great woods where it always grows in dry, shady corners. Its flowers are greenish, small, disposed in one-sided (unilateral) racemes and are, of course, of little decorative value for the garden. It is, however, the most difficult of all to acclimatise, and I must confess that I never could succeed with it.

Most precious of all, however, is *Pyrola*, or rather *Moneses* if we follow Asa Gray's nomenclature, *uniflora* (L.). It is a dear little thing, slender and delicate, which grows here and there in woodland, in damp, sandy places, never abundantly. The leaves are orbicular, strongly nerved, yellowish green and very thin; the flowers are relatively large, looking as if made of creamy white wax and are solitary on little stalks. Its fragrance is among the most exquisite of all the plant perfumes. It resembles somewhat a whiff of orange blossom or the scent of the Gardenia or Tuberose. To have some of these on one's table is to provide a fragrance which it is hardly possible to better. In cultivation, however, the plant is one of the most difficult of all. Here in our dry atmosphere we never could acclimatise it well

but at Scampston Hall, where Mr. St. Quintin grows lots of rarities, about which I hope some day to write, it seems to me remarkably well established. He grows it in pots. The picture below is from a photograph of one of them. This curious plant grows naturally in mossy, rather light and sandy ground between roots and among old wood. Sometimes the site is very dry, or seems to be; in other cases it is wet. One cannot give the exact conditions of its growth, as it has so many seemingly contradictory habitats. It belongs to the flora of the northern hemisphere, is a rather sub-Arctic and Arctic plant and grows abundantly on the banks of the Baltic Sea wherever there is woodland. In North America it goes far into the Arctic regions.

There is another section of *Pyrolas* bearing their flowers in heads instead of spikes or in umbels which has been called *Chimaphila* by the American botanist Pursh. They all but one belong to North America. *P. umbellata* (L.) grows here and there in the woods of certain parts of the North of Europe. It is to be found near Zurich in

Switzerland in one little corner where it is protected by law. I found it abundantly in the Darmstadt forest in Central Germany and in some nutrequented places in the Forests de Fontainebleau and Rambouillet, near Paris. It is a dwarf shrub, trailing upon the soil and running as does *P. secunda* with long underground stolons, and it makes in one or two spots very nice colonies of dark green foliage. The leaves are serrate, oblong and shining, and something like those of the Box, but disposed at the top of the stalks as are those of *Polygala Chamæbuxus*. The flowers, which are produced in May and June, are deep pink in colour and rather small, but grouped in little heads. It is of easy cultivation here, and wants only a moist and half-shady place in light and porous soil. *P. (Chimaphila) maculata* (L.) is American too, but it has been found, curiously enough, in the woods of Fontainebleau and Rambouillet as well as the species last mentioned, but in very rare instances. Its foliage is the one thing showy about it. The leaves are beautifully marbled with grey, pink and green, and are serrate. The serrations are fewer than in *P. umbellata*.

Flora, genera.

H. CORREYON.

ANTIRRHINUMS

January Sowing for June Flowering.

THERE is no longer need to commence an article on Antirrhinums with an elaboration of their claims to popularity, for the propaganda of several years past has accomplished its purpose and the charms and sterling merits of the modern race of Antirrhinum have carried it to the vanguard of popular flowers. The task of the tutor is now to impart details of cultural methods or systems that will help the amateur to attain the greatest possible measure of success, so that the vogue of the Antirrhinum may run no risk of shipwreck through misguided zeal or the errors of inexperience. Thus far the Antirrhinum is a plant of rude health and vigorous constitution, singularly free from virulent diseases and irritating weaknesses, and it is of the utmost importance that it should be kept so.

It is far from my desire to indulge in scaremongering, for no useful purpose could thus be served, but a timely word of gentle warning may be productive of beneficial results, while delay in uttering the word until the day of trouble arrives would be tragic.

One of the penalties of exceptional popularity in any plant is that rapid, and more or less unnatural, methods of propagation are bound to be practised, endeavours will be made to prolong the season of flowering by various methods of treatment, and these things, coupled with excessive feeding, are calculated to weaken and undermine the plant's vigorous constitution and render it susceptible to disease.

My plea is that whoever may handle Antirrhinums, either for purposes of trade or for production of exhibition flowers, will be content to treat their stocks rationally, reasonably and as nearly as possible on natural lines.

One essential is that propagation should be mainly from seed and not cuttings, seed being a more natural method of increase and consequently calculated to maintain a stock with vigorous constitution.

Furthermore, anything in the nature of forcing will weaken stock, and it is extremely unwise to hasten the growth of young plants by growing them in an artificially produced high temperature. In the first few weeks of the year, when glasshouse work comes on with a rush, and the temptation is to delay seed sowing until a while, and then to rush seedlings along as rapidly as possible under fire-heat in order to make up for lost time. Such tactics are very prejudicial to the health of the young plants and, moreover, a soft, unduly

hastened growth is not capable of carrying good flower-spikes.

Some few attempts have already been made to get Antirrhinums to flower in winter. Such efforts are only deserving of censure and condemnation. Much as we may delight to see Antirrhinums, we should prefer to do without them in the winter

the summer and autumn. The soil for the seed sowing should be gritty, with some admixture of lime. The seed should be sown very thinly, and the young seedlings should be pricked off before they become at all crowded.

On all possible occasions ventilators should be opened, and when the worst of the winter is over the plants may be transferred to a cold frame. Here advantage may be taken of fine mild days to remove the light from the frame, covering at night, but even then leaving a little ventilation on.

We are already getting a multitude of named varieties of Antirrhinums, and the time approaches when we shall require a Synonyms Committee or some scheme to pick out the best of each colour and to discard some of the superfluous names.

As a selection of distinct and excellent varieties any of the following may be grown with confidence.

ADMIRATION.—A very showy variety with a white tube, bright coral red standard, lip and frill, with a clear yellow blotch on the nose.

CARMINE KING.—A brilliant carmine self of fine habit and very free flowering.

EMPRESS.—This is a very fine flower of glowing velvety crimson. The pipes are of good size, and the plant is of rather dwarf, compact growth.

HARMONY is of tall, upright growth, producing long, upstanding spikes of bloom. The colour is a combination of rosy pink and terra-cotta with an overlay of pale yellow.

MONARCH.—I consider this by far the best crimson up to date. It is an exceptionally tall grower, the stout, erect stems frequently exceeding 4ft. in height. The individual blossoms are large and of a very rich velvety crimson with dark coppery foliage.

PRIMA DONNA.—A great favourite that appeals to most people, both on account of the size and beauty of its form and the fascinating beauty of its colouring, which may be described as apricot taw with a blush of peach pink.

Of the flame or orange scarlet shades either Bonfire, Torchlight or The King are excellent, while in whites The Bride for a dwarf bedder and Queen Victoria for a tall, long-spiked variety are very satisfactory. Yellow King is the richest yellow, but equally pleasing is Yellow Queen in a lighter lemon yellow shade. A. J. MACSELF.



A BORDER OF ANTIRRHINUMS.

THE WINTER SWEET

THERE is always a delightful element of uncertainty about the date of flowering of that beautiful shrub, the Winter Sweet, *Chimonanthus fragrans*. Dependent upon the weather, the deliciously fragrant blossoms may gladden the short November days or tarry until the brighter days of March; all that we can be quite sure of is that the flowers will come, there is no doubt about that, for it is extremely hardy. The habit is deciduous and the plant attains a height of about 8ft., being excellent for clothing walls, as this position ensures just enough protection to enable the flowers to open early and well. The leaves are deep green, rough to the touch and slightly downy when young. The flowers are solitary and borne on very short stalks from the joints of the shoots made during the previous summer; the sepals and outer petals a curiously transparent yellow green, followed by a gourd-like seed that remains attached to the plant for a considerable time. Cut a few sprays from the plant when the flowers begin to expand, place them in a vase of water in a warm room and one can have no doubt as to why the plant obtained the name of Winter Sweet; its fragrance is delicious and amply repays the ground occupied, more especially when one remembers the season at which the flowers are available.

rather than ruin them with hothouse treatment. The Antirrhinum is a hardy plant. Let us be content to keep it so and treat it as such. I saw last year a big batch of a special variety grown for seed under glass. The plants were badly attacked by a fungus, which examination showed to be of *Cladosporium* character. The disease, in my opinion, gained a footing simply because the plants were weakened by glass-house culture, but the seed from those diseased plants may very probably carry the spores of the fungus and produce young stock that is doomed to early attack of disease and utter collapse. It is so unnecessary to resort to these unsatisfactory tactics. All that is required to ensure a fine display of bloom onward is to sow the seed early and let the seedlings grow along as steadily as possible in a house only sufficiently warmed to keep out frost and maintain a fairly dry atmosphere. Seed sown in January and grown cool will produce excellent plants for putting out, weather permitting, in April, and these will begin to bloom in June, carrying a full crop of flowers right through

THE NEWER VIOLAS

DURING the past few seasons the Viola has been much improved, perhaps the most important advance being the production of a type that combines the tufted habit of the bedding strain with its free-flowering character and is capable of giving blooms large enough for exhibition purposes. In the following list are included the "cream" of the recent introductions.

Andrew Gibb (Milligan, 1923).—A medium tufted habit. Free flowering. Will make a good bedder. Very large bloom. Rich cream self. Rayless.

Annie Jobson (Harrison, 1923).—Purely a bedding variety. Very dwarf and compact habit. Very free flowering. An attractive colour, rich dark crimson striped and splashed with light rose.

Donald Ferguson (McAlpine, 1922).—One of the largest Violas in cultivation. Perfect form and splendid under petal. Texture smooth and glossy. Deep violet blue shading to crimson purple, and distinct yellow eye.

Ella L. Blair (MacColl, 1923).—A pretty blend of mauve, lavender and cream, the colours being artistically intermingled around a creamy white centre. Very good form and texture.

Elma Millar (Stevenson, 1922).—A huge petunia purple, virtually an improved Milton Junbo. It is a very fine grower and the blooms are of fine finish. Perhaps the best and largest of the dark Violas.

Eddie Cook (Milligan, 1921).—Although this Viola is of rather straggling habit, it is free flowering. It is the best of its colour, glossy purple with upper petals shading out to pale heliotrope.

Isobel McGregor (Milligan, 1923).—Very tufted habit and free flowering. Good both for bedding and exhibition. A new colour, creamy white ground marbled with pale heliotrope with a deeper edging.

Jean Gibb (Milligan, 1922).—Very tufted habit. A fine bedding variety as well as useful for

exhibition. It is a model flower, always of smooth texture and the purest white.

Jean Marr (Stevenson, 1922).—A variety with a nice habit, giving upright blooms on long stems. Good shape and texture. French white, lightly shaded blue.

Jeannie Jamieson (Stevenson, 1922).—Good habit. A very daintily coloured flower after the colour of the popular variety Mrs. J. Smith. It is a lovely shade of light heliotrope lightly suffused over a white ground.

Lizzie Watson (Stevenson, 1921).—Of first-class habit and very free flowering. Recommended more for bedding than exhibition. Colour pure rayless ivory white, after the style of Mrs. C. Milligan.

Malcolm Milner (Milner, 1922).—It is of rather straggly growth but very free flowering. When at its best it is very beautiful, but it sometimes fails in the lower petal. Deep primrose with bright sky blue edge and clear yellow eye. Petals of fine texture.

Mollie Gibb (Milligan, 1922).—Medium tufted habit and very free flowering. It produces immense flowers of a lovely shade of pale primrose edged with heliotrope. One of the best of Mrs. W. R. Milligan type.

Mrs. Jas. Ritchie (McAlpine, 1922).—One of the finest of recent introductions. It is identical in colour with Mrs. W. R. Milligan, pure rayless white with a dainty edging of sky blue, but it is half as big again as this variety and easier to show. It has a very good habit.

Mrs. Hugh MacColl (MacColl, 1923).—A large glossy cream self of fine texture and good build that seems very promising.

Mrs. Andrew Kerr (MacColl, 1923).—Another good new variety from the same raiser. Of fine build, form and texture. Colour creamy white with a narrow edge of blue.

Mrs. Andrew Stevenson (Stevenson, 1921).—The most sensational Viola of recent years. It has an excellent habit, perfect build and in every

way it is a flower of fine quality. The flower is rayless, a deep yellow with a heavy edging of deep heliotrope on the lower petals and the top petals are suffused with the same rich colour.

Mrs. D. Stevenson (Stevenson, 1921).—A daintily coloured Viola, pure white with a clean edge of pale blue. It has a fine habit and is possibly the best flower of this class, being less inclined to sport than its rivals Mrs. J. Terris and Bessie Ferguson. Winter the cuttings in light leafy soil.

Miss Annie Morton (Macfadyen, 1922).—Dwarf habit and short jointed. Dark glossy crimson marbled with purple and rose.

Mrs. Jas. McKillop (McKillop, 1922).—Good habit. Suitable for bedding and exhibition. Large bloom of a rich shade of rose and particularly fresh looking.

Mrs. W. Penman (Penman, 1922).—A promising variety. Good habit. Very large thick-petalled flower. Rosy purple self.

Margaret S. Penman (Penman, 1922).—Medium habit. A very fine variety, possibly the best of the pale yellows. It is very large, of splendid shape and has extra long stems. An ideal flower for exhibition.

Maggie Rutherford (Macfadyen, 1921).—A strong grower but of rather straggly habit, still up to the present the best of its colour—rose with a soft lavender sheen.

Mabel Spencer (Ollar, 1922).—A lovely colour, quite remarkable, rayless white centre with broad margins of sky blue and distinct yellow eye. It is a large flower of fine texture and the habit is quite good.

Mary Cochrane (Cochrane, 1923).—A very large flower of pretty colouring, deep cream edged with heliotrope and the top petals mottled with the same colour. It is of good form and texture.

Nancy Harrison (Harrison, 1921).—A very strong grower of rather straggling habit, but bearing blooms of enormous size and fine substance. Rose ground striped with crimson purple. One of the best of the striped Violas.

Nurse Stevenson (Stevenson, 1921).—Although the habit of this variety is not always of the best, it is a lovely flower of exquisite colouring, clear rayless yellow with a perfect edge of sky blue.

Orange Perfection (Davidson, 1923).—A deep orange self, the deepest of its colour yet raised. It is rayless and has a fine under petal. The long, strong stems make it invaluable for vases.

Peggy Barr (Milligan, 1921).—Of medium tufted habit and free flowering. Possibly the largest Viola in cultivation. Dark purple with a narrow edge of lighter purple.

Peggy Ramsey (Cochrane, 1923).—A lovely flower of fine form and texture. The colour is cream shaded with heliotrope with a rich edging of mauve all round.

Pride of Darras (Harrison, 1923).—A very striking new bedding variety with a splendid habit. The flowers stand up well above the dark foliage. They are of a lovely rich shade of deep purple, the colour gradually softening in shade towards the centre till it gradually disappears into a white central zone. This will prove one of the best bedding varieties in commerce.

Rev. Donald Grigor (Macfadyen, 1922).—A well formed flower of good texture. It is a buff yellow self, rayless, with a clean eye.

Rita Stevenson (Stevenson, 1921).—The best habit of any of the exhibition Violas. One of the prettiest varieties ever raised. It is unique in colour, pure white edged with bright carmine. Not quite the size, texture or build of Mrs. A. Stevenson, but very telling when well grown.

Ronald Mason (Mason). A variety of good habit and quite a classical flower in every respect. It has a cream ground with a broad band of light



NEW VIOLA PRIDE OF DARRAS.

lavender. This *Viola* deserves to be more widely grown.

Sarah Botham (Milligan, 1922).—Very tufted and free flowering. Fine both for exhibition and bedding. Creamy white with a lavender edge. It inherits all the good points of Mrs. W. R. Milligan, from which it is a seedling.

Sergt. Turnbull, V.C. (Milligan, 1923).—Tufted habit. Free flowering and an ideal bedder, also good for exhibition. Creamy white with a narrow edge of blue all round. Another beautiful seedling from Mrs. W. R. Milligan.

Tangerine Harrison (Harrison, 1923).—Another fine new bedding *Viola*, which is aptly described in the name. It is a very striking tangerine self and rayless. Compact habit and free flowering.

Thomas Russell (McAlpine, 1923).—A strong-growing striped variety which is a seedling from Sir E. Grev. It has long stems and a neat eye. It gives a large round flower with rosy purple markings on a rosy pink ground.

William Gibb (Milligan, 1923).—Mr. Milligan tells me that he considers this variety the best of its colour, a glossy primrose self, perfectly rayless. It is very tufted and yet produces blooms of the largest size.

William Wallace (Milligan, 1922).—Straggly habit till it becomes established. The best blooms are obtained from the side growths. It is creamy white with a band of blue all round the under petal and the top petals are splashed with the same colour.

The following would make a strong all-round dozen from the above: Andrew Gibb, Jean Gibb, Mollie Gibb, Mrs. Jas. Ritchie, Mrs. A. Stevenson, Margaret S. Pennan, Mrs. D. Stevenson, Peggy Barr, Nancy Harrison, Rita Stevenson, Ronald Mason and William Gibb, with *Pride of Darra* added for bedding purposes. NORMAN LAMBERT.

THE OLD DOUBLE WALLFLOWERS

It does not always follow that a plant is worth growing because it is ranked among the old-fashioned flowers which used to delight past generations. Many of these have really been superseded by choicer plants, yet there are goodly numbers which possess an intrinsic value apart from the old-world atmosphere which their traditions convey to us. Such are, I think, the old double varieties of *Cheiranthus* *Cheiri*, the Wallflower. They have not, it is true, the grandeur of some of the modern double Wallflowers, but, on the other hand, they are more perennial, and they have a delicious fragrance which is not surpassed by that of any of the single varieties. Some of them must have been in gardens for many, many years, but they are now comparatively rare. This is probably due to the fact that they require to be propagated from cuttings, as they do not bear seeds; and, although "perennial" and "lasting usually" for some years, they have in common with most of the *Cheiranthuses*, a comparatively short tenure of life; though their demise may be delayed by cutting them fairly well back annually after flowering. The cuttings strike easily in pots of sandy soil under glass.

How many of these old double Wallflowers have been in cultivation I cannot say, and it is none to the point to name those which are still in commerce. Of these one of the sweetest and best is called *Harpur Crewe*, which, although of earlier date than the departed flower-lover whose name it bears, was brought into renewed prominence by him. It has small quite double bright yellow flowers in moderate-sized spikes, and is

of a most delicate perfume. A fitting companion to this is the one known as the old Double Black. It is not really black, but is of a deep blood red and has all the fragrance of the finest of our blood red single Wallflowers. It is quite scarce in gardens, and is far from plentiful even in nurseries nowadays. Still another variety exists, and

this has golden yellow flowers larger than those of *Harpur Crewe*. It has all its good qualities, however, and those who wish to have these double Wallflowers should endeavour to procure all three. It remains to add that these plants stand longer if planted in poor, dry, but firm soil and in a sunny situation. S. ARNOTT.

NOTES OF THE WEEK

IN wishing all readers of *THE GARDEN* a very happy and prosperous New Year, the Editor begs to call attention to the Contents Table on page iii, at the beginning of the paper. This feature will be included in future issues and should facilitate subsequent reference to articles of which no note was made at the time of reading. It will not, of course, supersede the Index, which is given with the last issue of each volume.

The Hardy Plant Society. Many readers will, we are sure, rejoice to hear of the renewed activity of the National Hardy Plant Society. Formed in 1910, it was just fully embarked on a programme of useful work when war cut short its activities. Nursery stocks of herbaceous and alpine plants which are the "lives" in which, at present, the Society specialises, are back at normal and there is no reason whatever why it should not do great things. It is felt that either the Chairman or Secretary of the Society should reside in or near London and an effort is to be made to carry this feeling into effect. A special committee has been appointed and will report to the annual general meeting of the Society on the 30th inst., suggesting various alterations to the "objects, rules and bye-laws" of the Society, to bring them into touch with present day feeling. It will also lay before the meeting a programme of work for the coming season, which will include the issue of a journal at intervals. All lovers of hardy plants who reside within reach of London should make a point of attending the meeting, which will be held at the Royal Horticultural Society's Hall, Vincent Square. Membership of the Society can be obtained for an annual subscription of

7s. 6d., and everyone interested in hardy plants—not only those who are interested in them for exhibition—should make a point of joining at once. The Hardy Plant Society is affiliated to the Royal Horticultural Society and is in no way intended to be a competitor to that august body or indeed to any other established horticultural society. Your 7s. 6d. *note*, so that the Society, which has at present 440 or so in hand, can map out its programme for 1923, will be worth 15s. subscribed *after* the meeting. The Secretary's address is Dactylis, Clifton Park Road, Caversham, Reading.

The Seed Order.—Many enthusiastic amateur gardeners spent odd hours of the Christmas holiday digesting (and enjoying) the handsome new editions of the big seedsmen's catalogues. Not all flower lovers are *quite* so enthusiastic as that, but it behoves every keen gardener now to look into the matter of this year's seeds. It is advantageous both to buyer and seller that orders should be placed early. The benefit to the seed-man is obvious. The buyer gets the advantage of securing just what he wants, not what the seller has left—and prompt delivery.

The Picture.—Of all winter-blooming flowers, none is more beautiful than *Cyclamen hyemale*, which is often sold as *C. Coum*, but is readily differentiated by the white marbling on the foliage. The true *Cyclamen Coum* is a less common species with foliage of a uniform black-green, but the mottling of the species illustrated is at once effective and cheerful. Hardy *Cyclamens* are quite easy to raise from seed. The treatment is similar to that usually afforded to the Persian (greenhouse) *Cyclamen*.



A FINE CLUMP OF CYCLAMEN HYEMALE.

CORRESPONDENCE

LIFTING MICHAELMAS DAISIES.

IN his most interesting article on Michaelmas Daisies the Rev. Joseph Jacob (December 2, 1922) asks if they can be flowered in pots. They can be most successfully grown that way. For several years I used to grow them here for the autumn decoration of a long glass corridor. My method was, about February, to put an old plant of each variety wanted in a cool house, just covering the plants with any light soil. As soon as the young shoots had grown sufficiently they were taken off and put singly in 3in. pots, stood in a propagating frame until rooted, after which they were placed in a cold frame until weather conditions allowed their being planted out. An open spot in the kitchen garden was given them for the summer months. Care was taken to keep them to single stems, and also securely tied. It is not done and they are allowed to fall over and the stems to stiffen, it is almost impossible to get them up again into nice-shaped plants. Towards autumn, just as buds began to shew, they were carefully lifted and potted into 8in. or 10in. pots, according to size. They were then stood behind a north wall and frequently damped over with the syringe until the roots had taken hold of the soil, when they were given a more open position until the flowers began to shew colour. They were then placed in the corridor, where for three weeks or a month they bloomed profusely. I noticed the colours were not quite so bright under glass as outside. On the other hand, the outside plants often had a most sorry, bedraggled appearance owing to wind and rain. It was a pleasure then to see the bright, clean look of the inside ones.—H. REYNOLDS, *Gt. Yarmouth*.

AN UNUSUAL TORCH LILY.

AS one strolls around other gardens it sometimes happens that one comes across a plant which fascinates by its own peculiar qualities. One feels that one simply must possess it and—in this connexion—I have fallen a victim to *Kniphofia comosa*, one of the most unusual and distinct of all the Red Hot Pokers. The plant is of good habit with rather narrow, pale green foliage and tall, thin flower-stems, most of which push out a small subsidiary spike from the side so that, when the main inflorescence is past, a further period of usefulness is still contributed by the main stem. The flowers are in the form of a short bottlebrush-like head of a brilliant carmine orange colour that glows with a wonderful firelight sheen which, in spite of their small size, stands out well right across the garden. The manner in which the buds open reverses the usual procedure of these plants, for they begin to open from the top of the spike instead of the bottom, until the whole is expanded at once. There is something about the flowers that proves a tremendous attraction to the bees, each spike is always swarming with them; but whether this attraction takes the form of nectar or of the pollen masses which are so prominent on the anthers, it is difficult to decide. In common with the rest of its race, the plant loves a sunny position and protection from cold winds, while the soil should be light and rich and freely drained.—CROYDONIA.

THE CELMISIAS.

I AM the happy possessor of a cottage in the back blocks of our New Zealand Southern Alps, in the Canterbury district. It is at an altitude of 2,600ft. In holidays spent there I have almost unique chances of mountain climbing and plant hunting. The neighbouring heights

range to 7,000ft. I have written before of *Raoulia eximia* and *Notothlaspi* (Penwiper plant), both growing in those parts, but there are many other queer plants. One of the most prolific and various is the *Celmisia*, or Mountain Daisy. The smallest has thin, grass-like leaves and a flower about as big as sixpence, and the largest is an erect rosette of broad, sheath-like, silvery grey leaves, with

place where the Edelweiss and *Raoulia eximia* cushions begin, a limit of about 5,000ft.—MARY POULTON, *Shirley, Christchurch, New Zealand*.

CHRISTMAS ROSES.

IN reference to the interesting article on Christmas Roses in the issue of December 23, 1922, it might be mentioned that it is of great importance to get a good strain if specially fine and very white blooms are desired. The writer has three strains in flower at the present moment and one of these



CHRISTMAS ROSES AMONG FERNS.

tall, woolly-stemmed flowers several inches in diameter. Some grow in trails of tight rosettes, forming silvery or green cushions, according to variety. The silvery ones have slender-stemmed flowers, the buds covered in tight hard covers. The green cushions have their buds covered with rough hairy hds, which are really prettier than the full-blown Daisy. All the varieties have white flowers with yellow centres. The leaves are almost always covered underneath with a woolly felt varying from rust colour to white. The young leaves are woolly all over. As they grow older the felt on top changes to a thin silvery skin. The reason given is that, as they are subject to extremes of heat and cold, the felt is useful to absorb water when the ground is frozen too hard for the roots to supply the plants with the necessary amount, and the thin skin is to keep the plants from transpiring too much in the hot summer. I have climbed mountains through acres and acres of Daisies, one variety succeeding another. The slender grassy one, *C. longifolia*, grows in the sub-alpine district for fancy—not necessity like most of them—because it will grow anywhere down to sea-level. This is the lowest grower. Then comes the common Mountain Daisy with flowers about 2ins. across, *C. Traversii*, followed by the huge *C. coriacea*, with its silver leaves and blossoms 4ins. or 5ins. across, not so common. Higher still the trailing cushions of *C. argentea* and the green cushions of, I think, *C. Haastii*; but if anyone would like seed of these, they are welcome if I have any luck collecting next season. It should be a good one, as there was almost no bloom last season, and I will see that the varieties are named rightly. The cushions grow up to the

produces much larger and much whiter flowers than the other two. It was a gift, described as a specially good form and said to be known as *Helleborus niger maximus*. It is certainly larger in every way, including the foliage and the longer flower scapes which hold the blossoms up particularly well. The picture illustrating the article does not appear to be taken from this form, although it is difficult to be certain. The other two kinds, although charming also in their way, do not grow so freely and their flowers have a decided tinge of pink on the exterior. Miss Hope, in a gardening book which does not seem much read nowadays, gives many hints as to propagation and cultivation, and also mentions this fine kind as *Helleborus niger major*, or *maximus* or *grandiflorus*. The article in THE GARDEN, although dealing admirably with the planting, does not mention what appears to be the most important point in their cultivation, especially on dry soils—care of the plants directly after flowering until they have finished making their new foliage. This would consist in giving them a good top-dressing and mulching of well rotted manure or even leaf-mould, with copious waterings, if the weather is at all dry (which it very often is at that time of the year, particularly in the month of May). Amateurs often say they find it difficult to grow and flower Christmas Roses well, and their failure is probably always due to neglect of these attentions. In a very dry autumn, such as the last, an occasional watering will help to lengthen the flower stalks and produce earlier blooms. Christmas Roses are really quite easy to grow satisfactorily, and can be moved and divided at almost any season if attention is paid to watering afterwards. The plant

grows naturally among bushes and, like most semi-woodland plants, dislikes ever getting very dry. Perhaps it never looks so well and happy as when planted among nut bushes, as described by Miss Jekyll; these give the combination of sunshine and shelter from cold winds in spring with the shade from hot summer suns, which exactly suits these delightful winter-flowering plants. A. E. W.

ROSE PINK DELIGHT.

IN reply to "H. G.," this is a beautiful single Rose of the Rambler type. It is a splendid variety, not a rampant grower, usually oft. shoots. With me the colour is deeper than pink, more like carmine and very bright. The trusses of bloom are quite different from the illustration in *THE GARDEN* of December 2. From catalogues I notice it can be had from Messrs. S. McGredy and Son, J. R. Pearson and Sons, Limited, or Mr. J. C. Allgrove.—JOHN MALCOLM.

Our correspondent's enquiry was about a dwarf Polyantha Rose, and the variety mentioned, Laxton's Pink Delight, was, it turned out, the sort which he had been recommended.—ED.]

TWELVE BEST SHRUBS.

I ALSO have been very interested in the lists of the twelve best shrubs published in *THE GARDEN*. I should like to add a list of some which do splendidly here in South-West Sussex. We have a light soil with peat in places, and the shrub garden is well sheltered from the north and east by plantations of Spruce, Larch and Scotch Fir. We are about 500ft. above sea-level. *Grevillea rosmarinifolia*, fine large bush; *Eucryphia pinnatifolia*, roft. high; *Abutilon megapotanicum* (syn. *vexillarium*), this on a wall; *Berberidopsis corallina*, on wall, flowers freely every year; *Eugenia aciculata*, fine bush about 15ft.; *Abelia rupestris*; *Pieris japonica*; *Plagianthus Lyallii*; *Drimys aromatica* and *Winteri*, very fine bushes; *Clethra alnifolia*; *Triacuspida lanceolata* and *dependens*; and *Daphne odora*, on south wall.—RETA HAWKSHAW, *Hollycombe, Sussex*.

A WEEK or two ago one of your correspondents asked for the names of twelve flowering shrubs hardy in Scotland and not near the sea. I give the names of twelve which I have grown successfully for a good many years. I have added a supplementary list which some might care to select from in preference to the first twelve. This is a pretty cold district in winter; we suffer from rime and, in the springtime, late frosts, but flowering shrubs, speaking generally, do well.

The undernoted twelve flowering shrubs I have found hardy, with the exception of *Berberis Darwinii*, which gets cut down in very severe winters, but it should not be omitted. The flowering season is from April till September. *Spiraea arguta*, white, and *Forsythia suspensa* (or *F. intermedia*), yellow, April; *Exochorda macrantha*, white, May; *Berberis Darwinii*, orange, and *B. vulgaris atropurpurea*, fine foliage effect, June; *Weigela rosea*, rose, and *W. Eva Ruthke*, dark crimson, June; *Philadelphus Bonquet Blanc*, double white, and *P. Avonchae*, single white, July; *Euanthus campanulatus*, reddish bell-shaped flowers, foliage good in autumn, and *Deutzia crenata* fl. pl. white, July; *Potentilla Friedrichshagen*, yellow, September. Supplementary list, and all good, *Escallonia* Edinburgh or *Edina*, pink; *P. Philippine*, white; *Enonymus europaeus*, flower poor, but seed pods and foliage fine; *Cydonia pyracna*, flame colour; *Hydrangea paniculata grandiflora*, cream; *Spiraea Anthony Waterer*, crimson.

Large flowering shrubs or small trees, *Prunus pissardi*, pink flower and dark foliage; *Amelanchier canadensis*, white; *Colutea violacea*, yellow flowers,

fine pods. Three good *Rhododendrons*.—Pink Pearl, *Domestic*, dark red; *Corona*, salmon rose. Three *Azaleas*.—Anthony, Koster, Alphonse Lavalée, J. C. Van Tol. Lilaes, *Laburnums* and *Brooms* grow splendidly. *Buddleias*, *Cistuses*, *Veronicas* stand in mild winters.

The following are not hardy in the open garden, at least, to grow and flower well. *Ceanothus*, *Komineya*, *Pittosporum*, *Choisya*, *Desfontainia*, *Eucryphia*, *Viburnum plicatum* and *Ceanothus Gloire de Versailles* do well on a wall. Japanese double-flowering Cherries, both pink and white, do well. Japanese Maples are quite hardy.—ROBT. BROUGH, *Perthshire*.

THE PROPAGATION OF THE HYACINTH.

OF the vast number of people who grow the Hyacinth annually, how many are there who know anything of its increase or, knowing it, have tried the experiment of growing their own bulbs? I think it is well worth trying if only for the added pleasure a genuinely home-grown flower always gives. Those who grow or handle the Hyacinth for sale almost invariably state in their instructions that, having once flowered, the bulbs are of no further use and no doubt this is true of those grown

in natural and artificial increase. The one on the left had its base cut away in the early summer and was laid on a greenhouse shelf. It produced thirty-eight young bulbs, the largest being about 1/2 in. in diameter; the other bulb shows the natural increase. The Dutch growers are said to propagate by means of cuts made partly through the bulb near the base, which is then planted in the open ground, but apparently not much is known here of their methods.—H. C. W.

BUDDLEIA AURICULATA.

IT is a pleasure to see that this useful shrub is mentioned as flowering freely in a Somersetshire garden. Why is it, I wonder, that so fragrant and desirable a plant is so little known or grown? Its creamy white little flowers are so abundant on its leafy and branching growths that it is an ornament to any garden, either in England or on this (the Riviera) coast. Its particular charm, however, is that it "creates an atmosphere of its own," so to say, so pervading, so sweet and so distinct is its fragrance. On these still December days, when yards away from the rough shrubberies where it loves to grow, you say, "How sweet something smells" without having an idea where



HYACINTH PROPAGATION.

in water or fibre, but as regards those grown in good compost this, I think, is hardly correct, for if they can be finished off with the same care as the *Freesias* they will give a good account of themselves in the open ground and will continue to do so for several years. If the grower is of an experimental turn of mind and has the necessary patience, it will be found that the Hyacinth can be increased more quickly than most bulbs. Any bulbs which have been forced and ripened may have the base of the bulb cut clean away and then be laid on a dry shelf. With most bulbs this would be absolutely fatal, but not so with the Hyacinth. The cut will heal quickly and from the base of each scale a varying number of tiny bulbs will be produced according to the amount of nourishment available in the scale on which they feed and grow until nothing is left of the scale but a thin dry skin.

If it is desired to carry the experiment further, the bulblets may be dibbled into pans or boxes of rich open compost and grown on thus for a season, when they will be large enough for a nursery bed in the open. If generously treated they soon reach flowering size. If the first small spikes of bloom are picked off the bulbs gain in strength for the next season. I enclose a photograph of two bulbs showing the great difference

it comes from or what plant it may be. Ten degrees of frost makes no impression on its flowering, so it should be a welcome shrub in many a sea-side garden as well as in the sheltered south-west. It positively thrives on neglect, and is to be found in all the old-fashioned gardens of the Riviera.—E. H. WOODALL.

WILD FLOWERS AT COUNTRY SHOWS.

I READ with interest the remarks of H. C. Ford in *THE GARDEN* for December 2, 1922, questioning the wisdom of the recommendation I made on the subject in the issue for October 21. My intention was certainly not to encourage the wholesale and wanton destruction of rare species of wild flowers, but exactly the reverse. I firmly maintain that the only way to arouse the interest of the rising generation in wild flowers is to encourage them to collect specimens and take them home and have them identified and classified from a good standard work on the subject. The child who is taught to do this will, I am certain, be as anxious as Mr. H. C. Ford, or any other person, not to uproot rare specimens when found, but will long for the season when the same plant will be in bloom again. I am writing from experience and know the joy it has afforded

members of my own family and others to find anything rare and uncommon in the plant world, and how they have revisited the spot where the treasure was found. I have marked, too, their dejection if anything should have happened to mar or destroy what had been a thing of beauty.

My contention is that the more children are encouraged to study nature the more in after life are they likely to appreciate and reverence good, and to pass on the knowledge acquired for the benefit of those who come after them.—HORRIGUS.

NOTES ON TRAPPING VERMIN

(Continued from Vol. LXXXVI, page 660.)

ABOUT the best and quickest way of destroying all underground vermin when their burrows can be found and got at is to use bisulphide of carbon, to be had from any chemist. This most useful substance is both poisonous and highly inflammable, so should be used with caution. It is dangerous to smoke when using it. Search out the rat burrows and carefully stop all holes that can be found except the topmost. Pour into this hole 2 ozs. or 3 ozs. of the liquid and lightly stop the hole for a minute to allow the gas to descend into the lower parts of the burrow. Next remove the stopping from this hole and drop into it a lighted match. The gas will instantly explode and all vermin within reach of the poisonous fumes will be killed. If any holes are accidentally left open, the rats will promptly bolt when the liquid is poured in. Proceed in the same way with the colonies of voles, except that less of the bisulphide is required, as the holes are smaller. Half an ounce will kill the long-tailed mice in their holes, and 1 oz. will settle the largest wasps' nest. As an alternative I can recommend with every confidence McDougall's Vermin Chokers, which will also destroy all vermin in their burrows when used according to instructions given by the makers. The sportsman who has no ferret can use small pieces for bolting rats, using them on the windward side of the burrows so that the fumes will draw through and, of course, no holes must be stopped.

Hawks, owls, stoats and weasels should be encouraged wherever possible. By destroying these the balance of nature is upset, and the result is plagues of vermin, both furred and feathered. Rabbits and hares are very destructive where they gain access to garden and pleasure grounds, but here we are treading on more delicate ground and, generally, great efforts are made to keep them out by fixing wire netting. When fixing this a foot of the wire should be curved outwards in a shallow trench to prevent rabbits from burrowing beneath, which they will do if the bottom is sunk straight down into the ground. The poor man's allotment is their happy feeding ground, and the wire snare is the best way to take them if their runs can be seen, but a lesson on the spot from an old hand is necessary. During the war I was stationed for some time in an Eastern county, and there the allotment holders used an ingenious pitfall constructed with much labour by sinking a deep cask in the ground. The lid was made slightly smaller and balanced at the centre. A bait of Carrots was fixed here and when the animal jumped on the lid it was precipitated into the cask and the lid righted itself again.

Of feathered pests rooks and sparrows are easily scared by placing strands of black carpet thread above or among the seeds or plants attacked. If one rook be shot and hung up on the plot, no other rook will venture near. Most small birds may be scared with streamers of coloured paper, pieces of broken looking-glass, pieces of bright tin or feathers suspended from the top of tall, oblique stakes or from lines. Blackbirds, jays, hawfinches and bullfinches take but little notice of scares, and the best remedy for these is a dose of small shot, but against the first three the gunner must be an early riser.

The large tomtits or oxeyes often do great damage to the later crop of Peas, and their numbers may easily be reduced with the break-back mouse trap. I fix a small piece of wire in the trigger and on it place a green pea for bait, and drill a hole through the trap just behind the spring. Take a fairly stout stake 3 ft. in length, cut the top squarely across, and nail on it a piece of thin board as wide as, and slightly longer, than the trap. Drive a wire nail in the centre, leaving nearly an inch projecting above the board. Cut off the head and pass the spike through the hole in the trap. Three or four of these to a row of Peas will account for a good many tits. It comes as a surprise to many people to learn that these birds eat the Peas. They imagine they are after the small caterpillars in the pod, but this is only partly true. Fasten the trap with a short string tied to a nail near the top of the stake.

Of course, this question of killing birds is always sure to raise a storm of remonstrance from many people, but these kindly souls should consider well the ways of nature to learn the truth about the matter. They will find that this unpleasant duty is forced upon us by the selfish and thoughtless action of those who ruthlessly destroy, in the interests of sport, the raptorial birds and small carnivores, which, if left to do the work for which they seem to have been created, would do the killing for us. The balance of nature would then be kept as it was intended to be.

Lingfield.

H. C. Wood.



THE GARDENER'S FRIEND—THE WEASEL.

SINGLE ROSES

IN the Wichuraiana section there is, I need hardly say, a long list of robust and beautiful hybrid singles well enough known to everyone and adaptable for a wide variety of uses. But there is one Wichuraiana which I would like to mention in particular, and that is the type species, a pure white, yellow-centred creeping Rose which, oddly enough, seeing that most of its progeny are early bloomers, flowers towards the end of summer and continues far into autumn. We grow this delightful thing where it can ramble at will along the ground, intertwining among Heaths and other lowly shrubs on the open spaces of our woodland bank. There is also a variegated Rose whose young shoots are a vivid pink, which appears to be a form of the above. It has the same small white flowers borne in clusters, but it is not nearly so strong a grower as the afore-mentioned. A most delightful little rock garden shrub.

The Ramana Rose (*Rosa rugosa*) is yet another well known species whose immense single, very fragrant blooms in pink, rose, purple and other colours, together with the splendid foliage, make a most effective display for the shrubbery or woodland garden where the plant can spread at will. This good old Rose will do in almost any soil, it does not object to shade, and besides being an almost perpetual bloomer, the big medall-shaped fruits which ripen in late summer remain on the bushes and retain their glowing colour for several months.

Nor can one omit from any list of single Roses, however brief, our own Sweet Briar (*R. rubiginosa*), the "Sweet Eglantine" of the poets and perhaps the most beautiful of all native flowering shrubs. Then we have also the common Dog Rose (one of the parents of the delightful *Una*) the best forms of which are not to be despised in their proper place. *R. arvensis*, the trailing Rose of our hedgerows, whose large, milk white, scentless flowers will open more freely beneath the shade of woodland trees than those of any other Rose I know, is on that account alone worthy of consideration. *R. tomentosa*, common in some districts, is also a very delightful native with its downy foliage and (if you get a good form) rose pink flowers of remarkable purity and depth of tone.

Often classed among the bedders the odd half-dozen of the Irish Elegance set, surpassingly lovely in the warm, rich orange and flesh tints of their broad-petalled flowers, are quite as adaptable for less formal treatment. Jersey Beauty, of the Wichuraiana clan, is a single of exquisite form, opening in a delicate creamy yellow which passes to nankeen—one of the few of its race which may be grown to perfection as a large mounding bush and left to take care of itself. Few Roses have a foliage to equal that of Jersey Beauty, and unless that ravishing creature, Innocence, just introduced to us, has a foliage as fine and a manner as graceful, I doubt whether even her fuller and more radiant charms can wholly eclipse those of the Jersey lady.

To those who would add a glowing butt Rose to their collection of singles there is Mrs. Oakley Fisher, which attracted no little attention at last autumn's shows, while the curiously attractive Queen Alexandra Rose, in deep crimson with a striking buff reverse, somewhat suggestive of a touselled Juliet, will afford an uncommon note of colour. Isobel we all know and love as one of the most exquisite hybrid singles on our lists, and there is the much newer Glowworm, a fiery, refulgent thing for which "Vesuvius" might have been a happier name. It is too soon for us to say how Glowworm is going to behave in our

conditions, but it promises well and has a perfume not to be forgotten. Another excellent new single is Ethel James, as dangerous a rival as Isabel has ever had, but whether this one again will be content to be other than a bedder also remains to be proved.

While no one is more conscious than I am of the omissions from the above paragraphs of many worthy singles in species, hybrids and varieties, enough has been said I hope to inspire those who

have a *penchant* for single Roses to further efforts, and to induce those who have given up bedders in despair to realise what a wide field of possibilities is offered them in another direction. I may add that any of the Roses here mentioned can be planted at any time during winter or early spring in open weather, and that the great majority of them, even the comparatively unknown species, can be secured for about eighteenpence apiece.

North Wales.

A. T. J.

CHARMING DWARF CAMPANULAS

THE opening point of such a note as one that deals with the Campanula for rock and other gardens can scarcely be other than a very big query. Is there a Campanula that is not charming? (I had almost written "indispensable" for charming.) If so, it must be very rare, for I have never yet seen a variety that did not arouse in me the desire to "have a bit" in my garden. This is just where the difficulty comes in; for, while "wanting all," some amount of wise elimination has to be practised or the whole of the space would be occupied by Campanulas to the exclusion of everything else, so numerous are the species and varieties. Selection then is a work of absolute necessity, although one is conscious that the "left outs" are in many cases quite as worthy as the elected. I do not propose to choose either because the variety is rare, or to exclude it because it is common, but upon one count only—its appeal as a charmingly beautiful and good garden plant.

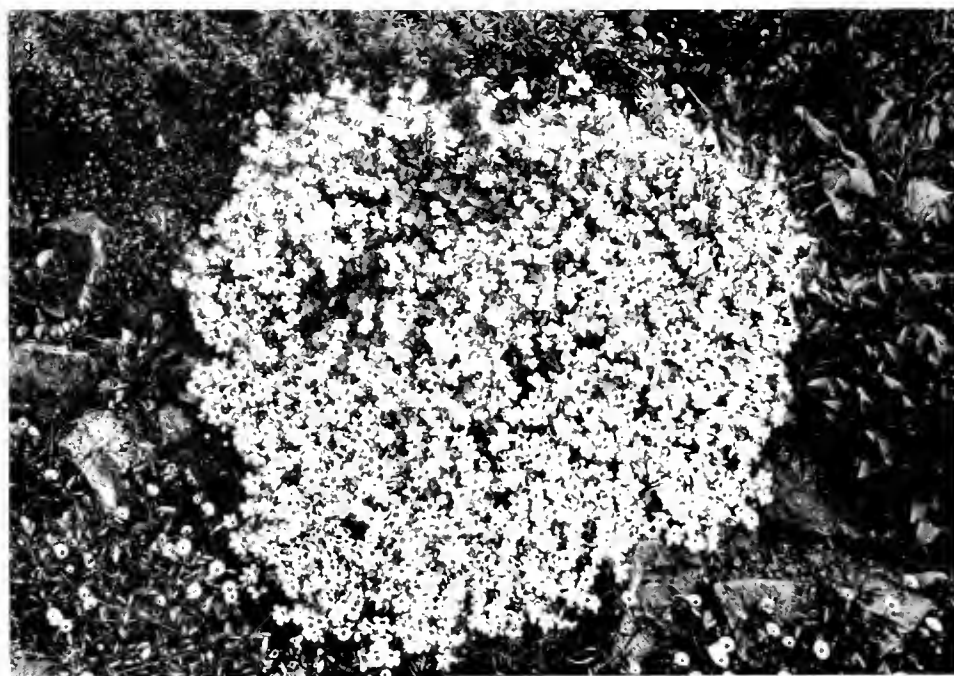
C. Allionii should be planted in a level pocket where it has space to spread, for it is in no sense a crevice lover. Give it a moderately rich sandy loam with plenty of sunshine, so that the roots, which run beneath the surface, have room to push up here and there and form the rosettes of small leaves and large solitary bell-shaped blue flowers that spring from the centre of these. *Allionii* is a native of the South of France and, where failure is experienced, it usually comes from one of two causes—too shaded a position, which means that the soil is not warm enough in spring, or too small a pocket which does not permit sufficient extension of the underground runners. Our native *Hardoll*, in its familiar guise, may become almost epidemic when introduced into the rock garden. I know of few other minute seeded plants that are more capable of taking care of their offspring, but the white variety, *C. rotundifolia alba* and *rotundifolia fl. pl.*, a delightful plant under 1 ft. in height, with tufts of slender stems and a profusion of fully double blue flowers, are never out of place. The white variety is so charming that even if it did become a weed, one would be quite content to pull it up where superfluous and let it go at that. With the double, of course, this trouble does not exist and propagation can only be effected by very careful division of the roots in early spring. Among newer forms, note *C. acutangula*, a trailing blue-flowered plant that is perfect when falling in a cascade over a rock which it covers with its dainty ivy-like foliage.

Close little rosettes of leaves, 2 ins. high, from which, as early as the merry month of May, spring slender erect stems, 6 ins. or 8 ins. high, with lovely wide open star-shaped flowers at the top; this is a description that conveys a very fair idea of *C. alactina*, a beautiful species for prominent pockets that are raised well above ground level. Many find that *C. barbata* is an uncertain and difficult plant, but I have found it do well if one does not expect it to live too long. Most agree that it is perennial and so it may be in some soils, but, for practical

purposes, it is best to regard it as a biennial and sow each year. By treating thus, I have had some really splendid tufts on a sunny rock garden with a westerly aspect. Sometimes the plants do not flower until the second year after sowing and, where this happens, the results are infinitely finer than if flowering takes place earlier. I have seen it suggested that it should be grown in the moraine, but have never tried it in this way, although I am sure that it appreciates a raised position with the sharpest possible drainage and gritty soil, for, if

shape and depth of colour, but the named forms such as Isabel, rich dark violet; *pelviformis*, with its saucer-shaped pale blue bells; *Riverslea*, deep blue; *turbinata pallida*, very pale blue; and *White Star*, a very fine pure white, are infinitely more satisfactory.

"Very fine" is a correct comment on the splendid hybrid variety, *G. F. Wilson*, which is the result of a cross between *carpatia* and *pulla*. It retains the *carpatia* habit and combines with this the rich violet colour of the smaller species and soon makes a large clump covered with flat, salver-like blooms. It will not tolerate shade, but requires full sunshine, combined with a rich, moist, gritty soil. One is sometimes led by circumstances to do things at the wrong time and I plead guilty to having planted *C. garganica* in the middle of the winter, on a Christmas eve to be exact. I was told that this was most certainly among the "doubtfuls," came from Italy and often disappeared in our cold, damp winters. Plants—like humans—sometimes do the unexpected and those specimens, so far from resenting my procedure, grew like weeds and are prosperous and happy to-day, and I would be afraid to say how many years ago it is since I first put them there. A cosy nook is advisable: it is true—and also a well drained,



A TUFT OF CAMPANULA PORTENSCHLAGIANA.

damp lodges round the crown of the rosette of leaves, it quickly succumbs. Drought in summer is equally fatal, so that care must be taken to see that its needs in the way of watering are not overlooked.

C. Balchiana is another kind that appreciates a comfortable home, by which sunshine and a certain measure of protection from cold winds in spring is implied. This may be noted as an unusual trailer after the form of *isophylla*, for the growths trail and the foliage is prettily variegated, while there are masses of pale blue flowers. It is not difficult but I question its entire hardiness and it is safer to take up a plant or two in autumn and keep in a cool greenhouse in winter. Everyone knows the marvellously floriferous qualities of the *carpatia* varieties—good alike in rock garden and border—but I would warn against raising these from seed unless one wishes to experiment. It is interesting certainly, for one gets plenty of variation in size,

slightly elevated spot, but my experience induces me to say "quite hardy." In appearance it is a very effective little plant about 3 ins. high, "neat as a new pin" in habit, with pretty crenulated leaves and sprays of starry blue flowers with a white eye, in addition to which there is the usual alba or white form. Far less common than these is the variety *garganica hirsuta*, a very rampant trailer, differing from the type in that the leaves are densely haired and the flowers light blue, produced from May to September.

Those seeking a crevice lover, should not pass by the variety *haylodgensis*, which is very valuable from many points of view. It is "late" in flowering and at the zenith of its perfection in July and August, a period when good rock plants are worth their weight in gold; it succeeds admirably when packed between two large boulders with the interstice filled with rich gritty loam, for it requires the sharpest possible drainage and exults in warm

sunshine. The habit is prostrate, so that it follows in its growth the form of the cleft in the rocks between which it is growing, smothering itself with masses of pale lavender purple flowers. Writing of "late" varieties reminds me of *C. linifolia* and *linifolia alba*. These, unlike the last-mentioned, are upright growers, with very narrow foliage and thin, wiry stems carrying large cup-shaped blue or white flowers that make a most effective show in August and well on into September. The effect of a single plant is good, but I have determined to find a spot where I can use it in a mass.

A beautiful effect that persists for weeks may be provided by arranging a little "waterfall," but instead of using water, a bed of rich yellow loam should be put down and planted with one of the "wee" *Campanulas*, such as *pulla* or *pusilla*, both of which, when in flower, give such a wild profusion of dainty bell-like blossoms that one has a flower-fall of blue, white or light blue blooms, without being aware of the green foliage that is burned beneath them. This is not a bit of treak gardening. Let each one try it for himself and blame me if not quite captivated by the splendid effect. This does not, of course, exhaust the ways of using these two valuable little varieties, which seem to flourish almost anywhere, for they do well in partial shade as well as in fullest sunlight. If one has a sharp slope well packed with rocks to keep the soil above from slipping, he should try *pusilla* in the chinks and see how admirably it adapts itself to this position, for it will soon "wander" behind the rocks and peep its growths out again in all sorts of unexpected places although it is never rampant nor a nuisance. Another "grow anywhere" species is *C. muralis*, which is more properly listed under the easily remembered title of *Portenschlagiana*, although I confess to having labelled all mine "muralis." This provides a double event, flowering gloriously at two seasons, most considerably choosing two periods when it is especially valuable, *i.e.*, late May when a pause often comes over the garden and again in early October, when anything dwarf and purplish blue has become very scarce. It may be planted in a variety of situations and I think I can promise that it will grow and flower profusely in sun, partial shade or even beneath trees. Small pieces soon spread into wide tufts and it is one of the simplest plants to divide, while for permanent edgings it is beyond criticism. Evergreen in habit, it forms close tufts of crinkled leaves that are bright, restful and refreshing when it is not producing its blaze of blue purple bells. I have seen it described as the "freest blooming alpine *Campanula*," and should think there are few who know it well who would be disposed to contest this. There are two fine varieties of this species, *C. muralis bavarica*, larger and bluer and more vigorous, and major, a new form that I have not seen, but which is said to be finer still. *C. Kaddeana* can be relied upon to give a long succession of bloom from June to October. The flowers are like an open cup of intense purple blue on slender stems 6 ins. to 9 ins. high; a very good variety of spreading growth. Among the hybrids, do not pass *C. Stansfieldii*, for this is a gem, forming dense little tufts of leaves from among which spring stems 3 ins. high, carrying large lilac blue semi-drooping flowers almost all through the summer. It is a good variety to spread quickly and loves a deep pocket in an open position. Quite distinct is *C. nitida*, a delightful little miniature with dark shining evergreen leathery foliage, from among which rise erect stems bearing whorls of rather large flat blue flowers from July to September.

And so one might continue remarking upon variety after variety until a complete list had been made, but time has come to call a halt and I will conclude with *C. Steveni nana*, a dwarf and

compact form of *Steveni* which makes a perfect carpet of narrow light green foliage, above which, at a height of about 4 ins., are large lilac

blue flowers in July and August, the dainty little blooms nodding on the stems with every breath that blows. H. W. CANNING-WRIGHT.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

The Seed Order.—If not already done, no time should be lost in despatching the seed order, for although the bulk of the seeds will be sown later, it is time a start was made with some of the early vegetables.

General Work. Every opportunity should be taken to get manure on the ground, also any ashes from the rubbish fire, and old potting soil if there is no other use for it. Such crops as Onions, the Cabbage family, Leeks, Beans and Peas enjoy a liberal dressing of manure. If the ground is in good heart, no manure will be necessary for Carrots, Parsnips, Potatoes and Beet, but a sprinkling of some fertiliser may be given at the time of planting.

Dwarf Peas.—For early supplies a sheltered south border should be chosen, and the kinds I have found successful are Langley Gem and Pioneer. Select a fine dry day and plant 3 ins. deep in drills 2 ft. apart.

The Flower Garden.

Herbaceous Borders.—At an early date these borders should be given attention, the old growths cut down, and large stools of *Michaelmas Daisies*, *Heleniums*, etc., may be lifted, divided and the outside pieces replanted. *Peonies*, *Delphiniums* and *Phloxes* are best left alone for two or three years. The border can be dug over and well decayed manure incorporated as the operation proceeds. If new borders are contemplated, the ground should be trenched and manured a week or two before planting takes place.

Roses.—When the soil and weather are favourable the planting of *Roses* may be completed, although much work can be continued until March. Deep planting must be avoided, and standard trees should be secured to a firm stake.

Gravel Paths. Where new gravel is required it may be applied at this season, and if it is rolled occasionally a smooth surface will be obtained before dry weather sets in.

The Rock Garden.—This interesting section must be examined and a sharp look-out kept for slugs, which are numerous in some gardens. Traps are useful, and many of these pests can be collected and destroyed in the early part of the day. Tender plants will need protection during severe weather, and sheets of glass, conifer boughs, etc., will be found suitable, but they must be removed directly the weather improves. The soil can be lightly forked over and, where needed, a top-dressing of gritty soil given. A note ought to be made of any failures and the plants replaced any time before March.

Fruit Under Glass.

Peaches.—In some gardens will be found two or three Peach-houses, and where such is the case the earliest trees will have started into growth and be approaching the flowering stage. When the flowers are open they will need to be fertilised artificially, and a rabbit's tail tied on the end of a bamboo cane is usually chosen for this work. Select a fine sunny day and then touch the flowers lightly with the tail. Maintain a temperature of 60° to 65° by day and 55° at night, and ventilate the house whenever the weather is mild. Watch for green and black fly and lightly fumigate the house directly these pests are seen. In the later houses the pruning and cleaning of the trees and washing down the woodwork and glass will need attention. When pruning the trees cut out the wood that has borne fruit during the past year and tie in the young shoots which will bear fruit this season. Care must be taken to avoid overcrowding, for this and overcropping is a failing not only of amateurs but occasionally of professional gardeners. If any new trees are required in the late house, they should be planted at once. When selecting varieties that known as *Alexandra Noblesse* ought to be included, as its flavour is excellent.

The Hardy Fruit Garden.

Planting Fruit Trees.—Where it is intended to replace old trees or useless varieties with better kinds, such work must be completed without further delay. Standard trees will need to be made quite secure to a stake, and each tree should be examined occasionally to ascertain if it is

still firmly embedded in the soil. All stone fruits enjoy lime in some form, and when planting such trees sprinkle a little wood-ash and mortar rubble among the roots. All damaged roots should be carefully cut off with a sharp knife and the very strong ones cut back slightly in order to encourage the formation of fibrous roots, which are so beneficial to the tree. Specimens planted against a wall must not be tied permanently until such times as the soil has settled down.

Manure for Fruit Trees.—Plantations of Currants, Gooseberries and Raspberries will be greatly assisted by a liberal dressing of good farm-yard manure, and it should be applied as soon as possible or during a spell of frosty weather. The ashes from the garden fire may also be used with advantage.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Seed Order.—The seed lists are now to hand, and it will be in the interests alike of the vendor and purchaser if orders are placed early. The making up of the list of vegetable seeds is a comparatively easy matter for those who have had previous experience. The quantities are pretty well known, and a written or mental note will have been made of varieties which have proved satisfactory or otherwise. Notwithstanding disappointments in the past, a few novelties should be included; but for the bulk of the supply reliance should be placed on well tried varieties. The selection of flower seeds calls for greater forethought, as planting schemes are varied more or less year by year. Plans for the coming season should be more or less definitely fixed now, as it is bad policy to order seeds haphazard.

The Kitchen Garden.

Digging and Trenching. Have the digging or trenching of all vacant quarters completed as soon as possible, so that the soil may get weathered before cropping operations commence.

Rhubarb.—With the advent of the New Year Rhubarb crowns will be more easily excited into growth for early supplies. Various devices may be employed. A good torkful of rather dry, loose litter or leaves may be lightly placed on the crowns, or they may be covered with extra large flower-pots or a circle of corrugated iron placed over them.

Seed Potatoes.—If not already done, "seed" of early varieties should be packed closely together in wooden trays, crown upwards, and placed in a light position where a temperature of 40° to 45° can be maintained.

The Hardy Fruit Garden.

Combating Caterpillars.—Gooseberry bushes are subject to attacks by caterpillars of two kinds: those of the magpie moth and the sawfly. Both pests may be dealt with during the spring or summer, but "prevention is better than cure," so if their presence is suspected they should be taken in hand now. The sawfly caterpillar deposits its eggs in the soil under the bushes where it has been lodging. A heavy dressing of lime or soot generally proves effective for these. Rake the dressing lightly in. The magpie moth caterpillar is more beautiful, more destructive and more difficult to destroy. It deposits its eggs on the gossamer-like threads it suspends on the branches of the bushes. A good spraying with arsenate of lead at the rate of 1 lb. to a gallon of water, plus a little treacle to make it sticky, is almost sure to make short work of this pest.

Pruning.—The pruning of all kinds of hardy fruit trees should be completed as quickly as possible, as the sap will soon be on the move upwards again. Pruning should not be carried out during frosty weather.

Fruit Under Glass.

Mid-Season Vines.—In houses where ripe Grapes are required early in August preparations should be made now for starting the Vines. Pruning will have been attended to, so the work at the present will consist of thoroughly washing down the woodwork and glass with soap (no soda) and moderately warm water, removing all loose bark

from the Vines and giving them a dressing with Gishurst's Compound, working it well into the crevices of the spurs. Limewash the walls with hot lime and remove some gins, of soil from the surface of the border and replace it with maiden loam, plus a little lime, wood-ashes and bone-flour. Water the border if dry.

The Flower Garden.

Digging and Trenching.—All vacant ground should be trenched or dug as soon as possible. Ground that is to be occupied by annuals may be allowed to pass with a light dressing of manure and single digging, but that intended for the reception of Hollyhocks, Dahlias, Pentstemons or Chrysanthemums should receive a liberal dressing of manure and be either trenched or double dug.

Sweet Peas.—Those who desire to obtain long-stemmed Sweet Peas with plenty of "fours" must lay a good foundation on which to build their hopes. A trench should be taken out about 2ft. wide and 2½ft. deep. The trench should then be filled up to within a few inches of the ground-level by mixing the top spit of the excavated soil with turfy maiden loam, half-decayed vegetable refuse or the contents of pots in which Chrysanthemums have been grown, adding to the mixture some bone-flour or bone-meal. It is not advisable to apply quick-acting fertilisers at this stage, for if this is done it is very apt to induce the dreaded streak. Plants treated as advised above will require supports at least 5ft. high, and these should be seen to now. Those who can secure them cannot do better than use natural stakes—branches of Beech, Elm or Hazel being most suitable for this purpose.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian).

GREENHOUSE AND CONSERVATORY.

Greenhouse Climbers from Seed. There are quite a number of climbers of a more or less annual character that can be raised from seed sown early in the new year. It is wise, therefore, to procure a supply of seed as soon as possible. One of the most striking and possibly the least grown of all is *Rhodochiton volubile* with pale reddish

calyces and dark blood red tubular corolla. If grown on in sin. pots it will make growth some 10ft. in length, and will flower freely all through the latter part of summer, autumn and even during the winter months. This plant is really a short-lived perennial, and is very fine in its second year if it can be planted out and trained on a rafter or to wires under the roof glass. Usually it is not worth keeping after the second year from seed. Other climbing plants that may be treated as annuals are *Cobaea scandens*, *Ipomoea rubro-coccinea*, *L. coccinea*, *Mimosa lobata*, *Thunbergia alata* in several colours, *Eccremocarpus scaber* and *Maurandia Barclayana*. There are some six species of *Maurandia*, but *M. Barclayana* and *M. scandens* (*Lophospermum scandens*) are the two most commonly seen in cultivation. The majority of the plants mentioned are half-hardy, and in the South at least may be planted out and trained against walls or trellises during the summer months.

Asparagus Sprengeri and *A. plumosus* and its variety *nanus* are more or less indispensable in most gardens. As the seeds take some time to germinate and the plants in their younger state are somewhat slow-growing, seed should now be sown as soon as possible, soaking the seeds for twelve hours in warm water before sowing. The seed-pots should then be plunged in a case with bottom-heat, covering the pots with a piece of glass until germination takes place. *A. Sprengeri* makes an excellent basket plant for the conservatory. The plants are very beautiful when covered with their small white, starry-shaped flowers, which usually set plenty of fruits, the latter being bright red when ripe.

Asparagus decumbens is a very graceful and dainty species for hanging baskets, and it is surprising it is not more generally grown, as it succeeds perfectly well under the same conditions as *A. Sprengeri*. *A. scandens deflexus* is also a very beautiful species of somewhat the same habit. *A. medeoloides* (Smilax) and its variety *myrtifolius* are usually in great demand for decorative work, and where wanted for this purpose seed should be sown early in the New Year. Grown on into 6in. pots and trained round several slender stakes they are useful for furnishing the stages in the greenhouse or conservatory, but if required for a supply of cut shoots they should be planted

out and each shoot allowed to run up a thin string. The back wall of a greenhouse is a suitable place for growing them. Failing this they may be planted against and trained up the back walls of vineries. *A. retrofractus* is a very distinct and beautiful species, which is seen at its best when planted out and trained up a pillar in a cool house.

Manettia bicolor is a very old garden plant, but does not appear to be very common in gardens at present. It is a twining plant, with small, tubular scarlet flowers tipped with yellow, and has the merit of being more or less in flower all the year round; but is useful, as it flowers during the winter months. It can be planted out and trained up a pillar; but nice plants can be grown in 6in. pots, training the shoots round neat stakes. It is easily propagated by means of cuttings inserted in pots of sandy soil and stood in a close case. The plant grows quite well in any ordinary potting compost, and while growing should have warm greenhouse treatment.

Royal Botanic Gardens, Kew.

J. COULTS.

Answers to Correspondents

TREES AND SHRUBS.

TRANSPLANTING ROMNEYA COULTERI (W. M.).—Transplanting the tree Poppy is a risky operation, especially if the plant is a large one. It is not so much a question of climate as of soil and position. In a sheltered sunny position and a well drained loam, *Romneya Coulteri* should succeed in Gloucestershire. The positions to avoid are damp, cold places and heavy soils. This is not a favourable time for transplanting; spring is the best season. As our correspondent apparently has no alternative, it is worth while taking the risk with a plant so delightful when it succeeds. Plant a portion in the flowering position and put up some of the smaller pieces, placing in a cool greenhouse. Growth is sometimes slow for the first year, but once established the plants grow and flower freely. Do not plant the crowns deeply, rather protect with bracken, dry leaves or litter in severe weather. In lifting it would be much better to save all the fleshy roots possible, the broken ends have an unfortunate habit of dying back. If the transplanting proves a failure, raise young plants from seeds.

NAMES OF PLANTS.—"Lanrick."—1. *Centradenia rosea*; 2. *Polypodium aureum*; 3. *Chlorophytum elatum variegatum*; 4. *Veronica Lyallii*.

NAME OF FRUIT.—C. F. T. W., Suffolk.—Apple striped Beeching.

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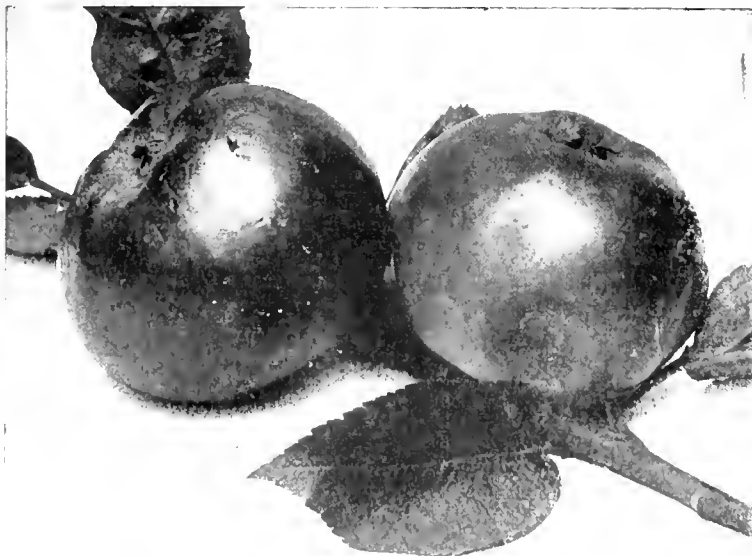
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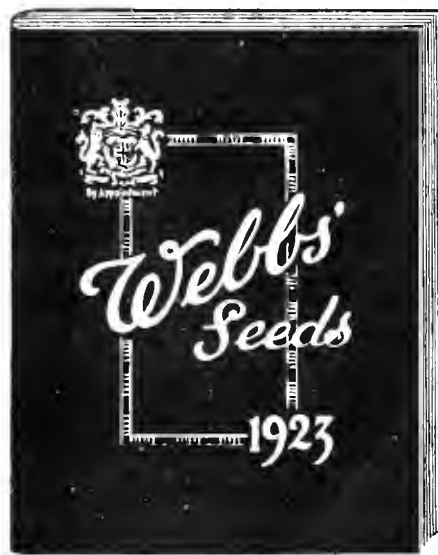
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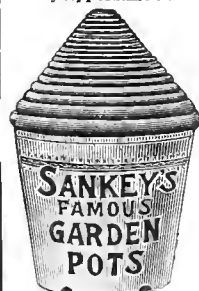
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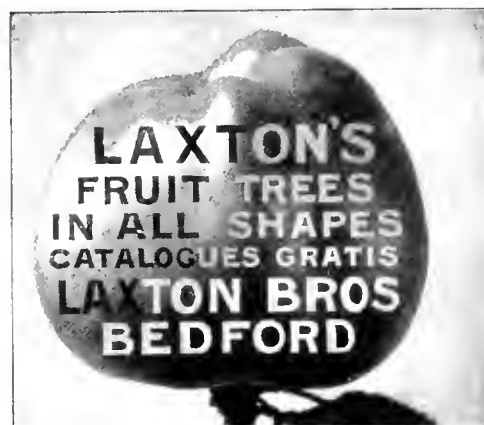
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JANUARY							FEBRUARY						
S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
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MARCH							APRIL						
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15	16	17	18	19	20	21	15	16	17	18	19	20	21
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SEPTEMBER							OCTOBER						
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15	16	17	18	19	20	21	15	16	17	18	19	20	21
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NOVEMBER							DECEMBER						
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No. 2669.—VOL. LXXXVII.]

[JANUARY 13, 1923.]

GENTIANAS, DWARF AND TALL

Their Value and Culture.

LAST week we considered very briefly some of the most useful plants belonging to the Borage Order—an Order remarkable for the admirable blue-flowered plants it contributes to the garden. This week we purpose passing in review some of the more effective species and varieties of the Gentian family, which provides us with the richest and most velvety blues any flower affords.

It is rather astonishing that to many gardeners the name Gentian brings to mind little else than the great Gentianella, which they call (or miscall) *Gentiana acaulis*. The beauty of this plant no one can gainsay, but it has no right to monopolise to itself the glory of all the Gentians. The gardener who can grow the Gentianella, or rather who succeeds with it, is apt to be a little tolerant of those less fortunate in this respect. This Gentian is certainly a whimsical plant. It misled even the late Reginald Farrer, who seriously recommends to grow it in deeply worked kitchen-garden soil, with an abundance of lime rubble. He lays stress upon the last mentioned ingredient. Now the writer has grown this plant in light, hungry soil, destitute of lime and it spread into and flourished in the gravel path. It would seem then that it is a very accommodating plant. Failure to grow almost always indicates impure air, due to the proximity of a manufacturing area. Failure to flower may be due to too rich soil, but often means only that a poor strain has been obtained. The Gentianella, though probably of hybrid origin, reproduces itself fairly true from seeds, but unquestionably some of the seedlings are as shy to bloom as others are free. There are, besides colour forms, several named varieties in commerce and some have extra large flowers. Freedom to blossom, however, is more important than size of pip and

gardeners who cannot flower the plant well would be well advised to try several different stocks in the hope of improving matters.

Linnaeus's *Gentiana acaulis* covers a number of somewhat dissimilar species, as well as the *Gentianella*. *G. vulgaris* is usually met with in gardens as *G. Clusii*. It has very handsome upstanding trumpets of a glorious azure blue. In cultivation it is not difficult in a well drained limy soil or, preferably, in the limestone moraine. *G. latifolia* on the other hand is the peat-loving *G. Kochiana* of gardens. The colour of the species is variable, but is generally dull and not seldom muddy. It is easily recognised by the rather large and distinctly floppy yellowish foliage. *G. angustifolia* may easily be distinguished by its long narrow bright green leaves. The whole plant is taller than we should expect in the *acaulis* kindred and the flowers, though not large, are a beautiful blue. The limestone moraine is the best place for it when it can be obtained. *G. excisa*, which is nearest to the *Gentianella* of gardens, is a comparatively rare species in the Alps and rarely offered by the trade. It has ample very dark green glossy foliage and stout comparatively tall

flower stems and, above all, wide mouthed trumpets of a glorious blue. In a light gravelly loam this is not a difficult species to establish if plants can be procured. Others of the *acaulis* kindred are *G. G. dinarica* and *occidentalis*, both beautiful in their native mountains, but hardly likely to be procured unless, perchance, from seed.

Practically every lover of alpine plants has tried *G. verna*. Many can keep it alive for a year or so; comparatively few really succeed with it. It seems to like a rather light gritty compost with an admixture of peat or leaf-mould. It certainly likes the company of other plants. It will even struggle with and hold its own against the rampant *Campanula Portenschlagiana*! but smaller growers are abundant. *Saxifraga oppositifolia* is a very suitable companion, so are some of the small *Alyssums*. The plant's great enemy in our lowland gardens is winter wet, which accounts for its comparative ease of culture in the alpine house.

Of the other small Gentians of the European Alps, *G. bavarica* is perhaps the most lovely in its intensely dark velvety flowers. The foliage is yellowish and the flower stems taller than those of *G. verna*. It needs bog conditions in summer, but not in winter. If these can be provided in gritty, peaty soil, it is not really difficult either to establish or to flower. It is, naturally, easier in pans in the alpine house than in the open rock garden. *G. brachyphylla*, which replaces *G. verna* at the high levels, is more compact than that species and there is a distinctly glaucous look about the foliage. It flowers in July and, strangely enough, many gardeners find it an easier plant to establish than *G. verna*. *G. imbricata* which replaces *G. bavarica* at higher altitudes is a miniature of that beautiful species, but exceedingly difficult to grow, even in the alpine house. From the Roof of the



GLORIOUS BLUE TRUMPETS OF THE GENTIANELLA.

Willow are a very distinct set of alpine Gentians which are now becoming common in the better collections of species. Of these *G. Freyniana* and *G. septemloba* are the best examples. Farrer writes of it: "As soon as *G. Freyniana* coming into bloom in mid-September on all the high alpine sword of the Da Lungshan (Northern Kansu Tibet), it is by far the most astonishingly beautiful of its race, reducing *G. verna* and *G. Gentianella* to the dimmest acolyte." As we grow it in Britain it certainly does not compare for splendour with either of the species named. To begin with the fine light green foliage, perhaps more beautiful in itself than the still green tufts of the *Gentianella*, seems a less satisfactory background for the azure trumpets. Again, the fierce luminous Cambridge blue which Farrer described probably less "nerve" in cultivation lacks the velvety depth of *G. Gentianella*. None the less this is a magnificent autumn-flowering species—the quaint striping of the buds reminds one of an *Ipomoea*. Outdoors it likes a gritty but moist cool soil. It is grown to perfection in the rock garden at the Royal Botanic Garden, Edinburgh, and as at least one firm in the trade holds an immense stock of it, it is readily procurable. *G. sinuornata*, which is an equally easy doer, is very similar in general appearance even to the striping of the outside of the flower. It is none the less quite distinct. This also is an autumn-flowering species. *G. Kurroo*, which, at long last, received a few months ago the R.H.S. award of merit, is seen to much greater advantage on a shelving ledge in the rock garden than in a pot on the exhibition table. From a central, multiplying tuft of long narrow strap-like leaves one or two flower stems radiate in late summer. These are, at first, horizontal, but they ultimately sweep gracefully upward to display the large trumpets of a rich gentian blue, lighter in the throat. It is easily understood that with its stems gathered up to stakes for security, a potted plant loses much of its grace and individuality. In the garden, *G. Kurroo* likes a hot exposure, but not drought. As it is inconvenient to supply water underground all over the rock garden, this usually means a site in a sun-kissed corner of the moraine.

Now without bothering about any more Asiatic high alpinists, let us consider awhile the taller-growing lowland species. First of all we have the Willow Gentian, *G. asclepiadea*, which makes a poor picture in black and white, but is, when well grown, undoubtedly lovely, with long bending sheaves of sapphire blossom. It likes a deep, cool soil, but does not seem greatly to trouble whether this be light or heavy. Like most of its kindred, the Willow Gentian is very variable as regards blossom colour. Some of the drab-coloured varieties in commerce are quite unworthy of cultivation.

G. septemloba obviously belongs to the same section as the Willow Gentian, but is a dwarter grower. The 6 in. long stems are fragile, and look more fragile than they are. The soft blue flowers are much larger and more widely expanded than in *G. asclepiadea*. This is an easy plant to establish in a cool corner in soil containing abundance of lime. *G. Lagodechiana* illustrated is practically identical with the equally easy to grow and wonderfully beautiful *G. Freyniana* is also closely related to *septemloba*, but dwarter, and quite distinct in external appearance. *G. Androsii* is another plant belonging to the section, and a very easy doer. It is heavier and more botanically than *septemloba*.

G. Pannoniensis is a British native, and to that fact better worth cultivating than some of the cowardly species from far off land. Not that *G. Pannoniensis* can properly be described as cowardly, though it is not a particularly showy plant. The exterior of the trumpet-shaped blossoms, which in



THE TRAILING SOFT BLUE FLOWERS OF GENTIANA LAGODECHIANA.



MASSSES OF GENTIANA FREYNIANA.



AZURE BLOSSOMS OF GENTIANA SINO-ORNATA.

the garden is the more noticeable), is a dull greenish blue, but the interior colouring is rich and velvety. The best form, a foreign one, is known as *G. P. arvensis*, but there is also a very attractive albino. Closely related is the little dwarf *G. glauca*, with grey foliage and green and blue blossoms. *G. linearis* again is a New World species also belonging to this section growing 1½ ft. tall with small clustered heads of whitish blossoms—not one of the most attractive species though well enough in its way.

To quite another section belongs the stalwart yellow Gentian of the alpine meadows—*G. lutea*. The plant is of economic importance, for to its root we owe one of the best and most harmless stomach tonics known. It should have a deep and rich but open soil and be grown in groups rather than as single specimens, when the handsome corrugated foliage and starry golden flowers are really effective. None of the others of this section is worth growing.

A REMARKABLE SAXIFRAGE

THE late Reginald Farrer was much more of a collector of plants from the wild than a plant breeder and hybridist, and as a collector he had an extraordinary eye for special forms and varieties. But he writes amusingly in his books of certain crosses which he made among Saxifrages and of his rather haphazard methods in not recording the parentage of these crosses. Yet he achieved one hybrid at least of first-class importance in *Saxifraga Mira*. We all remember what a flutter went round when the charming little *S. Irvingii* made its appearance at Kew, the first pink hybrid from *S. Burseriana*. I saw a picture and an account of it in *THE GARDEN* one morning, and caught the next train to Kew to pay my respects to it. *S. Irvingii* will always remain a first-class plant; it is so neat and thrifty, so good a grower and so free to flower. Moreover, its flowers are a pure delicate pale shell pink. But *Irvingii* having made the stir it did, imagine my feelings when I came upon a hybrid of the same persuasion as *Irvingii*, but with slightly larger flowers of a bright rich cherry red—the colour almost of *Potentilla Willmottiae*. I was paying a hurried passing visit to Farrer's Craven Nursery. Farrer was away on his last fatal expedition. In one of the nursery frames among a lot of odd mixed treasures were eight or nine little pot plants of this wonderful new hybrid in full flower. I could hardly believe my eyes, and the picture of those astonishing little plants haunted the back of my mind for days after. Farrer had named the plant *Mira*, but I have never been able to discover for certain what was its parentage. Rather more than a year later, after Farrer's death, I received through the kindness of Mrs. Farrer the major portion of the stock, and on flowering it here I find that there are two distinct forms, one of which is a much darker richer red than the other. The lighter form has been shewn and received the R.H.S. award of merit, and there has been enough of it for distribution. Of the darker better form there was very little, and at present it is unshewn and unpublished. The two forms are identical except in the matter of colour, but in colour they are very distinct, and the darker form will have to have some distinguishing name. *S. Mira* is a slow grower, but of sound, reliable constitution. It is close and hard and compact in growth, larger in the rosette than *Irvingii*; broader, blunter and greener in the leaf, and larger in the flower.

Stevenage.

CLARENCE ELLIOTT.

THE BEST VARIETIES OF HOLLY

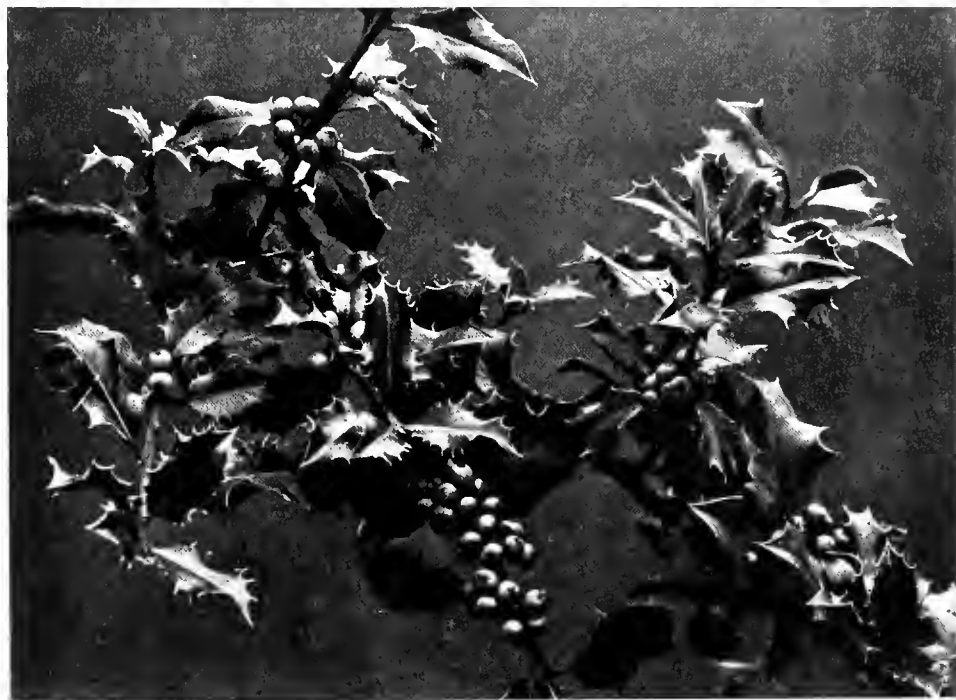
THE Holly is a singularly useful tree, since it provides the strongest of boundary hedges and one that will grow beneath the shade of trees where the Quickthorn, for instance, would fail. It is invaluable, too, for undergrowth—it will grow, if the ground be properly prepared, under Scots Pines and other conifers. Many varieties of the Common Holly (*Ilex Aquifolium*) and some of the species make exceedingly handsome specimens, with rich glossy foliage. The beauty of the female Common Holly when wreathed in brilliant berries needs no commendation. Even the derelicts of our London slums are familiar with the leaf and berry of Holly.

The handsomest of green varieties of the Common Holly is called *camelliaefolia*. The dark glossy leaves are sometimes 5 ins. long, but relatively

as variety *atlanticensis*. *Wilsoni* is another huge-leaved variety—and female.

The variety known as *scotica* might almost be called a smaller-leaved edition of *camelliaefolia*. Spined leaves are even less frequent upon this variety than upon the last mentioned. Another remarkable, almost spineless variety is that called the *Dominington Holly* (variety *domingtonensis*), which has narrow, oblong, purplish leaves and purple bark. This is a male variety, but very handsome. Variety *Smithii* is similar but less effective, as it lacks the purple bark and purplish foliage.

Very distinct is the form called *latispina*, also with purple bark and with very long and slender spines. *Monstrosa* has similar long slender spines, but more of them, frequently eight to ten to each



THE WEEPING FORM OF THE COMMON HOLLY, *ILEX AQUIFOLIUM PENDULA*.

narrow and are, for the most part, spineless, though some have a few spines towards the tips. This form makes an attractive columnar tree. It is female, but does not berry at all freely.

The variety *Hodginsii* has leaves much larger and darker than those of the typical plant, also shorter in their proportioning. The individual leaves are glossy, but there is something "dead" in the gloss, so that the tree, as a whole, lacks the "finish" of *camelliaefolia*. This is a female variety and berries freely. It is much confused in nurseries with the variety *Shepherdii*, which has leaves similar in form and probably larger on the average, but brighter in colouring.

A weeping form of the Common Holly is not uncommon in hedgerows. Such weeping plants may be either male or female, but the form stocked in nurseries as variety *pendula* is a beautiful weeping form which berries freely. This Holly is much admired by many people who do not ordinarily care for weeping trees. There are silver and golden forms of this Weeping Holly, the former usually listed as *Perry's Weeping* and the latter as *amea pendula*.

A fine large-leaved male Holly with purplish bark is known as the *Highclere Holly* or (*latinised*)

leaf. The Hedgehog Holly (var. *ferox*), is another variety with purple bark. Leaves are on the small side and crumpled. Besides the marginal spines of the Common form, there are clusters of short spines on the upper surface of the leaf. This is a male variety. There are forms of this curious variety with leaves variegated with silver and gold respectively. The silver form seems permanent enough, but the gold one has a tendency to revert to the green hedgehog form. All three are, perhaps, more curious than beautiful. Two other "freak" varieties are called *crispa* and *crassifolia*. The former has its leaves, which have, as a rule, few spines, spirally twisted. *Crassifolia*—often called the *Leather-leaved Holly*—has shoots and foliage curiously thickened and succulent in appearance. The young shoots are purple. Neither of these forms has any particular beauty.

The variegated forms of the Common Holly are interesting and some of them really beautiful, but like most variegated plants they are easily "overdone" in the garden. The two handsomest of these coloured forms are probably *Golden Queen* and *Silver Queen*, especially the latter. Both, oddly enough, are male varieties. In both, the variegation is clearly marked, bright in colour and

broad. Of the white-margined Hollies, Hands-worth New Silver is probably the most handsome. Like most of the silver-margined sort—it is female—and fruits moderately well.

The Silver and Golden "Milkmaids" have heavy central bands of colour surrounded by an irregular green margin. They are much favoured in some gardens. Male and female plants of either are pronounced. Waterer's Holly is a dwarf, compact sort, very dense in habit and its foliage scarcely spiny. The latter is very dark green, sharply margined rather bronzy gold.

There are great numbers of species of *Ilex*, of which perhaps the best known is *I. crenata*, though the Canary Island Holly, *I. platyphylla* is no doubt partly responsible for many of the so-called forms of *I. Aquifolium* already described. The leaves are much larger than those of our own species and the gloss on the foliage seems shallower and less translucent. The sub-species *balearica* has smaller foliage than the type and, as grown, is usually, perhaps always—female. It is almost certainly harder than the typical plant, but not very hardy at that. It is worth noting that even the Common Holly is not among the hardiest of plants. Young, immature wood is often cut by frost and in very severe winters, such as, happily, few of this generation have experienced, is sometimes killed outright. Nearly related to the Balearic form is the variety *madeirensis*, with brighter foliage.

Ilex crenata is the Japanese Holly, with leaves seldom exceeding 3 in. in length. It grows into a shrub 3 ft. or 4 ft. tall and might easily be taken at a little distance for a small-leaved *Osmanthus*. The form known as *major* attains, in time, the stature of a small tree and has rather larger leaves. This probably is the typical form of the species, the specific form as we know it being a form selected by the Japanese, whose fondness for dwarf shrubs is notorious. However this may be there is a form much smaller even than the one English botanists regard as typical. This is called *Mariesii*, of which the growth is extraordinarily slow and congested. It is, therefore, quite a useful shrub for the rock garden. The Japanese Holly has black fruits. *Ilex Pernyi* is another small-leaved species, ultimately attaining the dimensions of a small tree. The foliage is not unlike that of our English Holly, very much reduced in size and the fruits are red.

Ilex opaca is the American Holly. It also is red fruited but, compared with our native tree, has little beauty. The Himalayan Holly, *I. dipetala*, is oddly enough somewhat similar. This also is undoubtedly nearer to *I. Aquifolium* in beauty.

For our western shores there is the remarkable *I. insignis*. The oblong leaves are of immense size—up to 6 ins. long, dark green with a

prominent pale green mid-rib. It has bright red fruits. *I. integra*, known in gardens as *Othera japonica*, is remarkable as a large-leaved entirely spineless Holly. The fruits, which are bright red, are remarkable for their size—3 in. in diameter. It should be hardy in any but very bleak localities. *I. latifolia* from Japan, is an exceedingly handsome

species with huge lustrous green leaves and large bright red fruits, abundantly produced. It is, unfortunately, hardy only in the south. There are several other evergreen species and a number of deciduous ones which were formerly called *Prinos*. They do not agree with an Englishman's idea of Holly and need not be mentioned here.

PLANTS FOR THE PATHSIDE

WHILE it is never good practice to allow a path to become other than what it is intended to be, to neutralise its proper function as a path by allowing shrubs and plants to trespass too far over its course, it is just as easy to err in the opposite direction by insisting upon too much formality and discipline. A happy medium may, however, often be attained between these extremes, and we have found that a judicious selection of plants, set in as natural a manner as possible along our walks, whether these are in the rock garden, the woodland or elsewhere, add a great charm and interest to such places. Incidentally, they save considerable labour by occupying space which would otherwise be a sanctuary for weeds, while they themselves rarely, if ever, require any attention. These paths, I may add, are not paved or otherwise made up. For the most part they are merely faced with a little local gravel and firmed down.

We have, to give a few examples, wide, spreading mats of several of the finer *Acanas*,

the pale emerald *A. Buchanani* and the bronzy *A. microphylla* (*mermis*) being perhaps the most suitable and neither of these offend as some others do by distributing their dry burrs upon one's clothes. These *Acanas* positively seem to like being walked upon, they are rapid growers, beautiful at all seasons and adaptable for sun or shade. Yet they never intrude upon the main footway of the path, for the excellent reason that their leading points are ever being nipped off by the feet of passers-by.

Hardly less may be said of the *Cotulas*, especially the New Zealander which endures the specific title of *squalida*. This makes a dense and delightful carpet of overlapping, fern-like, hairy leaves which will creep over the flat, mound over stones or clothe a vertical and not too dry an edging with the tenacity of Liverwort. It is a fast and vigorous grower, content almost anywhere, but as it is liable to become a nuisance among choicé plants, the woodland or shrubbery walk is the place for it.

Yet another little creeping plant that may be a devastating pest in one spot and a thing of delicate and irresistible charm in another is *Helxine Solierolii*. Though a Corsican, this species will endure any but extremely inclement winters, and even if it should be apparently extinguished by frost its vitality is so great that the merest scrap that survives will spread into a mat of verdure the following summer. *H. Solierolii* has the same clinging habit as *Arenaria balearica*, but its glossy, lettuce-green leaves are larger and, as for its blossoms, these are so minute that they simply cover the plant with a sprinkling of gold dust. An admirable path plant for associating with the smaller native Ferns, Welsh Poppy and other things which will thrive along the shady margins of a woodland walk!

The above-mentioned *Arenaria* is well enough known as ideal for all manner of places which require a minute and close-growing creeper. Few plants are more charming than this when the rocks which border some cool and shady path and even the pathside itself are veiled with its delicate tracery of green, bristling with perky little milk-white flowers.

A plant that will prosper under similar conditions and equally attractive is *Mentha Requienii*, a most dainty mite which appears, as it spontaneously, in all manner of places about our cooler and damper paths. It grows perfectly flat, spreading like a film of moss upon level ground, sowing itself liberally every year and rewarding each passer-by with a whiff of its minty and pungent fragrance. Though not hardy, we can always rely upon some fresh seedlings of *M. Requienii* appearing to make good winter losses, and these grow so fast that they will usually be covered with the tiny mauve flowers—probably the most minute in cultivation—before the season is over.

Mazus Pumilio is also a prostrate little plantling which enjoys a cool spot. It creeps about by means of underground runners and presents us with short, stubby heads of musk-like flowers, usually of a bluish lilac hue. The foliage is a



A USEFUL VARIEGATED HOLLY, *ILEX AQUIFOLIUM ARGENTEA MARGINATA*.

pleasing shade of green, and a healthy specimen of *M. Pumilio* will grow into a close-set carpet. We have found *M. Pumilio* to be rather impatient of our winters, as is its near relation the lovely, pure white, violet-eyed *Mazus* (*Mimulus*) *radicans*. The latter, however, being a marsh plant is not generally suitable for path culture, though some remarkable results have been obtained in ordinary moist or peaty loam.

Another brace of interesting little carpeting plants which are not difficult in a fairly moderate climate are *Pratia angulata* and *P. begoniifolia*. The former (syn. *Lobelia littoralis*) makes a spreading cushion of fleshy, oval leaves which it decks with white, starry flowers followed by blue-purple berries in autumn. The latter is larger in every way, with round, hairy leaves and plum-coloured fruits. Both plants seem to appreciate a shady and sheltered nook, and there are one or two other kinds listed by the best nurserymen which fully deserve a trial.

Among the happiest of the plants which adorn our woodland paths are *Saxifraga cuneifolia* in one or two forms and *S. Geum* with its round, dentate leaves held stiffly on long, narrow stems. The former is a vigorous, hearty little plant which will quickly cover a wide space with a jostling crowd of dark green rosettes and hold its own with most things. It enjoys a cool, sun-screened place, as does the other, and both produce elegant sprays of white flowers like miniature London Prides. Other members of this clan also crop up at times about the sides of the paths where a mossy stump or rock affords a suitable resting place for seed. One of the prettiest of these I strongly suspect to be the offspring of *SS. Geum* and *umbrosa*, but one hesitates to speculate further into the mysteries of these charming colonists.

Some of the creeping *Toadflaxes* are admirable for the margins of such walks as are enjoyed by lovers of cool and moist conditions, and these will often thrive as well on the flat as among rocks. One of the most beautiful is *Linaria hepaticæfolia*, with large, fleshy leaves and violet flowers. But even more choice are *L. pallida* with big clear lavender, fragrant blossoms and its exquisite white form. Very dainty also is the shy little *L. aquitriloba*, which will cling to a vertical rock face and prove a suitable companion for some of those more lowly creepers mentioned earlier. Though often a very murrain in the rock garden, these *Toadflaxes* can be put to such a use as is here suggested, when their undeniable beauty may be appreciated at its full worth.

Many of the dwarfier *Ericas* are good for skirting a walk where conditions are suitable, and for a partly shaded corner where there is some natural moisture nothing can be more delightful than a patch of *Gaultheria trichophylla*. Along with such shrublets as these we have also used *Spiraea decumbens*, *Bruckenthalia spiculifolia*, *Bryanthus empetrifolius* and the always welcome *Polygala Chamæbuxus* in several varieties.

Walsteinia trifolia, with yellow flowers like a *Potentilla*, and *Tiarella cordifolia* will make a cheerful and harmonious blend of colour and form, and for a sunny place in poor, hot soil a few plants of *Dianthus deltoides* and *DD. graniticus* and *cæsius* will soon establish hearty colonies which will give a bright display throughout the greater part of summer and autumn. Nor could one find a better site for the prostrate *Thymes* than along the margin of some sunny path, with a tuft of *Hypericum coris* or little colony of *Tunica Saxifraga* fl. pl., or *Veronicas* *Trebane*, *Bidwillii* or *rupestris* to lend "character" to the effect.

Indeed, one might extend this list indefinitely, for not only is the selection of suitable plants a vast one, but paths vary enormously in their

nature, in width and situation, and each one, or section of one, will demand its own treatment and particular class of planting. To give one final example, I know a shady woodland garden walk whose margins, right to the footway, are carpeted with moss. In the moss are several varieties of dwarf Ferns, singly and in groups, and along with these are little colonies of hardy

Cyclanemus and here and there a patch of Wood Sorrel, both the type species and the exquisite rose form. There is little or nothing more, beyond perhaps a few *Snowdrops* for the early year, yet one could hardly desire a more restful and beautiful lot of path planting, the very simplicity of which is one of its most entrancing features.

Nash Wells.

A. T. J.

PLANTS FOR FAVOURED GARDENS

(A previous article on this subject appeared in the issue for December 2, last, page 6-12.)

IF the common large-leaved *Mesembryanthemum*, such as the one which hangs in huge mats down the Lizard cliffs, were the only sorts hardy enough for English gardens, one might without much loss ignore the whole tribe, except for wild gardens in favoured places, for these are, most of them, too coarse and rampant for ordinary garden use. But some of the smaller sorts are of such good habit and such vivid beauty as to deserve a conspicuous place in any garden mild enough for their survival. The dazzling orange *M. aurantiacum* is hardy enough to stand at least mild winters in favoured Cornish gardens, and the same applies to some of the grey-leaved sorts with small flowers of a cool pink. Imagine a rock face or a wall of grey weathered granite and against it low cushions a yard or two across entirely made of flowers shaped like those of *Aster Anellus*, some white, some flushed, some deep violet rose, and one of a magenta so splendidly intense and pure that it would soon fatigue the eye. One of the best of all is means, a small flower of a rare orange scarlet overlaid with a sheen of violet.

I wish someone who has tried these in an English garden over a period of years would tell readers of *THE GARDEN* of their experience. Am I right in thinking that there are many gardens in the south-west near the sea where a number of the species, including those I have referred to, survive or would survive out of doors? At any rate, if hard weather does come, "Mesems" are the easiest of plants to save—any morsel stuck into a sandy box will grow. Bits shoved into almost earthless clinks of a wall will make strong tufts in a season or two.

A note of Mr. Woodall's in these columns some years ago put me on the track of *Olearia Traversii*, and I can gratefully bear out what he said of this very useful evergreen tree for gardens near the sea. It grows fast, stands any amount of wind, and while it cannot compete with the showy treasures

of Cornish gardens, it is certainly most attractive in a suitable place. I know it best in a garden where it stands on either side of a broad slide of



THE BRILLIANT CRIMSON FLOWER HEAD OF *TELOPEA SPECIOSISSIMA*.

granite backed by grey rocks, with its silvered leaves bright against the sea. I gather that this is a plant hardy enough even for the north-east of Scotland, provided that it is near the sea.

Olearia macrodonta is another *Olearia* that stands a lot of wind. It makes an excellent fast-growing hedge, stands cutting fairly well and, unlike *O. Traversii*, is beautiful in flower, yet this is not a plant I can care much about. It often looks rather stale and dusty, as if it needed freshening up after an August spent near a motorway road. *O. semidentata*, on the other hand, keeps its freshness always, till it gets very old and scraggy. Few shrubs are more beautiful in leaf. Not even *Senecio compacta* or *Tenacium latifolium* has a finer grey. When I see these

grey-leaved plants scattered about a garden I always want to group them together so that they may help each other. It is then that contrasts of form (such as *Yucca recurvifolia* spiking up behind a bank of *Senecio*) can make their fullest effect. Moreover, a sufficiently broad grey background makes the perfect foil for many more conspicuous plants, especially for bulbous plants of distinctive form or colour. I have never seen the greenish white bells of *Hyacinthus candicans* look better than in the company of *Olearia Traversii* and the shrubs I have mentioned, just as *Teucrium fruticosum* (on a wall) makes an ideal backing for *Cladiolus primulinus*, especially the pale yellow forms.

It is odd that nurserymen do not more commonly offer *Pittosporum crassifolium*, for it is easily raised from seed, and good seed (unlike that of the nearly related *P. Fairchildii*) is freely borne. It ought to be easy to supply pot plants at not more than, say, 24s. or 30s. a dozen. The plant is certainly one of the best of all for a tall hedge in wind-swept gardens near the sea; better even than *Escallonia macrantha*, in that it robs the ground much less. It is perfectly evergreen, will stand a lot of overshadowing, and survives even the first shock of Atlantic gales unharmed. It is very beautiful in form and colour of leaf, the maroon-crimson flowers, though not showy, are pleasant to see, and the green seed-pods make a most decorative addition to the pattern. If it were better known I feel sure that *P. crassifolium* would be largely used for hedges in sea-side gardens here, as it is in New Zealand.

P. eugenoides, which spreads a delicious scent of honey through the garden in winter, stands the wind much less well. *P. tenuifolium* is also well worth growing, if only for its scent, and the well known Silver Queen is very decorative in its odd way.

I have referred before in these columns to *Prostanthera violacea*, which makes a tall cloud of violet purple in favoured gardens in spring. This is a plant which will surely be commonly grown for indoor decoration when it is better known. In a white or grey room a plant of it in a pot is at least as effective as a very good *Schizanthus*, and it is perennial and needs little, if any, staking.

Psoralea pinnata is another splendid plant for a favoured garden. It grows very rapidly into a tall bush of narrow leaves with a profusion of bright rosemary-blue, pea-shaped flowers in May. Even this, though too large a grower for small rooms, would, I imagine, make a fine plant for indoor decoration in an entrance hall or a conservatory.

Many would pass by a bush of *Pentstemon rugosum* when in flower, for its hanging horn-coloured lanterns pencilled with red, lovely as they are in detail, are not very conspicuous; but few would pass by *P. serpens* even when out of flower, for its serpentine trails are arresting and queer even when they are not hung with lanterns of scarlet. The flowers of this are bright vermillion with a pencilling of deeper colour. The plant will grow as a bush, but perhaps looks better against a wall.

Pentstemon is a lovely sight in May when a tall dark green bush of it becomes smothered with white plumes. It is worthy of a choice place even in a garden wild enough to grow *Clethra arborea* to perfection.

I was glad to see that in the notes of Mr. Combs, which to me always seem one of the most valuable features of *The Garden*, *Rhododendron Lady Alice Fitzwilliam* has been recommended as a plant for the cool greenhouse. In favoured gardens, in Somerset as in Cornwall, this does splendidly out of doors, but elsewhere it could hardly be grown in any garden where the birds

could be sheltered from more than a few degrees of frost. Perhaps some reader who has a greenhouse full of the conventional *Primulas*, *Geraniums* and *Cinerarias* with may be a plant or two of *Azalea* and *Cytisus fragrans* as the only shrubs, will feel tempted to try a plant of this incomparable *Rhododendron*, for it adds to the beauty of its white trumpet flowers and pink flushed buds the advantage of a scent as good as that of *Honeysuckle*. It is quite easy to grow even in a chalk country if the pot is watered with rain water, and it will not grow too large for a greenhouse staging.

Another sort which is more beautiful than an array of *Caleolarias* is *R. cilicalyx*; this is unscented. Its huge flowers are white or pale pink, slightly ruffled and of a wonderful texture. This does all right out of doors in favoured gardens, but even there it is better grown under glass, as the flowers are too large and fragile to stand buffeting by winds.

Will someone who has had experience of growing greenhouse *Rhododendrons* out of doors contribute

some notes on *R. Sestertianum*, *R. Comtesse of Haddington* and some others (e.g., *Gibsonia*) certainly do well. I want to learn about sorts such as *Fosterianum*, *Ventrianum* and *Princess Alice*. Is there any chance of success with the Japanese hybrids?

I will end these notes with a suggestion which I venture to offer to some enterprising nurseryman. How welcome it would be if someone would bring over and put into commerce some more of the fine Australasian plants which have been proved, in the Scillies and elsewhere, to be hardy enough for favoured gardens. At the present moment I do not know any catalogue in which so notable a plant as *Telopea speciosissima*, the Waratah, is yet listed. And can anyone tell me where to get *Dianella tasmanica*?

Would it not be possible to introduce *Hymenoporus flavum*, which is related to the *Pittosporums* and makes a tree profusely sprinkled with loose heads of beautiful scented yellow flowers not unlike those of a large *Jasmine*? Z.

THE VEGETABLE SEED ORDER

ONE could almost write that seed catalogues are at the present time arriving by every post, as our friends the seedsmen realise that this is the period when gardeners, both amateur and professional, are turning their thoughts gardenwards and cudgelling their brains just what to grow the coming season. These catalogues are a very interesting study and of great help to many in assisting them to make a selection, but one need not emphasise the fact that every seedsmen worthy of the name puts forward the best descriptive matter to advertise his wares. There are, therefore, one or two preliminaries that should receive consideration before we turn to these interesting lists. The first point I would make is that all varieties do not succeed equally well in all districts. Because, for example, a particular kind of Potato does well in one neighbourhood, it does not follow that it will do equally well in the next. It may, perchance, do even better or, on the other hand, may prove an absolute failure, and this effect may be seen in varying degrees through nearly every different kind of vegetable. I would, therefore, urge would-be growers, and especially those who are new to the

locality, to enquire of friends, neighbours and other growers in their particular district as to what varieties do well before making out the seed order. Following this train of thought, I would recommend those who are desirous of trying a few novelties, the behaviour of which will probably be unknown in their districts, only to grow experimentally this first season and to watch the results. They will then know whether to grow again next season in larger quantities or to discard owing to poor results.

The next bit of advice I would tender, as an old stager at vegetable growing, is, get the very best seeds procurable, for only from first-class seeds can first-class results be expected. The best seeds, obtained from a really reliable source, are not too good for anyone. It is no use buying cheap seed and only gaining a 10 per cent. result, when, by purchasing the finest procurable, you can get a 90 per cent. return. It must, however, always be borne in mind that any seed will be likely to fail if the soil is not prepared in a proper way and careful and watchful attention accorded afterwards. Proper preparation consists in deep trenching, never mind what class the soil may be, so as to bring the subsoil to the surface and



A RELIABLE CARROT—NEW INTERMEDIATE.

burying the surface soil. Combined with this effort should be the adding of suitable manures, for plants cannot be expected to thrive unless they can get their roots well down and find the necessary foods they want to nourish them. For light, hot soils select the cooling and binding cow or pig manures, and for those of the heavy, cold, water-retentive class use the lightening manure from the stables with the bedding straw left in. Proper after-care is essential. Thinning must be done when required. Such vegetables as need support must be staked, and before the time arrives to carry the staking out the growing plants must be worked around with a Dutch hoe. This will keep weeds at a minimum, the soil stirred and aerated. The stirring reduces the call for watering, but when water is required give proper soaking at intervals, not a light daily sprinkle, for one must realise that it is not on the surface, where it soon gets dried out, that plants require water, but deep at the roots. These are the main directions in which care is necessary, though there are others. Earthing up, watching for pests, feeding growing plants with a dusting of a reliable fertiliser from time to time, and such other matters are all necessary for satisfactory results.

On this occasion I propose to write primarily for those who grow for consumption purposes, adding any little data that may interest those who wish, in addition, to raise vegetables for exhibition. The owner of a small garden, such as is attached to the average house or cottage, will be borne steadily in mind. The primary selections are for such, but further groups are added suitable for larger areas. In naming varieties it must be understood that these are only referred to as having proved excellent in our own particular neighbourhood, and it rests with the reader to ascertain their success in his own locality.

For the small garden the following list of kinds and varieties will carry him practically the whole year round, and if it seems a large one, close observation will point to the fact that even in a small garden most of them are attempted and grown.

Beans, Broad.—Broad Windsor, Improved Green Longpod and Leviathan.

Beans, Runner.—Prizetaker and Scarlet Emperor.

Beet.—Dell's Blood Red, Cheltenham Green Top, Selected Globe and Selected Purple. For exhibition bore as recommended later for Carrots.

Borecole or Kale.—Cottager's Kale, Labrador Kale and Victoria Kale.

Broccoli.—Late Queen, Leamington, Model and Snow's Winter White.

Brussels Sprouts.—Aigburth, Dwarf Gem and May's Northall.

Cabbage.—Early.—April, Ellam's Early and Flower of Spring. Summer and autumn.—Rosette Colewort. Autumn and winter.—Winningstadt.

Carrots.—Long Surrey Model and New Intermediate. A difficult vegetable for exhibition. On heavy ground bore holes with a crowbar and fill with a suitable light soil mixture.

Cauliflowers.—Autumn Giant, Early Forcing, Early Giant, Magnum Bonum, Snowdon and Walcheren.

Lettuce.—All-the-year-round, Bath or Brown Cos, Hick's Hardy White, and Superb Cos. For show work two good coloured varieties are Golden Queen and Marvel.

Onions.—For spring sowing.—Ailsa Craig Selected, James Long Keeping and Wilkes' Exhibition. For autumn sowing.—Autumn Triumph, Mammoth White Tripoli and Red Italian Tripoli.

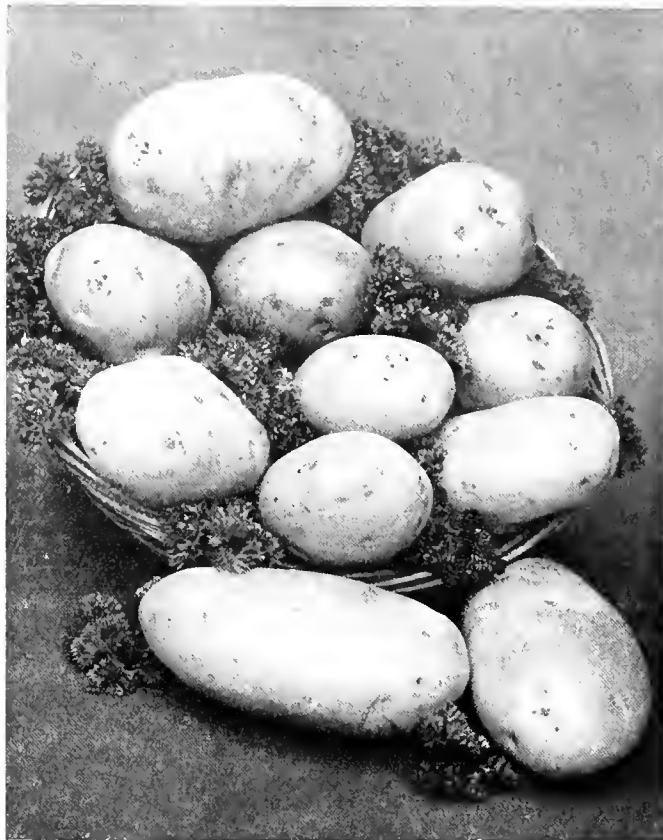
Parsley.—Exhibition Curled.

Parsnips.—Student, and Tender and True. For exhibition work bore ground as noted for Carrots; larger holes, further apart.

Peas.—Edwin Beckett, Autocrat, Gradus, Duke of Albany and Quite Content—the last named

being a fine variety but a little difficult on light soil.

Potatoes.—Earlies.—Dunmatar Castle, May Queen, Midlothian Early and Resistant Snowdrop.



POTATOES KING EDWARD (IN BASKET) AND GREAT SCOT.

Second earlies.—Arrau Comrade and British Queen. Maincrop.—Arrau Chief, Kerr's Pink and King Edward. It is rather a doubtful point whether in a small garden Potatoes, other than earlies, are really profitable for the area they occupy, except, of course, for exhibition work. Exhibition coloured varieties.—Edgecote Purple, Edzell Blue, Exhibition Red, Mauve Queen, Mr. Breeze and Red Kings.

Radish.—Beck's Scarlet and French Breakfast.

Rhubarb.—Victoria and The Sutton.

Savoy.—Drumhead, Early Elm and Green Curled.

Shallot.—Exhibition Red and Large Brown.

Turnip.—Early Milan, Golden Ball, Green Top and Snowball.

For those who have a little more room or wish to substitute there are the following:

Beans, French.—Canadian Wonder and Ne Plus Ultra.

Celery.—Aldenharn Pink, Aldenharn White, Invincible White and Standard Bearer.

Celeriac.—Smooth Prague.

Leeks.—Musselburgh and International.

Tomato.—Bide's Recruit and Sunrise for reds, and Golden Perfection and Golden Sunrise as yellows.

For the larger kitchen garden the following may be added:

Artichoke, Jerusalem.—Any good white rather than a purple.

Asparagus.—Connover's Colossal and Reading Giant.

Chicory.—Witloof.

Endive.—Batavian and Green Curled.

Seakale.—Lilywhite.

Spinach.—Prickly, Victoria, and, for light textured soil, New Zealand.

Finally, where ample space abounds, the list may be completed with the following:

Artichoke, Globe.—Green Globe.

Beans.—Climbing French.

Capsicums.—Where glass is available, Long Red and Long Yellow, these being interesting in a large show collection.

Cardoons.

Chives and Garlic.

Cucumber.—Where heat obtainable, Ideal and Lockie's Perfection. In frames on mild hot-bed, Stockwood Ridge Cucumber.

Kohl Rabi.—Early Purple Short Top and Early Short Top Green.

Maize.—Country Gentleman.

Salsify.—Sandwich Island Mammoth.

Scorzonera.

Suede.—Any good culinary variety.

Vegetable Marrow.—Long Green, Moore's Cream, Pen-y-byd and The Sutton.

The lists shown will I think carry most gardeners forward, and those aiming at shewing large collections will be able to add the few "fancy" sorts omitted. Sowing for succession should be aimed

at, and it should be remembered that a number of sowings at intervals, sufficiently large to meet one's needs, is far better practice than one large sowing, especially with such kinds as Lettuces, Radishes, Turnips, Peas, Spinach, etc.

EDWIN BECKETT.

A Beautiful Flowering Plum

PRUNUS CERASIFERA ATROPURPUREA MOSERI PLENA is the name of one of the most beautiful of the flowering Plums we possess, and one that may be classed among the earliest flowering, as the tree is covered with almost fully-expanded blossoms well within the first week of March. It is a glorious variety of *Prunus Pissardi*, and flowers just a little later than the well known purple form of the Myrobalan or Cherry Plum. It is, however, superior in every respect, being much larger, semi-double, with stronger foot-stalks and much more substance in the blooms, which are more cup-shaped than the single blooms of *Prunus Pissardi*. The flowers are of a soft yet rich pink shade in colour, more approaching the colour of *Prunus triloba*, and the foliage resembles the purple *Prunus*. The tree we have has not yet attained sufficient dimensions for cutting; but judging by a spray that was cut and placed in water, it will be of real value for decorative purposes, the blooms being less liable to drop than those of some of the others now in flower, to wit, the common Almond; and though I have not seen it used for forcing, it should, I think, prove of inestimable value for this purpose, and thus add variety to the already long list of shrubs amenable for this treatment.

E. B.

THE OLD - FASHIONED RANUNCULUS

AN old-world flower, with a strange air of precision about it that still, however, retains a large measure of popularity, judging by the readiness with which the flowers sell in early spring from the florists' windows and street vendors' baskets. It is durable and decorative when cut, there can be no query on that score and, to those who know it as it grows, very attractive in the garden. The strange thing is that, while it sells readily when grown, few people do know it as it grows, for it is rarely that one comes across it in gardens.

Yet every bulb list offers the quaint claw-like tubers and a small group of a few dozens here and there well repays the care and attention necessary to bring them to perfection. They have been divided - more or less loosely, it is true - into three classes: French, Persian and Turban, varying both in height of plant and size of bloom. The French are the largest flowered and the tallest; the Persian, dwarfer and earlier; while the Turban are intermediate between the two classes. All come from *R. asiaticus* and have been obtained by generations of gardeners selecting, inter-crossing, hybridising, etc. As a rule the plants are not hardy enough for autumn planting, so that February proves the best season at which to do this. The soil can scarcely be made too rich, though everything in the nature of manure, etc., which is dug in must be very sweet; nothing rank should ever be permitted to come near the roots. Dig the ground deeply, add the manure in the form of old decayed stable manure (that from a spent hot-bed is excellent), leaf-mould, etc., and allow time for this to settle before planting. This is a point upon which too great stress cannot be laid when dealing with any bulbous or tuberous plant. Give the soil time to settle, then plant.

If one plants soon after digging is finished, the consolidation of the ground takes place with the tubers in it and they may be carried down thereby to a greater depth than they should be. These Ranunculi are sun-lovers, so that an open position should be given them. Plant each tuber with the points of the claws downwards, at a depth of about zins., and eins. to eins. apart. Each tuber should have a little coarse sand shaken round it at the time of planting and growth is hastened by soaking the tubers in water for twenty-four hours before planting. Make the soil fairly firm to finish and then leave alone until the plants are well through the ground, when the space between them should be thoroughly hoed. It is very generally recommended to cover the surface with straw, bracken or some light litter but—planting during the latter half of February—I have not found this to be an advantage. Progress is fairly rapid and the pushing up of the buds should be watched for. This marks an important stage in the plant's development, for from then onwards they must be guarded from drought or they are liable to go blind. Do not water when the surface is caked; this is bad in two ways for, firstly, a great deal of the water will run off, and secondly, it makes the already caked surface harder, so that it draws up the moisture from below (where the roots are), more rapidly still.

During May there should be a really fine show of brilliant flowers: in some cases self coloured, in others white or light, edged and barred with red, as evenly as a Picotee. As a rule the plants seed freely and, where this is so, it is an interesting operation to raise a batch of young seedlings from these, which will attain flowering size in three years. On no account must the plants be lifted

until the last of the foliage has completely died away, which will be about the middle of June; then the tubers should be taken up, dried, and stored in bags of dry sand in a frostproof place until planting time recurs. Some years ago I used to grow a small bed of these each year and, after taking up the Ranunculus tubers, had ready a sufficient number of *Petunias* or *Minuluses* in pots just coming into flower to fill the gap. Out

these went at once and thus the bed very soon became flowerful again. Most people will probably be content with what are known as "mixed" of one or other type, but those who are very keen should try the following distinct named and fine Turban varieties: Grootvorst, crimson; Hercules, white; Merveilleuse, yellow; Romano, scarlet; Seraphique, citron yellow; and viridiflora, green with scarlet edge. H. W. CANNING WRIGHT

NOTES OF THE WEEK

WE are now, from the point of view of gardening outdoors, at the very dullest time of the year. Comparatively few berried shrubs retain their fruits so long and the late-blossoming species have quite finished. Only Snowdrop and Witch-hazel, Winter Sweet, Cyclamen and Violet, with here and there a precocious Primrose, herald the coming of Spring. There is, however, no reason why the garden should not be effective these January days for, unless the weather happens to be frosty, unattractive corners can be remedied straight away. Here a clump of silvery Birches, there a group of red-stemmed Dogwoods or Golden Willows or the vivid green stems of *Leycesteria formosa* will increase the interest.

The Journal of Pomology.—It was with considerable pleasure that the Editor recently received another number of the Journal of Pomology. An editorial note points out that a year has elapsed since the issue of the last number and elsewhere it is explained that the responsibility for publication has been taken over by the Horticultural Research Stations at Long Ashton, Cambridge and East Malling. Mr. E. A. Bunyard remains Editor. He is, too, a member of the Publication Committee, which also includes Prof. Barker of Long Ashton, Prof. Biffen of Cambridge, Messrs. H. E. Dale and H. V. Taylor of the Ministry of Agriculture, and Mr. R. G. Hutton of the East Malling Station. The list of "Associate Editors" contains the names of no fewer than five Fellows of the Royal Society and a great array of talent besides. There seems every reason, then, to expect a long and extremely useful life for the Journal which, by the way, is

to be known henceforward as "*The Journal of Pomology and Horticultural Science*." It is, as heretofore, a quarterly publication and the annual subscription is 15s. The publishers are Messrs. Headley Brothers, 18, Devonshire Street, Bishopsgate, E.C.2.

Dwarf Broad Beans.—Dwarf Peas have become a commonplace. It is possible now to obtain quite dwarf varieties, admirable of flavour and excellent in appearance both in the pod and when "shelled." No dwarf Bean has so far superseded the useful Scarlet Runner, though by pinching it is quite feasible to grow Painted Lady, with its quaint parti-coloured blossom, as a dwarf. Indeed, it is largely so grown in some districts for market. The latest development is with the Broad Bean. Now, especially if sown early, the Broad Bean cannot be considered a tall grower and the advantage of a dwarfer stock may not, at first sight, be apparent to everyone. The fact remains that in small gardens the ordinary strains of Broad Bean shade a great deal of ground. A further point in favour of the dwarfs is that they are exceedingly unlikely to get damaged by strong winds and certainly need no staking. Messrs. Sutton, who have been selecting these dwarf strains, are putting two excellent varieties on the market this season called respectively Sutton's Little Marvel and The Sutton. The former is a little the taller and more erect in habit and perhaps a little the heavier cropper. The Sutton, illustrated below, is also wonderfully prolific and scarcely taller than a carrot! Both are of first-rate flavour and mature quickly and will be indispensable where Broad Beans are grown in frames for early work.



THE NEW "SUTTON" BROAD BEAN.

CORRESPONDENCE

CHRYSANTHEMUM TOKIO.

MR. C. HAKMAN PAYNE is under some misapprehension about this variety, or possibly two varieties have been given the same name. I was growing Tokio in some quantity from the early eighteen-eighties onwards, and its colour was not pale pink but a very vivid orange red. It was a very useful late flower of the strictly decorative class, spoilt instead of improved by disbudding, easily grown and of excellent constitution. It was largely used for Christmas work by the florists in my neighbourhood. I am glad to see it still included in Mr. H. J. Jones' catalogue and described as "bright red, small flowers produced in light sprays, fine for table decoration."—G. H. ENGLEHEART, Dinton, Salisbury.

I had charge of a good-sized conservatory, and I had several basket plants hung from the roof. I enclose photographs of some of them. I endorse the remarks of your correspondent "H.W.C.W.," who seems to have a wide experience of basket



A FINE BASKET OF NEPHROLEPIS EXALTATA.

MAGNOLIA CAMPBELLII.

I WONDER if you care to have the enclosed photographs of a *Magnolia Campbellii*, planted in this garden by the late Mr. Chambers about thirty-five years ago. It grows over 50ft. up, at the east end of a spur of the Haslemere greensand, and looking (as you can see) across the weald to the South Downs. It flowered for the first time early in 1921, but did not repeat the effort last season, nor, I fear, does it mean to in the coming one.—W. J. H. WHITTALL.

[The pictures, which shew a tree some 15ft. or 20ft. high and wreathed in blossom, are, unfortunately, unsuitable for reproduction.—ED.]

SHRUB SPRAYS FOR DECORATION.

I HAVE been much interested in the correspondence in THE GARDEN on evergreen and berried shrubs. Why is it impossible to buy sprays of these for house decoration? Shops are filled with enormous and costly *Chrysanthemums* and *Carnations* which are, for the most part, far beyond the means of the ordinary purchaser. How nice if one could obtain at reasonable cost a box containing branches of *Euonymus*, *Eleagnus*, *Cassia*, *Pernettya*, *Berberis*, *Cotoneaster* and many others too numerous to name. Could not some ladies, who know what table and house decoration means, undertake to supply them? I believe they would readily be bought. From November till end of February, when snow and fogs are plentiful, I hardly ever have a flower in my house, but my rooms are full of bowls and dishes arranged with branches of various shrubs, deciduous as well as evergreen, such as we can grow in the north. How much one would like to add to these some of the more delicate varieties to be found in any good old English shrubbery.—(Mrs.) L. G. BARRON, N.B.

BASKET FERNS.

I WAS very much interested in reading in your issue of THE GARDEN for December 9, 1922, about "Ferns for Basket Culture." Some ten years ago, when residing at Beverley, East Yorks,

plants; but I think the annual remaking of the basket is a mistake. The plant has not had a chance to cover the basket in that time. The basket looks best when the rhizomes have just covered the entire underside of the basket. The photographs enclosed are of baskets 4ft. and 5ft. in diameter, and none of the basket could be seen. I think that baskets, to carry on, want to be no less than 18ins. across the top and 1ft. deep. The compost I used consisted of turfy loam, peat, coarse leaf-soil and a little sand, the peat and loam not less than walnut-size. The baskets when planted were kept in a warm greenhouse for eighteen months. I put in plants out of 6in. pots, and in two years' time the baskets were entirely covered. They were at their best when from four to eight years old. I still have one of the Fern baskets shown in the photograph. The basket has been made up fourteen to sixteen years. In hot weather they were shaded by applying summer cloud to the roof glass and watered three times a week and, during spring and summer, with weak liquid manure. After the second year they were grown in the conservatory, which was barely frost-free in severe weather. I think the secret of this longevity was weak liquid manure.—ROBERT SMITH.

[Two other photographs, not reproduced, shewed equally fine baskets of *Davallia dissecta* and *D. canariensis*—ED.]

WINTER BLOSSOM.

WITH reference to the letters which appeared in THE GARDEN for December 23, 1922, about winter blossoms, it may interest some of your readers to hear that we found the following fifty varieties of plants in flower on Christmas

Day in our garden in Monmouthshire: White Sweet, Purple Veronica, Crimson Veronica, Violet China Rose, Polyanthus Primrose, Blue Primrose, *Chrysanthemum*, *Genista*, St. Brigid Anemone, *Lonicera fragrantissima*, Winter Heliotrope, Antirrhinum, Rambler Rose, Fairy Rose, Climbing Rose Caroline Testout, Triteleia, Pink Helleborus, Christmas Rose, Magnolia (common), Petiwick Yellow Alyssum, White Arabis, *Geum* Mrs. Bradshaw, Strawberry Quatre Saisons, Anubria Alpina Pink, Wallflower, Valerian, *Rosmarinus prostrata*, *Arenaria montana*, *Anchusa myosotidiflora*, Snowdrop, *Potentilla alba*, common Primrose, *Cyclamen europaeum*, *Campanula persicifolia*, Double Daisy, Beedlower, *Pentstemon*, Viola (several colours), Pansy, *Jasminum nudiflorum*, Escallonia, Canterbury Bell, Marigold, *Campanula muralis*, *Cymbalaria* (trailing Toadflax), *Pyrus* (*Cydonia*) japonica and Rose Climbing Papa Gontier.—D. MACNABB (Lieutenant-Colonel).

PERHAPS the enclosed list of 246 species of flowers in bloom in Christmas week out of doors may be of some interest. They are all growing in either Mr. G. W. W. Blathwayt's garden or mine at West Porlock or Porlock Weir. The Citrons, Orange and Lemon had a quantity of buds and blossom knocked off by heavy rain last week, so, although they are carrying large buds just ready to open, they were not actually in flower this week. The same storms finished off a good many other flowers, otherwise the list might have been considerably longer. The Heliotrope, which still bears a few flowers, has stood out in a very sheltered spot for the last two or three winters. The list is as follows: *Abelia grandiflora*, *Abutilon megapotamicum*, *A. large-flowered hybrids*, *Acacia falcata*, *Alströméria aurantiaca*, *Anchusa italica*, *A. myosotidiflora*, *Anemone fulgens*, *A. St. Brigid*, *Aster cordifolius*, *Arenaria montana*, *Araucaria sericifera*, *Aubrietia*, *Arabis albidia*, *A. rosea*, *Antirrhinum inajus*, *Armeria* sp., *Arbutus Unedo*, *Anthemis tinctoria* Kelwayi, *Berberis Darwinii*, *Buddleia auriculata*, *Campanula muralis*, *C. persicifolia*, *C. pyramidalis*, *C. garganica*, *C. linifolia*, *Ceanothus divaricatus*, *C. Gloire de Versailles*, *Convolvulus mauritanicus*, *Cineraria* (large-flowered hybrids), *Cistus crispus*, *C. florentinus*, *Chrysanthemum* (many varieties), *C. frutescens*, *Choisya ternata*, *Cheiranthus linifolius*, *C. mntabilis*, *C. Cheiri*, *C. Harpur Crewe*, *Clanthus puniceus albus*, *Corydalis cheilanthifolia*, *C. thalictrofolia*, *C. Wilsoni*, *Cydonia japonica*, *Cyclamen Coum*, *Coronilla glauca*, *C. emerus*, *Cytisus racemosus*, *C. monspessulanus*, *Chimonanthus traquairi*, *Cuphea ignea*, *Colchicum autumnale* fl. pl., *Cassia corymbosa*, *Calcicolaria integrifolia*, *C. Forgetti*, *Crocus Imperati*, *Celsia cretica*, *Cobaea scandens*, *Citrus* (the Bitter Orange, Citron and Lemon), *Daphne Mezereum*, *D. Laureola*, *D. pontica*, *D. Philippi*, *Dianthus plumarius* (many varieties), *D. caryophyllus*, *D. graniticus*, *Dondia Epipactis*, *Digitalis ambigua*, *D. lutea*, *Diplacus glutinosus*, *Desfontainea spinosa*, *Dendromecon rigidum*, *Datura sanguinea*, *Delphinium Ajacis*, *Echium roseum*, *Eccremocarpos scaber*, *Erodium macradenum*, *E. romanum*, *Erica darleyensis*, *E. carnea*, *E. Veitchii*, *E. melanthera*, *Escallonia macrantha*, *E. langleyensis*, *E. montevidiensis*, *E. sp.*, *Erigeron mucronatus*, *E. speciosus*, *Eranthis hyemalis*, *Euphorbia Characias*, *E. sp.*, *Eupatorium Weinmannianum*, *Eryneum amethystinum*, *E. Olverianum*, *Eleagnus macrophylla*, *Fuchsia gracilis*, *F. Cottinghamii*, *F. microphylla*, *F. venusta*, *F. garden hybrids*, *Gentiana acaulis*, *Gerbera Jamesoni* hybrids, *Geranium striatum*, *G. subcaulescens*, *Geum Borisii*, *G. Heldreichii*, *G. coccineum* Mrs. Bradshaw, *Grevillea rosmariaefolia*, *Gypsophila paniculata*, *G. repens*, *Hamamelis mollis*, *Helleborus niger*.

H. coarctatus, *H. latifolius*, *H. olympicus*, *Humme-
maria tumariaefolia*, *Hypericum patulum*, *H.
empetrifolium*, *Heliotrope*, *Helianthemum* sp., *Hel-
chrysium helianthemifolium*, *Hydrangea hortensis*,
Ionopodium acule, *Iberis sempervirens*, *Iris
unguicularis* (two varieties), *I. lazica*, *I. cypriana*,
I. germanica, *Jasminum nudiflorum*, *J. revolutum*,
Jasione montana, *Kennedyia* sp., *Kerria japonica*,
Lamium maculatum, *Lavandula dentata*, *L.
vera*, *L. Stoechas*, *Lathyrus odoratus* (Sweet Pea),
L. rotundifolius, *Lathospermum prostratum*, *L.
rosmarinifolium*, *Lonicera fragrantissima*, *L.
Standishii*, *L. sempervirens*, *Leontis Leonurus*,
Linaria alpina, *Lavatera Olbia*, *Lobelia Cavand-
lesii*, *L. pyramidalis*, *Matthiola* (Stock), *Medicago
arbores*, *Malvastrum phoeniceum*, *Marigold*,
Myosotis sp., *Nepeta Mussini*, *Nicotiana affinis*,
Olearia Gummiana, *Osteomeles anthyllidifolia*,
Origanum sp., *Omphalodes verna*, *O. cappadocica*,
Pear tree, *Papaver nudicaule*, *P. orientale*, *Phlox
setacea*, *Pernettya mucronata*, *Pelargonium Zonal*,
P. Ivy-leaf, *P. sweet-scented*, *Pentstemon cordi-
folius*, *P. heterophyllus*, *P. garden hybrids*, *Polygala
Chamaebuxus*, *P. ruscifolia*, *Polygonum vaccini-
folium*, *Primula Auricula*, *P. Julia*, *P. malacoides*,
P. obconica, *P. kewensis*, *P. denticulata*, *P.
capitata*, *P. vulgaris* (single and double), *P.
helodoxa*, *Pittosporum Tobira*, *Prunella Webbiana*,
Pisum sativum (Green Pea), *Potentilla nepalensis*,
Pulmonaria rubra, *Roses* (Teas, Hybrid Teas,
Polyanthas), *Roseda odorata*, *Romneya Coulteri*,
Rosmarinus officinalis, *R. prostratus*, *Salvia
fulgens*, *S. rutilans*, *S. involucrata*, *S. officinalis*,
S. leucantha, *S. uliginosa*, *S. virgata*, *Salpiglossis*,
Sollya heterophylla, *S. Drummondii*, *Saxifraga
Elizabethae*, *Sedum album*, *S. Bourgaei*, *S. glaucum*,
S. sp. (?), *Schizostylis coccinea*, *Synthyris reniformis*,
Spiraea arguta, *S. Thunbergii*, *S. Bumalda*, *Spar-
mannia africana*, *Solanum jasminoides*, *Spartium
junceum*, *Senecio hirsuta*, *Sutherlandia frutescens*,
Scabiosa caucasica, *S. annual varieties*, *Semper-
vivum arachnoideum*, *Stranvaesia undulata*, *Santo-
lina Chamaecyparissus*, *Tremandra* sp., *Teucrium
latifolium*, *Tunica Saxifraga*, *Tropaeolum majus*,
Vinca minor, *V. major*, *V. difloris*, *Viburnum
Tinus*, *Viola odorata*, *V. cornuta*, *V. tricolor*,
Valerian (*Centranthus*), *Verbena chamaedrifolia*,
V. radicans, *V. venosa*, *Veronica speciosa* (many
vars.), *V. salicifolia*, *V. Teucrium*, *V. pedunculata*,
V. Catarractae and *Verbascum phoeniceum*—
NORMAN G. HADDEN.

STRAWBERRIES AND ASPARAGUS.

MR. ENGLEHEART is equally forceful as a speaker and a writer, which is saying much, but it will demand much persuasion, in addition to forcefulness, on his part to convince the gardeners of the country that the selection of runners from maiden Strawberry plants (page 661) spells all the difference between early and excellent results and late and comparatively poor ones. That runners from maidens are preferable none will dispute—it has been freely acknowledged for a couple of generations anyway, probably much longer, but they are by no means always at command. It is not every amateur who is able specially to reserve plants for the provision of runners, and it is in no sense necessary that he shall do so since runners of practically equal excellence and earliness can be secured from one year old plants, as has been proved time after time by skilled cultivators. Mr. Engleheart makes a much stronger point, in my opinion, when he urges early planting; indeed, I venture to express the view that the success which he achieves is more largely due to the early planting, with consequent perfect root establishment before the end of August, than it is to taking runners from maiden plants. Mr. Engleheart is sound, too, in his advocacy of cultivating Strawberries as

annuals. I have proved repeatedly that this system is the best for private gardens, and I know many places in which it is the strict rule. The actual weight per plant may drop a little, but there are more plants from which to gather, while the fruits are finer in size, appearance and quality. With some care Strawberries as annuals can be brought in with the ordinary rotations of the vegetable garden without the least trouble. The conditions of private and commercial cultures differ so widely that the one cannot be compared with the other; commercial growers will never be able to supply hundreds of thousands of plants from maidens in July, and it is as useless to expect it as to suggest it. Squares of turf are better than pots for the runners. Has Mr. Engleheart tried them? The gentle tilt at those who plant Asparagus stools instead of sowing seed need not

be quite attractive, while it is by no means to be despised as a cut flower. The Annual Cornflower (*C. Cyanus*), again, seems to have lost ground of late, which also is surprising. —G. HARVEY.

It does not seem likely that many readers will share our correspondent's enthusiasm for *Centaurea montana*, though some of the better forms, e.g., Lady Florence Hastings, are desirable plants enough. There is something flat and uninteresting about the growth of the plant which is against it. The Annual Cornflower has lost ground because, just as beautiful as of old, it has to compete with improved strains of other annuals, which rather overshadow it. It is, however, admirable for cut flower, and the improved strains of other annuals should not tempt florists to try to improve it, for, in its own way, it is just right. Certainly the white and pink varieties are inferior to the typical blue —ED.]

WINTER SPRAYING.

YOUR contributor's article on "Spray Fluids and Spraying" in the issue of THE GARDEN for December 30, 1922, contains some statements which are perhaps open to question, at any rate from my experience. In the first place, while quite agreeing that spraying is not a matter of "cut and dried rules," I think it is very useful to have a programme or calendar to work to, with reliable formulae, as one is then reminded of the time to apply the various washes, although judgment is, of course, necessary as to whether any particular trees require it or not. In this connexion I have found the late Mr. Spencer Pickering's book, "Fruit Trees and Their Enemies," very useful; the subject, having been a life-study with this gentleman, is there treated in a thoroughly scientific manner. As regards early spraying, I think it is often an advantage to postpone the application of caustic washes until well into February or even March (for Plums). By that time the insects are beginning to move out from



THE "PERENNIAL CORNFLOWER," *CENTAUREA MONTANA*.

the crevices and become more accessible to the action of the chemicals. Where American Blight has been noticed it is an advantage to use an emulsion containing paraffin as well as caustic soda applied with a powerful jet. If caustic soda of sufficient strength be used, viz., 2lb. to 2½lb. to 10 gallons, it is usually considered that the eggs of several insects, such as mussel scale, for instance, are prevented from hatching. Leather gloves are very little protection against caustic soda, and are almost immediately ruined if much wetted. Rubber gauntlet gloves should be worn, and a broad-brimmed hat and goggles are also advisable. I hope you will do all you can to spread the knowledge of spraying and its advantages. It is a subject on which amateurs and smallholders generally are very ignorant. —W. S. GILLES, F.J.C.

THE "PERENNIAL CORNFLOWER."

I SHOULD be interested to hear what is the real objection to what many gardeners call the "Perennial Cornflower," *Centaurea montana*. There are many colour forms and, personally, I consider it quite one of the best, as it is among the easiest, of hardy perennials, yet, emphatically, it is quite out of favour. The greyish foliage, too,

the crevices and become more accessible to the action of the chemicals. Where American Blight has been noticed it is an advantage to use an emulsion containing paraffin as well as caustic soda applied with a powerful jet. If caustic soda of sufficient strength be used, viz., 2lb. to 2½lb. to 10 gallons, it is usually considered that the eggs of several insects, such as mussel scale, for instance, are prevented from hatching. Leather gloves are very little protection against caustic soda, and are almost immediately ruined if much wetted. Rubber gauntlet gloves should be worn, and a broad-brimmed hat and goggles are also advisable. I hope you will do all you can to spread the knowledge of spraying and its advantages. It is a subject on which amateurs and smallholders generally are very ignorant. —W. S. GILLES, F.J.C.

PLANTS WHICH TURN GOLD IN WINTER.

I KNOW of two "golden-leaved" plants which have the curious habit of becoming bright gold in winter and then in spring returning to a normal green again. Possibly there are others which do this, but the only two of my acquaintance are the golden form of the Scots Fir, *Pinus sylvestris aurea*, and the golden Thyme, *Thymus Serpyllum aureus*. The golden Scots Pine is, I think, a rare tree. I have only seen four specimens altogether. One, which I obtained with much difficulty and planted in a rock garden near Sheffield, two small ones which we treasure here at Stevenage, and the fourth is at Underley, a wonderful specimen which—writing from memory—I should say must be 15ft. or 20ft. high. For *Pinus Sylvestris aurea* seems to be a very slow grower. Mine, which I have had for four or five years, have not added more than 5ins. or 6ins. to their stature in that time. In mid-autumn they begin to turn yellow, and by Christmas are as gold as a guinea, bright and cheerful and quaint. The golden Thyme came to me from Mr. E. Charles Buxton, who, I believe, collected it wild on the Welsh hills. A delightful gift to receive, for I am fond of all the Thymes; they are so well bred and well

behaved, and I like the scents they "use," and this golden form has the happy gift of looking cheeriest during the dirtiest months. All summer it looks like the ordinary wild Thyme of the downs, and buses itself in spreading into comfortable fragrant mats and cushions. Then one winter's day you come along and think that someone has dropped their gold chain-bag in the rock garden. Better than that though—for folk who drop gold chain-bags about always come back and claim them—is *Thymus Serpyllum aureus* in its winter "plumage"!—CLARENCE ELLIOTT, *Stevenage*.

A FINE FOXGLOVE.

I HAVE been interested in reading the articles on "Perennial Plants from Seed." With reference to Foxgloves, I should like to mention that Messrs. Sutton and Sons have a very beautiful form not mentioned in the article, called Sutton's Giant Primrose. It is really a deep cream and bears long spikes of large flowers. A very pretty combination which we happened to have this year in our garden was this Giant Primrose Foxglove, *Delphinium Sutton's Seedling Belladonna*, and Canterbury Bell Sutton's Cup and Saucer Pink—CONSTANT READER.

THE USE OF CLOCHES, PARTICULARLY FOR HALF HARDY ANNUALS

MANY amateurs with small gardens and no provision for a moderate degree of heat are compelled to purchase half hardy annuals and similar plants, if they require blooms at the usual time. The writer has experimented for some years past with cloches, of which there are several patterns on the market, and his results are sufficiently encouraging to be worthy of record.

The illustration shews one of the types which he has used, one cloche being shewn lifted out of the way for watering purpose, and doubtless other types would give equally good results provided some ventilation is possible. The method of use is quite simple; a seed bed is prepared, preferably incorporating a good supply of some preparation for killing soil pests over a larger area than will be covered by the cloches, about a fortnight before sowing.

The seeds are then sown and the bed covered with slates until germination has started, the cloches being placed over the slates and the ends closed with glass. The temperature inside from the action of the sun is considerable and germination is usually very good.

As soon as the seedlings appear the cloches are covered with some opaque shading, such as "summer cloud," to prevent the sun scorching the young plants, which in normal circumstances, make very good progress. These seedlings are thinned out early or transplanted under other cloches, where they are kept until they are large enough for their permanent quarters. In this way half hardy annuals, such as Asters, Zinnias, Phlox Drummondii, etc., are raised and are practically as forward as plants raised in heat and generally more sturdy.

A few results may be interesting. Asters sown about the last week in February, if the weather is open, or as soon as possible after that date, are fit for planting out about mid-May for flowering early in August. *Eccremocarpus scaber* raised in this way flowered in July, *Antirrhinum* early in

August, while Dahlias—the seeds of which were germinated in the hot cupboard of the bath-room early in March and planted out under the cloches at once—flowered in August. Some have actually bloomed late in July.

Many other uses to which such appliances can be put will doubtless be found; for example, hardy annuals can be made to bloom much earlier, the germination is more certain and the results well repay the trouble. Clarkias, for example, sown late in February will bloom early in June and in the hot summer of 1921 these plants seeded themselves and the resulting seedlings were shewing buds in the middle of October. These were protected with the cloches and bloomed fairly well till severe frost cut them down in November.

Clumps of Sweet Peas, each under a separate cloche, sown in October usually progress very well.

A certain proportion are lost in very severe weather, though a litter of dried leaves under the cloche gives some protection; and it is advisable if the frost is heavy to cover the cloches with matting. Other Sweet Peas raised in a cold frame are regularly put out in February and in exceptional weather have been planted out in January, the cloches only being removed when the plants become too tall; these have bloomed in the third week in May and in a very good year were still healthy at the end of September.

The cloches are exceptionally useful in raising very small seeds and the writer gets very much better results than he can obtain with a cold frame, the supply of moisture being much better maintained. For example, the growth and germination of such minute seeds as *Buddleia Veitchii* has not been good in a cold frame, but in the open, protected in the manner indicated, the results were excellent.

Small plants which are prone to rotting or to the attacks of slugs are protected with safety, and seedlings of *Primulas*, such as *Cashmeriana*, *Bulleyana*, *Cockburniana*, are given a plentiful dusting of soot, which is never washed away as watering will be unnecessary. In special cases a collar of zinc sheet round each plant will form an absolute protection from slugs. The writer has by this means succeeded in wintering *Primula malacoides* in the open ground.

The advantages of sowing seeds of perennials as soon as they are ripe are well known and young plants of *Lupinus*, *Gallardias*, *Delphiniums*, etc., which otherwise fall a ready prey to slugs will make good progress and flower well the following year. In mild weather the writer has actually had self-sown *Dahlia* seedlings appearing in January and surviving the winter.

Greenfly has to be watched; it is quite common to be troubled with this pest in November and sometimes again as early as February.

When the weather is mild and dry, the end of the cloche or line of cloches least exposed to the wind is left open to allow as much ventilation as possible. Last winter the writer tried the experiment of putting a tent-shaped cloche, with ends closed with glass, under a larger barn-shaped cloche, also with ends closed, the idea being that air which is not in movement is about the best non-conducting medium that could readily be found. Some half hardy plants and one or two very robust hardy plants were planted under the inner cloche. The results were not unexpected; the frost was kept out, but all the plants eventually died from want of ventilation.

Blackheath.

D. H. HALL.



SHEDS HOW THE CLOCHES ARE MADE AND USED.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—A small sowing of a Longpod variety may be made whenever the climatic conditions are favourable. This sowing should be made in double lines 6 ins. apart, with 2 ft. or 3 ft. between the double rows. The seeds should be placed 6 ins. apart and 2 ins. deep. Those sown in November should be well through the soil, and the hoe should be employed occasionally between the rows when the ground is dry enough.

Boxing Potatoes. It is time early varieties were sorted and those suitable for seed set up in trays or boxes. Medium-sized tubers are best, but we find we have very few of these, and it will be necessary to cut the larger tubers. The boxes should be placed in a light, airy shed from which frost can be excluded. By keeping the tubers as cool as possible short-jointed, sturdy growths should result.

Shallots.—These are often acceptable, especially when the Onion crop is below the average, and now is a suitable time for planting the bulbs 1 ft. apart.

Seakale. If not already done, this crop should be lifted and the ground trenched, taking care to pick out any roots as the operation proceeds. When the main stem has been relieved of its side roots the Seakale will be ready for forcing, but darkness is essential for this crop. A mushroom-house is an ideal place for Seakale; but it is not a necessity, as a warm greenhouse is also suitable if light is excluded. The best of the side roots must be retained for next year's crop. They should be cut into 6 in. lengths, tied up in bundles, and buried in ashes until planting-time arrives.

The Flower Garden.

General Work.—The flower garden should always be made as attractive as possible at all times of the year, but in many places the shrubberies and the ground beyond the flower garden proper do not receive the attention they should. Here is scope for producing bold displays of flowering trees and shrubs, while corners judiciously placed would be welcomed, especially during the winter months. Clumps of Lilac, Laburnum, Spiræa, Forsythia, Philadelphus, Deutzia, Pyrus floribunda and a host of other plants are suitable. Among the peat-loving plants will be found the Rhododendrons, Azaleas (of which there are some beautiful varieties) and the various kinds of Heath, particularly the graceful Erica codonodes and E. Veitchii. We also make use of Bamboos, the Pampas Grass, the sweet Lavender and Rosemary, while further afield are planted patches of the common and double Gorse, while the golden Spartium junceum is in full beauty about August, when flowering shrubs are little in evidence. This plant is easily raised from seed, but it will be two or three years before it makes a good display. At this season the lawns should be kept free of leaves, etc., and when the ground is not too wet the roller should be employed, while any bare places may be returfed and holes or depressions made up. Every part of the flower garden should be kept as neat and tidy as possible.

Under Glass.

Cucumbers are never too early, and where the necessary facilities are available a few seeds may now be sown. A low small house is needed, and the temperature should not fall below 60°. At this season a little bottom-heat is helpful towards germination, and if it is not possible to make a small hot-bed in the house a large box filled with fermenting material will answer the purpose. The seeds should be placed singly in small pots, and until the seedlings are through the soil no water will be needed if the compost was just moist at the time of sowing. Never allow the plants to become starved, and when the roots are through the soil repot into 5 in. pots, and then in a week or two transfer them to the beds of loam on the stage. Telegraph is still fancied by many, but we have discarded it in favour of Everyday and Delicacy.

Melons.—So far as raising the plants are concerned, they need the same treatment as Cucumbers, but to grow them successfully a separate house or division is required.

The Hardy Fruit Garden.

Spraying Fruit Trees. This important work should be carried out on a calm, mild day after the pruning has been completed. An alkali wash ought to be employed, and care should be

taken to wet the whole of the trees, while the operator should wear rubber gloves and an old suit of clothes. All moss and lichen should be destroyed, also American blight and some eggs of insects.

Strawberry-Beds. If not already done, the soil should be lightly forked over and then a mulching of manure given. Beds that were made last year will not require any manurial assistance.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.).

(Castleford, Chesham, Gloucestershire)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—Seeds may now be sown in shallow boxes filled with fairly rich soil and the boxes placed in ainery that has been started or wherever a temperature of 50° to 55° can be maintained. Ailsa Craig and Cranston's Excelsior are excellent for this mode of culture.

Early Leeks.—Where large-sized specimens are required for exhibition purposes by August or September a sowing should be made now. The cultural directions given for Onions are applicable here too. The Lyon and Dobbie's Exhibition are reliable varieties for this purpose. Care should be taken to see that they get no check for lack of water.

The Hardy Fruit Garden.

Winter Spraying. The intelligent cultivator leaves nothing to chance, and winter spraying is regarded by him as a matter of course. Those who have not taken this precaution should do so forthwith, as it pays in the end. Reliable sprays with directions can be obtained from most seedsmen or horticultural sundriesmen.

Gooseberries and Red Currants often get blown out of upright in the earlier stages of their growth. Where such is the case prepare the necessary number of stout forked wooden stakes from tree branches, loosen the soil at the neck of the stem, push the fork against the stem, bringing it upright, then firm the base of the plant and of the stake in the soil by treading.

The Pleasure Grounds.

Rhododendrons.—Large specimens should receive a liberal mulch of farmyard manure or, failing this, half-decayed leaves. This mulch provides the necessary feeding, and will keep the plants cool at the root during the heat of summer. Rhododendron Nobleanum will now be showing flower, and should frost occur it is well worth the while to protect the plants with mats or other suitable protecting material.

The Flower Garden.

Lenten Roses.—These beautiful flowers, if left unprotected, are apt to get injured by sharp frosts. If grown in bulk, they may be protected by means of a temporary framework and mats. Single specimens may be protected by means of a hand-light and a sack, or by a large inverted flower-pot or an inverted box. When cutting the flowers for indoor decoration split the stems up at the bottom about 1 in. to 2 ins. so that they may absorb the water.

Carnations.—Mice are very apt to attack layers in frames when food is scarce. A couple of traps or one or two pieces of Rodine in the frame is a wise precaution.

Pentstemons.—Keep the frames containing these plants well ventilated on all favourable occasions. The plants should be kept rather on the dry side, but do not hesitate to apply water (early in the day) when it is seen to be necessary. The above remarks also apply to Pansies, Violas and the occupants of cold frames generally.

Fruit Under Glass.

Strawberries.—Introduce a batch to ainery or peach-house that has been started, accommodating the pots on a shelf near the glass. Prior to taking them indoors remove all decayed foliage from the plants. Wash the pots thoroughly and remove all weeds, and slightly stir the surface of the soil. Tap the pots to see if they require water, and if so give them a good soaking.

Peaches.—Peaches and Nectarines in flower must receive assistance in carrying through the work of pollination. This can be done either by what is known as the "wet" system or by the

older "dry" system. The "wet" process consists in spraying the trees lightly with a very fine spray about midday, using water of the same temperature as the house. The "dry" process consists in either tapping the trees sharply at the above-named hour or by going over them lightly with a rabbit's tail tied to the end of a long cane.

The Rock Garden.

Top-Dressing.—Most of the occupants of the rock garden are benefited by receiving occasional top-dressings, and, weather permitting, this is a suitable time for applying such a dressing. A supply of various soils to suit the requirements of the different classes of plants should be provided—loam, peat, sand, grit, etc. Free the pockets from weeds and slightly prick the surface of the soil with a handfork previous to applying the top-dressing.

Cutting Back.—Certain plants, such as Rock Roses and Candytufts, are apt to become leggy and to encroach upon their neighbours. Where this has occurred the plants should be cut well back. Other plants, such as the Thymes, trespass by means of root extension; these, too, must be trimmed as much as seems necessary.

CHARLES COMFORT

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

General Work.—If not already done, houses should be thoroughly cleaned, washing the glass inside, also all wall surfaces. The latter should then receive a coat of linewash, using fresh lime for this purpose, adding a handful of flowers of sulphur to every bucketful of linewash. Propagating cases should be emptied and cleaned, replacing old plunging material with fresh. Coconut fibre is now prohibitive in price for this purpose, but I find the next best material is peat moss litter. The bales should be broken up and the litter spread out and moistened, afterwards beating it up with the back of a digging fork and passing it through a quarter-inch sieve, when it is ready for use. This material is clean to handle, lasts well, and, when mixed with some sand, plants root readily in it. All standing material on stages and benches should be renewed where necessary, for it is quite certain that if this is dirty it is harmful to plants. Ashes, coke breeze and such-like should be replaced with fresh. Where pea gravel is used it should, of course, be washed and replaced on the benches. There is not the least doubt that the type of staging used has an important effect on the health of the plants; open sparsed staging, except for a limited number of plants, is nearly always harmful. Slate stagings are good and lasting, but they are nearly always wrongly constructed, being made to take only about 1 in. of standing material, whereas provision should be made for at least 6 ins. It is then much easier to maintain a certain amount of natural moisture on the benches. For this reason there is no doubt that a bricked-in bed filled in with soil or ashes is the best standing medium for plants, as temperature is then more equable and there is always a certain amount of natural moisture present, which is so important for the well-being of most plants. Loam, leaf-soil and sand, a sufficient supply according to requirements, should be kept under cover. Now is a good time to cut and stack loam. Where it can be procured the top spit of old pasture land is best for this purpose. The turves may be cut 6 ins. to 8 ins. in thickness, according to the quality of the soil. Avoid taking it from low-lying situations, as it may be sour from being more or less water-logged. When stacking the turf some lime should be sprinkled between each layer, as old grass lands are, as a rule, very much neglected as regards liming. If it is certain lime is not necessary, then the turf should be stacked with some well rotted farmyard manure.

Seed Lists.—Selections of the seeds required should be made and the order despatched as soon as possible, so that all seeds may be at hand at the required time. Much may be done towards maintaining the greenhouse and conservatory throughout the year by means of plants raised from seed, as most of them flower the same season. Everyone has their favourite flowers and knows their own individual requirements, and while it is wise to trust to well tried plants it is desirable each year to try some new varieties, as it adds to the interest and often results in one finding a plant just suited for his particular purpose. Hardy annuals are now an important feature in greenhouses and conservatories. It is the usual practice to sow the seed during September, wintering the young plants in cold frames or pits.

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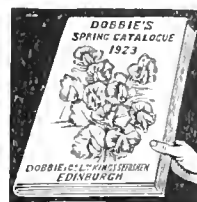
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Where this was done the plants should be ready this month for a shift into a larger-sized pot, and from then onwards until they flower a cool, airy greenhouse is the best place for them. The plants should be neatly staked and kept regularly tied as they require it. Where such plants were not sown during the autumn now is a good time to make a start with them. Some of the most useful are *Schizanthus*, *Clarkia*, *Godetia*, *Lobelia tenuior*, *Mignonette*, *Annual Chrysanthemum*, *Nemesia*, *Rodanthe*, etc. Some annuals, such as *Mignonette*, *Larkspur*, *Rodanthe* and *Acrocloniums*, transplant badly, so they are best sown directly into their flowering-pots. The soil for *Mignonette* should be rammed very hard. A good medium loam is best with some fine bone-meal and dried cow manure added to the compost. The compost is best without leaf-soil, and as lime in some form is essential, some old mortar rubble may very well take the place of sand. *Mignonette* is by no means easily grown in pots, and requires all the skill and care one can give it to obtain good results.

Grevillea robusta is very popular for decorative work, and seeds should now be sown. This sowing often proves a failure; true the seeds may sometimes be bad, but failures are nearly always due to sowing the seeds flat, for being very thin, many of them rot. Successful germination can generally be obtained by standing the seeds on edge in the compost.

Royal Botanic Gardens, Kew. J. COULTS.

BOOKS

Our Birds.—Two little books* came recently to hand for review with attractive pictures on their otherwise uninteresting green paper covers. The proportioning of the books is not very happy—the pages are almost square, but the pictures of birds, their nests and young are admirable. The illustrations are the main feature of both little volumes, each picture being faced by a brief but quite vivid account of the bird or nest illustrated. "First Series" includes all birds whose English names begin with the letters A to O, and "Second Series" the remainder. These should be very useful little books for giving boys and girls an insight into the bird-life of this country. Even "grown-ups"—and not always town-dwellers at that!—are oft-times none too certain of the identity of the less common kinds. It is perhaps a pity that the Latin names of the species are not included with a key shewing the grouping of the genera. After all, knowledge is better systematised.

The late Mr. S. T. Wright.—The Council of the Royal Horticultural Society has subscribed £100 towards the fund which, on its initiative, is being raised to commemorate the late Mr. S. T. Wright's long and devoted services to horticulture and to the Society, and to provide much needed assistance for his widow. The subscriptions to the fund already held by the Royal Horticultural Society amount to nearly £170, and there can be little doubt but that the late Mr. S. T. Wright's many friends who have not already subscribed to the fund will be glad to add contributions, which will testify both to their enduring regard for the man and their appreciation of the services which in many ways he rendered to horticulture. To walk round Wisley Garden with Mr. Wright was a liberal education. He knew every plant and loved them all. Few men have had a larger opportunity of helping professional and amateur gardeners, and none has availed himself more fully of that opportunity. Mr. Wright's work in the service of the Society extended over many years, both at Chiswick and at Wisley. Although a frugal man, it was not in his power to make full provision for his widow and children. We believe that, thanks to the pension scheme inaugurated by

the Royal Horticultural Society, and also to savings made by Mr. Wright, some provision is already made for Mrs. Wright. Nevertheless, the fact remains that without further assistance life will be made very difficult for her. It is the hope of her husband's colleagues and friends that Mrs. Wright may be relieved of all financial cares, and they confidently believe that all that is needed to secure this end is to bring the knowledge that help is needed to all sections of the horticultural community. Subscriptions should be sent to the Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

MONTBRETIA NOT FLOWERING (D. B. Abyssinia).—In Britain *Montbretia* are grown successfully in chalky districts and others that contain little lime. There is no reason why old mortar rubble should not be employed by way of experiment, but our impression is that the failure occurs when the moisture in the soil fails. We have a recollection of them becoming brown from the tips of the leaves downwards, just when they were preparing to bloom. This was in a chalk district, liable to get dry in summer, and to overcome this the corns were afterwards planted on the shady side of trees, after which the leaves did not get browned. In another gravelly garden they were planted on the shady side of trees, just far enough away to be out of heavy shade and clear of tree roots. The soil was somewhat peaty and cool. We would suggest that well decayed horse manure or half decayed leaves be used and put some inches below the corns to hold moisture. Water should also be given liberally when the spathes are well above ground. They should be transplanted as soon as the foliage dies away and the corns of flowering size given plenty of room. Perennial *Lupinus* certainly like plenty of moisture so that horse manure would benefit them and could be dug in during the resting season. We would suggest that our correspondent rears them from seeds and plants them in their permanent positions while quite young.

ROSE GARDEN.

SINGLE ROSES FOR NORTH ASPECT ("South-facing").—Most, or all, Roses, single and double, like sunshine best, but a few are known to give satisfaction on a north aspect. *Rosa Hugonis* and *R. lucida* are too wary in growth to succeed under a north aspect wall, unless very low. *R. lucida* rarely exceeds 2ft. to 3ft. in height, and that would be a disadvantage to it. Tall bushes that get sunshine over the top of the wall are more satisfactory, so if the wall is low many single Roses would succeed. Conrad F. Meyer is known to succeed on north and south aspects, but that has got Dijon blood in it. All the same, we would recommend the single *Rosa rugosa* alba (white), *R. atrorubra* (blackish crimson) and *R. r. rubra* (rose, shaded violet). *R. Wichuraiana* (white), *Blasvatha* (crimson) and *Evangelina* (white, tipped pink), the latter two *Wichuraiana* hybrid, are likely single-Roses for the situation. The *Ayrshire* Roses would be suitable, but the cultivated varieties are double or semi-double.

TREES AND SHRUBS.

SHRUB FOR A HEDGE (N. S. C.).—*Berberis stenophylla* is an excellent evergreen shrub, suitable to form a hedge. It has rich yellow flowers. This shrub is quick growing, thrives in nearly all soils and forms a thick, impenetrable screen. Early April is the best time to plant, but planting may be done successfully in January. An alternative for a hedge would be the Japanese Rose, *Rosa rugosa*, but this cannot be pruned so closely as the *Berberis*.

MISCELLANEOUS.

NAMES OF PLANTS.—"Pash."—1, *Chenopodium Viticella*, var.; 2, *Garrya elliptica*; 3, *Veronica tobarcorensis* (Autumn beauty).

NAMES OF FRUIT.—K. M. H.—1, Apple *Peargood's* Nonsuch; 2, Pear *Beurré d'Avalon*.—G. P., Woking.—Pear *Josephine de Malines*.

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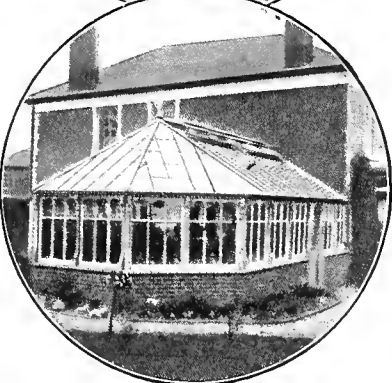
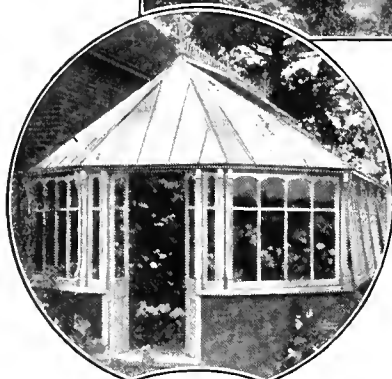
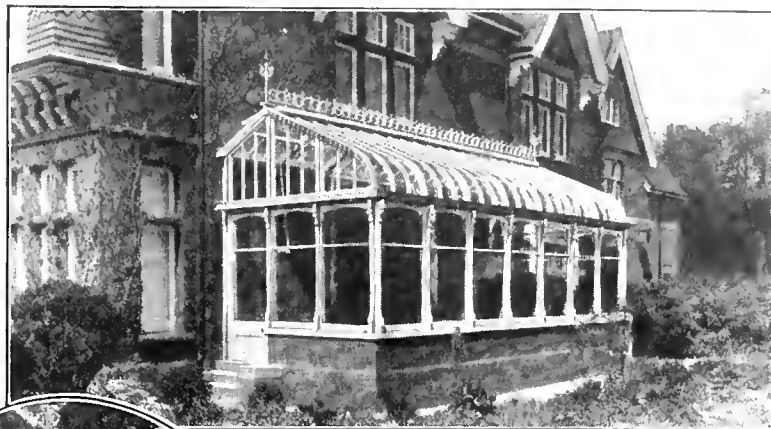
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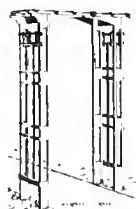
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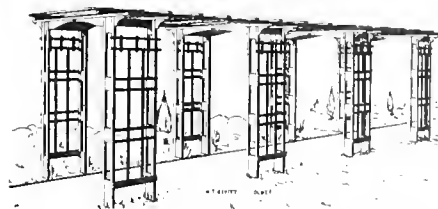
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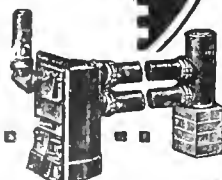
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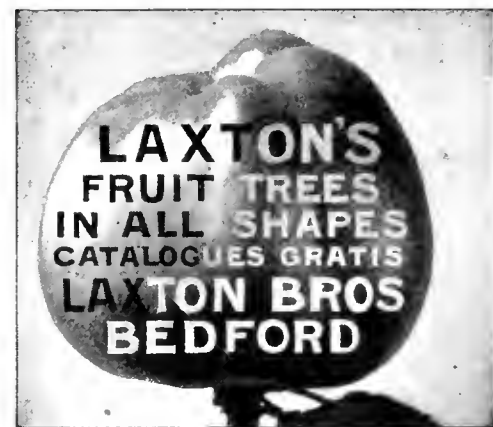
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<i>S. Guildford Seedling</i>	30
<i>Stock, East Lothian</i>	29

A FEW PLANTS WORTH GROWING.

Escallonia Langleyensis, Brachyglottis repanda, Crinodendron Hookeri, Eugenia apiculata, Pittosporum eugenoides, Eucalyptus Beauchampiana, Viburnum Carlesii, Viburnum tomentosum, Acacia Baileyana, Acacia Melanoxylon. Write for new list of rare plants.—**TRESEDER AND CO.**, Nurseries, Turo, Try our New Zealand Holly for Shelter Hedges.

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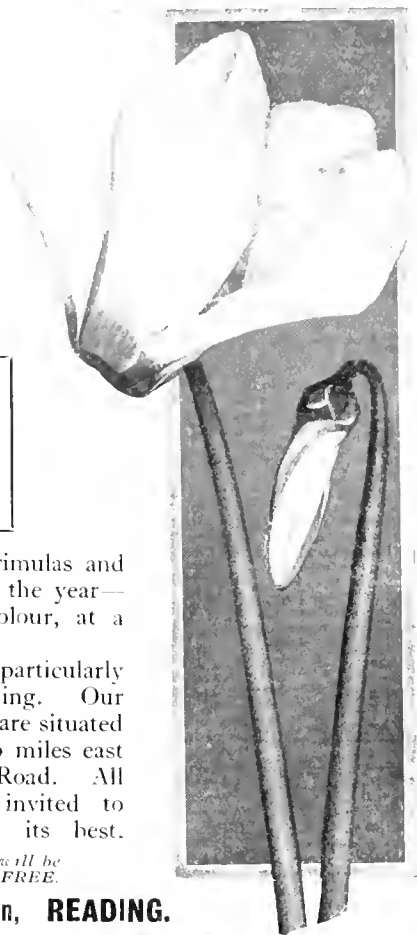
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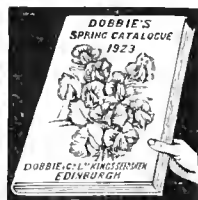
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No. 2670.—VOL. LXXXVII.]

[JANUARY 20, 1923.]

THE GENUS COTONEASTER

The introduction of new Cotoneasters from China during recent years has more than doubled the number of species and varieties in cultivation, and added considerably to their value for garden and open woodland.

THE Kew Hand-List of Hardy Trees and Shrubs, published in 1902, enumerates twenty-three species and four varieties of Cotoneasters. The Kew collection at the present time contains fifty species and twelve varieties, and in addition a number of Chinese introductions still under the collectors' numbers. While it cannot be claimed that all are valuable and distinct shrubs or small trees for general planting, it would be quite easy to pick out twenty-five and dilate at considerable length on their value as lawn specimens, for massing or open woodland planting, for the shrubby border, for rock garden or sloping banks.

Both deciduous and evergreen shrubs are represented in the genus, while others may, perhaps, best be described as sub or semi-evergreen, for while some of the leaves may hang on until the spring during a mild winter, hard frosts in November or December soon clear the bushes. Again, it is noticeable that the leaves persist on the bushes in damp positions and heavy soils longer than on dry, well drained slopes.

In habit Cotoneasters are very variable, ranging from the prostrate *C. Dammeri* to *C. frigida*, which at Monreith grows 30ft. to 40ft. high. Cotoneasters are very easy shrubs to accommodate as regards soil. Excluding bog land they thrive in practically all soils one is likely to meet. Seeds, cuttings and layers provide ready and rapid methods of propagation. Vegetative increase is the best and quickest, for not only do Cotoneaster seeds sometimes remain dormant for a time in the soil, but seedlings are apt to vary, not always to the advantage of the grower. On the other hand it must be admitted that seedlings sometimes lead to improved varieties.

SELECTIONS OF THE BEST SPECIES.

For Flowers.—*C. multiflora*, *C. frigida*, *C. turbinata*, *C. salicifolia* and varieties, *C. pinnosa*.

For Fruits.—*C. frigida*, *C. rotundifolia*, *C. Simonsii*, *C. salicifolia* and varieties, *C. Francheti*.

For the Rock Garden.—*C. Dammeri*, *C. adpressa*, *C. microphylla* and vars. *glacialis* and *thymæfolia*.

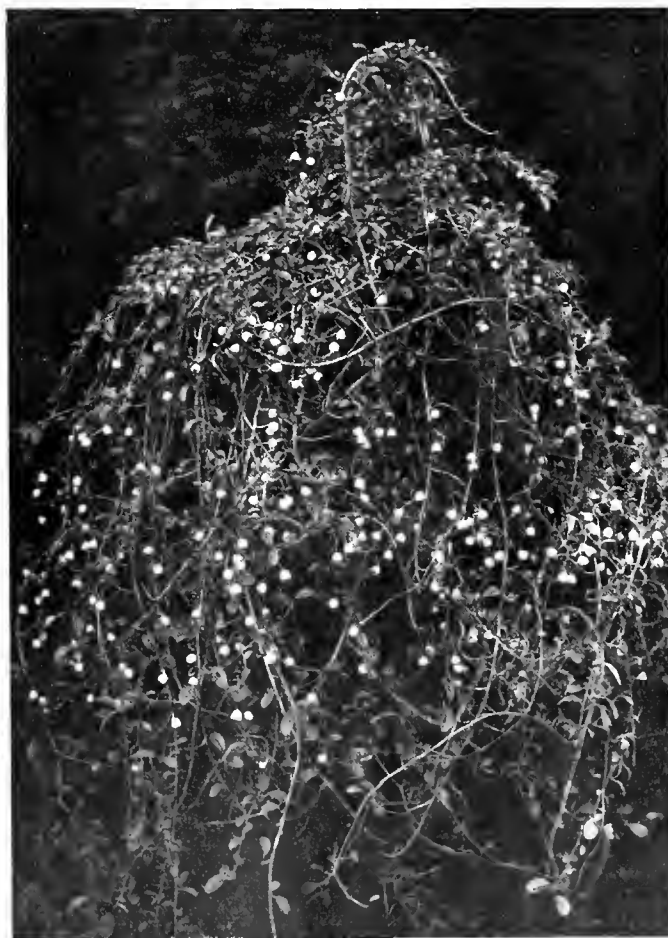
C. adpressa.—In some respects this Chinese Cotoneaster resembles *C. horizontalis* (q.v.), and is described by Schneider as a variety of that species. In our gardens, however, the growth is quite distinct. To begin with it is a smaller growing plant, the branching is irregular (whereas in *C. horizontalis* it is regularly distichous), the leaves are

thinner and the subglobose fruits are larger. *C. adpressa* is spreading or prostrate in habit, plants 3ft. in diameter being only about 1ft. high. It is thus an ideal hardy shrub for the rock garden, growing over boulders and ledges. A deciduous species, the small flowers are white, tipped with rose, and the fruits red, subglobose, about ½ in. long. *C. adpressa* was first introduced to France about 1895 by a French missionary, and again from Western Szechuan by Mr. E. H. Wilson in 1908 and 1910.

C. AMENA.—This is an evergreen species and was first introduced from China by Mr. Wilson when collecting on behalf of Messrs. James Veitch and Sons during 1904 in Yunnan. It is a freely branched shrub up to about 6ft. in height, allied to *C. Francheti*, but of more compact habit and smaller leaves. The small white flowers are freely produced in corymbs of about six to ten flowers, followed by rich red fruits. This is a very good bush for the wide shrubby border and where the pleasure grounds merge into the woodland.

C. BACILLARIS.—A large deciduous bush or small tree, 18ft. to 20ft. or more in height, this Cotoneaster is a conspicuous shrub in the Queen's Cottage grounds and by the lake side at Kew. The white flowers are only ½ in. in diameter, but being very freely produced in cymes *C. bacillaris* is a showy flowering bush. Though not attractive at a great distance because the fruits are dark purple, they are very freely borne and long sprays are useful to cut for vase decoration with coloured autumn foliage. This species is a native of the Himalayas, being found up to 10,000ft. The natives value the wood for making walking sticks, and being strong and elastic its use for golf clubs has been suggested. Its robust habit makes *C. bacillaris* of considerable value in large shrubby borders, by the waterside, for plantations and in open woodland planting.

C. BULIATA.—This is a tall, deciduous species of more open growth than most Cotoneasters, 6ft. to 15ft. or more in height. It is a native of China and



THE TRAILING RED BERRIED COTONEASTER DAMMERI RADICANS.

Tibet, coming to us first by way of France, through the French Missionaries and M. Mamie de Villemor in the late nineties. The rosy white blossoms are not conspicuous, but the value of *C. bullata* lies in the rich red fruit. 2 in. to 4 in. in diameter, which, in seasons, are very freely borne. A large leaved form of this species, var. *macrophylla* (No. 873, Wilson), was collected by Mr. Wilson in Western Szechuan in 1905. *C. bullata* has been confused with *C. monquensis*, but that species is readily distinguished by its black fruits.

C. LUXIFOLIA. Until the introduction of recent date from China this was the tallest growing and best of the truly evergreen Cotoneasters. The average height is 8 ft. to 10 ft. or 12 ft. It has, generally, long and slender branches, clothed with dark green leaves up to 4 in. long. The clusters of small white flowers are succeeded by quantities of rich red fruits. In addition to its value for large grouping or massing in the pleasure grounds and for the shrubbery border, I have seen this *Cotoneaster* planted most effectively as an informal hedge or dividing line between the garden proper and the woodland. *C. luxifolia* was first introduced from the Neelgherry Hills in 1824.

C. DAMMERI. This very distinct prostrate-growing *Cotoneaster* is better known in British gardens as *C. humilis*, for this is the name it was given at Kew when introduced by Mr. Wilson, and first disseminated by Messrs. James Veitch and Sons from their Coombe Wood nursery. It subsequently proved to be identical with the plant previously named *C. Dammeri* by Schneider. Keeping quite close to the ground, in habit it is distinct from any other species. Free in growth, the plant spreads rapidly, rooting in the ground as it spreads as does *Yucca*. In the rock garden the long trailing evergreen shoots are very effective hanging over boulders and ledges of rock. *C. Dammeri* var. *radians* is similarly prostrate in growth, Mr. Wilson distinguishing it from the type in having longer peduncles and pedicels, with constantly one or two flowered racemes. Mr. Wilson collected the type (No. 481, W.) in Western Hupeh and the variety *radians* (No. 1071, W.) in Western Szechuan.

C. DIETSCHIANA. Here again we have a plant with two names, *C. applanata*, Duthie, and *C. Dietschiana*, Prtzel, the latter being the first and thus the accepted name, though *C. applanata*, descriptive of the distichous branch arrangement, is obviously the better name for the plant. It is an open, free-growing bush of light and elegant habit with arching branches. *C. Dietschiana* is deciduous, not noteworthy in blossom, but gay with scarlet fruits in autumn. A native of Central China, it was first introduced by Mr. Wilson in 1910.

C. FRAXINIFOLIA. This is a widespread evergreen shrub 8 ft. or more in height and as much in diameter. The corymbs of small white blossoms, often eight to a dozen or more together, are followed by showy orange-scarlet fruits. It is one of the best known Chinese species, especially in France, where it was first raised about 1805 from seeds sent by the Abbe Soulie. In the shrubbery border and the open woodland *C. Franchetii* is worthy of attention by planters.

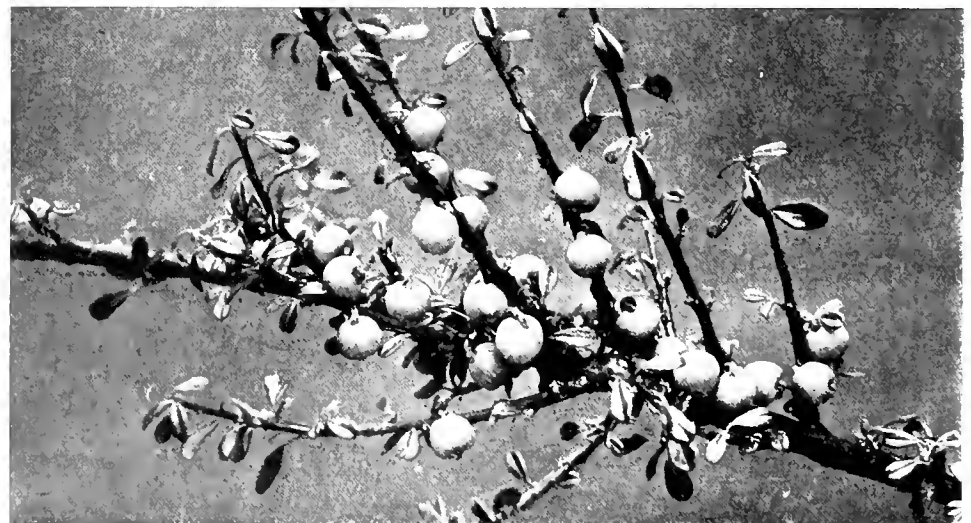
C. LINDLEYANA. This is the most decorative and valuable of all the vigorous growing deciduous *Cotoneasters*. Though usually seen as a widespread bush 10 ft. to 20 ft. or more in height, it readily forms a trunk, and makes a beautiful specimen lawn tree of fair size. Sir Herbert Max well, writing in *The Garden* of July 24, 1920, describes self-sown seedlings of this kind in the woods at Monmouth between 10 ft. and 10 ft. in height, the trunk of one specimen measured 2 ft. 12 in. at 1 ft. from the ground. In flower during June the flatish corymbs of white blossoms are distinctly showy. It is, however, in autumn and winter, when the branches are weighed down with the large clusters



BRILLIANT BERRIES OF *COTONEASTER FRIGIDA*.



ONE OF THE "SAILS" OF *COTONEASTER HORIZONTALIS*.



GLOSSY EVERGREEN FOLIAGE AND DEEP CRIMSON FRUITS OF *C. BUXIFOLIA*.

EAST LOTHIAN STOCKS

Early Sowing Ensures Summer Flowering.

of red fruits, that *C. frigida* attracts most attention. It is not surprising that a shrub so readily raised from seed should be improved by selecting free-fruited and richly coloured forms. Earham variety was recently given an award of merit by the Royal Horticultural Society. The var. *Vicari* raised at Aldenham House, and var. *montanum*, which we obtained from the late Mr. T. Smith's nursery at Newry, are also noteworthy for the abundance and bright colour of the fruits. There is also a yellow fruited variety, *fructu-luteo* which opens up possibilities of raising golden yellow-fruited *Cotoneasters* by seedlings and selection. *C. frigida* is particularly valuable as a town shrub.

C. HARROVIANA.—An evergreen bush of spreading rather than upright habit, the small white blossoms are showy and freely borne in axillary and terminal corymbs. These are followed by red fruits which hang on bushes into the New Year. Mr. Wilson introduced this *Cotoneaster* from Yunnan in 1899. Attractive in flower and fruit it is worthy of a place in the pleasure grounds and shrubbery borders, where it forms an effective screen throughout the year.

C. HENRYANA.—This is one of the largest-leaved evergreen *Cotoneasters*. Individual specimens are not particularly attractive because of a loose and more or less pendulous habit unless restricted at first to a single stem. Shapely specimens obtained by a little judicious pruning each year in spring make good lawn plants. A group of six to a dozen or more bushes in a shrubbery border or massed in the pleasure grounds has a good foliage, effective with quantities of white flowers in June, followed by an abundance of brownish-red fruits. When first introduced by Mr. Wilson from China in 1901 this *Cotoneaster* was grown as *C. rugosa* var. *Henryi*.

C. HORIZONTALIS.—In several respects this is one of the most distinct and beautiful *Cotoneasters*. In the open it forms a low spreading bush some 2ft. to 3ft. high, but against a wall it will grow very much higher. A plant in such a position at Kew, 10ft. high, was illustrated in *THE GARDEN*, December 17, 1904. Its value as a low shrub for sloping sunny banks was also illustrated in *THE GARDEN*, December 4, 1920. Though strictly deciduous in mild winters, many of the leaves remain on mid way through the winter. It has flat fan-like spreading branches, a characteristic which has caused it sometimes to be spoken of as the fish-bone *Cotoneaster*. It has no claim to floral distinction when the small pink-tinted white blossoms open early in June, but during autumn the neat glossy green leaves and bright red fruits give it a very attractive appearance. Later, the leaves develop a bronze tint, changing in turn to red and crimson. We are indebted for the introduction of this useful *Cotoneaster* to the Abbé David in 1885.

C. INTEGERRIMA.—This shrub is of interest, being the only *Cotoneaster* found truly wild in Britain, its other name of *C. vulgaris* being, perhaps, better known to students of the British Flora, who know of its existence on the Great Orme's Head. *C. integerrima* is also found wild in Northern Europe, Persia, Siberia, Tibet, Manchuria and Northern India. Growing 5ft. or 6ft. high it is a deciduous shrub, usually with red fruits, but there is also a form (var. *melanocarpa*) with black fruits.

C. MICROPHYLLA.—A low-growing evergreen shrub of graceful habit, this is a favourite shrub for the rock garden, low walls, sloping banks and the fronts of shrubbery borders. In autumn the small glossy green leaves are thickly interspersed with small red fruits. It is a native of the Himalayas, being a common shrub at from about 4,000ft. to 11,000ft. elevation. The first record of its introduction appears to be 1827, when the East India Company sent seeds to the Royal Horticultural Society.

(To be continued.)

A. O.

THESE beautiful and free-flowering Stocks are not nearly so popular in England as they are in Scotland. Yet they do equally as well if given good treatment. It is rather invidious to compare them with the Ten Week Stocks, for both have outstanding merits and both should, in my opinion be grown in every garden, but I do think that they are better bedding plants and give far more flower. On the other hand there is greater variety of colour and also, I believe, a more decided fragrance with the Ten Week Stocks.

In the ordinary way the East Lothian Stock may be regarded as an autumn or a late summer flowering plant, but by sowing the seeds in January or February and getting the plants forward, they may be induced to commence flowering in June and retain flowers till late in the autumn.

I first grew these plants when I was in Scotland some twelve years ago and was struck by their beauty and their prodigality of flowering. On my return to England I grew them again and giving them better treatment I succeeded far better with them. The seeds are sown late in January or early in February in a pan of sandy soil in the usual way in a warm temperature. Under ordinary conditions germination is seen in about a week's time and, usually, in another week the seedlings are ready for pricking off. I find that early pricking-off is a safeguard against damping, and I am particularly careful not to put the seedlings where the spray of the syringe will reach them. As space in the greenhouse is precious at this time of the year, and as the seedlings will not remain long in the box, I prick them off at 2ins. apart. They are left in the boxes for rather more than a month, by which time there is a tendency to crowd. As it is particularly desired that the plants should do well, they are then potted singly into 3in. pots and are kept growing steadily along in full sunshine and close to the glass until they fill the soil with a network of roots. This brings us to about the third week in April. The final potting should not be delayed longer, else the plants will not have well filled the pots with roots by planting-out time. At this stage I have removed them to 6-inch pots, but better results were obtained when only 5-inch pots were used, and it is a better size from which to plant.

From this time onward they should gradually be inured to outside conditions by ventilating freely and later removed to a cold frame, where the ventilation can be gradually increased until

they have attained that degree of hardiness which will justify their being planted out towards the end of May.

Dates, of course, are only a guide, and in that light only I append the following details from my diary:—

January 20.—Seeds sown in a pan of sandy soil in warm greenhouse
 „ 28.—Seedlings appeared above the surface.
 February 3.—Seedlings pricked off closely in a box



A SPIKE OF EAST LOTHIAN STOCK.

March 14.—Young plants potted singly in 3in. pots.
 April 20.—Moved along to 5in. pots.
 May 26.—Planted in the beds.
 June 1.—Flowering commenced and continued till
 October 23.—When the Stocks were removed and the bed prepared for spring-flowering plants.

The beds in which these plants were grown were always bastard-trenched and manured once a year, usually in autumn. Beyond that no special cultivation was afforded. In course of time the plants spread so as to be quite 18ins. through. A central flower spike developed first and on many of these the actual flowering part measured a foot. When this faded it was removed and was succeeded by numerous side flowering growths. On one of the best plants I once counted fifty-three of these and in no plant could I count less than thirty. This development surely justified the extra care devoted

to the plants in their early stages. There is, of course, the difficulty that some plants shew single flowers, but this I overcome, first of all, by buying only first class seeds and, secondly, by keeping a reserve of plants in pots, so that singles can be removed and replaced by plants already

showing double flowers. If these Stocks are planted in a sheltered position not otherwise needed they can be left through the winter. Some of them doubtless will not survive the ordeal, but those that do will give an abundance of flowers in late spring. W. E. R.

MOSSY SAXIFRAGES

THE Mossy Saxifrages that is those belonging to the *dictyoides* section are a little looked down upon by real alpine plant fanciers because of their ease of culture and

a noticeable coarseness of "finish," which distinguishes the bulk of them. This coarseness is chiefly noticeable when one compares them with tufted (*Kalschian*) treasures. Actually, the Mossy



SAXIFRAGA GUILDFORD SEEDLING, STILL ONE OF THE BEST CRIMSON "MOSSIES."



VIGOROUS GROWING AND HANDSOME, *S. BATHONIENSIS*.

section provides more real effect in the garden than the tufted sorts can hope to do. Most of the desirable sorts are of hybrid origin or greatly improved forms of species of comparatively small garden worth—in short, practically florist's flowers, which also does not endear them to the enthusiastic alpine collector.

Nowadays, the red-flowered forms are fashionable, probably because new deep-coloured varieties are continually being raised and sent out. This notwithstanding, the best Mossy Saxifrage is unquestionably a white one, *S. Wallacei*. The origin of this is quite uncertain, though to the layman it looks to have *trifurcata* blood. It has a double claim to pride of place: the beauty of snow-white blossom—which, though incomparably finer, always reminds one of that of the rampant but beautiful *Sedum album*—and beauty of foliage. *Saxifraga Wallacei* provides the most beautiful green carpet of any rock plant in cultivation. A group of plants quickly runs together and forms a solid and beautiful mat, so compact and so firmly inter-rooted that it may be lifted as a whole and exhibited entire many miles away!

Saxifraga trifurcata has already been partly described in that *S. Wallacei* was said to "take after" it. The rosettes are formed of three parted leaves, which are much stiffer and more rigidly held than is usual in this section. The variety *ceratophylla*, the Stag's-horn Saxifrage, has the leaves more deeply parted, more glaucous and more rigid than the type. It is also rather larger in the rosette. Both are white flowered and cover themselves with blossom. As one might expect from the foliage, neither needs nor likes quite so cool and damp a situation as suits the generality of Mossy Saxifrages. *S. canaliculata* is nearly related, being similar to *S. trifurcata*, except that the leaves are a softer (less blackish) green and also less rigid. *S. Camposi* as usually sold in nurseries is *S. Wallacei*. The true plant, however, is a species of much smaller growth and smaller blossoms on rather tall stems. *S. cuneata* is a comparatively large grower with deeply cut three-lobed foliage and white flowers, less abundantly borne than with most of the kinds mentioned. *S. Maweania* is a North African and is noteworthy as a deciduous Mossy Saxifrage. It makes trailing stems which, when devoid of foliage, remind one rather of a strange *Sedum* than a Saxifrage. The new foliage when it breaks into leaf is a very beautiful green and the developed rosettes are handsome enough. The white flowers are of good size and freely produced. It should have a warm, sheltered corner with, if possible, the shelter of a overhanging rock, as it is not over-hardy.

S. caespitosa is a variable species with white flowers. A quick grower it, or the nearly related *S. decipiens*, is a parent, or rather an ancestor, of all the large-flowered coloured "Mossies" in cultivation. *S. decipiens* is very similar but larger habited. The red in the hybrids was originally obtained from the charming carpeter, *S. muscoides atropurpurea*. *S. Guildford Seedling* was the first of these hybrids and it is still one of the best, though not so strong a grower as some. The variety called *sanguinea superba* is one of the best red-coloured ones to date. Another admirable sort is called *bathoniensis* or sometimes, stupidly enough, *decipiens grandiflora*. There are a host of others, most of them with "blood" of the Meadow Saxifrage, *S. granulata*, but many of them are coarse habited and the flowers fade badly and are very ugly when faded.

There are many others of the *caespitosa* kin often catalogued, some of which, if not all, are, rightly speaking, forms of *caespitosa* or *decipiens*. Such are *SS. Iratiana*, *nevadensis*, *gröenlandica*, *quinquenda*, *Sternbergii*, *Steinmanni* and *sponheimica*.

S. muscoides atropurpurea has already been referred to as the colour-bearing parent of the red-flowered hybrids. It is a natural variety or subspecies of *S. muscoides* and bears greenish yellow flowers which closely stud the tight carpet of miniature rosettes. There are other natural varieties besides *atropurpurea*. Such are *crocea*, with flowers yellow than the type; *pygmæa*, even smaller than the species; *Allionii* and *densa*. For smothering damp rocks or forming a close sheet of verdure in a cool position on the rockery,



THE VERY VARIABLE *SAXIFRAGA CÆSPITOSA*.

S. muscoides and its forms are invaluable. *SS. planifolia*, *sedoides*, *Segueri*, *aphylla* and *androsacea* all belong to the *Muscoides*—the subsection of which *S. muscoides* is the type plant.

Larger growing than the plants of the section just mentioned, but still a dwarf, is *S. hypnoides*, "Dovedale Moss," as it is often called. The brightness of its emerald carpet is one of its chief attractions. In winter *S. Wallacei* is, indeed, its only rival, but it is, of course, an altogether smaller grower than that fine kind. An exceedingly easy "doer" and of rapid growth, it forms an excellent cover for the many bulbous plants which are suitable for the rock garden. The flower stems reach a height of 6 ins. or more and the white blossoms are produced in great abundance. There is a compact variety called *gemmifera*, while for those who like such things there is a silver variegated form. As its English name would suggest, *S. hypnoides* is a native of our own Derbyshire and Yorkshire highlands.

Unless otherwise noted, all Mossy Saxifrages like a fairly well drained, but moderately damp soil in a cool (north-easterly or north-westerly) aspect. They resent drought.

QUITE apart from its great beauty, as the boldest and most notable of our native evergreen climbers, Ivy can be put to a wide variety of uses in both town and country gardens. It is obtainable in an extraordinary number of forms, or varieties, and so variable is it in the wild state that anyone in a locality where it abounds might gather half-a-dozen widely differing types in a morning's walk.

In our own woodland garden, a great part of which is a rather sharp slope, this plant is extensively employed for covering the ground, thus not only serving as a carpenter, but as a means of holding the loose, trickling soil in place. Grown in this way—and most of it has appeared naturally—the Ivy slope looks delightful at all seasons. It seldom needs any attention, yet the mat is never too dense to allow Snowdrops to push through it in spring. These are followed by Narcissi, Lily of the Valley, Anthericum, Montbretia, Schizostylis and many other things of the kind. It does not interfere with the welfare of various native and other Ferns and it helps to keep the ground cool for a number of shrubs. These last have at times to be cleared about their roots, since it is the habit of Ivy to ascend any support it comes in contact with, but we have found that, once they are established, such kinds as Rhododendron, Azalea and Broom and, indeed, the majority of shrubs grown in the semi-wild garden will hold their own against the Ivy carpeting.

Ivy is also an excellent plant for covering the ground beneath tall trees, such as evergreen Oaks or conifers, which is often denuded of all vegetation. It can be seen planted in this way at Kew and in many other public and private gardens where it makes a rich green carpeting which demands a minimum of attention. For this purpose and that indicated in the preceding paragraph I do not think there is anything better than a good form of the wild plant.

Remarkably neat edgings can be produced with choice Ivies, whether these are trained over stone or simply grown in a line as a tiny hedge and kept close by pinching or trimming, especially in spring. In some gardens and parks this plant is utilised on verges more freely than merely as an edging. That is to say, it is planted and trained in belts or wide areas, thus taking the place of turf, which is very much more costly in upkeep. In this way a ground covering of Ivy kept to a uniform thickness of about 6 ins. proves to be an admirable setting for almost any ornamental shrubs or plants. As for wear, it will be found remarkably tough and

quite serviceable enough to withstand anything but regular, daily treading. Such Ivy belts as these only need shearing once or, at most, twice a season, the work does not entail much labour and the trimmings can be left to settle into the bed along with the natural partial leaf-fall of the plant in spring.

Though Ivy will climb 40 ft. to 50 ft. and more, when ascending a tree or ruin, before commencing to flower, it will often go as many yards on the flat. As a matter of fact, one may take it that there is no limit to the distance to which Ivy will creep, for it roots as it goes along and will continue doing so provided it is not checked and that suitable conditions exist. The object of this creeping is doubtless that of discovering some vertical object up which the plant can climb, flower and set seed; but no one can tell what the height is at which *Hedera Helix* may be said to reach its full stature and become fruitful, for in one place it will be in maturity when only 3 ft. to 4 ft. high and at another it will still be in course of development though it has ascended to ten times that height.

As for the various uses to which Ivy can be put as a covering for walls, these are so familiar that one need not dwell upon them. I may say, however, that this hardy old climber will stand a town atmosphere, shade and draught better than most climbers, and if properly cared for, may be used on walls which are intended to be attractive in summer. Many of the Clematises, for example, will climb an Ivy wall, and nothing looks better than scarlet ropes of *Tropæolum speciosum* when trailing over the deep, glossy green of Ivy. *Eccremocarpus scaber*, "Morning Glories," and several other rapid climbing plants will also come to mind as suitable plants for similar company.

Tree-stumps and other unsightly things, often difficult to dispose of, can be made delightful with a covering of Ivies, and in such places a collection of the finer, more "fancy" kinds can be interesting as well as beautiful. A "stumpery" with a covering of any good form of the wild Ivy and some native Ferns also, makes a first-rate setting for the Flame Nasturtium, *Arenaria montana*, *Convolvulus althæoides* and various other plants.

I have suggested the wild Ivy for most of the above purposes because it is more generally useful and is a better doer than the coloured or variegated varieties, which need—and perhaps deserve—rather more considerate treatment; but there are also a goodly number of distinct, named kinds which possess quite enough vigour for most purposes. The Tree Ivy also deserves notice since it makes an imposing mass, or pyramid, of green which is goodly to look upon at any season, whether in the woodland, shrubbery or as a formal specimen on the lawn.

Lastly, though I do not presume to have done more than offer a few suggestions as to the uses of "the Ivy green," there is the question of the Ivy-clad tree. I am not going, however, to discuss the pros and cons of Ivy as a tree-creeper, for the subject is a wide one and everything depends upon the quality, nature and uses of the trees concerned, as to whether Ivy should or should not be permitted to embrace them. In so far as we are concerned, Ivy is permitted to do as it likes with several of the old Oaks of our woodland garden. Such trees could hardly be put to better use, for the Ivy, though beautiful at all times, is not less attractive when its bright, glossy green begins to shew in vivid contrast to the warm russet and buffs of autumn, than it is to-day, when it lends an additional interest to the naked trees and does no little service as a wind-break.

N. Wales.

A. T. J.

COMMON ERRORS IN VINE CULTURE

MANY papers have been written by myself and others on what to do in the vinery. I now propose to offer a few remarks on "what not to do." Many people aim at getting very robust growth on young Vines. They encourage the growth above ground with the idea of getting strong, healthy roots, and only a few years ago it was a common practice to allow young Vines to run wild for one or two seasons and cut them down in autumn or winter. I am afraid the practice is not yet obsolete, for only a few weeks ago I received a letter from a gardener in charge of a very important place complaining that his young Muscats had done badly; they had made hardly any growth and the foliage was bad. This was a great disappointment after the promise they had given the year before.

Now it so happened that I had samples of the growth of these Vines the previous year, and the grower was very proud of them. They were three-quarters of an inch in diameter, but the buds were not so prominent nor so regular as some under my observation, the wood of which was not more than half that size. We must expect the growth of the roots to correspond in some measure to the top growth, and my experience with large, fleshy roots is that they do not ripen, and to a great extent die back in winter. Of course the root hairs by which the roots feed are annual only, and should always die back, but the fibrils on which these root hairs are produced should not do so.

One should be careful in making a new Vine border not to use too much nitrogenous matter.

When I can procure good, turfy loam of medium texture, containing a fair amount of fibre, I use no nitrogenous manure with it, but only phosphates, potash and lime rubble. There must, however, be something to decompose in order to render the soil fertile. If there is a good quantity of grass roots, this will be sufficient for a year or two, but in the absence of such roots a little strawy manure is advisable, but it should be used sparingly. Naturally, when the soil is likely to become partly exhausted, after the Vines have come into bearing, feeding must be done.

Borders are frequently made too deep. From 2ft. to 2½ft. is ample. The friendly bacteria, so important in the preparation of plant food, scarcely exist at a much lower depth, nor aeration, another important matter.

Outside borders are frequently made sloping. I prefer them level, so that watering, whether natural or artificial, is more likely to be regular. It is also essential, whether the Vines are planted inside or out, to know where the roots are. Bricks and mortar will not confine them. I have seen borders, both inside and out, carefully and regularly watered when they did not contain a single feeding root, these being 30ft., 50ft. or more away. It is well, therefore, before the Vines have been planted half a dozen years to cut a trench, say, 6ft. away from the stems and sever any straggling roots. If the Vines are planted inside the house, it is wise to examine outside occasionally, even if there is a gravel path, to see whether any roots are there. When roots do get outside the place so carefully prepared for them, they seem to prefer the unprepared ground. It was a common practice—I do not know if it is so now—to unfasten Vine rods and bring the upper ends down as low as possible in order to make them break more regularly. I may say I have never practised it, and when I learned that they would grow upside down as well as the ordinary way, I was convinced that bending down was unnecessary.

As to the syringing usually given when they are required to start, what is it for? The idea seems to be that it causes the rods to break more regularly and quickly. Now both the rods and the buds before the latter start into growth are impervious to water. The buds have layers of protective scales over them, and they need it considering the barbarities practised on them! As for the rods, if you cut a length, seal up the wounds and place it in water for a week, it will be just as dry under the bark as when you placed it there.

Then as to syringing after growth has commenced what is that for? To keep down red spider, I am told. Well, I have had as many as

eight vineries belonging to seven different persons under my superintendence and only in one place did red spider appear, and this was a new charge where the insects had not been exterminated in the winter. I have never syringed Vines in my life except when applying an insecticide or fungicide. The evils of syringing and too much damping down are many and great, while those who practise it regularly are not always free from red spider. Leaves grown in an atmosphere which is too damp are not so perfect as those produced under more rational conditions.

Dr. Masters says in "Plant Life": "It has lately been shewn by M. Vesque that the leaves are both thinner and longer than when grown in dry air, that the vascular bundles of the stem are also thinner and less perfectly developed than in dry air." I do not advise a perfectly dry atmosphere for fruit growing, but I do advise moderation. We see inside Vine borders coated with moss and lichen, yet the damping is continued. There are times when damping is beneficial; for instance, in the early part and middle of a very hot day, while the ventilators are open and there is danger of the temperature rising too high, but in dull weather, excepting in a forcing-house with strong fire-heat, it is not only unnecessary but harmful. Houses under my charge have frequently gone a week, even in summer, without damping. I like the surface soil to become dry sometimes if the roots are inside, so as to admit air to them and also to prevent the soil becoming sour. Damping immoderately at closing time either the soil or the leaves is barbarous; it checks transpiration and consequently hinders feeding by the roots.

Here is another point. I have seen Vine and other leaves droop in the early part of the day after ventilation has been given, when there was no apparent reason to the casual observer. This I attribute to the atmosphere having been too moist. We know that in their struggle for transpiration in a saturated atmosphere the stomata will open to their fullest extent. If, when this condition prevails, one opens the ventilators only a very little, much of the moisture will rapidly escape before the automatic machinery of the leaves has had time to accommodate itself to the changed conditions. You may see the same thing take place naturally in the case of Potatoes and even the Brassica family when sudden sunshine bursts out after a wet spell.

We cannot prevent Potatoes suffering in this way, but we can Vines! Wm. TAYLOR.



APPLEY TOWERS GRAPES AS GROWING.

A CHARMING BORAGEWORT

To those who have failed with such "miffy" charmers as *Mertensia virginica* may be recommended the hardly less lovely and much more accommodating *M. sibirica*. Though often listed among peat, even bog, plants this hardy perennial will flourish in any good border soil that is not too hot and dry. Once established, it will take care of itself for many years, coming up with refreshed vigour every spring after having died back to the base the preceding autumn. *M. sibirica* sends up shoots about 2ft. or more in height from a moderate-sized tuft of elegant sea green, heart-shaped leaves. The stems branch freely from about half their height to the tips, and these laterals produce a succession of flowers from about mid-summer to autumn. While the whole plant is a cool emerald, the pendulous, tubular flowers are a subtle blend of shell pink and azure, thus making a most tasteful combination of delicate colour which is extremely taking. *M. sibirica* often produces self-sown seedlings about the parent plant.

GLOXINIAS, THEIR CULTURE & PROPAGATION

IS there any other flower capable of giving such gorgeous glowing colour radiance, in return for a moderate expenditure of care, as the Gloxinia? I doubt it. The Begonia is a close competitor, but here we miss the wonderful violet blue and spotted flowers that the Gloxinia provides and—to my mind—the two plants never enter into competition. They are separate and distinct. Both gorgeous, both eminently desirable, both quite indispensable. But there is a point at which similitude comes in, for both—as we know them to-day—are practically man-made plants, with a long story of patient fertilisation, cross-fertilisation, and re-crossing. As the Begonia has evolved from such lowly beginnings as *B. Pearcei* and *B. boliviensis*, so the Gloxinia has been achieved from *Sinningia speciosa*, inter-married with various other species, until the perfected plant is before us to-day, with its handsome leaves, giant flowers, ideal habit and exceedingly wide colour range.

The original kind, *S. speciosa*, was introduced into this country in 1815, a small flower, violet in colour and drooping downwards, so that one had to place the finger beneath the bloom and turn it right side upwards before one could look down into the small throat. What a miracle has since been worked! No wonder that the present race has ceased to bend its neck stalk! No wonder that the flowers raise their heads high and so disclose all the marvellous beauty of creamy throat and wondrous speckling of colour! No wonder they look one straight in the face, displaying the perfection of evenly ruled margin surrounding deep intense velvety colour. Great blooms, 3 ins. or 4 ins. across, in violet, purple, mauve, pink, red, scarlet, crimson, white of unblemished purity, white with mauve edge, mauve with white edge. Rule out pure blue and yellow and there is no limitation. A great story of progress, truly! The small drooping flowers gave place first to the semi-erect type and these, finally, to the absolutely erect flowered type with a rosette of leaves and tuft of ten to twenty flowers open at one time.

As one looks at a large house filled with Gloxinias one cannot help but wonder: "What are the latent possibilities of other seemingly insignificant flowers that surround us?"

This, however, is no time for dreaming. We have the grown plants, the gorgeous colourings, the perfection of flower and foliage. The days are lengthening and the season has come to sow the seeds. Before we pass to these, however, let one point be made quite clear. The Gloxinia loves heat and moisture and, for early flowers and early

seed sowing, these are essential; but—and it is a capital BUT, please, Mr. Printer—this does not mean that the Gloxinia is the prerogative of the wealthy. Grow your early flowers by all means, if you can, but remember that superb results are easily attained for July and August in cooler houses by starting tubers in March and April or



A TYPICAL MODERN GLOXINIA.

The illustration is by kind permission of Messrs. Blackmore and Langdon.

sowing seeds then for succeeding years. Every seed sown is a fiddle, for it contains we know not what; so that as large a number as possible should be grown on to the flowering size. And here one comes to one of the great merits of the plant, for the number of plants that one wishes to discard at flowering is surprisingly small. Poor types, to such a high state of perfection has a good strain been brought, are non-existent.

The seed is minute and those who make the mistake of distributing it too thickly will find that they have sown two kinds together—the Gloxinia seeds and the seeds of endless trouble—when pricking off time comes. Clean and well drained pans should be prepared by filling them to within half an inch of the rim with a compost prepared as follows. Take two parts of fibrous loam and add to these half a part each of peat, leaf-mould and sharp, coarse gritty silver sand, turning the whole several times until they are thoroughly mixed together. The coarser part of this should be put over the drainage and the top half inch in the pans should be finely sifted. Press firm, water lightly and stand aside for an hour or two to drain thoroughly. Scatter the seed on the surface and without covering in any way with soil, place a

pane of glass over the top, together with a sheet of brown paper, and stand in a temperature of 65° to 70°. Here the usual routine work must be followed until the young plants have made their appearance. Do not let the sun shine upon them, do not let the soil become dry; do not let the moisture that condenses on the glass remain there; reverse the glass and so dispel it again into the atmosphere. Presently, wee specks of green will appear here and there on the surface of the soil. Little specks, so small that at first one has to look twice to make sure that the eyes do not deceive. Then the brown paper must be removed to permit light (but not sun) to reach the seedlings, though the glass should be retained because of its assistance in maintaining the necessary humid atmosphere. The specks of green make rapid progress and one soon has tangible results for former care, with—oh! joyous sight—visions of "single pots" ahead; an array of rapidly growing little plants, neatly "staged" side by side and ever demanding more and more spacing out. I think that this gay glad springtime when all is hope and progress, with numberless pots filled with seedlings for which he is ever seeking further "standing room," is one of the happiest seasons in all the gardener's year.

But I anticipate, for the important work of pricking-off has first to be performed. Do not let the seedlings become crowded in the pans. If sowing has been too thickly done, it is best to lift the small plants on the point of a sharpened stick and transfer them to other pans prepared in a similar way. If not, wait until the leaves are half an inch long before transferring to separate pots. As the spring days lengthen and the sun gains power, do not overlook the inevitable fluctuation in temperature that is bound to occur, but, keep it as even as possible. Air is desirable, but must be given cautiously, remembering our starting point of heat and moisture. If the latter is abundant, a rise in the temperature to 85° or even 90° will not prove injurious; but, if the air be dry, very high temperatures spell ruination.

By early May the small pots will have become full of roots, the large, velvety leaves will be well developed and bending down over the edge of the pots and a "shift" becomes imperative. Five-inch sized pots meet the case for the first year and, in these, the Gloxinias will "prove" themselves and shew their quality before the middle of August. One must water, ventilate and care for them with unremitting attention all the while, taking care never to spill water over the foliage or to permit a draught to pass across the plants. Here, I think, we may leave the young plants, full of promise that will not be disappointed, and return again to the early days of the year, when, in addition to the seedlings, there are last year's tubers awaiting attention. These have been stored since autumn, when the last of the leaves died down as water was gradually reduced in response to the plant's evident desire to rest after its efforts. Storage has probably been effected by lying the pots on their sides in a dry place where the temperature ranged about 50°. They must now be taken out of their pots and have all the old soil shaken away preparatory to starting them again into growth. My own pet method of doing this last is to sort the tubers into sizes and arrange them in shallow wooden seed trays filled with a mixture of peat and fibrous loam. The trays stand in a propagating case right over the hot-water pipes, so that they will enjoy a uniform temperature of 70° to 80°, with a rise of 5° by day. Where batches are to be started in succession, care should be taken that those which, last year, were flowered first are used for the earliest blooms this year, so that

each may have its due season of rest. Successional batches may follow in February and March and these will start readily in a temperature of 65° to 75° by night, with a rise of a few degrees by day, so that readers will appreciate that the *Gloxinia* is a very "elastic" plant, very willing to adapt itself to the best that can be provided.

As soon as they have well "broken," the tubers should be lifted from the boxes, with as much soil as possible clinging to the roots, and then be placed in single pots. The size of the pot varies with the age of the tuber, double the diameter of the tuber being about right. Use a compost of equal parts of fibrous loam, peat and leaf-mould, well decayed cow manure and enough coarse silver sand to make its presence seen through the whole heap as it is turned about with the spade. Pot firmly without making the soil too hard and press down more firmly round the rim so that the tuber is set on the top of a slight mound, as this prevents water lodging near the crown when watering is done. Shade from bright sunlight, but grow the plants near the glass so that they will be dwarf and stocky. In about eight weeks larger pots will be necessary, using a similar compost to the above, but adding a little cow manure and bone meal. It is desirable to keep the plants a little closer for a few days after potting, then to admit air as usual, taking care that this is not in such quantities as to dry the atmosphere and that there is plenty of well diffused light. When buds begin to appear from the centre, liquid manure may be given twice a week, taking care to keep this off the leaves.

When the first flowers open, discontinue feeding and remove the plants to a lower temperature, so that the blooms may last as long as possible. Care should be taken during summer, if the days are cool and cloudy, to have a little fire to warm the pipes at night so that the air is kept light and dry. If this is not done, light coloured flowers may suffer by tiny specks of cold condensation falling upon them, which results in their becoming peppered with small brown spots.

Few pests trouble the *Gloxinia* grower if normal conditions are maintained, but if the atmosphere is allowed to become too dry, thrips are certain to prove troublesome. For these and the unwelcome greenfly, light and repeated fumigation are the only remedy; one cannot spray and syringe the foliage as is done with other plants.

Flowering completed, a very important stage in the plant's life is reached, for upon their treatment during the succeeding weeks depends the whole of their future well-being. More air must be admitted, also fuller light so that the large leaves gradually begin to turn yellow. Reduce the supply of water, not suddenly, but little by little, almost imperceptibly; the aim is not to hasten maturity, but to supply just enough to enable the leaves to complete their functions and then drive back every ounce of energy they contain into the tuber itself for the following year. When this stage has been reached and the last of the leaves has fallen naturally, turn the pots on their sides and store in the soil in a temperature of 50°. This should not be done in too dry a place; below the stage, where drip cannot fall upon the soil, is excellent though one must be sure that wood lice are not present, for I have found that these are responsible for considerable damage by tunnelling among and eating the tubers during the dormant period.

We have dealt with seeds and starting tubers, we have carried the plants through a complete season of growth, spoken of the pests that are liable to attack them and put them to bed for the resting period. Now comes the question of propagating any specially good kind that may appear—true to type. Seed will not do; cross pollination comes in and with it the inevitable variation, but leaf cuttings taken off about midsummer solve the

problem fully and satisfactorily. Mature leaves are essential and these should be taken off with the leaf-stalk attached. Where but a single tuber is required from a leaf, this may be inserted, just as it is, to the base of the leaf blade, but where each leaf has to produce several new tubers, the mid rib should be nicked here and there and either pegged or weighted into contact with the soil.

The pot which is to contain the cuttings should be filled in the ordinary way and surfaced with half an inch of sand. Place the pots in a temperature of 70°, keep just damp and, in course of time, a small swelling will form at each cut, later developing into a small, fleshy tuber. From this roots will push and eventually leaves, when the young plant is well upon its way. H. W. CAW.

NOTES OF THE WEEK

THERE is a tendency for all but the most scientific of us to attach over-much importance to our own experiences. This does not apply alone to gardening matters, but it does apply to them in a marked degree. We see an effect and grope for the cause. Our ultimate deduction may be right or wrong. Even if it be right we are apt to generalise without the necessary material on which to found a broad judgment. *Pecavi!* Because, in his experience, seedling Heaths never sprang up in ordinary sweet garden loam, though they would appear in myriads in pockets of specially prepared material, the Editor hazarded the suggestion that something, perhaps a vegetable growth, in the humus was necessary, as with Orchids, to make germination effective. Along comes a valued correspondent and squashes the idea! at any rate as regards the humus being necessary. Few of us have the time or the facilities to test our theories exhaustively. The most we can do is to submit them for the consideration of others. This is where the correspondence columns of *THE GARDEN* are of value. The accumulated experience of a number of readers from widely separated districts and with various soils and climatic conditions is worthy of respect!

Birds and the Gardener.—To publish any reference to methods of destroying superfluous bird life is always to bring down on the Editor a shoal of protests from bird-lovers, usually with extracts from the writings of Professor Somebody-or-Another, setting forth the good work that birds do for the gardener and, very possibly, citing the melancholy example of France, where birds were systematically exterminated. The comparison does not, of course, hold water. The writer of the article on "Trapping Vermin," which has elicited

a budget of protesting letters, would, we are sure, be one of the last to depreciate the good that birds do in the garden when in reasonable numbers. The majority of species, however, become a plague if too numerous, which, under the more or less artificial conditions now obtaining, they are apt to do and there seems no valid reason why Nature's sure but, seemingly, cruel reduction in the first hard winter should not be anticipated when the excess warrants interference. Jays and hawfinches when in excessive numbers make of no avail the gardener's efforts to reap where he has sown and the immense flocks of starlings and rooks in some districts not only do a distressing amount of harm themselves, but, by exhausting the insect food, drive to evil ways the blackbirds and thrushes. This is not to deny the good that rooks and starlings do when in moderate numbers, but to plead for their reduction when the flocks become too large. The same story may be told, with variations, as regards chaffinches and the various tits. It is to be feared that the "case" in favour of these latter is improved by special pleading. Even scientific gentlemen have been known to admire a shapely ankle! and the tits are certainly entertaining little fellows; so, for that matter, is the bullfinch!

The Ramondias. It is a commonplace of catalogues that these beautiful flowers need a cliff-face with a north aspect if they are to flourish outdoors in our climate. The almost perpendicular cliff to ensure the water draining from the heart is, indeed, essential, but it is not sufficiently realised that they are, in nature, woodland plants. Even in the Pyrenean forests, where they grow wild in large matted patches, they only seem really happy when on the north side of the rock which forms their home. They love a soil rich in humus



A GOOD PLANT OF RAMONDIA PYRENAICA.

CORRESPONDENCE

GREAT TITMICE AND PEAS.

MAY I be allowed the honour of being one of those "kindly souls" who would remonstrate with the contributor to *THE GARDEN* for January 6 upon his practice of "accounting for a good many tits" in the interest of his crop of Peas? Personally, I would forego the taste of green Peas for ever rather than eat them at the cost of breaking the backs of such exquisite creatures as oxeyes. I wonder whether Mr. Wood, after a successful working of his traps, has ever held in his hand the dead body of a great titmouse, and looking upon the pitiful little heap of feathers, really felt contented with his handiwork. If so, will he read the following extract from the report on this species by Mr. Robert Newstead, F.R.S., which appeared in the Supplement to the Journal of the Board of Agriculture for December, 1908, and then perhaps he will cease, even at the cost of a few pods of Peas, to rob his neighbours of these useful and delightful garden guests?

"In June, 1908, I watched a pair of Great Titmice (*Parus major*) which had a brood of 8 young, 90 per cent. of the food brought in to the young consisted of the larvæ of Geometrid moths, which were collected chiefly from the damson, apple and oak trees in the immediate neighbourhood of the nest. Those collected from the fruit trees were chiefly those of the winter moth (*C. brumata*) and those from the oak the Mottled Umber Moth (*H. defoliaria*). Usually one caterpillar was brought in to the young on each occasion, and often four visits were made in the course of five minutes. If we take the average number of visits at the rate of 24 per hour for 16 hours, representing one working day, this gives us a total of 384 visits per day. And if 20 days are occupied in rearing the young, this gives us a grand total of 7,680 visits to the nest during this period, so that the single pair of birds would be responsible for the destruction of between 7,000 and 8,000 insects, chiefly caterpillars."—R. HUDSON.

THE SCOTCH MARIGOLD.

THE old name of *Calendula officinalis* (see page 662, December 30, last), was the Pot Marigold, because the chef was wont to use the orange rays to give flavour and colour to soups and other dishes. The name Scotch Marigold may have been due to the assiduity with which the northern seedsmen grew, selected and improved it during its period of comparative neglect in the south. For some years past it has been growing in favour, with marked improvement in the size of the flowers. Our garden being overrun with small though beautiful varieties, I introduced a large one last season and, like C. T., I was impressed with its beauty and durability in the cut state. I also found that the young blooms were the most durable, because they had not completed their growth. Another feature of this Marigold is the earliness with which self-sown plants come into bloom, and the length of time during which they remain in flower. I long ago noted the profusion of blossom on the railway banks in the south-east of London, where they had escaped from gardens and kept up a display long after flowers in the garden were getting scarce. Plenty of these Marigolds can be seen flowering in Lincolnshire at the present time.—J. F.

A RECORD AURATUM LILY?

IS the following description of *Lilium auratum* a record or unusual? From one bulb planted in a pot and grown last summer in a greenhouse there were four stems bearing seventy-eight blooms, all out at the same time and a magnificent

sight, as the accompanying photograph suggests. —"SUBSCRIBER," *East Grinstead*.

[Without expressing any opinion as to the flowering of this bulb being a record, we have not



A MAGNIFICENT PLANT OF LILIUM AURATUM.

the slightest hesitation in describing it as *exceedingly* unusual, otherwise *Lilium auratum* would be even more popular than it is!—ED.]

THE CHATHAM ISLAND LILY.

SURELY the writer of the very interesting article on "The Borage Order" in this week's issue has never seen the Chatham Island Lily (*Myosotidium nobile*) in all its glory! Or is it a case of "sour grapes"? It is true that the plant is only happy in the mildest districts, as indeed are many other beautiful plants, but that does not affect its value where it does thrive. To describe "the giant forget-me-not flowers" as "blue and white," is hardly correct, for they are of a wonderfully deep intense blue with a velvety sheen, and so far as I recollect they do not shew white anywhere, even in the eye. The flowers are borne in a dense head 2 ins. to 3 ins. across, each corolla being over $\frac{1}{2}$ in. in diameter. The great glossy foliage of a healthy plant is most handsome, more resembling one of the large-leaved *Megaseas* than any of the *Borage* tribe, and forms an admirable foil to the noble flower heads. *Myosotidium* is a short-lived plant (in England, at any rate), and must be raised periodically from seed. Fortunately, seed ripens and germinates well and the young plants make good growth when transplanted to a partially shaded position in rich deep well drained

soil. At one time they were supposed to require a bed of pure sea sand, but this is not essential; where, however, sea sand is readily available it mixes with advantage be mixed with the soil of the border.

Myosotidium nobile is an extremely rare plant in nature (probably also a very ancient one, being confined to a few spots in the remote Chatham

Islands, which are famous also for being the home of the Tuatara lizard, most ancient of living reptiles. Like so many New Zealand plants (the "Lily" has been almost exterminated since the introduction of domestic animals, for it lacks the coarse hairs on the foliage and stem which in most of the *Boraginaceæ* act as a deterrent to browsing animals.

There are, indeed, few plants more worthy of trial in the gardens of south-western England and Ireland, as well as the mild west coast of Scotland. It enjoys a moist atmosphere and plenty of water at the roots in hot weather, but, of course, the drainage must be perfect.—N. G. HADDEN.

PLANTS FOR SWITZERLAND.

THERE must be some sad misunderstanding as to facilities for exporting plants from England to Switzerland. For many months I have had great difficulty in getting plants from England. Some of my friends (and some nurserymen, too!), said they could not send me plants because the Post Office asked

them for a permit from our (Swiss) Government. I wrote to the Government at Berne asking for an explanation, and *here is the answer*: "There is no prohibition as to importing plants, except as regards Roses and certain fruit trees. Other living plants do not fall under the Restriction Act and may be freely imported into Switzerland." This is the reply of the Government department concerned. Please publish this so that every nurseryman in England may know the facts and may deal firmly with your Post Office!—HENRY CORREYON.

PERENNIALS FROM SEED.

THERE are one or two points in the interesting article under the above heading in *THE GARDEN* for December 23, last, to which I should like to refer. In the first place the writer says that self-sown seedling Heaths "never spring up" in soil that is "without peat or leaf-mould," *i.e.*, fungus-carrying material. Our experience here is that we can always rely upon self-sown seedlings of *Erica vagans*, *cinerea* and *vulgaris* appearing in the raw, freshly-exposed soil of our heath bank, soil that is nothing more than poor, gritty shale. Even when this is thrown out from a considerable depth *Erica* seedlings will come up and survive where there is not too much direct sun heat. As to the Moonlight Broom, the same article

mentions this variety as one to be raised "freely from seed." Are we to understand that this very choice form can be relied upon to come true, and if so, why does it remain comparatively so expensive? I am assuming that the form referred to as *Cytisus sulphureus* is synonymous with *C. scoparius pallidus*.

Then we are told that beautiful hybrid, *Cytisus praecox* usually reverts when produced from seed. This is doubtless what one might expect, but we have grown this variety in quantity here for over ten years and have never yet seen a single seed on any of the plants, though they are laden with blossom every season. What is the explanation?—A. T. JOHNSON, N. Wales.

Truly it is unsafe to argue from the particular to the general, but the statement that seedling Heaths *never* spring up in soil devoid of considerable humus was founded on considerable personal experience. The Moonlight Broom, *Cytisus scoparius sulphureus*—the official name for the plant usually known in gardens as *C. s. pallidus*—has, in the Editor's experience, always come true from seed, but the plant from which several batches were raised was itself a stray seedling on a bank adjacent to a rubbish heap and some distance away from other Brooms. It is a little surprising to hear of the failure of *C. praecox* to seed, though it is anything but a free seeder. Seeds of it, however,

are not seldom offered by firms who specialise in perennials from seed.—ED.

THE WINTER SWEET.

NO one who knows the Winter Sweet will grudge the praise bestowed upon it by the writer of the note on page 6, January 6. I have never noticed any uncertainty, however, in the date of flowering. Here it always seems to give a few flowers in November, which gradually lead up to a full display about the end of December, and its delicious, spicy fragrance then, on a damp mild evening, is something worth remembering. There seem to be two distinct varieties, and we have both here. One has a much larger flower and never fails to carry a liberal crop, while the other, with identical treatment, gives only a few straggling blooms which are later as well as smaller. Formerly we had both on the same wall and side by side, and the inferiority of this was so marked that eventually

it came to an inglorious end in the garden fire and the other extended to fill the space. I enclose a photograph of part of this taken at Christmas. I have never known the plant to bear seed here. It is a great pity the inferior one should ever be propagated, as it can never be anything but a disappointment to the buyer.—H. C. W., *Lurgfield*.

TRAPPING VERMIN.

WITH reference to notes on "Trapping Vermin," signed H. C. Wood, in January 6 issue of THE GARDEN, I agree in deploring the action of those who, in the interests of sport, are trying to exterminate the raptorial birds and small carnivora, and would also condemn the thoughtless activity of our rude forefathers who, in the supposed interests of the human race, succeeded in killing off the large carnivora.

These, if "left to do the work for which they seem to have been created," might have made a meal of the gardener who can only manage to grow sufficient Peas and small caterpillars for his own table, and has nothing but traps for his active friend the tomtit. JOHN WATSON.

"TRAPPING VERMIN!" (THE GARDEN, Jan. 6, page 11) including, under that ugly word, tits and bullfinches! Sparrows I excuse mention of, providing, of course, it should be made clear that house sparrows are meant. The writer asks that "kindly souls should consider well the ways of nature to learn the truth about the matter." There are some kindly souls who consider very well the "ways of nature," and know the almost incalculable amount of good small birds do. No hawk, owl, stoat or weasel, however valuable in other directions, would kill the grubs, caterpillars and tiny insects which, left unobscured, would



THE WINTER SWEET, CHIMONANTHUS FRAGRANS.

prevent our having fruit or vegetables at all. Even the house sparrow does good in nesting time, feeding its young on insects. May I recommend an interesting book for perusal by all interested in Nature—"The Story of the Fields," by Fabre; it is charmingly written and contains much information.—(Mrs.) H. C. FORD, *Yealand Conyers*.

CHRYSANTHEMUM TOKIO.

I AM much obliged to Mr. Harman Payne for what he states about the Chrysanthemum Tokio. The flowers I so admired at the Monte Carlo and Nice shows had the bright colour *outside*, that is, on the back of the petals, so he will understand why I never dreamt of connecting these splendid and brightly coloured exhibition blooms with the thin and rather pale-coloured blooms I now remember to have seen in London some fifteen years ago.

Flowers grown in this clear southern light and open air are so much brighter in colour than under glass that the flowers I so praised may possibly be Tokio; but if so, it must, I think, have been treated with some special manure that has given it such a clear rose colour. In the dwarf specimen plants there were some petals in the centre that had opened and shewed a much paler colour inside, so the colour is on the *back* of the petal. Mr. Harman Payne and I may not always agree as to our standard of beauty, but I think the shaggy little single Japanese dwarf Chrysanthemums would strike him as a variant to the extremely stiff and, in my judgment, ugly dwarfs of the type of Baronne de Vindes that offend my eye exceedingly. I am sorry to say I have not seen the Paris shows. November is more attractive on these shores than even a Chrysanthemum show! EDWARD H. WOODALL, *Nice*.



"SUNSHINE IN MID-WINTER,"
CHIMONANTHUS FRAGRANS ON A WALL.

THE AFTER-CARE OF FRUIT TREES

BY now most of the new trees have been planted in the garden. I am often asked the best plan to adopt with regard to their treatment subsequent to planting. It is an all-important question, for a young tree can quite easily be made or marred at this stage.

Pruning we will take last, and apart from this the treatment consists in maintaining the correct amount of moisture and nourishment. I ought to mention that I am taking the case of quite a young tree throughout, say, from a maiden to a four year standard; and not so much large, more mature trees which are often moved and replanted. It is difficult to start young, newly planted trees growing well and producing much wood the first year, and thus every effort must be made to conserve moisture and to feed for growth. If it is convenient to water them, of course this is excellent in moderation and should certainly be done. If, however, this is impracticable, frequent hoeings around the roots should be given, thus helping, to great extent, to conserve the moisture. When I was a boy I could never make out why hoeing ever kept in the moisture, it seemed to me that it would tend to allow the water to evaporate more quickly, and even older men are rather puzzled now. The fact is that there are a very large number of minute tubes in settled ground leading upwards to the surface from the moisture-holding earth below. The moisture is drawn up these tubes by capillary attraction and, on reaching the top, of course evaporates. It is easy to understand, then, that by hoeing these tubes are broken and, as it were, stopped up, thus preventing the moisture from escaping. This information seems rarely to be given in text books, but is useful to know. Hoeing is extremely beneficial for conserving the moisture.

One of the best plans, however, is, about April, to mulch each tree with good straw dung which, besides keeping the roots damp, will feed them and enable the trees to make much better growth.

The question of pruning newly planted trees is a very debatable one, and opinions differ, but the plan I give below is the generally accepted one. The first aim at this age is to promote growth and a good shape, but the question is whether to prune soon after planting or to wait until the following autumn.

Now, where the trees were planted very early in the autumn as soon as the leaves started falling, they have had a chance to form new root fibres immediately and, in the following year, will have the power to form strong and reasonably long new wood. In this case it is advisable to prune, say, in the February following planting, and provided the land is not too poor in plant food (nitrogenous especially) they will make quite considerable numbers of good shoots the following summer. This only applies to early planted trees, as it should not be done with trees planted in late winter or spring.

The policy with these is to defer the pruning for one year, as they will have made no appreciable move the summer following planting, and their root system will only just be making headway. If pruned, they will only make weak wood averaging not more than jins, or jins, in length.

Now, during the winter, a year after their first pruning, the new shoots require to be thinned out—bearing in mind the best shape for the tree in after years and the positions for the branches. Cut out weak side shoots useless for making

branches, leaving only the leading growths at the ends. These leaders should be cut back to half their original length so as to encourage, in the following summer, strong new wood suitable for retention in the tree to form more branches.

A year later the above plan should again be followed, cutting back to two buds those shoots which cross or rub against one another, and also those which are not wanted to form the shape of the tree. This time cut back the leaders to two-thirds and the next year the tree will be taking on a really good shape, easy to pick and to spray. If worked on the Paradise stock it should also be

forming a few fruit-buds. Of course, in later years the *modus operandi* will consist of thinning the branches and pruning according to variety and various other considerations which will be found in any good text book on the subject.

If suitable varieties are chosen at the outset, good pruning and waging unremitting war on insects by grease-banding and spraying will make the garden orchard a source of continual delight. Not only will the result be satisfactory from a pecuniary standpoint, but there will also be much sheer pleasure gained in tending and admiring trees worthy of any garden.

—SIR J. H. L.

WINTER FRUIT SPRAYING

Spraying is of such real value and importance that it should be one of the routine winter tasks in every garden, instead of in the comparatively few as at present. The health and strength of the trees are improved and, consequently, much better fruits are given.

IT is freely said by the commercial fruit growers of the country that one of the principal reasons why woolly aphids and numerous other pests are so prevalent and so persistent is that the owners and managers of private gardens, large and small, do not adopt adequate steps to destroy these pests; in fact, that the majority of private gardeners, large and small again, do not take any steps at all.

This is a very serious indictment and, at the risk of treading on the toes of a strictly limited few readers of THE GARDEN, one is forced to believe that there is substantial justification for it. There are hundreds of gardens within whose gates a spraying machine has never been seen, and there are hundreds of others which may boast the possession of a good machine that has not been, and is not now, used. Appliances are at hand or can be purchased at reasonable prices and excellent washes are advertised regularly in these pages.

Why, then, is not spraying or washing or dressing, or whatever anyone may choose to call it, a regular winter operation? Can it be asserted substantially that the fruit trees in private gardens are not heirs to the enemies which attack them when they are grown in commercial gardens? Can it be asserted that the enemies bred in private gardens do not migrate thence to other pastures as they do from one commercial garden to another? Is the operation so difficult of accomplishment or so objectionable in application that the private gardener cannot or will not undertake it? Has not the private gardener reliable knowledge of what to apply and when to apply it? Or, is it that private gardens are so inadequately staffed that it is impossible to find the time requisite, not merely to do the work, but to do it well, as it must be done if it is to justify itself? One concludes that the cause of neglect lies chiefly in the last-named difficult position and in the fact that there are still private gardeners, just as there are still commercial growers, who have no belief in outdoor spraying, whether it is directed against the enemies of vegetables or fruits. Enough of one aspect of the matter. Let us turn to the work itself or to such of it as should have attention during the period when the trees are at rest.

Winter washing has for its objects the removal of lichens and mosses on the bark of bole and branches, of enemy eggs where this is possible, and of enemy larvae lurking in congenial nooks and crannies in the rough bark and in the forks. At the present time there are three standard solutions for this purpose, the oldest of which is lime wash, the next a caustic wash and the junior lime-sulphur—and the last named, having been invested with wondrously varied powers, is the

most popular. Which is the best under all conditions it is quite impossible to say.

As an occasional dressing lime has no superior, but it cannot be employed advantageously season after season. It is a splendid cleanser, and any eggs which can be added it will account for, and the foliage of the trees will be finer in texture and richer in colour in the season following. Application should be made through an easy jet and not through a spraying nozzle, as no matter how carefully the straining has been done blockages, causing irritation and waste of time, are sure to occur. The quantity used should be abundant to the point of extravagance completely to coat every inch of bark and to fill every nook, cranny and fork, leaving plenty over to go on the ground, where it will do an equal amount of good, though in a different manner, as all gardeners know. The one serious objection to it is that men simply abhor handling it and will make any excuse to evade the task. However, that is a little matter which must be adjusted by employer and employed on the merits of each case.

Springing from first to last, we will now speak of the immensely popular and convenient lime-sulphur. No one can seriously question the usefulness of this wash provided that a compound of the highest grade is bought and that it is efficiently applied, but it must not be anticipated that it will equal either lime or a caustic wash in cleansing the worst encrusted trees of lichens and mosses. A perfect solution will be richly gorgeous in hue and quite clear, and when it is reduced by the addition of water it will be characterised by a perfume which is very much not that of my lady's boudoir. Whether it is required in big or little quantities, it should be purchased and not compounded at home, because the manufactured article is vastly superior to the home product. It should be bought under a guarantee of 1.3 specific gravity. If the appliances are clean, it can be used through any nozzle, and it should not be stinted, though there is no justification for wastefulness. It is of outstanding value for regular application to keep clean trees in a proper state of cleanness, and it can be used at practically any time, with the proviso that there must come reduction in strength with young shoots on the plants, and that particular care is taken in its use for American gooseberry mildew, in the suppression of which it has been proved to be of the utmost value.

Now to the caustic wash, which is probably the most effectual destructor of lichens and mosses of all winter dressings. It can be procured in several forms according to the main object of application, but, in the simple state, it consists

of 1 lb. of caustic soda, 98 per cent., dissolved in 10 gallons of water, and its greatest value is reached when it is applied fairly hot. It was urged some years ago that the addition of crude commercial potash was a substantial advantage, but as a matter of fact it does not improve it in the slightest degree, and may therefore be ignored. When it is scrubbed hot on to rough bark worked vigorously into nooks, crannies and forks it will destroy lichens and mosses almost instantly, and neither egg nor larva can withstand it. In those parts of the trees where it is impossible to scrub it must be applied through a spraying machine, and there can be no doubt as to the value of fineness of division, since it is that which adheres and not that which runs down that is beneficial. Therefore

use the finest available nozzle and drive until the solution comes forth in a dense mist, as none will then be lost. It is not the nicest stuff in the world to handle, as there is no question as to its powers of burning. Old clothes, old boots and old gloves (good rubber ones are better still) and a wideawake hat ought to be worn, and the operator of the sprayer should be scrupulously careful to stand with his back to the wind to avoid the irritation of burning drops on the face and the taste of even minute quantities in the mouth. There is one point in connexion with it that may well be impressed, and that is to use it during the dormant period only, since it will burn anything that shows the slightest signs of active life.

W. H. LODGE.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—For an early supply an autumn sowing should have been made, but if this was not done seeds may now be sown in boxes and the seedlings raised in a cool pit or greenhouse. To secure first quality Sprouts a long period of growth is necessary, and to this end a sowing should be made in the open ground as soon as the soil is suitable. Two reliable varieties are Exhibition and Scrimger's Giant.

Lettuce.—Seed may be sown in boxes of light soil or in frames, selecting a cabbage variety such as Tom Thumb.

Spinach.—A sowing of this desirable vegetable should be made in a sheltered situation. To keep up a supply another sowing must be made a fortnight hence, and so on for the next few months. To secure fresh succulent leaves, the seedlings must be thinned early and the soil kept free of weeds.

Leeks.—The main crop of Leeks may be sown during the next week or two, selecting a piece of ground that recently has received a liberal dressing of decayed manure. Leeks enjoy a rich soil and ample room for development, so the seeds should be sown thinly in wide drills 1 ft. apart.

Carrots.—If a cold frame is available it should be utilised for Carrots, choosing a quick maturing variety, such as Scarlet Horn. Old potting soil is excellent for placing in the frames. After the soil has been made fairly firm and level, sow the seed thinly over the surface, raking it in with an iron rake. Keep the soil just moist and admit air whenever the weather is mild. A partly spent hot-bed is also suitable for an early supply of Carrots and Radishes.

The Flower Garden.

Antirrhinums.—During the last few years these delightful plants have become exceedingly popular, and it is not surprising when we know how excellent they are for bedding purposes. The best effect, no doubt, is produced by beds of a single colour, rather than a mixed display. For general bedding the intermediate varieties are to be recommended. Seed may now be sown in boxes of light soil placed in a warm greenhouse. When the seeds have germinated, remove the boxes to a cooler structure, keeping the seedlings fairly near the roof glass. Avoid over watering or they may damp off. When the young plants are large enough to handle prick them off in boxes or frames a few inches apart and admit air whenever the weather is suitable. If frames are chosen, arrange them on a hard bottom, fill up with a few inches of light soil and when the pricking off is completed keep the lights closed for a few days until the plants are re-established. Snapdragons should be grown as cool as possible to promote a sturdy, short-jointed growth.

Propagation. Continue to propagate such plants as Coleus, Heliotrope, Marguerites and Salvias, and pot off Pelargoniums ready for tilling the flower beds in May.

Fruit Under Glass.

Strawberries. A batch of plants should now be introduced to a cool house, and after a week or two the temperature should be increased to 55°. Gentle forcing, especially in the early stages, must be practised or the crowns will fail to produce a

satisfactory crop. On bright days a light syringing overhead with tepid water will be beneficial, but this must be discontinued while the plants are in bloom. Over watering must be avoided, but the roots ought never to suffer from lack of moisture. When the flowers are open lightly touch them with a rabbit's tail or large camel-hair brush, keep the atmosphere on the dry side and ventilate the house each day when the elements are favourable. Directly it can be ascertained which are the best fruits, the inferior ones should be removed, and the plants then fed with liquid manure or Le Fruitier.

Tomatoes.—Seeds may be sown in pots of light soil and if they are piced in a temperature of 65° germination will soon be apparent. When the seedlings are through the soil, keep them within reasonable distance of the roof glass, and pot them off singly in a mixture of loam and leaf-mould directly they are large enough. Never permit the roots to become starved.

The Hardy Fruit Garden.

Neglected Orchards.—For some reason orchard trees are sadly neglected, they are seldom pruned or sprayed, and the fruit is often inferior in quality. The present is a good time to look over the trees, cutting out all dead wood, thinning the growths especially in the centre, and shortening any branches that may be interfering with neighbouring trees. The object is to allow sunshine and air to get among the trees at all seasons of the year.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsnips.—The remaining roots should be lifted and pitted row to permit of the ground being dug or trenched, and so be in readiness for spring cropping.

Early Peas.—It is too soon to recommend the sowing of even early Peas generally; still, those who have the advantage of a rather light soil and a south border with a wall behind may chance an early sowing now if the condition of the soil permits. It will only be necessary to fork over a breadth of about 18 ins. along the lines where the Peas are to be sown. Do not sow too deeply and partially fill up the drills with some old potting soil and a sprinkling of wood-ashes. Laxton's Superb, The Pilot and William Hurst are suitable varieties for this sowing. Before sowing damp the seeds and roll them in dry red lead so as to ward off the attacks of mice or rats.

Jerusalem Artichokes. As the growth of these commences early, the remainder of the crop should now be lifted and stored in sand or light soil in a cool cellar or out of doors.

The Hardy Fruit Garden.

Supports for Fruit Nets. Crops of bush fruits can be picked much more comfortably when a framework a little higher than the bushes is provided for supporting the nets than when the nets are allowed to rest on the bushes. Where such framework is already in existence it should be examined and repaired if necessary. Those who intend to introduce this system should have the structure erected before the rush of spring work comes on.

The Flower Garden.

Lily of the Valley.—Although one would not suspect it, Lily of the Valley is a gross feeder, and requires liberal cultivation to provide really good spikes of bloom. Autumn is the best time for forming fresh plantations, but the operation can be successfully performed in spring just as the plants are beginning to move. Those who contemplate spring planting should have the bed or beds prepared as soon as possible. Trench or double dig the soil, and if it is at all stiff, add sand or light soil and incorporate a good quantity of farmyard manure with the soil as the work proceeds. Established plantations should receive a liberal mulching of farmyard manure.

Top-Dressing Bulbs.—Established beds of Dog's-Tooth Violets, Scillas, Fritillarias and other small bulbous plants should be top-dressed with fresh fibrous loam or old potting soil mixed with half-decayed leaves.

Auriculas.—Beds of Auriculas, Polyanthes and Primroses are all benefited by an annual top-dressing as recommended for small bulbs, as they incline to get leggy if left to themselves. The application of a suitable top-dressing results in the emission of fresh roots from the necks of the plants, which means their reinvigoration.

Gladioli.—The foliage of these will now thoroughly be ripened, so the corms should be freed of the foliage and all loose coating and stored in a dry, cool place ready for starting indoors or planting in the open.

Dahlias.—Sufficient tubers should, during the next fortnight, be brought into a vinery that has been started or other warm structure to furnish cuttings to be rooted later on. Dahlias are deservedly popular at present.

Fruit Under Glass.

The Early Vinery.—Vines which were started early will require disbudding. The best time to carry out the operation is just as the buds burst, rubbing all out except the strongest one on each spur. The night temperature for Hamburgs at this stage should be about 55°. Muscats require a rather higher temperature. Ventilate slightly whenever there is bright sunshine, partly to avoid sudden fluctuations of temperature and also to induce a firm, sturdy growth from the start.

Tomatoes.—Plants resulting from seed sown early in December should now be ready to pot off. Use zin. pots, and a good preventive against damping is to place the plantlets near the edge of the pots instead of in the centre. Another sowing may now be made to provide plants to be grown in frames or other cool structures. For this purpose it is best to employ varieties that produce good trusses of rather undersized fruits. Stirling Castle and Lister's Prolific are typical examples.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Salvia Heerii.—Most of the greenhouse Salvias flower during the autumn, but *S. Heerii* has the advantage of flowering early in the New Year, thus frequently escaping the fogs that so often spoil the autumn-flowering species in the neighbourhood of London. *S. Heerii* may be propagated during March or April, and the resultant plants may be planted out during the summer, lifting and potting them up in the autumn and wintering them in a cool greenhouse.

Cyclamen.—Young plants that were raised from seed last August and pricked off in pans or boxes for the winter, should—if not already done—be potted in thumb pots. At this stage they enjoy a light, rich compost, to which some old mortar rubble should be added. For some time yet they should be grown in an intermediate temperature, standing the plants on a shelf well up to the roof glass.

Chrysanthemums.—Cuttings of the general run of decorative varieties should be secured without delay. They may be rooted in a slightly heated case, but this is not really necessary; in fact, I prefer to root them under perfectly cool conditions, in a case in a cool house, or in shallow cold frames. When cold frames are employed, it is a good plan to use shallow boxes, placing a sprinkling of fine ashes at the bottom. The cutting pots should be stood in the boxes and then covered with panes of glass. This is an excellent method of propagating many plants when the ordinary facilities of proper propagating cases are not available.



You can't Dig a Garden—

with good intentions and a hairpin. There has to be some honest spade-work.

You can do your digging and weeding with anybody, but you have your little weakness like the rest of 'em! You like to *look* as though you'd done it. A little perspiration, and good honest dirt thick up to the elbow!

Well, and why not? Just walk about a little where the neighbours can see you, and then—KIT.

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Hibbertia dentata is a very charming evergreen climber for the cool greenhouse. It has a long flowering period during the winter and spring is easily propagated by means of cuttings, and usually ripens plenty of good seeds.

Hibbertia Readii is a very different species, making a small compact plant suitable for pot culture, and in its season produces its small yellow flowers in wonderful profusion. Being a native of Australia it is, of course, well suited for the cool greenhouse or conservatory. It is propagated by means of cuttings of half-ripened wood, using small twiggy growths about 2 ins. in length. The cuttings should be inserted in pots of sandy peat and stood under bell glasses in a cool pit.

Lopezia miniata is a very charming spring-flowering plant for a cool house, producing its small rosy-red flowers very freely. It is easily propagated from cuttings and it pinched several times it makes compact bushy plants and may be grown outdoors during the summer months. In Devon and Cornwall it is more or less hardy.

Roses in Pots.—In most private gardens Roses in pots are not grown very successfully. This is not due to absence of skill in cultivation, but, generally, to lack of proper accommodation. It is usually difficult to grow Roses really well unless a house is devoted to them. Where such facilities do not exist, the dwarf Polyantha varieties can often successfully be grown, and they are useful as they last in flower for a long time in a cool greenhouse. Pot Roses usually do best if they are established for a season in pots, but the dwarf Polyantha varieties can be lifted from the open during October, potted up and stood in the open. Where this was done a batch of plants may now be pruned and placed in a cool house. A temperature of 55° is high enough to commence with, but as the plants start into growth this may be increased to 60° and 65° during the day. The house or section of the house where they stand should be carefully ventilated, avoiding draughts, which are very apt to cause mildew. As a preventive or cure they should be sprayed with liver of sulphur, using 1 oz. to a gallon of water; it 2 oz. of soft soap is added to every three gallons of water it renders the mixture more adhesive. When the plants are in full growth they enjoy frequent applications of diluted liquid manure.

Perpetual-flowering Carnations should be propagated, as good cuttings can be secured, and in the ordinary way are best rooted in pots of light sandy soil, standing the pots in a case in a cool house. Under cool conditions they take a little longer to root, but the resultant plants are generally more sturdy. Plants rooted during the autumn should be potted on as they require it. They succeed best in good medium loam, with little or no leaf soil, but sufficient clean coarse sand, or old mortar rubble added to keep the whole porous. Lime in some form is essential for Carnations, and the plants should be firmly potted. Plants coming on for flower should be disbudded and kept neatly staked and tied. J. CORRIE.

Royal Botanic Gardens, Kew.

Bluets.—The *Houstonias* or Bluets are remarkably pretty little alpines, which, when in bloom are full of charm with their myriads of neat little flowers which quite smother the small leaves and adorn a plant only 3 ins. or 4 ins. high. A comparatively small number exist and of these there are only some two or three species in commerce and the possession of one will probably be enough for most rock gardens. Not but what all are beautiful, but there is a considerable resemblance between them, and those who have *Houstonia coccinea* need not long for another. It is certainly one of the best. It has been well described as a "little gem," for it is truly gem-like when in bloom. It forms a small plant with delicate-looking tiny leaves and many little flowers of a delightful delicate shade of greyish blue. There is also a white variety, which is scarce, but is not a bit more beautiful than the blue one if, indeed, as attractive. The other species occasionally offered are *H. purpurea* and *H. serpyllifolia*. The cultivation of the *Houstonias* requires some consideration. They like a light, well drained soil, but must not be allowed to become too dry at the roots. Given plenty of water in dry weather they can stand a good deal of sun, but a somewhat shady

place is desirable and a flat ledge, or terrace, suits them best. It is desirable to give an occasional soaking of pure water now and again in dry weather in spring and summer, and this attention is well repaid by the greater health of the plants. A very desirable point to consider is that as to whether the plants should be allowed to form seeds or not. In garden practice it is very much better to cut on the blooms as soon as they are past, preferably when all but a very few have become withered.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

HOW TO ARRANGE AND PLANT A HERBACEOUS BORDER (M. S.).—The soil should be deeply dug and the subsoil loosened with a garden fork. The plants must be put in far enough apart to allow of ample space for each clump to develop in later on without being overcrowded. The naturally tall-growing kinds and varieties should be planted at the back, the medium near the centre and the dwarfier ones at the front, but too much formality should be avoided. The following are suitable kinds to plant. The number of each should be obtained according to the space to be filled. *Delphiniums*, *Aconites*, *Echinops*, blue; *Anemone japonica*, *Chrysanthemum leucanthemum*, white; *Anemone japonica rubra*, *Asters*, rose; *Lycynis chalcidanea*, *Tritoma*, *Phlox*, crimson; *Tritoma*, *Helianthus*, *Rudbeckia*, yellow; *Asters*, *Erigeron*, *Delphinium*, purple. These for back part of border. *Campanula*, *Gentiana montana*, *Scabiosa caucasica*, blue; *Achillea*, *Campanula*, *Lilies*, white; *Peonies*, *Pyrothrum*, *Phlox*, pink; *Gaillardia*, *Lycynis*, *Benedicta sanguinea*, crimson; *Coropsis*, *Doronicum*, *Gum*, *Monarda*, yellow; *Iris*, *Pyrothrum*, purple. These are for the middle of the border. *Anemone appennina*, *Gentiana*, *Viola*, blue; *Pinks*, *Phlox*, *Achillea rupestris*, *Viola*, white; *Lycynis viscaria*, *Pinks*, *Aubrietia Leichtlinii*, rose; *Carnations*, *Pinks*, crimson or scarlet; *Aureolia*, *Primrose*, *Viola*, *Alyssum*, yellow or orange; *Aubrietia*, *Viola*, *Gentiana*, blue or purple. These are for the front part of the border. As the soil is of a retentive nature, it is probable that some of the bulbs may perish, but not all, as sand was placed round them.

TREATMENT OF LILIUM GIGANTEUM (N. L. R. Loughton).—The bulb should be potted in a 7 in. pot at once. Use good fibrous loam, a small quantity of peat and sand. Leave the crown of the bulb uncovered, place the pot in a cold frame, but admit air freely night and day except in frosty weather. The object is to induce a slow strong growth of stem. In April plant the Lily in the open border, burying the stem about 3 ins. with a light compost, which should also surround the roots 6 ins. thick. The hole should be made in a naturally dry border in an open position sheltered from north-east and south-west winds. Remove the border soil to a depth of 18 ins. and 2 ft. in width, fill up with the lumpy, fibrous loam and a fair quantity of well rotted manure. Water carefully and protect the bulb with dry litter or bracken if it is left in the border during the winter. Use any off-sets for propagation.

FUCHSIA CODRINGTONI (S. P. R. Carditt). There is no mention of the name of the above *Fuchsia* in the gardening dictionaries or books. We have searched the "Index Kewensis" and its five supplements and the name is not recorded. About two years ago Messrs. Isaac House and Son exhibited some flowering plants of it at a meeting of the Royal Horticultural Society. The small size of the leaves and flowers and upright habit of the plants showed that they were related to *Fuchsia microphylla* and *F. thymifolia*, but nearer to the former, and differing by being a little larger in all their parts. The two *Fuchsias* just named come from Mexico. The only chance of its being a species would be if the plant has been introduced and not named by a botanist. Our opinion is that it is a garden hybrid with *F. microphylla*, perhaps, as one of its parents.

THE GREENHOUSE.

FREESIAS UNSATISFACTORY (C. Bath). Two of the *Freesias cornus* appear to be quite healthy but have failed to produce roots. The third has been damaged by some biting insect some time ago. *Freesias* sometimes fail to grow, but the cause of this trouble is unknown. It is probably due to some stage of the ripening process having been improperly passed. Sometimes, however, such corns will grow after a rest of a year. In our correspondent's case the shoot is beginning to appear without roots, and this usually means that the temperature of early growth has not been correct.

NAME OF FRUIT.—H. D. Suffolk.—Apple Melon.

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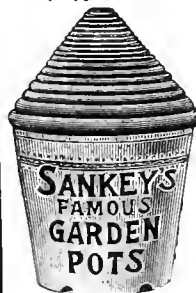
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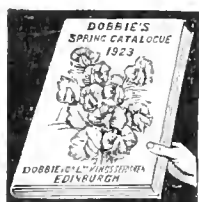
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No. 2671.—VOL. LXXXVII.]

[JANUARY 27, 1923.]

WHITE FLOWERS FOR THE BORDER

HERE and there throughout England one may find, instead of the more usual rose, rock, bamboo or wild gardens, what the owner calls a white garden; that is, one composed entirely of white-flowered plants with, perhaps, suitable evergreens. To us this does not seem a desirable arrangement, for surely the main function of white flowers in the border is to provide relief for those of warm colouring. Even so, plants with flowers of dead white colouring should be used with discretion, or they are likely to drown the colour effects they are intended to relieve.

How often does one see a rock garden bank looking in spring-time anything but attractive owing to a great preponderance of *Arabis* and *Perennial Candytuft* (*Iberis sempervirens*), both plants which, unless checked, outgrow and outseed their neighbours! Again, what a multitude of herbaceous borders display overwhelming masses of *Chrysanthemum maximum*! The cold masses, insufficiently relieved by colour, are depressing in the extreme. After viewing them one can well understand why the Chinese chose white as a mourning colour! This must not be taken to convey utter condemnation of the three plants mentioned, all useful enough in their way and the last named, at least in a good form, very beautiful. They should, however, be used with discretion.

Theoretically, white is a subtle combination of all the colours of the spectrum and, as such, incapable of shades or tones such as we are used to in the primary colours. In practice, hardly two white-flowered species or varieties are the same colour. There are whites tinged with blue, whites tinged with red, whites tinged yellow, to say nothing of those shaded with two colourings in combination. Thus there are whites faintly empurpled and others toned with green; only in flowers an untinged white is hard to find if, indeed, it exist.

Perhaps we have a paved garden—paved with self-faced York

stone of a brownish grey. We shall use plants with crimson or purple flowers (diluted purples as well as strong ones!), those with soft yellow tones and those with grey foliage. Two classes of white flowers will suit this company—those faintly tinged with purple—*Campanula carpatica alba* and *C. lactiflora alba*, for instance, and those with a yellow tinge which we variously call creamy white or lemon white, according to the strength of the tint. Such, for example, are cream Hollyhocks, *Verbascum Miss Willmott*, *Chrysanthemum maximum* *The Speaker*, *Lupinus arboreus albus*, most

white Bearded Irises and white Delphiniums (but not *Moerheimi*), white Foxgloves, white Pinks, *Clematis recta*, *Spiraea Aruncus* and all the white-flowered forms of the Meadow-Sweet type, the Plume Poppy (*Bocconia cordata*) some of the white forms of *Anemone japonica* and *Campanula alliariaefolia*.

The flowers of most white Lilies are tinged with yellow, and the golden anthers appear to some extent to "gild" the interior and enhance the effect. The white garden Lily is still, of course, the *Madonna Lily*, *Lilium candidum*,

though for selected positions the glorious white form of *L. speciosum*, called *Kratzeri*, is even more beautiful. Here a green tinge predominates. The hardy alpine form of the Philippine white trumpet Lily, *L. philippinense formosanum*, comparatively speaking a dwarf, also bids fair to be valuable for the border. Tinged with red and green without and yellow within, it should be admirable for the paved garden. Though actually almost dead white in colour, the golden stamens also give a hint of yellow to the *St. Bruno's Lilies* (*Anthericum*), which, when once established, are sufficiently charming to be worthy of a site specially selected to shew them to advantage.

Among the hardy Bearded Irises a pure white is most nearly represented by *Kashmir White*, which, having blood of the sacred *Iris kashmiriana*, is not quite so accommodating a garden plant as are most of the Bearded sorts. *I. florentina* can only be described as whitish, yet for that reason it is invaluable for some groupings where anything approaching pure white would quite eclipse the subtle mauve, rose or bronze shades with which it was associated. Where the soil is naturally cool, *Iris levigata alba* will, with ordinary cultivation, flourish in the border. It is very beautiful; so are some of its descendants listed as varieties of *Iris Kampferi*. Some of these are practically pure white, but those faintly tinged with blue or mauve are equally valuable



MADONNA LILIES.

Most of them are the apparently simple and of the attractive complex Daisy flower. The roughness is better expressed in a tree-rose of *Claytonia virginica*, but there is a very pleasing dwarf Daisy which might be used more extensively than it is. This is *Anthemis Cupanana* with white golden-eyed blossoms which are sufficiently effective to justify its place and grey-green foliage which is a joy when the plant is out of flower.

Such things as *Gypsophila paniculata*, particularly the single form, and *Gallienia tritohata*, though white-flowered (or in the case of the *Gallienia* partly so), provide an effect of lightness rather than of whiteness in the border; the same may be said of *Tunica Saxifraga*, whether white or pink.

The Campanula family is singularly valuable for the number of white-flowered plants it provides. In addition to those already mentioned there are admirable white forms of *Campanula persicifolia*, single, semi-double or double to suit all tastes; besides the useful white variety of *C. latifolia* and the elegant *C. bononiensis alba*. *Campanula glomerata alba* is rather uncommon in gardens, but more desirable than the typical purplish form. The Chimney Bell-flower, *C. pyramidalis*, is in cultivation as often white as mauve. It is perfectly hardy in well-drained, rather hungry and decidedly limy soils, but is not a long-lived plant. A batch should be raised from seeds each year, for it is among the sturdiest and most useful of border plants.

The white forms of *Lupinus polyphyllus* are apt to be "dirty" in colour, but some of the new hybrids with arboreus have creamy flowers faintly but pleasingly tinted with purple or rose. The beautiful white Everlasting Pea known as White Pearl can be usefully employed in the herbaceous border, but it must not be trained too stily.

For early summer there is nothing more beautiful than that splendid white form of the Rocky Mountain Columbine called *Aquilegia cornuta* Munstead White, while the pure white double form of the Common Columbine *Aquilegia vulgaris* is also quaintly beautiful.

The Spiræas and Astilbes seem to affect white or creamy tones, and for cool soils they are invaluable. On light land, however, they are useless except in specially selected shady places. *Astilbe rivularis* and *A. r. major*, the latter especially valuable because of its height, are excellent. That fine white Goat's Rue, *Galega officinalis* Niobe, is invaluable for sun or shade, while for nearer the front of the border there is the form called *alba compacta*.

The Cimicifugas (Black Snakeroots) have foliage much like that of the Spiræas, but their towering white spikes do not need more than the usual amount of moisture to bring them to perfection. *C. racemosa* is summer-flowering; *C. simplex* is an early autumn bloomer. The former is the taller, reaching 4ft. or more in good soil. Two of the Asphodels are also effective because of their spiry effect. The white Asphodel, *Asphodelus albus*, is a fairly accommodating plant, but *Asphodelus luteus* is useful only for sheltered corners with protection from the east.

There are many admirable white Pæonies, both single and double, and some with very pale sulphur-colored blossoms, equally beautiful. Pontstemon, White Newbury Gem is well known, but some of the pale florists' hybrids are useful. There is not a pure white one, of course. A useful white dwarf petunia is *stoezi virginiana*, while in addition there are *Moræ*, *Sedums*, *Veronica* and *Viola*.

Yet, on reflection, there is still room for good white herbaceous plants, for we still have to have white and cream Daisies to add variety to the summer border!



FEATHERY CREAM PLUMES OF ARTEMISIA LACTIFLORA.



USEFUL AMONG HERBACEOUS PLANTS—HYDRANGÆA PANICULATA GRANDIFLORA.



THE INVALUABLE PHLOX.

WATER AND BOG GARDENING

I.—Mainly Constructional.

NOT in the swiftly running stream where the water ripples and dances along with gay and babbling voice, bearing a thousand messages upon a thousand tongues, but in the quiet backwater and bays where—without stagnation—tranquillity reigns is the home of the water plants. There Dame Nature has placed *her* water garden, and there on the placid surface rest countless blossoms of wondrous beauty. In the water garden every beauty is duplicated in the mirror-like surface of the pool. Here one can see again the azure of the sky above, watch the clouds and the birds as they pass overhead and note the long-drawn shadows of the trees, pictured almost as clearly as when one looks directly at them.

Then—when we turn our attentions from the water itself to the surrounding ground—an equally varied and unfamiliar range of plants presents itself to view: Marsh Marigold, Sweet Flag, Flowering Rush, Water Arum, etc., with their feet in the water, thronging the margin; while, in the bog and on the banks that are a little further removed, Gunnera, Podophyllum, Cyperus, Spiræa, Loosestrife, Primulas, Globe Flowers, etc., combine in forming a picture of unparalleled beauty.

Is it any wonder that, with so great a prodigality of beauty spread before us, the desire arises to transfer it to the garden? Is it any wonder that "water" gardens are becoming increasingly popular? That even the wee rock pool has become quite a feature of the rock garden? Assuredly not. The surprise would be if it were not so. Of course, it is but seldom that one is so blessed as to possess a natural piece of water, "ready made" as it were and only waiting for the importation of plants, but there are many gardens in which it is possible to plan and plant a water garden that shall be a joy to its owner.

There are several types of water garden. One may have the formal circular or rectangular pool, stone or cement curbed, in which a few of the delightful Water Lilies, creations of M. Latour Marliac, shine like jewels and around which, in summer, great tubs of African Lily or Hydrangea are placed. One may confine one's attention to the wee rock pool, but little more than an overgrown bird bath, in which the tiniest aquatics—such as *Azolla caroliniana*—float, kings of their little world. Yet again—and I am not sure that this is not the best of all—one may have an informal "garden" 10, 12, 20 yds. square, in which a varied collection of aquatics are living, surrounded on the margin by bog plants that, as the banks rise further and further from the water's edge, give place to plants of moisture-loving habit. Even if one has none of these, it is still possible to enjoy the smaller-growing Water Lilies—*pygmea*, etc.—by means of barrels cut in half and either stood upon, or sunk into, the ground, so that they are upon a level with it. In all cases one thing is necessary: means must be taken to ensure that the tank, pond or lake is water-tight and will not sink below a certain level. Even in cases where natural water exists this point ought to be kept in view when planting. One must plant so that, even in times of drought, the plants do not stand high and dry above the water which is essential to their life.

To return to our artificially made pond. In selecting a site it should not be lost sight of that

water finds its level, so that, if there is any variation in the height of the ground, one should choose the lower position. A place as open and sunny as possible is very desirable, for sun-heat warms the water and thus conduces to growing conditions. Roughly mark out the outlines, whether a formal circle or irregular "natural" form, and then excavate the soil to the required depth. This should vary, as by this means a wider variety of plants can be grown; but the greatest depth should bear relation to the size of the pond. Thus, in a very small pond, the greatest depth perhaps will be 18 ins.; whereas in one 15 ft. square it might well be 3½ ft. deep at the centre, shelving upwards on all sides to the margin, where it will be about 18 ins. A variety of means is used to make the

with a metal bung attached to a chain so that it can be drawn out either from the margin or a boat.

If a small rock pool or dripping well is proposed in connexion with the rock garden, this should be as informal as possible in character. There is an art in disguising art that is never more valuable than where dealing with the water garden. Artificiality must not obtrude its presence or everything is ruined. In the rock garden the margin is a great asset in this direction, and by judicious planning and planting can be made to conceal all "man's work" that it is desired to screen, while at the same time appearing part of the rock garden itself.

Still another possibility of water gardening remains that has not been mentioned at all—the



ADMIRABLY PLANNED AND PLANTED.

pond water-tight, depending partly upon the nature of the soil below it and the kind of pond or tank that it is to be. On a heavy soil the work is comparatively simple, for one has but to work the clay by beating and kneading until it is thoroughly tenacious, and then line out the excavation to a thickness of gins. or 1 ft. This lining is rammed and beaten all over as finely and as quickly as possible, so that it forms a uniform "basin" without any cracks in it and, as soon as finished, water should be admitted so as to prevent any shrinkage or cracks from forming in the clay. In the case of small or formal ponds, digging out is done in the same way, and then the interior is lined with concrete surfaced with cement, which should be well tested before planting to make sure that it is water-tight. In the case of ponds that are small, cement is the most satisfactory; but where a larger area is proposed, clay puddling and ramming is far less costly. In all cases provision must be made for draining, to facilitate necessary cleaning and attention to the plants; the best way being to connect the lowest point of the pond with a length of pipe that can be stoppered

brick-built tank. This is more difficult to place well, perhaps, than any of those—except the circular or rectangular pool—that have previously been mentioned. Obviously, it is artificial, and therefore consorts best with artificial surroundings. It is the companion of the flight of steps, the stone flagged path and, possibly, the sundial. Again, one digs out the soil to the required depth, but—this time—instead of puddling with clay or lining with concrete, bricks are used. The thickness of the wall must vary, of course, with the size of the tank—that is a question for the mason or bricklayer—and, when done, the inside should be lined out with a coating of cement. Bricks are porous and cannot of themselves retain water. The edge of the tank should be laid down with a curb, formed of the bricks themselves laid either flat or edgewise.

The water supply in the majority of cases will have to be an artificial one, and it should be remembered that—while this should never be allowed to become foul—it is desirable to change the water as seldom as may be consistent with healthy growth. Water drawn from the mains is terribly cold from the plant's point of view,

and the aim should be to change it as seldom as strict cleanliness demands. Fish and water snails should not be overlooked in this connexion, for both are valuable allies. If one is lucky enough to be able to connect one's water garden with a stream, spring or river, one has ideal conditions, for all that has to be done is to construct a small inlet and another small outlet to provide a steady, quietly flowing stream that cannot stagnate.

Always, in the case of the natural or informal water garden, attention should be paid to the bank immediately surrounding the margin. Let its outline undulate. Water never leaves hard margins, nor does it wriggle uselessly, while a gentle slope down to the edge is far better than a sudden quick drop. One cannot approach the margin with pleasure for nearer examination of the flowers where such a drop exists, and it is usually easy to slope away the bank a little so that this difficulty is overcome. Do not entirely

surround the margin with plants, leave some "open country" here and there so that the planting falls into groupings, allowing a vista of the more distant parts of the garden beyond.

So much, then, for the general principles of making and planning. One must choose the method best fitted to the garden with which one has to deal, using all possible artistry to conceal the artificial handiwork, unless, indeed, it is to be frankly artificial.

H. W. CANNING-WRIGHT

THE GENUS COTONEASTER

Continued from page 39.

THERE are several forms of, or species closely allied to *C. microphylla*, the best known being *C. congesta* (syn. *C. microphylla* var. *glacialis*) and *C. thymifolia*. *C. congesta* is distinguished by its shorter branches and dense growth. *C. thymifolia* has distinctly narrow leaves. It is best to propagate these distinct forms by cuttings or layers as they do not come true. At least, that is our experience at Kew, though this may be due to cross pollination as all three are growing in close proximity.

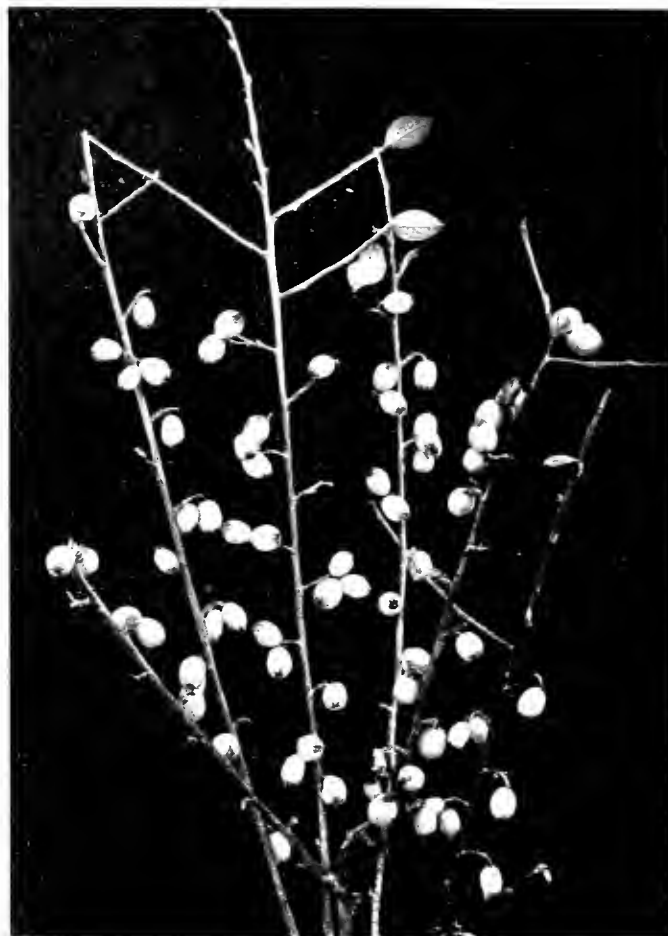
C. MULTIFLORA.—As a specimen bush or small tree this Chinese species is easily the best flowering Cotoneaster for the lawn or border. Here again there is much to be said in favour of vegetative propagation for a form received at Kew from Paris is of outstanding merit compared with others of more recent introduction from China. The Paris specimen has a single central stem with a round head some 10ft. high and 12ft. through, of gracefully arching branches. The wealth of white blossoms are produced in May. *C. multiflora* (*C. reflexa* of some nurseries) is deciduous.

C. PANXOSA.—This is a tall evergreen shrub of tree habit up to 12ft. or more in height. Though

individually small, the white blossoms are freely produced in corymbs of twelve to twenty flowers at the end of June and early July. From *C. Francheti* it differs in being a taller shrub, and has leaves of a duller green hue, which are also not quite so large. Following the quantities of white blossoms are usually an abundant crop of red fruits in autumn. As an evergreen screen

in the wide shrubbery border or as an informal hedge, this Cotoneaster possesses considerable merit. It was first introduced from Yunnan to Paris by the Abbé Delavay in 1885.

C. ROTUNDIFOLIA.—A sub-evergreen species usually, this well known fruiting Cotoneaster grows 6ft. to 8ft. high. Retaining the rich red fruits until February or March it is perhaps the best of all the species for large lawn beds and



CRIMSON FRUITS OF COTONEASTER SIMONSI.

masses in the pleasure grounds. It has distinct rigidly arranged branches, with dark glossy green leaves and is one of the largest fruited ($\frac{1}{10}$ in. diameter) Cotoneasters. *C. rotundifolia* is a Himalayan shrub first introduced in 1825.

C. SALICIFOLIA.—This is an evergreen species of comparatively recent introduction from China. The young plants are growing freely and are distinctly graceful and attractive in habit. In flower it is one of the most showy species, with corymbs of white blossoms, followed by quantities of small, bright red fruits. The variety *floccosa*, introduced from Western China by Mr. Wilson in 1908, has grey or silky white under surface of the leaf. The variety *rugosa*, as the name suggests, has rather larger and coarser leaves than the type. This also was first introduced by Mr. Wilson from China. He collected seeds in W. Hupeh in 1907. This group of Cotoneasters is said to grow up to 10ft. or 12ft. high.

C. SIMONSI.—In mild winters this Cotoneaster retains many of its leaves until Christmas, though one would scarcely be correct in calling it a sub-evergreen. It grows up to 8ft. or 10ft. high and is an excellent shrub for massing and invariably berries freely, these being scarlet, $\frac{1}{10}$ in. to $\frac{1}{8}$ in. in diameter. It is a native of the Khasia Mountains. Several sprays of this Cotoneaster were staged at a recent meeting of the Royal Horticultural Society under the name of *C. "Simmondsii"*, obviously a wrong spelling as the plant is named in compliment to a Mr. Simons who collected many herbarium specimens in the Khasia Mountains.

C. TURBINATA.—This is a vigorous evergreen Cotoneaster which came to us from China *via* France in 1910. Already we have a beautiful lawn specimen 10ft. high. The leaves are dark



THE EVERGREEN COTONEASTER SALICIFOLIA RUGOSA.

dull green, the under surface being clothed with grey-white felt. The feature of this species is the flowering season, late July, when the white

blossoms are freely borne in corymbs 1 in. to 2 ins. or 2½ ins. across. The fruits are dark red, about ½ in. long.

A. O.

THE NICOTIANAS

THE common very fragrant "Tobacco Plant," *Nicotiana glauca* ("affinis" of gardens), has by its beauty and perfume occupied such a stronghold in our gardens that we are very much disposed to pass over all other kinds, save perhaps the red Tobacco, *N. Sanderiana*. So far as floral display is concerned, there is but little room for question that these two are the very best; but neglect of other species is regrettable, for there is much that is beautiful, much that is interesting, and much that is unusual left outside.

Some years ago an examination of the list of names in a seed catalogue stimulated my curiosity, and I experimented rather extensively among the unknown, so that at the end of May I found myself with a number of boxes of healthy seedlings ready to plant out. Then came the question, Should they be used in groups, disposed among the beds and borders, or should they occupy all by themselves a small piece of border that had not been planned? Decision was reached; the latter course was favoured, and so up grew my little Tobacco border, representing over half a dozen kinds and ranging in height from 2 ft. to 6 ft. I would that words could paint it more realistically. That readers could see the growing plants in the evening light of a summer's day and inhale the powerful perfume as it combined with a little foreign-grown "weed" as it slowly charred to white ash burned in the pipe. That border was an entire success, and never failed to call forth exclamations of "I had no idea there were so many kinds."

A few words must be said upon the method of raising from seed, for, to obtain the best results, particular points must be noted. It is a mistake to sow too early. It is easy to get Tobacco plants too forward, and if they once begin to spindle up into a flower-stem before they are planted out, they will never give first-class results. Seedlings do not grow rapidly in the earliest stage; but, once a certain period of development has been passed, this is changed and small plants speedily become larger. From the second to the third week in March is a good time to sow, while a temperature averaging 55° is about right, and this will give sturdy little plants in sufficient time to permit of their spending a good while in cold frames to harden off before planting out. Sow the seed thinly in shallow pans, being careful not to overcrowd, for if an excess of water should at any time be given, crowded seedlings go down by "damping off" like wildfire. Use light soil, cover sparingly with this, keep just moist and in an even temperature, and there will soon be a plentiful crop of seedlings waiting to be pricked off. Boxes will do quite well for the pricking off, though it pays to give each plant a small pot to itself. This latter was the plan I followed with my border, but more space is required and, of course, the labour of watering is increased. Keep watch upon the condition of the plants all the while, but particularly as the spring advances, so that they are timed (by careful regulation of temperature, air, etc.) to become close, sturdy little rosettes of foliage without a hint of flower-stem pushing by late May.

Just here I would most strongly advocate another most important point in culture—early planting. The Tobacco is, we know, half-hardy, but far harder than is generally supposed, and

with a warm, sheltered position in which to plant and thorough hardening off and in not too bleak a garden, it may safely be trusted in the open ground any time after the middle of May has passed. Indeed, I have proved over and over again that it is those earliest planted which do best. Frost, of course, will kill the plants if at all severe, but bar that (and it is generally easy to provide temporary protection if requisite), early planting always scores. Rich, well manured soil is appreciated, and although heavy shade is detrimental, partial shade is not harmful.

Now, having procured our stock of young plants—which, by the way, look singularly alike at this stage—let us take a glimpse into the future.



THE FRAGRANT WHITE TOBACCO, *NICOTIANA ALATA*.

Grouped at the back in bold masses are *N. glauca*, a species with curiously blue-green foliage and pink flowers; *N. Tabacum virginicum*, the Common Tobacco, 4 ft. high, with rosy purple flowers; and *N. sylvestris*, a most uncommon species of similar height. The latter makes immense leaves and a stout central stem, bearing at the apex a large number of long, drooping, tubular flowers that remain open all day. This is splendidly effective and, if one has a large bed upon the lawn which it is desired to fill with a very bold and imposing plant, one can scarcely do better. In front of these are *N. alata*—lavishly used—filling the air with an almost overpowering volume of fragrance and at evening a sight worth walking far to see. At the opposite end is a corresponding patch of *N. Sanderiana* in vivid carmine. At the centre of this forward grouping, and stretching well to the front, an immense foliage plant is prominent, *N. gigantea*. This is a majestic plant indeed, 4 ft. high with handsome crimson flowers.

Use the Tobacco plants how one will, as an entire small border or planted in groups in border and bed, they are always effective.

RUSSET APPLES

THESE should be more generally grown. They are, as a rule, free croppers and of fine flavour. Although the fruits are not so showy as those of many varieties very generally grown, the flavour of most of the Russets is really good. The trees bear when quite small, are fertile, and the matured fruits keep sound for a long time. The fruits of some varieties shrivel with age. They are, however, more appreciated by many lovers of Apples when this shrivelling has taken place. Personally, I much preferred some of the small Russet varieties found in old orchards and cottage gardens nearly forty years ago to some of those of more recent introduction. I well remember their great cropping and keeping qualities. The following are a few of the best russeted varieties. This is a good time to plant.

AROMATIC RUSSET.—In season December to February. Flesh firm; not a large fruit,

but of rich flavour. This is one of the oldest sorts.

BOSTON RUSSET.—In season from January to end of May. Very richly flavoured, suitable for dessert or cooking.

BROWNLEE'S RUSSET.—In season from Christmas to end of April. A dessert variety of medium size, sweet flavour and very fertile.

EGREMONT RUSSET.—In season from October to December. This is one of the most attractive of the Russets. Rich yellow with deep russet markings, crisp, highly flavoured, fertile and of good habit.

ST. EDMUND'S RUSSET.—In season from September to November. Dessert, medium size, a golden russet, free fruiting and richly flavoured.

SYKE HOUSE RUSSET.—In season from December to March. This is a small variety, but a very valuable dessert Apple.

It will be seen that these Apples cover a season from the end of September to the month of May. Usually the trees are not over-robust and will repay really good treatment. **GEORGE GARNER.**

FRUIT AND FLOWERS AT VINCENT SQUARE

THE brightness of the exhibits at Vincent Square on January 16, when the first R.H.S. meeting of the year was held, augurs well for a successful season. Frequently the early shows are "thin" and uninteresting, but on this occasion, although the hall was not filled, there were sufficient exhibits of Orchids, Carnations, spring bulbs and other flowers to make a very attractive Show.

Nor was the colour and attraction confined to the floral exhibits. There were two gold medal exhibits of Apples and Pears of most delightful and high quality; while in the collection of vegetables by Messrs. Sutton and Sons the centre of variegated Kale had considerable beauty of form and colouring. The other and less showy vegetables were also of that high quality associated with the Reading firm. The Royal Favourite Leeks, Tender and True Parsnips, Onions, Beet and Carrots were all of the best exhibition standard; while for those who prefer more uncommon vegetables there were the Vegetable Whitebait (*Stachys tuberculata*), Pink Fir and Congo Potatoes, of value for saladings, and unusually fine roots of Salsify.

While the two fruit exhibits were quite distinct in their styles, both consisted of Apples in very many dishes and a few of Pears of such great merit as fully to justify the high award they received. As ever, Messrs. G. Bunyard and Co. displayed great taste and skill in arrangement. Many of their Apples were beautifully coloured, but it was those of such rich golden colour as Norfolk Beauty, Waltham Abbey Seedling, Golden Jubilee, Golden Noble and Golden Spire that first took the eye. Then one realised by contrast the brilliance

of many other sorts, particularly Worcester Pearmain and Wealthy. The dishes of such Pears as Catillac, Josephine de Malines, Bierré Perran and Double de Guerre were of remarkable quality.

The collection set up by Mr. J. C. Allgrove seemed to rely solely upon its high quality and here the dishes of Apples—Spitzbergen, Cox's Orange Pippin, Scarlet Pearmain, Wealthy, William Crump, Seedling A, a most handsome dessert variety—and the quantity of magnificent fruits of S. T. Wright were all as near perfection as possible. The Pears included Foydale's St. Germain, Easter Beurré and Santa Claus. The last named is a high-flavoured Pear of medium size that is still in season and continues good for a longer period than the generality of Pears.

Carnations have been on view at the shows and in the shops so long and so regularly that one is inclined to take them for granted and not to appreciate the great advance that has been made of late years in their cultivation during the winter months. This is, none the less, true, and such a gorgeous vase as that of Edward Allwood in the collection of Messrs. Allwood Brothers was not possible only a few years ago. This firm also had very attractive stands of Wivelsfield Fancy, Wivelsfield Claret and Triumph. Their Allwoodii seem to be of ever-blooming character, for they were able to make quite a nice show with them.

Great as has been the advance in brightly coloured Carnations, it is ever more apparent in those of yellow colour and these were very prominent in the collection of Mr. C. Engelmann, who had

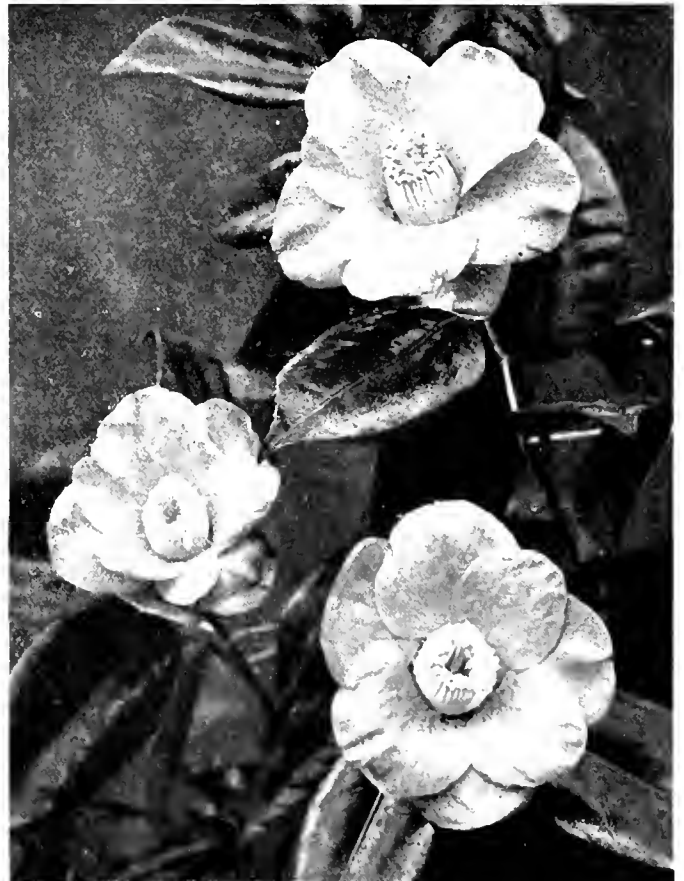
very good vases of Saltrion, Jessie Allwood, Marion Willson and Marie Sun-lune. In sending such a large collection of Carnations blooms from his gardens to this first show of the year, the President of the R.H.S. gave a valuable lead to other amateurs who, it is hoped will follow Lord Lambourne's example and share their plants and flowers in this way. Their new pink varieties, Mrs. T. Ives and Filene Low, were prominently displayed by Messrs. Stuart Low and Co., who also shewed winter-flowering Begonias, Azaleas and Mimosas. Among the last named was a plant of *Acacia Baileyana* which is fast superseding the longer leaved *A. dealbata* in the shops, and on the itinerant vendor's barrows. Besides being equally as beautiful in flower, *Acacia Baileyana* is hardier, flowers when quite small and its shorter, silvery leaves do not flag when the sprays are cut.

Other greenhouse flowers included particularly good Cyclamens by Messrs. Blackmore and Langdon, who, besides large batches of splendidly grown plants of Salmon King, Giant White and Giant Crimson, had a new variety somewhat similar to Sutton's Firefly which received an award, and the similarity was continued in the name, which is Fireball. This is apparently a larger-flowered sort than Firefly, but there seems to be a shade more blue in the colouring.

Spring flowers, even thus early in the year, were prominently displayed. Messrs. Sutton and Sons had a large collection of Hyacinths of enviable quality. These were mostly from "prepared" bulbs, which undergo a special treatment in order that really good spikes of Hyacinths may be forced into bloom by Christmas with quite reasonable



BLUE HYACINTHS IN MESSRS. SUTTON'S EXHIBIT.



THE ADMIRABLE SALMONY ROSE CAMELLIA JUPITER.

certainly. These were shewn as large baskets in all colours. The bowls of the rich yellow Tulip *Mon Trésor* contrasted well with the deep blue of *Iris reticulata*.

Besides Hyacinths Messrs. R. and G. Cuthbert, had good pots of *Freesia retracta* alba and white Christmas Roses. Many Polyanthus, double

shewn is a vivid vinous ruby-red but we have seen it at Reading when the hint of blue noticeable on this occasion was entirely absent, and while all the leaves were lightly mottled, those on one plant were as distinct as Silver-leaved Salmon. The plants were very floriferous. Award of merit to Messrs. Sutton and Sons.



"VIVID VINOUS RUBY-RED"—CYCLAMEN FIREFLY.

Daisies and the graceful little blue *Anchusa myosotidiflora* were shewn by Mr. G. W. Miller, while at the end of the hall Messrs. Chaplin Brothers of Rose fame, who have absorbed Paul's of Waltham Cross, shewed some floriferous little *Camellia* bushes. Such single sorts as the bright salmon-rose *Jupiter* and the white *Novelty* were especially delightful.

Chief among the few alpine flowers were the little patches of the dainty hardy *Cyclamens* in the exhibits of Messrs. Waterer, Sons and Crisp, and Mr. G. Reuthe, while Messrs. Wallace and Co. had a number of pans of the interesting and beautiful *Crocus* species—*C. triflorus*, *C. Imperati* and *C. Sieberi* are the names of only a few of these fascinating flowers. They also had sprays of several species of *Hamamelis* wreathed with flowers. In their rockery Messrs. W. Cutbush and Sons placed a bush of *Garrya elliptica* which bore plenty of its curious catkins, while Mr. G. G. Whitelegg had a collection of dwarf conifers eminently suitable for planting in rock gardens, as well as interesting and lifelike hand paintings of Bearded and Japanese Irises.

Mr. Percy Cane's garden design photographs are a standing, but none the less interesting, feature of the winter shows. The plans and views exhibited are continually changing. On this occasion interest was largely focussed upon a number of excellent designs for town gardens.

NEW AND RARE PLANTS.

Cyclamen persicum Firefly.—The half a dozen or so plants of this new greenhouse *Cyclamen* in a round basket made a delightful patch of vivid colouring and the novelty is all the more welcome in that the flowers possess the added charm of the true *Cyclamen* form and do not flop about as do so many of the gianthybrids. The colour as

Brasso-Cattleya British Queen.—A magnificent bloom of large size and perfect form. The sepals are of rosy mauve colouring, the large lip is of darker shade in front and it has a pale yellow centre. Award of merit to Mr. Pantia Ralli.

Cymbidium Curlew var. Feather.—This beautiful variety is considered to be the best of the Butterfly and *Alexandere* crosses. The plant bore a large spike of pure white flowers which have faint mauve lines and rich ruby-red spotting on the lip. Award of merit to Sir George Holford.

Cymbidium Doreen.—The experts were of the opinion that this is the best dark *Cymbidium* in cultivation. The tall spike bore seven large blooms of deep bronzy-purple colouring, relieved by rich golden yellow on the margins and occasionally in the body of the flowers. Award of merit to Messrs. J. and A. McBean.

NEW FRUIT.

Apple Ball's Pippin.—The award to this late dessert Apple was conditional on the sub-committee being satisfied with the tree and its qualities when they inspect it during the coming season. The fruit is of Rival shape and the green skin is occasionally flushed with red. The flesh is white and was said to be sweet and of good flavour. It is a cross between Cox's Orange and Sturmer Pippin. Award of merit to Mr. J. C. Allgrove.

FORTHCOMING EVENTS.

January 29.—British Florists' Federation Annual Meeting and Dinner to be held at the Connaught Rooms, Great Queen Street, W.C.2. Annual Meeting at 3.30 p.m. Dinner at 6.15 p.m.

January 30.—Royal Horticultural Society's Fortnightly Meeting. National Hardy Plant Society's Annual General Meeting at the R.H.S. Hall at 2 p.m.

VENTILATION: ITS USE AND ABUSE

GIVING ventilation to glasshouses is a science not easily mastered. It is difficult to teach, very difficult to learn and it is made more difficult by many unnecessary operations. A head gardener may give his young men the most minute instructions as to how to act and yet in some emergencies he may find that he, with all his experience, cannot act in the same way as he has instructed his pupils. When there is continued sunshine or continued dull weather, continued cold or continued heat, the matter is simple enough, but the unexpected so frequently happens that the most experienced may not know what to do from one minute to another. These emergencies test the skill of the cultivator and make all the difference between success and failure. Of course, everybody has failures whether he is skilled or not. The man who says he has no failures never reaches the top of the ladder. The one who would excel must be bold and run some risks, but one of the first lessons to learn is to know why we practise certain details. Some of our forefathers did wonders with the means at their command, but we must not be content to follow them blindly now that conditions are very much better. Our houses are better, especially in regard to light and heating appliances, and thanks to scientists, our knowledge of plant life and plant feeding, and the effects of light is, or ought to be, much better than that of our predecessors.

Why do we give ventilation to our glasshouses? Certainly not for the same reason as we give it to a dwelling house, excepting so far as it is done to prevent the temperature rising too high. To sustain animal life it is necessary to have a certain amount of oxygen and a minimum amount of carbon dioxide. For vegetable life the reverse of this is required. Our plants would revel in a much higher percentage of carbon dioxide than they obtain in the ordinary way. Some scientists tell us that they flourish in an atmosphere containing 2 per cent. of this gas, and our ordinary atmosphere contains less than one part in three thousand. Then what is the use of leaving ventilation all night on a house where the fruit is in full growth and the plants are not inhaling carbon dioxide, but giving it off in the act of respiration. Our predecessors had a reason for leaving a chink of air on, to allow the sulphur fumes from their flues to escape. The flues are gone, but the practice still lingers. It may suit the sluggard, but not the genuine gardener.

Early ventilation on a bright morning is very important, and the lower the night temperature of the house, the more important is this timely attention. There may have been a shade temperature of 40 degrees on the previous evening and the amount of moisture contained in the atmosphere with this temperature is very considerable. As the temperature lowers the capacity of the atmosphere for holding the moisture in suspension lessens and much of it is deposited on the leaves and fruit, which lose heat faster than the atmosphere does, and just as the sun's rays are about to reach the house this deposit is at its maximum. The ordinary cultivator follows the rule laid down by many calendar writers and waits till a certain temperature is reached before giving air, the temperature being, in his opinion, the thing of greatest importance. The skilful cultivator knows better. He would rather give ventilation a little too early than five minutes too late. The effects of tardy ventilation are plainly seen on white grapes, for these, during the

first week or ten days after the flowers commence opening, are liable to what is called rust, though it is not visible till a later stage. Black varieties may be just as badly affected, but it is not so apparent to the naked eye. A high night temperature will prevent this happening, but it will not be good for the fruit, nor for those who have to pay for the fuel. Well, if this happens to the Grapes, which shew the effects, can it be supposed that it is harmless to other plant life? In giving ventilation at any time, do not lower the temperature by giving it—always anticipate the rising.

Supposing the outdoor temperature is down to freezing point and that of your house, owing to an unexpected change in the weather during the night or early morning is down to 45°, when it ought to be 10° higher. Before the sun's rays actually reach the house the temperature will commence to rise and when they actually reach it the rise will be rapid. If a little ventilation is

given the temperature will not rise so rapidly and it should be remembered that the greater the difference between internal and external temperatures, the greater will be the velocity of exit. When there is a difference of only 15°, it will not be nearly so rapid as when there is a difference of 20°, through the same aperture.

Now, if it was only the heat which escaped the effects would not be so disastrous, but, unfortunately, it carries with it much of the moisture which makes the atmosphere genial. Therefore, if you allow the internal temperature to rise to a considerable extent before opening the ventilator, you bring about such a rapid exit that it will have a similar effect to what one would feel when emerging from a warm bath into a draughty passage, in fact, it brings about a chill, though gardeners are wont to call it by another name. If a practical and sensitive cultivator enters a house at 10 o'clock on a bright spring morning, he can generally tell

by the feel of the atmosphere whether the ventilation has been skilfully managed, for even after there has been a considerable amount of damping down, the harshness produced by tardy ventilation is evident for some hours.

I wish to impress on readers that the ill effects to which I have alluded are not often produced by a reasonably high temperature, but by a sudden change of atmospheric conditions. On a changeable windy day in March one may see young men running from one house to another altering the ventilation for every passing cloud or glimpse of sunshine. This does more harm than good. I very seldom give any ventilation to Vines which are not being forced, before April, and sometimes not till the middle of that month. A range of temperature from 45° to 90° by sun heat will seldom do any harm to Vines up to the stoning stage if ventilation is not insisted on.

WM. TAYLOR.

NOTES OF THE WEEK

THE first Fortnightly Meeting of the year at the Royal Horticultural Hall was a surprisingly good one both from the point of view of the exhibits and from that of attendance. During the afternoon the hall was, indeed, quite as full as it should ever be if visitors are really to see the exhibits. If the hall can be thus filled at this dead season of the year, it will no doubt be more overcrowded than ever during the coming summer when, to make space for more exhibits, the gangways will be narrower.

More Space?—From the beginning of March till the end of June all the shows at the Vincent Square hall will be two-day events, which is calculated to some extent to relieve the congestion. This relief, however, is very partial, for many flowers can only be seen satisfactorily upon the opening day. The trade, too, object to the two-day meetings as absorbing valuable time and increasing the expense of exhibiting without any corresponding increase of business. There is a disposition in some quarters to ignore the convenience of the trade in this, as in other matters, but it should be kept steadily in mind that without the support of the trade it would be impossible to hold these shows at all. What is really needed is more space. Although no doubt it will be possible to make shift with the present hall for another season or two, the Council has to face the fact that these shows are rapidly outgrowing the accommodation provided for them. There seems, unfortunately, no possibility of extension on the present site, though for some years there was a plot of vacant land adjoining one side of the hall. Sooner or later the question of a new building will have to be faced and the sooner it receives, at any rate, preliminary consideration the better.

Wisley Trials.—The Royal Horticultural Society has a large and still growing membership and handles each year a very considerable income, but its outgoings are also on a large scale, so that if anything worth while is to be put aside towards providing fresh and larger accommodation, it would be well to pass the various items of expenditure under review previously to a vigorous use of the pruning knife. A very considerable portion of the expenses of the Wisley Gardens must be absorbed by the annual trials of various kinds of flowers, fruits and vegetables. It appears to be the general opinion of Fellows of the Society that these trials represent little more than a clean, sheer waste of money. These trials could, at best, only decide what varieties suit the rather unsual

soil of this particular garden. Actually they are in fact quite unrepresentative, since many of the most important firms conduct trials of their own and, rightly or wrongly, refuse to support those at Wisley. We are confident that if a plebiscite of Fellows of the Society were taken the Council would be surprised at the small amount of support these trials would receive. Leaving the question of a larger hall quite aside, more money might, with advantage, be spent upon other and more interesting features at Wisley than the trials. To be perfectly frank, there is very little at Wisley at any season of the year that a Fellow would be likely to take his gardener to see. Indeed, beyond the very pleasing laboratory building, there is very little for *anyone* to see there. Certainly the gardens are far less interesting now than in the earlier war years.

At the forthcoming general meeting Fellows might do worse than to ventilate this question of the trials and the Council's policy with regard to Wisley.

The Hardy Plant Society.—We hear from the Secretary that considerable interest is being taken in the re-organisation of the Society. If really effective work is to be done a largely increased membership is imperative. There must be thousands of keen amateur gardeners whose enthusiasm is mainly directed to the culture of hardy plants. Every one should join the Society and, if possible, join it before the Annual Meeting on 30th instant. Subscriptions should be sent to the Hon. Secretary, Daetvils, Caversham Road, Reading.

An Alpine Pink.—Earlier described the subject of our picture, *Dianthus callizonus*, as "far beyond competition, incomparably the loveliest of Alpine Pinks," and few who have seen it well established will be inclined to dispute his judgment. The plant is stoloniferous and, when happy, quickly forms patches of considerable size. The flowers are bright pink in colour—pink with a touch of salmon. It is, par excellence, a plant for the limestone moraine.



THE BRILLIANT ALPINE PINK, *DIANTHUS CALLIZONUS*.

CORRESPONDENCE

STRAWBERRIES AND ASPARAGUS.

PERHAPS I should make it clear to Mr. W. H.

Lodge and other readers that my note on Strawberries was not meant to apply to commercial growers of large acreage for the fruit. For amateurs I hold to what I wrote, and Mr. Lodge seems to agree. But beyond this I cannot see why commercial growers for sale of plants should not adopt the maiden plant system. It takes little time to nip out the flower-trusses and the loss of fruit hardly matters. I cannot help demurring to Mr. Lodge's assertion that "runners of practically equal excellence and earliness can be secured from one year old plants, as has been proved time after time by skilled cultivators." My own experience of some forty-five years on different soils says "no," and I can only ask readers to try both methods and report results. The garden is small that cannot afford room for twenty-five maiden plants to give 100 runners. Squares of turf are in some respects better than pots, but firm turf is not always to hand, and pots can be more easily moved to hard ground and kept a few days in case of forced delay of planting out. As to Asparagus, I think Mr. Lodge will own, on consideration, that his comparison with Narcissus bulbs is not quite logical. If a variety of Narcissus would come true from seed (which it won't), I could get a much speedier increase and probably healthier plants by gathering the seed from a batch of plants and sowing it. As things are, the plant's nature obliges me to lift, divide and replant. Asparagus, on the other hand, comes practically true from seed, and hardly any plant dislikes disturbance more obviously. Why then, unless you are in a desperate hurry for a year, go to the considerable pains and expense of transplanting?—G. H. ENGLEHEART

THE GOLDEN SCOTS PINE.

I WAS glad to read (page 25) Mr. Clarence Elliott's appreciation of this delightful little Pine. It deserves all his praise. Oddly enough, if he got his golden Thyme from Mr. E. Charles Buxton, it was the latter who introduced me to *Pinus sylvestris aurea*, a fine specimen of which has been growing for many years in the famous Bettws-y-Coed garden. The colour of this dwarf Pine is really remarkable, especially in mid-winter, and when the needles are wet with rain they gleam like polished glass. Our specimen is exactly 30ins. high and about 24ins. through at its widest part, which is near the ground. It is a very slow grower, as Mr. Elliott says, the above plant not making 2ins. a year. It, of course, looks best with some green background. Our bantling has, besides turf for company, a common but dwarf Juniper from the Scottish hills on one side of it, while spreading about some lichened rocks over which the Pine presides is a mat of *Juniperus prostrata*.—A. T. JOHNSON, North Wales.

DECORATIVE SHRUB SPRAYS.

WHILE agreeing with Mrs. Barron (see page 23 of THE GARDEN, January 13) as to the usefulness of shrub sprays for house decoration, I am very doubtful as to their superseding flowers for this purpose. No doubt there is a certain appeal about a nicely arranged large vase of some of our choice berried shrubs, but I am afraid the great majority would vote for "the enormous and costly Chrysanthemums and Carnations," which, considering their lasting qualities, are not so very costly. Here, in Carlisle, sprays of berried shrubs are offered for sale in the flower market

every week during winter, and only a very limited quantity of these and purchasers. The past year has been one of the best on record for fruitfulness of shrubs of all kinds, and many wonderful pictures were to be seen almost everywhere of trees and shrubs literally covered with beautiful berries. One feels that it is thus that the great charm of berried shrubs is best appreciated. Not when the sprays are cut and artificially arranged in a jar or vase. — ALFRED.

THE CORDYLINE AUSTRALIS.

DURING the past summer this *Dracena* has flowered freely in many parts of the country where the conditions are mild enough to allow of its being grown. Beautiful as the large flower-spike is growing out of the massive head of yucca-like foliage, it is usually so high up on the plant that a close examination of the flower is impossible. It may not be generally known that if the flower-spike is cut and placed in water it will last for many weeks; its thousands of tiny cream-coloured flowers, sweetly scented, remain fresh for a long time. The seed in December is quite as beautiful as the flower in June. The berries are pure white, about the size of small peas; they hang on the plant until January, when they are often eaten by birds. The seed-spike in the illustration was cut just before Christmas, and proved as decorative and lasting as did the flower in June. *Cordylina australis* is probably not hardy inland. On the west coast of Scotland, however, it grows splendidly and flowers most years. Last summer we had 100 blooms all out at once. There are more berries than usual this winter. Self-sown seedlings frequently appear near the old plants.—KENNETH McDONALL OF LOGAN, Port Logan, Scotland.

THE WHITE MARTAGON LILY.

I HAVE been greatly interested by M. Henry Correvon's delightful article in THE GARDEN (page 657) on European Martagon Lilies. His descriptions of Alpine flora in their native homes



FLOWERING SPRAY OF CORDYLINE AUSTRALIS



THE CORDYLINE IN BERRY.

bring back memories of many happy days and walks in those regions (in May and early June) beginning with the glorious sight, on emerging for the first time from the St. Gothard Tunnel, of the rugged cliffs on each side of the railway covered with the horizontal plumes of Saxifrag. Cotyledon waving in the wind. I was especially interested in reading M. Correvon's description of the white Martagon Lily in natural conditions.

My first acquaintance with this Lily began nearly twenty-six years ago, when I first came to my present home. There were then very few flowers in the garden, but there were the purple-pinkish Martagon Lilies in abundance, and to my great astonishment, as I had never before seen it, the lovely white ones with their orange anthers, similar to those described by M. Correvon. They come up every year, and the white ones seem to increase in numbers. I have tried to get plants of them to give to one of my most generous gardening friends, but it is quite impossible to reach to the end of the root; they seem to go down for many feet into this fairly stiff soil. I see that Miss Jekyll, in her delightful book on "Lilies for English Gardens," describes the white Martagon as the "Greatest treasure of the Martagons, a flower of rare beauty; they like loamy soil, in which they will do in almost any position, but they are finest in cool and damp places, though they do not flourish in the very coldest of our soils and climates. Martagons make no stem roots, rooting only from the bulb, they need not therefore be planted deep." My experience differs from Miss Jekyll's. This garden is in Leicestershire, a very cold county, and is situated over 500ft. above the sea. The soil is a somewhat stiff and cold one, especially where the Martagons flourish, and they seem to bloom equally well every year irrespective of weather and, as I have already mentioned, their roots descend here to the very bowels of the earth. If this note is not already too long, may I mention the remarkable fruiting and ripening of seeds and shrubs generally considered delicate in this climate. *Chimonanthus fragrans* has been covered with large fruits containing ripe seeds, and is now (January 5) full of bloom. *Amygdalus macrocarpa* also has a large crop of fruits all ripened, with very hard shells, but bitter to the taste. *Staphylea* has also seeded abundantly and *Magnolia Soulangeana*, though alas! I did not realise it till too late, and the seeds became decayed owing to the recent heavy rains. *Halesia carolina* (Snow-drop Tree) has been equally fruitful. Curiously enough, the Walnuts, which were most plentiful, have all proved useless to eat, the kernels being quite rotten.—ELLEN MURRAY SMITH, *Market Harborough*.

CAMPANULA HAYLODGENSIS.

IN THE GARDEN of December 30 last, Mr. Cecil M. Bailey writes of a *Campanula* which he has under the above name as of "delicate growth and trailing habit" with "pretty violet blue flowers" which he describes as "small." It is evident that he has not got the true *C. haylodgensis*, which has very large and wide-open bells for its size, and these are a lovely pale porcelain blue. Nor could this excellent hybrid be called a trailer. With us, at any rate, it makes a tufty growth and shews no inclination to trail. The leafage is a bright green usually tending to a yellowish tint.—J.

C. haylodgensis is obviously a hybrid of *C. isophylla*, and accordingly not too hardy inland. Our correspondent has well described its appearance.—ED.]

AN EARLY RHODODENDRON.

DURING the winter months, where situations and soils permit, one may look forward to the flowering of that cheering shrub, *Rhododendron Nobleanum*. Among the numerous early-flowering varieties it is undoubtedly the first to blossom, and produces a magnificent and effective show of rosy crimson flower trusses. The blossoms often have a deal of inclement weather to face—occasionally severe frosts, and frequently strong winds. Care is therefore needed when

planting to select a fairly sheltered position. A thin surrounding of deciduous trees would prove of great assistance and break considerably the rough winds. An easterly aspect, too, should be avoided. The first blooms this season were shewing in early November. They have been produced freely ever since, and the flowers last for many weeks. The trusses of this species are of medium size and on the bush are most effective.—R. F. LEGG, *Herts*.

FOR A COLD WALL.

THOSE who have a cold but prominent position on a wall to furnish could do much worse than plant *Garrya elliptica*. The male plant is, when laden with its beautiful catkins, most conspicuous from the middle of December for weeks onward. I enclose a photograph of a plant growing on a north wall taken at Christmas



GARRYA ELLIPTICA AT CHRISTMASTIDE.

before it was quite at its best, but sufficiently developed to shew how beautiful it can be in dark winter days.—H. C. W.

SAXIFRAGA MIRA.

I READ with much interest Mr. Clarence Elliott's note in your issue of January 13 re the above beautiful hybrid. I had the pleasure of seeing the plant when it first bloomed, as far as I can remember, in or about 1910, with one solitary flower of a rich glowing deep pink colour. Mr. Redman, Mr. Farrer's manager, was naturally very proud of it, and propagated it. The point I want to make, however, is the question raised by Mr. Elliott as to its parentage. In the pot was one of the yellow labels affected by the Craven Nursery, on which was written "*Ilacina* x *Lapeyrrousei*." In discussing this plant since with other growers of rock plants, some doubt was thrown as to this cross producing the characters found in *Mira*. Mr. Farrer kindly gave me a rosette, which is now a nice little plant; but it has not altered in colour, nor can I imagine there were two plants in the first flowering specimen I saw. I can only surmise that, in propagating, some latent grace has been developed. In any case

either form or colour is a jewel, and well worth securing.—F. O. WALKER, *Annas Bank, Camforth*.

THALICTRUM ADIANTIFOLIUM AND ITS HARDINESS.

AMONG the various species and varieties of *Thalictrum* the dainty-leaved *adiantifolium* is sometimes lost sight of, and others like *T. T.*, *Delavayi*, *glaucum* and *aquilegifolium purpureum* are grown instead. As its name implies, it much resembles in foliage the tender Maidenhair Fern. The foliage is, accordingly, valuable for cutting for indoor decoration. Of the Meadow Rue it is, possibly, the least hardy, and to ensure it going safely through the winter I usually mulch the crowns with coconut fibre in late autumn, which is all they need. It may not be generally appreciated that *T. adiantifolium* is best suited when planted in partial shade, as under a pergola for instance, otherwise if fully exposed to the sun

the leaves soon begin to wither. The chief value of this variety lies in its fragile and beautiful foliage, and not in the blossoms, which are comparatively insignificant.—W. LINDERS LEA.

[It had never struck the Editor that *T. minus adiantifolium* was anything but entirely hardy. Would other readers please give their experience on the point.—ED.]

EARLY STRAWBERRY RUNNERS.

I SEE in your issue of December 30, 1922, the Rev. G. H. Engleheart writes on the subject of planting rooted runners of Strawberries from maiden plants in July for fruiting the following summer. I have always planted on this plan in my own garden, but for the last ten years have had no garden. I now want to start a Strawberry-bed next July or beginning of August, but am at a loss to know how I can get the rooted runners early enough, for, as your correspondent says, the nurserymen will never send them out till much later, thereby wasting a whole season. Could you tell me where I can procure three or four dozen rooted runners next July. I should like a good early sort—perhaps Royal Sovereign—and a later kind. I shall be very grateful if you can help me.—(Mrs.) J. W. MAITLAND KING.

FOR INDOOR DECORATION.

I WONDER whether your readers have tried using the berries of the Snowberry (the clustered fruit variety) and of *Cotoneaster Simonsii* together for house decoration. They have given us great pleasure. The readers of *THE GARDEN* who do not already do so should grow *Crocus Tommasinianus*, *speciosus* and *zonatus*. They are delightful. *C. speciosus* increases fast, sowing itself freely here and there and yet never encroaches. *C. zonatus* was in bloom in the grass at the end of November last.—E. A. STURGE.

THE ASTILBES.

ONE wonders why these telling and graceful plants are so seldom mentioned in gardening papers. Is it because the average grower of herbaceous plants thinks of them only as plants for the waterside—water lovers pure and simple? Such was my idea of them until August last, when I had the pleasure of visiting the gardens of Mr. Gerald Garnet at Wyreside, near Lancaster. There I saw the *Astilbe* growing round the edge of a shallow pond, but these were only the cast-outs from a lovely set growing on the north border of the walled-in garden. Beyond preparing the border well, prior to planting, these plants get no

special attention, and yet they were a mass (I might almost say a *mist*) of bloom from 18ins. to 5ft. or 6ft. high, and ranging in colour from white, as *Grandis*, through pink, as *Gruco*, to deep red, as *Salland*, with other shades of rose or pink. Plants of even the newest varieties are very reasonable in price, and should be tried.—T. O. WALKER.

NARCISSUS NOTES.

IN *THE GARDEN* of September 23, 1922, on page 480, Mr. Jacob has an article on Daffodils. I also am interested in them. He says *Phyllida* is an *Incomparabilis*, which I believe is correct. When, however, he says that Bath's, now hold the stock of it, he is not correct, as a year ago I exhibited a vase of it both at Wellington and Lower Hutt. This year I again exhibited it at Marton Show. Mr. Mason, nurseryman, of Feilding, saw it on my stand and remarked what a good thing it was. I have had *Carnation* some years, but it has not bloomed yet. Bernardino I sent to Mr. Grindrod, Auckland, and he wrote to say that the blooms did not open with him. I have no trouble with it myself, however, and can depend on every bloom to open. At its best it is very fine and "taking" on a stand.—ROBERT GIBSON, *Mania, New Zealand*.

THE AWARD OF GARDEN MERIT

THE following plants received the Award of Garden Merit on November 27, last:

STRANVÆSIA UNDULATA.

Evergreen shrubs are always valuable in the garden, and when to the winter green of their foliage they add pleasant flowers in summer, bright red fruits in autumn, and brilliant dying tints to their leaves, they are particularly valuable. All this one finds in *Stranvæsia undulata*. Its long-oval, glossy green leaves, sometimes but not always undulate at the margins, turn bright red before they fall, but not all at once. Here and there on the bush are a few red among the green almost the year round. It bears groups of small white flowers at the tips of the shoots in June, and though these are rather fleeting, they help to keep the shrub border bright when the more commonly grown shrubs are passing. In autumn their place is taken by brilliant groups of red haw-like fruits, fortunately not so loved of birds as so many of our autumn fruits are that vanish in a day just as or even before they are ripe. The bush is of rather open habit, so that its characters are easily seen, and it grows to a height of 6ft. or 8ft., and possibly eventually even taller.

Like so many of our beautiful shrubs, this is a native of Western China, whence it was first introduced by Mr. E. H. Wilson, who in 1900 sent seed to Messrs. Veitch. It appears to present no difficulty in cultivation; it seems not at all particular as to soil so long as the drainage is good; it is perfectly hardy, having withstood unharmed the severe winter of 1917 at Wisley; and is altogether a great acquisition among hardy evergreens. *S. undulata* was figured in the *Botanical Magazine* at t. 8418.

PYRACANTHA GIBBSII.

No trees or shrubs have more justified in 1922 their inclusion among garden plants than the well known coral red *Pyracantha coccinea* (or *Crataegus Pyracantha* as it is still often called) and its beautiful variety *Lalandei* with larger, more orange fruits. That came to us from Asia Minor and South Europe, but China has much

more recently yielded some beautiful shrub, apparently nearly related to the Nepalese representative of the genus, *P. crenulata*, but sufficiently distinct to warrant separate names, at any rate in gardens. It is difficult to say which is the most beautiful of these new-comers, and not all are yet widely known, but among them *P. Gibbsii* will certainly hold its own. Quick-growing to about 10ft. in height, with glossy dark evergreen foliage considerably larger than that of *P. coccinea*, making a tall, rather fastigate bush, flowering abundantly just after the Hawthorn ceases with dense bunches of white flowers, and never failing to bear great bunches of brilliant scarlet fruits as large as peas and contrasting beautifully with the foliage from October to December, this is a species worthy and capable of filling a place in any ordinary garden and in any part of Great Britain. The seeds grow freely, and may give rise to forms differing somewhat in the shape of the leaves, the exact shade of the ripe fruits and the precise time of ripening, but all alike worth growing; and if it be desired to propagate any one of the forms it may readily be done, either by cuttings or by layers.

RUBUS BIFLORIS QUINQUEFLORUS.

Many Rubi have come out of China, and some have little perhaps to recommend them for our gardens, but the subject of this note is not one of the latter. It is a striking plant, robust and handsome and graceful in habit. It owes its value to the remarkable stems, which are covered all over with a thick coat of wax so that they look as though they had been whitewashed, and strike a note in the shrub border which is almost unique in its effect. The canes reach about 10ft. in length, but arch over and root at the tip. This habit makes them easy to propagate, and the palatable fruits are also freely produced and seedlings appear to come true. The plants are best treated in the same way as summer-fruiting Raspberries, old canes being cut out after flowering about August, leaving the strong young canes for their winter effect. The plant is all the better for liberal treatment.

SEAWEED AS A FERTILISER

FROM the earliest days of our agricultural history, farmers, of northern lands in particular, have used seaweed as a manure in the raising of general crops, and there are many to-day, among whom are some of the most intensive cultivators in the world, by whom seaweed is held in the highest esteem. Yet, although we are an island people, only a comparatively small, almost negligible, proportion is used of that vast quantity of wrack which grows or is cast up on our shores and on the banks of tidal waters.

That seaweed is worth the hauling and the incidental labour involved is proven not only by the fact that it is used so largely by the Channel Islanders, Scottish Potato growers and others, but there are progressive farmers and market gardeners who find that it pays them to carry this material by motor tractor or water long distances inland. Analysis bears out the testimony of practical users that seaweed is as rich in nitrogen and potash as an average sample of farmyard manure. Indeed, it contains more potash than the latter, and its nitrogen, if slower in its action than that of dung, is more durable as a plant food.

The only fertilising elements of importance in which seaweed is deficient are phosphates and fibre, or humus. The former it is not difficult to supply and, as for the fibre, the weed partly compensates for the absence of this by its power of quickly reducing any other vegetable matter with which it comes in contact into humus. Thus, where seaweed is mixed with raw vegetable refuse, or manure, it will accelerate decay and render such matter of use to plant life in a very much shorter time than if the latter were left to the ordinary processes of decomposition, and in this respect it is better than lime, inasmuch as it does not destroy humus as the latter will.

Seaweed also has what one may call a mechanical effect upon the land. If it is used for light, sandy soils, which are liable to become very dry in summer, it will materially assist in the conservation of moisture. Soil pests dislike seaweed, and there are many noxious weeds which disappear from farms regularly dressed with it, while the seaweed in itself carries no weed seeds or spores of disease to the land as farm manures are liable to do. Though there is hardly a crop to which seaweed will not prove beneficial, particularly on light land, it has, in my own experience and that of others, proved especially good for the Brassicae (including Turnips and Kohl Rabi), Potatoes, Beet, Mangolds and Carrots. It has also been used with excellent results in fruit culture.

Seaweeds vary a good deal in their manurial value, the broad-fronded *Laminaria* and the common black *Fucus* (Black Tang) of the rocks being the most useful. Spring-gathered samples are richer in plant foods than those taken at any other season. Practical growers who employ wrack usually plough it direct into the soil in spring or autumn, according to locality. Others stack it in heaps or mix it with farm manure and other vegetable matter as suggested above; but there is no doubt that seaweed, like any other organic manure, loses much of its fertilising value from exposure to rain.

Of the fresh weed it is customary among those who use it regularly to apply 10 to 15 tons per acre to leguminous crops and 30 to 40 tons for Potatoes, roots or Brassicae. Experiments made both in this and other countries show that superphosphate given with seaweed has given highly satisfactory results. A. T. J.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cauliflowers. Seedlings from the autumn sowing will have been pricked out in cold frames or boxes, and to prevent the plants from becoming staved in the latter they should be potted off in 4in. pots, using a mixture of loam and manure from a spent mushroom-bed. Over watering must be guarded against, and the plants ought to be grown as hard as possible by admitting air and removing the lights whenever the weather is favourable. Another sowing should be made in a cold frame or cool greenhouse, selecting an early maturing variety such as Early London or First Crop. Early Cauliflowers constitute an important crop in many gardens because at that time vegetables are rather scarce.

Rhubarb.—Apples are plentiful this year, so there has been no necessity to be in a hurry with forced Rhubarb. Now, however, a few roots may be introduced to a warm greenhouse or cellar. Under the stage of the former is an excellent place. Cover the roots with soil from the garden and keep it moist.

Onions.—The first sowing of a good form of Ailsa Craig may be made in boxes of loamy soil 4ins. or 5ins. deep. If the boxes are placed in slight heat, they should be moved to a cooler structure when germination has taken place and kept near the glass to keep the seedlings sturdy. A cool Peach-house or cool pit is best for general purposes where growth will be slower, and the plants will be ready for their permanent quarters in March without the trouble of pricking them off in boxes or frames.

The Flower Garden.

Bog Plants.—Where ponds, lakes or pools running through a rock garden exist, many plants may be successfully grown on the sides or margins which are often referred to as bogs. Among the finest plants for such places are the various coloured Iris *Kämpferi*, *Astilbes*, the bold *Saxifraga peltata*, *Rodgersias*, *Primulas* of the japonica type, the rich golden Marsh Marigolds and others. For the side of a lake, *Gunnera manicata* and *G. scabra* are to be strongly recommended.

Hollyhocks.—These stately plants should find a home in every garden, and if treated more or less as annuals the disease does not appear to be so rampant. Those with double flowers are very fine, but for grace and elegance the single kinds take first place. Seeds should be sown in well drained pans containing a mixture of loam and leaf-mould. Sow the seeds thinly and cover with fine soil, and germination will soon take effect if the pans are placed in a temperature of 60°. When large enough, pot off singly or prick out in boxes, and when they are fairly well established harden off gradually. Do not over-water the roots, and when the plants are arranged in a cold frame admit plenty of air. An open site should be chosen for their flowering quarters.

Verbenas.—Among Verbenas there are several choice and distinct colours, and most of the plants come tolerably true from seed. The giant forms are very effective for beds and borders. Seeds of these charming plants may be sown from now until the beginning of March. Place the pans in a warm greenhouse, pot off the seedlings when ready, and grow on as cool as possible until May, when they should be transferred to the beds.

Fruit Under Glass.

Vines. In the early vineery the shoots will soon need tying down to the wires, and such work ought not to be delayed. If the shoots are allowed to come in contact with the glass and sharp cold weather sets in, they will probably be injured. Each growth will need pinching, but this must be done in accordance with the space to be filled. As a rule each shoot is stopped at the second joint beyond the bunch of fruit. The later Vine rods will need pruning and cleaning, and the house ought thoroughly to be cleansed and the walls lime-washed. Prune the growths back to two eyes, free the rods of all loose bark, and then wash them with a strong solution of Gishurst Compound. If mealy bug is present there is nothing better than the Vine Rod Insecticide, which must be applied when the Vines are dormant. When growth begins and the house is warm and moist a sharp watch must be kept for mealy bug and every one destroyed.

The Hardy Fruit Garden.

Wall Trees.—The pruning and tying in of the trees on walls should be proceeded with when the weather is favourable. Established trees of

Peaches, Nectarines and Morello Cherries should have the old fruited wood cut away and replaced with well ripened young shoots. The beginner must guard against over-pruning. It is best to detach the whole of the tree from the wall, and all the old shreds and tying material should be burnt.

L. W. PATSON

(Gardener to W. R. Lysaght, 1sq.).

Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Jerusalem Artichokes require a long period of growth for their full development, and as they are perfectly hardy and start into growth early the tubers should be planted as soon as the soil is in working condition. A moderately rich soil is most suitable for this crop. Select rather undersized tubers and pare away all the eyes except the main one and plant in drills 2ft. apart allowing 15ins. between the tubers in the drills.

Lettuce.—Sow a pinch of seed of some small early variety such as Tom Thumb or Early Ohio, and germinate in a moderately warm structure.

Cauliflowers.—Make a small sowing in a pan or shallow box and germinate as advised for early Lettuce. When germination has taken place and water is required apply by partially immersing the pan or box as a preventive of damping, which is the enemy to be guarded against. Snowball and Early Erfurt are suitable varieties for this early sowing.

The Hardy Fruit Garden.

Bush Fruits.—Take advantage of suitable weather for forking over the ground around Gooseberries, Currants and Raspberries. If manure has not already been applied, the omission should be made good prior to commencing forking operations. Failing some form of farmyard manure, a dressing of bonemeal or even soot may be substituted. A slight dressing of ground lime will also prove beneficial.

Fruit Trees in Grass.—Where the grass has been allowed to cover the entire surface, it will be found beneficial to scarify the surface for some 3ft. round the stem of each tree and slightly to fork over the soil prior to applying a mulch of half-decayed farmyard manure. This system has several advantages; it aerates the soil, feeds the trees and encourages the fibrous roots to keep near the surface.

The Flower Garden.

Bearded Irises.—The Iris has come into its own during recent years. The Bearded section may not be the most aristocratic of the genus, but it has forms of beauty denied to some of the other sections, and being easy of culture it can most readily be recommended to the average cultivator. Like many other plants, these Irises shew to best advantage when grown in masses. An Iris border is a source of interest and pleasure, and the next few weeks will be a suitable time for starting one. These Irises are not very particular either as to soil or situation. Do not plant deeply, as success largely depends upon the ripening of the fleshy rhizomes. In order to extend the flowering period the front of the border may be planted with a variety of the smaller bulbous plants, while the back line may be interspersed with *Iris sibirica*, *Hyacinthus caudatus*, *Montbretias* and *Gladioli*, the foliage of all of which harmonises with that of the Irises.

Jasminum nudiflorum.—So far as my observation goes, this welcome winter-flowering climber has proved very precocious this winter. As soon as it has gone out of flower it should be pruned. As it flowers on the previous year's wood, the shoots which have just furnished the bloom should be cut away, and it too thick some

of the shoots formed during the summer of 1922 should be thinned out.

Cotoneaster Simonsii makes a beautiful hedge plant with its abundant crop of orange red berries, and as it is all but absolutely hardy it may be planted without hesitation in any district of the country. It is also very effective as a wall plant.

Fruit Under Glass.

Melons.—Where an early crop of Melons is desired a sowing should be made within the next week or so. Sow singly in small pots filled with loam plus a dash of old hot-bed manure, plunge in bottom-heat where a temperature of 65° to 70° is maintained. For this early sowing use a free-setting variety, such as Hero of Lockinge.

Fruit Trees in Pots. For economic reasons many owners of gardens have converted part of their plant-houses into fruit-houses. Many of these houses are quite suitable for the culture of fruit trees in pots. Those who have fruit trees in pots plunged out of doors should now bring them inside. Before doing so free the pots of weeds and thoroughly wash them. Remove rim, or pins, of the surface soil by means of a hand-fork or a pointed stick and replace with fresh loam mixed with a little bone-flour. Apply no heat except to exclude frost, meantime ventilate whenever bright sunshine occurs.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

EDITOR'S TABLE

Cytisus racemosus.—We have received from Mr. H. Reynolds, Scraby Hall, Great Yarmouth, sprays of *Cytisus racemosus* (syn. *C. fragrans*), from a bush growing outside. The plant we understand is growing at the south end of a low span-roofed house and planted practically in the side of the pathway. We further learn that the plant has stood in its present position two winters without any protection whatever, except that afforded by the end of the house. The bush has been in flower since the end of September, but the recent heavy rains have somewhat damaged the blossom.

Trials at Wisley, 1923.—The Royal Horticultural Society will carry out at Wisley during 1923 trials of Dwarf Tropaeolums; Sweet Peas of carmine, deep pink, cerise, salmon and orange shades, Brussels Sprouts, Kales, Carrots (in open), Climbing Beans, Onions Vegetable Marrows and Cucumbers. Seeds of these plants should reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, on or before January 31, 1923. Goods: Horsley Station, L. and S.W. Railway.

Our next issue (that for February 3) will be a Special Novelty Number. Many valuable new plants and strains will be described, and a number illustrated.

Answers to Correspondents

FLOWER GARDEN.

DAHLIA LEAVES CURLED (A Hong Kong Reader).—In the absence of specimens it is impossible to say whether insects are the source of the trouble complained of. It is commonly due, however, to some cultural error, especially connected with the water supply, in its relation to temperature changes. Cold nights are particularly liable to cause difficulty in regulating the amount of water required.

NAMES OF FRUIT.—J. W., Coventry.—Apple Foster's Seedling.

NAME OF PLANTS.—S. H. B.—*Eucalyptus Gunnii*.—H. Rob.—1, *Cotoneaster frigida*; 2, *Cotoneaster Simonsii*; 3, *Forsythia* sp., probably *F. suspensa*.

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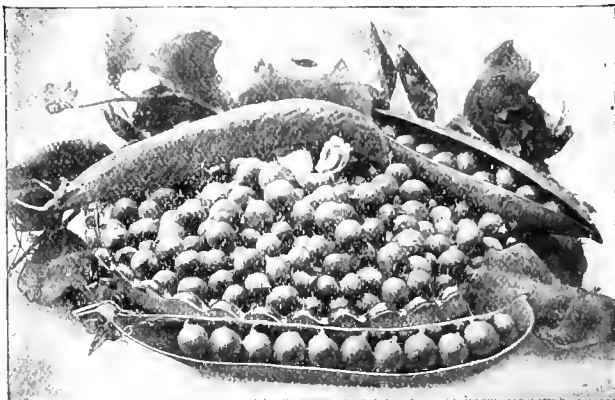
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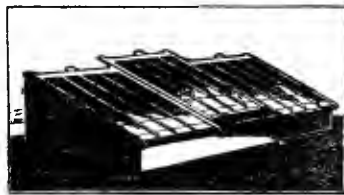
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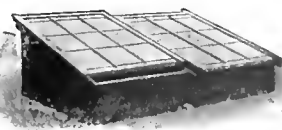
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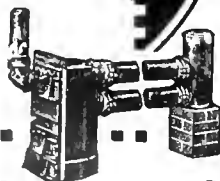
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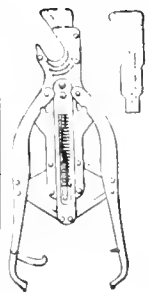
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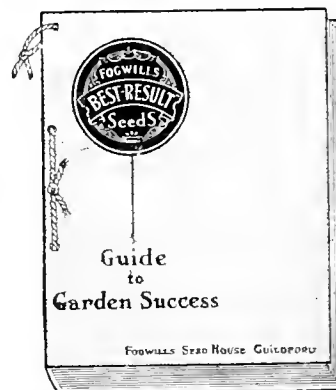
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[FEBRUARY 3, 1923.]

SOME NOVELTIES and RECENT INTRODUCTIONS AMONG TREES AND SHRUBS

The Species and Hybrids noted in this Article are of proved Merit and in Commerce.

TO name and write something about all the very many hardy trees and shrubs of recent introduction would require several issues of *THE GARDEN*. All that has been attempted is to draw attention to a few of the most interesting and important.

Among the Witch Hazels, *Hamamelis mollis* is the finest of them all in foliage and flower. It is not only the most showy, with its rich golden yellow blossoms, but these are deliciously fragrant and conspicuously beautiful from December to February. Many readers may question the "novelty" of a plant first introduced in 1879, but it is still not too common in gardens.

Syringa Wilsoni is a beautiful hardy Lilac from Western Szechuen, with lilac pink flowers, forming a vigorous bush 10ft. or 12ft. probably eventually more in height. Like the named varieties of *Syringa vulgaris* it is a good town shrub. *Cistus Silver Pink* is a charming hybrid Rock Rose, said to be a cross between *C. crispus* and *C. cyprinus*. It was raised in the Winchester nursery of Messrs. Hillier. The clusters of silvery pink blossoms are freely produced during summer and the plant has passed the last two winters in the open with us unharmed.

There are at least seven *Magnolias* of recent introduction: *M. salicifolia*, *M. Wilsoni*, *M. officinalis*, *M. denudata elongata*, *M. Dawsoniana*, *M. Nicholsoniana* and *M. Sargentiana*. Of these the first two have already proved to be most valuable additions to our gardens. *M. salicifolia* is a Japanese species which was first introduced to Kew in 1906, though it was five years later (1911) before the first flowers were produced. It is a slender tree of upright habit, deciduous, producing the pure white flowers freely during April in advance of the leaves. *M. Wilsoni* is later in flowering, opening its fragrant blossoms during the second half of May and in early June. The pure white flowers are more or less drooping and as they have bright red stamens and carpels these will show prominently when the bushes are 6ft. or more in height, as is already the case in Cornwall. In

habit it is elegant, with twiggy branches, more so than *M. parviflora*, which species the blossoms resemble. *M. Wilsoni* is a native of Western Szechuen, China, and was introduced by Mr. E. H. Wilson in 1904.

Two *Styrax* species are deserving of special mention, *S. Hemsleyanum*, introduced from Szechuen by Mr. Wilson in 1900, and *S. Wilsoni*

from Western China in 1908. In habit the two form a marked contrast. *S. Wilsoni* has thin wiry branches, small leaves and small white flowers, produced freely on young plants less than 1ft. high. *S. Hemsleyanum* on the other hand is a vigorous, widely branched shrub or small deciduous tree 20ft. to 30ft. high, with prominently veined leaves 4ins. to 5ins. long and 2ins. to 3ins.

wide, and pure white fragrant blossoms an inch across. We have had no frost of recent years severely to test the hardiness of the majority of the newer Chinese shrubs, though some we know are tender, suffering even in mild winters. *S. Wilsoni* is one of these, but it is a delightful plant for those not favoured with a mild climate; it should prove a charming pot plant for a cool or unheated greenhouse. Cuttings made from half-ripe shoots root readily in a propagating frame during late summer.

A new hybrid Crab of outstanding merit is *Pyrus Eleyi*, produced from the Russian Crab, *P. Niedzwetzkyana*, crossed with pollen of *P. spectabilis*. The hybrid inherits the distinct reddish-purple hue of the mother tree in wood, leaf, flower and fruit. The blossoms, however, are richer in colour, bright vinous red, followed by dark red fruits the size of cherries. Young trees commence to flower early—trees at Kew in 1922 produced flowers and fruit two years after grafting.

Pyrus (Sorbus) munda var. *subarachnoidea* (4323 Wilson) is a white-fruited Mountain Ash collected by Mr. Wilson in Western Szechuen during October, 1910. It forms a large shrub or small tree up to 15ft. or 20ft. high with pinnate leaves and white flowers, followed by clusters of pearly-white fruits. It is a pleasing companion to the older *Pyrus (Sorbus) Vilmorinii* (syn. *foliolosa*), which has attractive rich rosy-red fruits.

Pyrus Arnoldiana is a hybrid Crab which originated in the Arnold Arboretum among seedlings of the Japanese Crab, *P. floribunda*, the supposed pollen parent being a form of *Pyrus baccata*. It has larger and more richly coloured blossoms than the parent, ruby red when opening changing with age to rich rose. Another hybrid Crab with *P. floribunda* as the



LILAC ROSE PANICLES OF SYRINGA WILSONI.

female parent is *P. purpurea*, which I first listed in the catalogue of Messrs. Barber et Cie of Orleans. The pollen parent is undoubtedly *P. Nidzwetzkyana*, as it has the vinous red colouring which pervades the wood, foliage and leaves of that species. *P. purpurea* is a very attractive lawn tree with rosy crimson blossoms followed by dark red fruits the size of Cherries. *P. tongkodes* is a very distinct addition to the ornamental Crabs in foliage and fruit. The leaves are irregularly lobed, the fruit rich yellow freely flushed with scarlet on the sunny side.

In recent years the evergreen *Pyracantha*s have been added to by the introduction of several very distinct shrubs from China. *P. Gibbsii* is even more robust than the popular *P. Talander*, forming an attractive lawn shrub, with white blossoms and scarlet fruits. The variety *yunnanensis* is distinguished by the later ripening of the lighter red fruits, a valuable character, for though not quite so large I have seen the bushes full of fruits during March. The var. *yunnanensis* is also readily distinguished by the broad, round-ended (obovate) leaves. *P. Rogersiana* was introduced by Mr. George Forrest from Yunnan in 1911. The small leaves and close growth of this *Pyracantha* make it a very distinct shrub. There is at Kew a beautiful lawn specimen 8 ft. in height and as much in diameter. The fruits vary from red to yellow, the type being regarded as the one with red fruits. Variety *aurantiaca* has orange and variety *flava* yellow fruits.

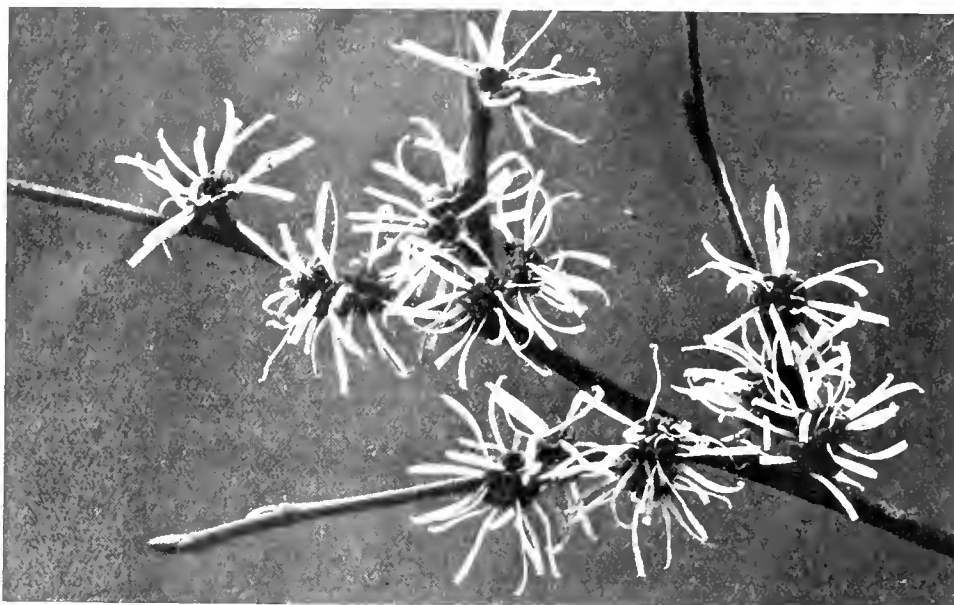
Buddleia alternifolia is a widely branched and vigorous shrub, producing during June quantities of rich lilac-purple blossoms on the growths of the previous year, so that one cannot prune it in March as is done with *B. variabilis* varieties. Introduced by the late Mr. Reginald Farrer from Kausu, the dainty yet luxuriant growth of this *Buddleia* is in marked contrast to the vigorous shoots of *B. variabilis*.

Potentilla fruticosa var. *Farrerii* is a distinct dwarf form of the yellow-flowered shrubby Cinquefoil, introduced, as the name suggests, by the late Mr. Reginald Farrer. Its distinctive value for the front of the border of choice shrubs, and the rock garden, is the freedom of flowering from early summer to late autumn. Another of the late Mr. Farrer's introductions and perhaps the best known is *Viburnum fragrans*. It is a deciduous shrub ultimately 8 ft. to 10 ft. high, with white or pink tinted blossoms. We shall have to give it a sheltered position for the flowers open in March, perhaps earlier in warm districts, though probably the exhibit which gained for this plant an award of merit from the R.H.S. on February 22, 1921, was opened under glass.

A. O.

HELIANthemum UMBELLATUM

In general appearance this dainty little shrub more resembles a small-leaved Rosemary than the general run of Sun Roses. It is a native of the Mediterranean region, and nearly two hundred years have elapsed since it was first introduced, but it still remains quite a rare plant. It grows about 18 ins. high and is evergreen, bearing a profuse succession of flowers in summer for several weeks. The flowers are white with a patch of yellow at the base of each petal. Like all the Sun Roses they are of short duration opening in the early morning and dropping before sunset, but they make a great show for the time and are succeeded by a similar crop next day. It likes the sunniest possible position and a well drained soil of moderate quality, and is easily increased by cuttings.



GAYEST OF WITCH HAZELS, HAMAMELIS MOLLIS.



LILAC AND ORANGE SPRAYS OF BUDDLEIA ALTERNIFOLIA.



A FRUITING SPRAY OF PYRACANTHIA GIBBSII YUNNANENSIS.

ABOUT SOME OF THE BEST NEW ROSES

THE Roses which are being distributed this season certainly include some of the best varieties sent out since the war. The beautiful golden Florence L. Izzard is unquestionably the most noteworthy. It is rightly classed as a Hybrid Tea, but shows unmistakable traces of the Pernetiana race in its shiny dark green foliage. The high pointed centre, however, proclaims the Tea blood; so does the slight but unmistakable fragrance. Mr. McGredy is to be congratulated on this glorious variety, for which there will doubtless be a big demand.

Another yellow Rose of considerable importance is Mary Merryweather. The flowers of this variety inevitably call to mind the invaluable Lady Hillingdon, but it is considerably paler in colouring; moreover, the buff which blends with the deep orange yellow of the older variety is absent. The new introduction is of stockier habit than Lady Hillingdon and a good doer. It is being distributed by Messrs. H. Merryweather and Sons, Limited, and is likely to prove a first-rate bedding Rose.

Yet another beautiful variety of yellow colouring is to be found in Lucile Barker, one of Mr. Elisha Hicks' novelties, which has orange fawn blossoms shading to pale orange. This is a comparatively small Rose, but beautifully shaped. Every bud would make a buttonhole!

In Lady Verrey, also sent out by Mr. Elisha Hicks, we have what might be called a shell pink Liberty. Rather a thin Rose, it should be admirable for decoration indoors or for bedding. Elsie Beckwith, a novelty of Messrs. G. Beckwith and Son, has been described, not inaptly, as a carmine rose Richmond. It bears long, clean stems and should be first-rate for cut flower, whether grown indoors or out.

Mrs. Henry Bowles has beautifully formed pointed blossoms of warm rosy pink colour. The petals are slightly rolled, and it is pleasantly Tea-scented. A gold medal was awarded to Mr. W. R. Chaplin for this Rose at the last Summer Show of the National Rose Society. From this very "rosey" Rose we will turn by way of contrast to Messrs. Ben Cant's brilliant Lady Roundway, which in the bud state is heavily flushed with cardinal red. The expanded flowers are also very striking, being rich coppery orange shaded with deep rose. This is an exceedingly fragrant Rose, and if not a very shapely one—it is on the flat side—its glorious colouring largely covers the want of form. Another beautifully coloured newcomer is Souv. de R. B. Ferguson, a combination of tones of golden fawn and apricot and warm pink. It is a strong, healthy grower with healthy dark green foliage. Of no great size but very fragrant, it should be a really valuable bedding Rose. It was raised by Mr. Wm. Ferguson.

Messrs. Ben Cant's Phoebe forms a magnificent rather square-looking blossom of primrose shading and sweet scented. It is unquestionably a fine exhibition variety and excellent under glass. A gold medal Rose.

Mr. George Prince is responsible for the beautiful Tea Rose Muriel Wilson, which, also of lemon colouring, is also fragrant. This should be an indispensable variety for under glass.

Mrs. H. L. Wettern is yet another of Mr. McGredy's production and, as might be expected of a Rose with such a name, is a first-rate variety. The blooms are of a particularly vivid shade of pink, high centred and shapely; the plant is a strong, vigorous grower and it is, happily, fragrant. Dewdrop, from the same raiser, is practically shell pink in colour at opening, passing off to rose

as the flower expands. Very strong growing, tree and prolific, it should be a useful bedding variety.

A useful trio of dark Roses include Arthur Cook and Lady Sackville, both from Mr. McGredy, and Captain Kilbee Stuart from Messrs. Alexander Dickson and Sons. Arthur Cook is of good size and rather nice form, albeit, like many crimson Roses, rather on the flat side, wonderfully and delightfully fragrant, and has good clean foliage. A fly in the ointment? Well, yes! Some of the

Messrs. Frank Cant and Co. send out Mrs. Harvey Cant, which is a fine large white variety, a little loose in the outer petals but otherwise first-rate. Very different is Westfield Star, milk white and pale yellow in the heart, reminiscent indeed of a very beautiful buttonhole Rose which is now probably out of commerce if not out of cultivation—Pauline Bersez. There is plenty of room for such shapely rather small Roses, but somehow they do not seem to "go" very well. Size is still a fetish with many.

Mrs. Hornby Lewis is a Rose of ample proportions and, apparently, Souv. de la Malmaison "Blood." It has good foliage and the blossoms, which, like those of Maréchal Niel, shew a tendency to "quarter," are chrome yellow in colour, delightfully shaded. This pleasingly fragrant variety is being distributed by Mr. Elisha Hicks. In Mr. McGredy's Mrs. Courtney Page we have a singularly attractive variety. Free blooming and of wonderful and exquisite colouring, which is a sparkling orange cerise with bright carmine shading towards the base. This is a most distinct variety with petals of great size and substance, a model in shape and formation. It is sweet scented and without question one of the finest and most superb Roses ever raised. Awarded the Gold Medal of the National Rose Society.

There are, of course, other new double Roses, but those mentioned probably include the pick. There are several new single varieties of undoubted merit. Most beautiful of all is undoubtedly Mr. W. R. Chaplin's beautifully fluted white Innocence. A good doer and fairly free to flower, this is surely one of the most beautiful flowers ever raised. From pure white to deep crimson—from the saucer-shaped Innocence to the almost hooded Vesuvius of Mr. McGredy. This last, however, is very free flowering and of wonderfully rich colouring. In form it might aptly be compared to the cupped female blossoms on a Begonia.

Nur Máhal, one of the Rev. Pemberton's novelties, is a semi-single Hybrid Musk variety which should make a handsome free bush. The colour is a deep rose, the flowers are of good size and freely produced. In

colouring and form and in the white streaks which mark some of the petals this variety recalls the old Cabbage Rose.

Two single Polyantha varieties are well worthy of notice. One is Messrs. Prior's Alice Amos with American Pillar colouring. This is very attractive. Its weakest point is the eye, the cluster of stamens being rather meagre. The other variety in mind is Laxton's Pink Delight of that salmon rose shade we call wild rose. This is a Rose everyone should try to procure. Indoors or out, it would be difficult to use it in the wrong place.

That beautiful white Wichuraiana rambler Snowflake is being placed upon the market this season by Messrs. Frank Cant. The flowers, which are pure white, are borne in large trusses. Probably not all the varieties mentioned will be in commerce this season, but most will be. R.



A PROVED VARIETY, ROSE MARY MERRYWEATHER.

blossoms have the unwanted bluish cast. Lady Sackville may be described as a freak Rose. Its blossoms, which are of medium size, are as near black as makes no matter. Before this variety, which is, by the way, fragrant, the old Prince Camille de Rohan must retire permanently from the field. Captain Kilbee Stuart is a "dark horse of another colour." This is of light, almost scarlet shade of crimson, but rich and velvety, and the foliage is on the light side. The petals are broad and shapely, and it has the old Rose scent. This is now a gold medal Rose.

There are many who like rose-coloured Roses. Such will rejoice in Bessie Chaplin, which is much of the La France type but less silvery in colour. It is up to exhibition standard, but will doubtless prove a first-rate garden variety. One of Messrs. Chaplin Brothers' novelties.

PROGRESS WITH THE DAHLIA

IT is rather too early in the season to pass in review Dahlia novelties for 1923. For the present we must be content to consider the lines upon which progress is taking place. The Star Dahlia has come into its own, and further progress is certain with this highly decorative type. The dwarf Mignon bedding Dahlias are not nearly so popular as they should be. Most gardeners nowadays grow a selection of Star or Single Dahlias to stop gaps in the middle of the herbaceous border as some of the early-flowering hardy plants go out of blossom, as well as a few tall Decorative sorts for further back. Why should not the Mignon type be grown for the front of the border, where gaps are more noticeable than elsewhere?

The Cactus Dahlia is not, and probably never will be, so free-flowered as the Decoratives or as the various Single types we have been discussing, but it has improved marvellously as regards carrying its flowers erect. Some of the more decorative varieties, too, carry their blossoms clear of the foliage. May the day be near when all new varieties do!

The Collarette type is very effective, especially when the contrast between petals and "collar" is pronounced. No doubt this section is destined to become yet more popular. There is no class more generally useful than the Pompon, but there is little room here for anything absolutely distinct. The huge Decoratives so popular in Holland, of which *Souv. de Gustav Douzon* may be taken as the type, are not particularly favoured in this country. They are rather too coarse and flaunting for most people. An entirely new type of large-flowered Dahlia is represented by *Rosella Amos*, here illustrated, which might fittingly be called *Chrysanthemum*-flowered. This was raised by Messrs. J. Stredwick and Son of St. Leonards, who have raised so many fine Cactus varieties. It is to be distributed in May jointly by Messrs. Stredwick and Messrs. D. Prior and Sons of Colchester. It is a huge flower, quite up to the size of the large Decoratives referred to, but much less "lumpy" looking.

The Pæony-flowered section is yet susceptible of great improvement. Most of the varieties are too shy or too invertebrate to hold their heads up, and a considerable number of very beautiful sorts considered on the merits of the individual flowers cannot produce the effect they otherwise might because the blossoms are not sufficiently clear of the foliage. The Miniature Pæony-flowered are a great improvement in this respect. No doubt they have been largely obtained from Single and Star forms of excellent habit. There is, however, abundant room for the large-flowered "Pæones," and it is to be hoped that many new varieties will soon be marketed with flowers as well displayed as on the best of the Minatures. It is not, after all, the weight of the blossoms which weighs them down or the huge Decoratives would also be "bashful," but such is by no means the case. A New Zealand correspondent, Mr. H. Goldie of Auckland, sent us during last autumn two pictures, one of which is reproduced herewith, of a new type of Pæony-flowered Dahlia which has originated with him. It is, as the picture shews, quill petalled, and if a race of similar character can be evolved they will, no doubt, be very popular for cut-flower work. Of their value in the garden it is impossible



DAHLIA ROSELLA AMOS.

to speak, but experience shews that it is possible to retain the character of the flower while perfecting the habit of any class of Dahlia. This first "quilled Pæony" variety the raiser describes as "straw, shaded buff and is quite striking." It was raised "from seed of a Pæony Dahlia, specially selected; the petals are of tubular form and the stems stiff, thus making for a good florists' flower."

The Camellia-flowered varieties such as Messrs. Cheal's *Crimson Flag* are invaluable in the garden. Very free-flowering, this variety—the best of the Camellia-flowered to date—is remarkably effective when bedded, especially when associated with one or other of the soft lemon yellow Mignon varieties. Decidedly there is room for many more really good Camellia-flowered sorts.

Whereas the Camellia-flowered is pre-eminently a garden form, the Miniature Cactus is above all suitable for cut flower. The white-flowered sorts are in great demand for wreath work, but white or clearly and cleanly coloured the varieties of this section are admirable for indoor decoration. Of moderate size—not too large even for table decoration and, for a double flower, exceedingly light and graceful, they may be used alone or in combination with single varieties of the Exhibition Single, Star or Mignon sections or, again, with some of the lighter and more graceful Collarettes.

Every Dahlia raiser knows that the possibilities of the flower are extraordinary. Many new "breaks" in beds of seedlings, not worth saving on their own merits, would, no doubt, with careful selection, be the progenitors of strains entirely different to any now in commerce, but probably the raisers are wise not to attempt too much all at once. There is, after all, much room for improvement in some of the sections already in commerce.



A NEW TYPE OF DAHLIA

NEW GREENHOUSE PLANTS

MESSRS. BLACKMORE AND LANGDON are, as usual, well to the fore with Begonia novelties. Among these the double fimbriata varieties are sure to find favour. Some of these remind one of the frilling of *Dianthus laciniatus*, but others—and these, in our judgment, are the more beautiful—are less congested in petal and retain the main characteristics of a good double camellia-flowered Begonia but with pleasingly “gaufré” petals notched at the edges. Tubers of these are offered as well as seeds.

Novelties in Basket Begonias include Golden Shower with flowers which when partly expanded are similar in colour to Rose William Allen Richardson, Stella of Fleur de Chrysanthème type and of a rather salmony tone of red, and Venus, a magnificent white variety. The flowers have, until fully expanded, a yellowish green cast which reminds one of the so-called yellow-flowered Cherry, *Prunus serrulata flore luteo pleno*. Messrs. Blackmore and Langdon also offer several fine new named double Begonias. These include one of the double fimbriata type, to which reference has already been made. This is named Mignon, and the colour is rosy cerise, the habit of the plant compact, and the flower admirable. In Hilda Langdon the firm believe they have the most beautiful double Begonia ever offered, which to those who know the quality of their productions is saying a great deal. The form is perfect, the size immense—flowers 6ins. and more across are common—and the colour a beautiful

rose pink, deepening to the centre. Lord Lambourne is another beauty with camellia-shaped blossoms, deep salmon orange, paling to the centre and retaining its colour when expanded; a large and substantial flower. Other novelties include A. H. Bunney, a frilled variety of reddish cerise shading, the flowers substantial and carried erect; Mrs. F. Bedford, a splendid bluish, flushed salmon; and Mrs. F. C. Calthrop, salmon pink, deepening to the centre and lit with golden tinting—a handsome flower, well held and very attractive. In John G. White the firm offer a fragrant double Begonia. The plant is free-flowering and of good habit, and the blossoms are bluish pink in colour.

Messrs. Dobbie and Co. of Edinburgh offer tubers and seeds of the new narcissiflora Begonias, which were illustrated in *THE GARDEN* for October 22, 1921, page 531. Narcissus-flowered is indeed no fanciful description if we assume the Narcissus in question to be the old double Van Sion. They are offered in shades of yellow and cream and also in red shades, while seeds are also obtainable. Messrs. Sutton's frilled Begonia Enchantment and the same firm's “Duplex” Begonias are mentioned on another page, since both are only offered from seeds.

Messrs. H. H. Maw and Sons of Pontefract have, in addition to their fine strain of *Primula obconica*, a really interesting novelty in Marguerite Guinea Gold. Not only is this very much deeper in colour than the ordinary yellow Marguerite, but it is remarkably compact in habit and very free-flowering.

Among the invaluable Perpetual Carnations there are several excellent novelties this season. Of these Messrs. Allwood Brothers' Chintz, which the raisers describe as bluish mauve ground flaked and speckled with claret, is quite one of the best. Many growers who do not as a rule like flaked Carnations were enthusiastic in its praise when it was exhibited in 1921. It was illustrated in *THE GARDEN* for December 10, 1921, page 624. Chintz is a very happy name for the flower and describes it much better than could any description. The firm, ivory-like petals suit the colouring to perfection.

Mr. Engelmann has a really good novelty in Goliath, which in the spring months often has 4ft. stems. It is a fringed and very fragrant variety with huge blossoms of a pale salmon pink colour. Another good novelty from the same raiser is Dora, which has fine substantial flowers produced in sufficient abundance to make it a profitable market sort. The colour is a clear salmon pink, just a trifle darker than the popular Lady Northcliffe. The calyx does not split.

Mr. Engelmann's other two novelties are sports from well known varieties in commerce. Cream Saffron is a distinct clean shade of cream sport from Saffron. The exact shade of colour is not matched in any other variety. Orange Sunstar is, as the name would suggest, a sport from Sunstar. The colour is an attractive deep orange with a few pink stripes.

British Perpetual Carnations are now quite equal to the American-raised varieties even as these latter grow across the water. With very few exceptions the American varieties are not, in Britain, nearly so good as those of British origin.



WHITE BASKET BEGONIA VENUS.



THE HUGE ROSY BEGONIA HILDA LANGDON.

"WHAT'S NEW" IN FLOWER SEEDS!

AMONG Messrs. Sutton's flower seed novelties the most interesting is unquestionably their new bedding strain of *Antirrhinum*. The plants attain a height of a foot or perhaps a little less under normal conditions and, having no central spike, produce admirable bedding effects. The spikes are close-pointed, but remain spikes, which can hardly be said to be the case with the Tom Thumb varieties. White, yellow, apricot, pale pink, bright pink, buff pink, cherry pink, orange-red, and the glowing orange-scarlet with a white throat the firm call Fire King. Many readers will know the variety called Sutton's Fire King Intermediate. The bedding Fire King is a little more "orangy" than that splendid sort. Needless to say, the Reading firm is still offering a full selection of varieties in the Tom Thumb, Intermediate and Tall sections.

Messrs. Sutton are making a speciality of what they have christened Duplex Begonias. The flowers have the large petals characteristic of the single types but in two or three rows. They are very distinct in appearance from the ordinary double Begonia, and will probably appeal rather to lovers of single than of double flowers. Messrs. Sutton also make a speciality of the beautiful frilled Begonia they call Enchantment, which comes true from seed. This is a golden yellow variety edged on the "frill" with bright rose.

Reading is almost as famous for its *Primulas* as for its biscuits. This season Messrs. Sutton are offering nothing absolutely new in large-flowered *Primulas*, though new and reselected strains are yearly put upon the market without any "blowing of trumpets," without, indeed, any note of the fact in the catalogue. The new Star *Primula* Symmetry, which was so much admired last year at Vincent Square, is now offered for the first time. It is deep rose pink, almost a crimson, and the flowers are so smooth and circular as rather to make meaningless the term "star." It has, however, the light graceful habit of the Star section, and is, moreover, a very robust easy doer. "S. and S." are also offering seed of their

Primula obconica Salmon Queen, which obtained an award of merit last Chelsea Show. It is a very beautiful and free-flowering sort with shell pink blossoms, and is quite a "new departure" with this flower.

There has of late been a revival of interest in the pretty and graceful *Cosmeas* (*Cosmos*) brought about by the introduction of early-flowering strains. Lateness to flower was the great drawback of the older strains, which were in other respects very desirable, both for garden decoration and cut flower. A further advance is marked this year. The beautiful anemone-centred doubles are this year offered by Messrs. Sutton in an early-flowering strain which will, they say, flower in ten weeks from sowing. Could anyone ask for more? Seeds are offered in white, rose, crimson or mixed.

Messrs. Barr and Sons, Covent Garden, always to the fore with seeds of hardy plants and shrubs, are this year offering seed of their magnificent *Campanula persicifolia* Telham Beauty with clear lavender blue flowers. Among a number of strains of choice *Aquilegias* (*Columbines*) the most noteworthy is perhaps Barr's Silver Queen, a long-spurred variety with white flowers faintly



PRIMULA OBCONICA, SUTTON'S SALMON QUEEN.

tinged, especially on the spurs, with rosy sapphire. Seed of that hardiest of New Zealand Flaxes, *Phormium tenax* Powerscourt Variety, is another outstanding feature of their list. This is a fine as well as a hardy variety, the flower-spikes not seldom reaching 14ft. *Primula pulverulenta* Annesgrove Variety is the deeper coloured pink form to which reference has often been made in *THE GARDEN*. It is at once more interesting and more vigorous than Mrs. Berkeley. Seed is also offered of *Primula chionantha*, one of the easiest and most beautiful of the nivalis section, in appearance something like a white *P. sikkimensis*. The rare *Primula seclusa* is also listed.

Of plants of shorter duration of which seeds are offered by the Covent Garden firm, mention should be made of *Statice sinuata* True Blue, with rich blue flowers in place of the usual lavender, and the new Double Queen Poppies, really a very true strain of double and semi-double "Shirleys." By the way, Messrs. Barr are offering the Shirley Foxgloves (*Digitalis*), a specially fine strain raised and selected, of course, by the Rev. W. Wilks. Other exceedingly interesting items are *Papaver alpinum* Shell Pink, said to come true from seed, and *P. orientale* Barr's New White. Oriental Poppies do not come true from seed, but a proportion usually do, and the remainder are commonly interesting and beautiful. These only represent a selection from some two hundred items of new and uncommon strains of seed.

Messrs. James Carter and Co. of Raynes Park offer long-spurred *Aquilegia* seed selected to rose and pink shades, which for some purposes should be very desirable; two new double *Clarkias*, a new crimson *Cyclamen* (Crimson St. George),



THE MANY COLOURED "JAPANESE MOUNTAIN" CHRYSANTHEMUMS.

a new Indian Pink (Double Fiery Scarlet), three new Gloxinias and a very fine new strain of Hollyhock. The flowers of this are not so full as with the "show" doubles, but the petals are prettily fringed and curled.

Messrs. Kelway and Son of Langport, famous the world over for Delphiniums and Gladioli, are "wholesale only" as regards flower seeds, but their special strains are obtainable from reputable seedsmen throughout England, many of them in the Langport firm's own sealed packets. Mignonette Perfect Model is recommended as the best on the market for pot culture and invaluable also outdoors. It is of sturdy, compact habit, and the huge spikes are well coloured. They also offer seed of their celebrated strain of perennial Gaillardia, certainly one of the finest in cultivation; of their even more famous Gladioli and of their new hybrid Lupins, either mixed or in separate varieties, namely, Belle of Huish, Canary, Coronation, Effective, Langport King, Phyllis Kelway, Prinrose Queen, Punchinella, Rod of Ivory and Somerset. Petunias, single and double, Pansies, Ryburgh Hybrid Poppies, Pyrethrums and Cinerarias are also offered by Messrs. Kelway, who are known as specialists in all of them. Messrs. Kelway are strictly wholesale, but if any difficulty is experienced in obtaining their seeds they will gladly supply the name of their nearest agent.

Messrs. Edward Webb and Sons of Wordsley have long been noted for their Schizanthus—Butterfly plants as some call them—and their new Giant Hybrids, containing, as they do, all shades and many combinations of colour from palest, pink to violet purple are exceedingly attractive for the greenhouse and also in a sheltered place, for bedding outdoors. Some of the dwarf strains especially are very handsome and succeed well bedded out. Those who have never tried this flower so might do worse than make a note of it. Among many other specialties of the Wordsley firm may be mentioned Sweet Sultans, which are at once beautiful, fragrant and admirable for cut flower. Messrs. Jarmans of Chard, Somerset, also have magnificent stocks of this splendid flower.

Messrs. Watkins and Simpson are a firm fairly familiar to the general public because their name so often occurs in lists of plants which have received an award of merit after trial at Wisley. They would doubtless be better known still were they not, like Messrs. Kelway, wholesale only. Their novelties are obtainable from most seedsmen and retail nurserymen. They are, this season, sending out three new Antirrhinums. Two are dwarf varieties (*natum grandiflorum*), these being Madonna, which the firm consider an improvement even upon their well known white sort Purity, and Radiance, of which the flowers are salmon rose, orange and terra-cotta, providing, in the garden, a rich glowing salmon red effect. The third variety is a tall one, and would be splendid for massing in shrubberies or elsewhere where stiffness is at a discount. The golden yellow central band merges gradually into the colouring of standard and lip, which is pinkish bronze. The individual flowers are fine, so are the spikes. Another interesting novelty offered by these Covent Garden wholesalers is the Japanese Mountain Single Chrysanthemum, to which reference has more than once been made by Mr. E. H. Woodall in our "Correspondence" column. These are single and very starry and neat in appearance, and are of many colours. *Clarkia elegans* in its various forms is fast becoming popular as a cut flower; indeed, the long, graceful sprays are nowadays often seen in Covent Garden market. "W. and S." offer this season a novelty called Ruby King, of ruby red colouring, which

should be a very useful addition. *Dahlia Stella*, which might be described as a single Cactus with no twisting of the petals; *Gaillardia Dazzler*, golden yellow and maroon red, and said to come almost true from seed; *Sunbeam Improved Iceland Poppies* and *Viscaria Tom Thumb Rosy Gem* are other novelties, besides half a dozen promising new sorts of Sweet Pea.

Messrs. Thompson and Morgan of Ipswich, always to the fore with perennial seeds, have an attractive list of novelties, including seeds of such beautiful Lilies as *L. regale* and *L. sulphur-gale*, Harkness's new Giant Iceland Poppy Tangerine, of which the name is fairly descriptive, Downer's strain and several other new strains of perennial Lupins now so deservedly popular. A new upright-growing Verbena called Royal Bouquet is indeed a novelty, inasmuch as the plant grows about 15 ins. tall and only 10 ins. or so across. When in bloom it makes a beautiful mass of colour, and it should be exceedingly useful for growing in pots. Those who grow the handsome tall perennial Toadflax known as *Linaria nacedonica* will wish to procure *L. m. speciosa Nymph*, which has cream-coloured flowers, orange yellow spot on the lower lip and the characteristic glaucous foliage.

Perry's Hardy Plant Farm, Enfield, offers a long list of perennial seeds of interest to all who like raising choice plants from seed. Among many uncommon plants to raise from seed we select, almost at haphazard, *Anemone Mollenderi*, *Geum Borisii*, *G. Mrs. Bradshaw* (a fine rock garden plant), *Incarvillea thalictrifolia*, *Iris sibirica* Perry's Blue (well known as the finest of the Siberian Irises), *Lilium Balfourianum* and *L. L. pardal-parryi* and *sulphur-gale*, also *Papaver orientale* Lord Lambourne.

M. H. Correvon of Chêne-Bourg, Geneva, specialises in seeds of alpine plants. There is no need to mention any particular "novelty,"



THE BEAUTIFUL AND FRAGRANT HARDY PRIMULA CHIONANTHA OFFERED BY MESSRS. BARR AND SON.



SUTTON'S EARLY DOUBLE COSMEA.

for most of the species offered are more or less uncommon and some exceedingly rare.

Messrs. Blackmore and Langdon's seed novelties in Begonias are referred to elsewhere. The Bath firm also offer seeds from their magnificent Gloxinias and Cyclamens, Primroses and Delphiniums.

Messrs. John K. King and Sons of Coggeshall are large growers of flower and vegetable seeds of many kinds, but especially Sweet Peas. Of these last they have four novelties this year, namely, Advance, white, flushed rich pink, throws many duplex flowers; Faerie Queen, salmon on a cream ground, well frilled; Powerscourt, said to be the largest flowered, strongest growing and best lavender variety to date; and Wild Rose, deep old rose touched with salmon orange in the standard.

Messrs. John Peed and Son of West Norwood are offering a splendid strain of large-flowered Streptocarpus hybrids, not only mixed, but in separate colours—pink, red, purple, white, and

white with purple stripe. Messrs. Peed's magnificent strain of Cockscomb is scarcely a novelty, but it is of outstanding excellence.

Messrs. Toogood and Sons, Limited, of Southampton, have several excellent novelties, including two new annual Asters, a new Ten-week Stock and several new Sweet Peas. Phlox Drummondii, Toogood's Salmon Queen, is perhaps the pick of the basket. This new salmon rose tint possibly provides, with the crimson and white strains now so widely used, as much variety as is really necessary in this very charming annual.

THE LATEST IN VEGETABLES

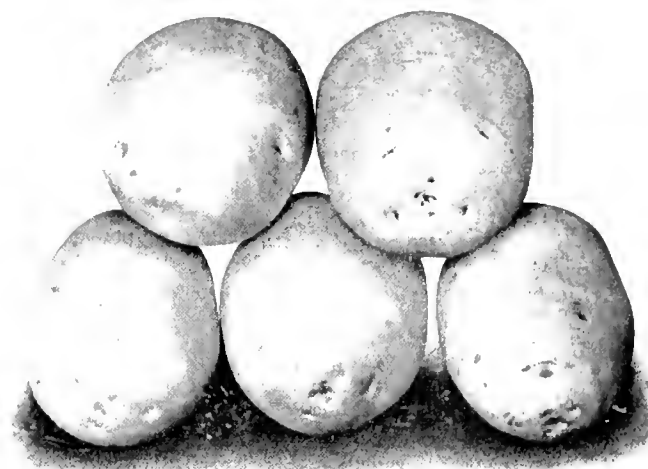
THE most striking novelties among vegetables this year are undoubtedly Messrs. Sutton's two new Dwarf Broad Beans, The Sutton and Sutton's Little Marvel, described (and The Sutton illustrated) in our issue for January 13, page 22. In addition to these new Beans Messrs. Sutton are offering a new dwarf second-early Pea—Sutton's Sensation. The haulm only attains a height of 2ft., the pods are handsome and very prominently borne in pairs, and the plant is of robust constitution. Seven and eight are usual numbers of Peas in the pod and the flavour is excellent. The new French Bean Sutton's Premier is a brown-seeded hardy and robust variety which produces pods as large as those of Canadian Wonder, but much more quickly. It is a fine-flavoured sort and continues in bearing for an unusual length of time. Messrs. Sutton's other novelty is Capsicum Golden Spire, which, while naturally of culinary value, is highly

ornamental. It should be very useful to those who wish to exhibit collections of vegetables.

Messrs. Webb's also have a new French Bean—New Bountiful—which is also an early, prolific and continuous bearer. The Midland firm are also marketing for the first time a new Potato—Webb's Renown—which is of excellent appearance and fine quality. It cooks mealy, is shapely enough for exhibition and its cropping properties, we understand, are excellent. The real worth of new varieties of Potato only time can prove. Let us hope it will be a worthy companion to the splendid Webb's Emperor Cabbage, so largely and so wisely grown by market growers.

Messrs. Dobbie and Co. offer a fine exhibition Celery in Dobbie's White Queen. It was raised by a Scottish exhibitor, who has won many prizes with it at leading shows. They also offer a special

re-selection of their Champion Scarlet Runner Bean. They differentiate this from the ordinary stock by placing xxx in front of it, a sign of



NEW MAINCROP POTATO, WEBB'S RENOWN.

distinction which may not be perfectly clear to some of their teetotal customers!

Messrs. Laxton Brothers of Bedford are, perhaps, best known to readers of THE GARDEN as raisers and growers of Strawberries and other hardy fruits, but they have, actually, raised some of the best Peas now in commerce. They are this season sending out Laxton's Progress, which Messrs. Laxton consider the finest Dwarf Pea they have raised. It is a fully wrinkled Marrowfat variety, containing, as a rule, nine or ten Peas in a pod. It is earlier than the well known Laxtonian, the pods are exceptionally dark coloured, and the Peas large and fine flavoured. The height is given as 1½ft. to 2ft.

Messrs. Kelways are distributing through their numerous agents Broad Bean Kelway's Upright Early Longpod. This variety is notable for the number of pods it bears at the base of the plant. The pods, even fully grown, are held erect, and the plants carry a very small amount of haulm. The Langport firm, curiously enough, also have a new dwarf French Bean which is reputed to be as fine as and earlier than Canadian Wonder. It is said to be both early and free cropping. The seeds are the colour of those of a newly burred horse chestnut and blotched with cream. In Kelway's Perfect Model the firm claim to have the finest Cucumber for exhibition yet sent out. The fruits, which reach a length of 24ins., are straight-sided and dark green in colour, and carry a beautiful bloom.

Messrs. Carters of Raynes Park announce the largest podded dwarf Pea ever produced, but as they are planting as large as possible an acreage for 1924, seed is not procurable this season. As far as pods and Peas go it is as near as possible a replica of the famous exhibition Pea Quite Content, but it only attains a height of 1½ft. to 2ft. As the illustration shows, it is very prolific. Messrs. Carters have a new French Bean, Carter's Sunrise, said to force as well as Ne Plus Ultra, but to be far more prolific. A new Runner Bean, White Monarch, is described as a white selection from Scarlet Emperor, equally prolific and handsome. A new Cucumber which is highly resistant to the dreaded black-spot is aptly called Constitution. It is a handsome fruit with a neat short neck.



CARTER'S GIANT PODDED DWARF PEA.

HARDY BORDER PINKS

New Varieties for this Season.

MR. JAMES DOUGLAS of Great Bookham, is sending out this season three excellent novelties all delightfully fragrant. Dainty Lass is deep rose pink with a crimson centre; Goodwood, a prettily fringed sort of soft shell pink colouring with a crimson centre; and Rosemary a dwarf, stiff habited variety, salmon-rose, centred deep carmine. These are all worthy additions to Mr. Douglas's already long list of sturdy, compact habited Border Pinks.

There is no need to enlarge on the beauty of Mr. C. H. Herbert's more or less Perpetual-flowering Pinks. They have often been recommended in THE GARDEN and most readers have, at any rate, some of the varieties in cultivation.

Mr. Herbert is sending out this season the finest batch he has yet submitted and that, everyone will agree, is a great deal. These are called Bridesmaid, Fire King, Lord Lambourne, Mrs. Giffard Woolley and Red Indian.

Bridesmaid is shell pink in colour with a rich salmon base. This colour is slightly suffused through the petals. It has stout stiff stems each bearing three or four flowers. Fire King is a very welcome new addition to these "Herbertii" Pinks. The flower stems are a foot or more long and are well carried and the plant is a good grower. Lord Lambourne probably considers himself honoured by the variety named after him, for its colouring is quite unique in Pink or Carnation. Very difficult to describe the raiser calls it "dark cerise with a darker red base." Mrs. Giffard Woolley is surely one of the largest and handsomest Pinks yet raised. It is of a delicate salmon shade with a deeper salmon base which throws up the exquisite form of the flower. This is a free and strong grower and when cut might easily be mistaken for a richly coloured Enchantress Carnation. Red Indian opens bright cherry red, but the expanded flowers the raiser describes as Indian red. They are, at any rate, rosy-crimson, with a maroon tone. This is a very free-flowering sort. The bases of the flower stems, after the flowers are cut often produce more flowers and "grass." Bridesmaid, Lord Lambourne and Red Indian have each received the coveted award of merit. It is fairly safe to prophesy that Fire King and Mrs. Giffard Woolley will receive the same distinction if and when submitted to the Floral Committee.

That the raisers of the splendidly floriferous Allwoodii have not been marking time their

novelties for 1923 conclusively demonstrate, for Messrs. Allwood's productions are rapidly becoming flowers of quality. Whereas the first varieties sent out produced good massed effect, and little else, the varieties now coming into commerce can be used in a dinner table decoration, for instance, including choice greenhouse flowers, without looking ill bred or out of place. The novelties are Alfred, pure white—this should entirely supersede Harold; Arthur, a greatly improved Ruby; Barbara, rich crimson, fully double; Dickon, bright centred dark maroon; Edith, white with a violet eye; Matty, semi-double, fringed reddish cerise, with



NEW PINK (HERBERTII) RED INDIAN.

maroon eye; Robin, double deep brick red; and Sybil, flesh pink, semi-double, with the smooth solid petal of a Carnation. Robin has a specially fine, erect and sturdy habit of growth.

Messrs. Maurice Prichard and Son of Christchurch have been working on entirely different lines from Mr. Herbert, Mr. Douglas or Messrs. Allwood. It is, indeed, singularly fortunate that four firms should simultaneously be working on this valuable plant from quite different angles. Some of the newest of Messrs. Prichard's varieties are mentioned below. Donnizetti is a splendid flat shapely single variety of vivid rosy-red colouring with a maroon eye. Gen. Freyburg, V.C., is a double variety with deep carmine flowers 3 ins. across. Magnificence is a fine double white with chocolate markings. Mozart is another vivid rosy-red single variety, small flowered, but very

free and lasting long in blossom. B. O. Prichard is a fine double rose self, and Ruy Blas a striking single red variety with a deeper eye.

The old florists who, a generation ago, worked so long and so hard to improve the markings of the laced and fancy Pinks, mostly of delicate constitution, would, indeed, open their eyes in wonder could they see the flowers we admire to-day.

THE ASTILBES

WHILE it requires a little stretch of the imagination to picture these plants as possible future rivals to such old border favourites as Delphiniums, Lupins, Phloxes, etc., they are unquestionably some of the finest summer and early autumn plants we have, and, unless I am quite mistaken, are becoming increasingly popular year by year, as their possibilities for the decoration of the flower garden are realised. Among other claims to recognition are two which stand out prominently, namely, their ease of culture and their gracefulness when in flower. Another, and perhaps hardly less worthy point, is the adaptability of the plants, both as regards soil and position, for although, like many other plants, they will, naturally, respond to a compost made to their liking, they will grow in any good garden soil.

Planting may be done at any time from autumn onwards, during favourable weather, until early spring, so that the present time is a suitable one for anyone wishing to commence their culture. In selecting a place for a group or bed of them other than the herbaceous quarters, an ideal spot may often be found by a pond or streamside, and it matters not in the least if a considerable amount of shade has to be reckoned with; indeed, such is advantageous if it is the midday sun which is shut off. Such a position as here suggested is nearly always a cool one for the roots of plants, and that is one thing above all others for which the Astilbes are grateful. I have heard the remark that the range of colour of these plants is too limited, but, personally, I cannot see why it should affect their popularity. I ask, Would the Delphinium occupy its proud place to-day had it given us a host of tones? Where it is necessary to have something in flower in the bed or border devoted to Astilbes early in the season, various bulbs may be used, or a groundwork of Polyanthas or Myosotis offers itself, and, should an additional display be required with the plumes of the Astilbes, some of the hardy Liliums are useful. When massed in a bold bed by waterside the various-toned Japanese Maples associate very pleasingly with them, so do a few plants of such a decorative Grass as Eulalia (Miscanthus) japonicus zebrina.

The following are all good sorts, and, when well grown, will add distinction to any suitable site. It should be borne in mind that the heights of the several varieties may vary considerably according to soil and season, but those given may be accepted as a fair guide.

	Feet.
Ceres, pink with lilac tone	2½-3
Brunhilde, cream pink	2-3
Gloria, rose toned pink	2-3
Kriemhilde, salmon pink	3
Princess Mary, rosy crimson	3
Pink Pearl, pale pink	2
Rutilans, rose carmine	3
Salmon Queen, salmon pink	3
Siegfried, rosy salmon	3

Of the taller-growing ones:

America, rosy mauve	4
Davidii, purplish	5
Grandis, white	5
Grandis rosea magnifica	5
Gruno, salmon pink	4
Sulland, reddish tone	5-6

HENRY TURNER.

CORRESPONDENCE

DOUBLE WALLFLOWERS.

REMARKING to a kindly Dutch hotel keeper that I was going on to Leeuwarden, he burst out, "Ah, Leeuwarden, I like Leeuwarden—my mother came from Leeuwarden," and my heart warmed to him at once. When I read Mr. Arnott's interesting notes on the above and his reference to the fact that they were only raised from cuttings, my heart again warmed, and I was carried back fifty years. After long years spent in business in a smoky Lancashire town, where not even grass could live, my mother, a townswoman, coming here, broken in health, plunged into all the delights of cottage gardening, striking cuttings, raising seeds, dividing all the old-fashioned things and so from childhood I have loved the plants kept for us by the mothers of the world, who, tired and sick of the troubles of life, have turned out into the garden for a change and forgot their troubles, or who, to retain some plant planted or cherished by a late mother, made a few cuttings or divided the old plant lest it also passed away. I retain an old Polyanthus, a relic, kept by continuous division, of a variety brought into this county by a young bride four generations ago—a piece of a mother's favourite—and kept in existence by her garden-loving descendants. The old double Wallflowers, therefore, appeal to me. I used to have a number of sorts, but am now down to the two double yellows mentioned and the old double red. I have now lost the old double black-red which used to be grown in the south-west under the appalling name of Bloody Warrior.—J. STORMONTH, *Kirkbride, Carlisle*.

SOME EARLY SPRING FLOWERS.

AMONG the earlier Snowdrops, *Galanthus byzantinus* was the first to shew flower here this season, from seeds kindly sent me several years ago by Mr. E. H. Woodall from Nice. It is a fine broad-leaved stately plant. *G. cilicicus* closely followed it, and then a beautiful early form of *G. Ikarie* which came to me from Mr. E. A. Bowles' garden. *G. Alleni*, from the same source, will not be out for another week or two. This is one of the finest and most vigorous of all here, and my stock of it, now quite an important one, emanated from the gift of one bulb. From seed of *G. Fosteri*, too, crossed with the pollen of *G. Whittallii*, is now flowering what is an obviously true hybrid between the two parents. Also in bloom are several selections of *G. Whittallii*, one with leaves nearly as broad as a Tulip, "spotted" here growing among others by that keen lover of Snowdrops and good friend of mine, the late Mr. F. W. Harvey, some time editor of *THE GARDEN*. *Eranthis hyemalis* (that little *hors d'œuvre* of the garden that whets one's appetite for the spring feast) has been out for a fortnight, *Iris Histrio* a week, and on trying for the first time, I find that *I. reticulata* will stand very gentle forcing, and it is in flower to-day (January 10) in pans, fragrant and delightful in the house.—F. HERBERT CHAPMAN, *Rye*.

MESEMBRYANTHEMUMS OUTDOORS.

I HAVE read the article signed "Z" in your issue of January 13, and I feel that I must answer the questions asked therein by him. My garden is in a very favoured situation near Plymouth, hanging over an estuary, and is certainly one of the favoured places. I am growing here most of the succulents, and I have quantities of the small *Mesembryanthemums* growing in the open, on some rocks; they seem to do perfectly, and

all varieties that I have tried (they are very many) succeed. I have also a large variety of Agaves, Aloes, Cotyledons, etc.

I quite agree with his praise of *Olearia semidentata*, and *O. chatanica* is nearly as beautiful. I have *Prostanthera rotundifolia*, but not violacea, as, so far, I have not been able to obtain it.

Again I have been following the same lines as "Z" in growing the "greenhouse"

because it and *Aristea fruticosa* differed from all the other known species in having a shrubby stem. The plant was of easy cultivation and never failed to flower every succeeding year. During the growing period it was kept warm, but cool and dry in winter.—HORTULANUS.

THE NICE SNOWFLAKE.

THIS pretty picture of a potful of the little-known *Leucojum nicaense* shews how amenable this bulb is to cold frame treatment. Mr. St. Quintin of Scampston Hall, Yorkshire,

received one bulb of this dainty plant that had been collected near Nice five years ago, and in that period it has increased to a potful. What it needs absolutely is a dry, warm rest during the summer. No water should be allowed to touch it during the months of July, August and September, but given that necessary dry rest there is no difficulty in its culture. Being quite hardy it needs no heat in winter but it does not like being drowned by constant rains, so that the shelter of a frame is desirable. Flowering in spring about the same time as the Vernal Gentian, I can imagine nothing prettier than the contrast these two gems make when shewn together. On the hills at the back of Nice, where it grows, it flowers the third week in April most abundantly, but the hot suns burn up the flower too quickly. Lucky for the plant! as, if it were in flower for any



LEUCOJUM NICAENSE AT SCAMPSTON HALL.

Rhododendrons—*Sesterianum*, Countess of Haddington, Lady A. Fitzwilliam, Dalhousie, Nuttallii, Lindleyanum, and many other of the tender ones—which have all flourished for several winters in the open, without any protection.

I shall be glad to shew my collection to "Z" if he should ever be down in this country, and to answer any questions that he may wish.—WILLIAM ARKWRIGHT, *Wembury, Plymouth*.

ARISTEA CORYMBOSA.

I WAS greatly interested in the note "A Quaint Iridaceous Plant," described on page 652 in your issue for December 23, 1922. This quaint and beautiful old-fashioned plant was well known to me when I commenced gardening. Although the pale blue flowers were rather fugitive individually, they were produced in succession over a considerable period on old plants. The latter had a clear stem rising from the pot, branching on the top and forming a very bushy low standard, densely covered with short light green leaves. At the time I speak of it was known as *Witsenia corymbosa*, the name given to it by Ker in the "Botanical Magazine," t. 895. It was also figured in "Lodig's Botanical Cabinet," t. 254. Several names have been given to it by different authors, and the late Mr. J. G. Baker named it *Nivenia corymbosa*,

length of time, it would long ago have been gathered or dug up!—E. H. WOODALL.

SHRUBS FOR TOWN GARDENS.

IT is interesting to read in *THE GARDEN* from time to time of shrubs that flower at Aldenham House, Munstead Wood, and at other gardens in the South of England. How we Northern shrub lovers envy the atmosphere and climatic conditions which would enable us to provide such displays. For some time my tent has been pitched in a large Yorkshire city where injurious fumes always contaminate the atmosphere, so that the balance is heavily weighted against healthy vegetation. Yet in spite of this there are many enthusiastic gardeners here, men and women. Almost every resident in the suburbs is anxious that his garden shall be at once a credit and an inspiration. Having proved the value of certain beautiful hardy flowering shrubs for town gardens, I thought my experience might be of interest to readers of *THE GARDEN* who dwell in similar situations. One of the earliest plants to flower is the lovely yellow Jasmine, *Jasminum nudiflorum*. The bright yellow blossoms open in January or February, and at that dark season afford the greatest pleasure. I find that any ordinary soil will yield adequate sustenance,

and that the best position in which to plant is at the base of a south or west wall. The shrub which blooms next in order of time is *Rhododendron præcox*. This delightful kind should be in every town garden. My bushes are a yard high, and to preserve the delicate pink hue of their flowers I have planted them among some well branched specimens of *Prunus pissardi*. When planting *Rhododendron præcox* it is beneficial to incorporate a good dressing of leaf-mould with the soil. The genus *Ribes* is the next to provide a doral feast. It would appear that our "coal-measures" soil is conducive to the formation in this genus of vigorous and floriferous growth. The bushes provide a picture of perfect health, and they never fail to bloom. The only attention I ever give is to remove old and weak shoots immediately after flowering. I have three sorts in my collection, and all of them bloom in April and May. The red (*R. sanguineum*) is the most suitable because its flowers do not reveal the presence of soot so readily as the white variety (*R. sanguineum album*) or the yellow species (*R. aureum*). Several of the Barberries (*Berberis* species) succeed here, and they open at the end of May or early June. I should give the palm to *B. stenophylla*, for, in my judgment, the garden is never more beautiful than when the pendulous branches of this gorgeous shrub are densely hung with bright yellow flowers. *Darwinii* and *vulgaris* both justify their place in a northern collection. I never prune the shrubs save to remove dead wood, and they grow in ordinary soil. Perhaps the most popular and universal shrub here is the Lilac. It is to be found in practically every garden, and makes a brave show in early June. In my own collection I have, in addition to the type (*Syringa vulgaris*), *Mme. Lemoine* (double white) and *Souvenir de L. Spath* (deep purplish red). Of the two latter I would speak in terms of highest praise. To attain the best results Lilacs must be grown in good soil and have the

benefit of full exposure to sunlight.—Geo. H. COPLEY, *Leeds*.

A BEAUTIFUL PRIMULA.

I ENCLOSE a photograph of *Primula sphærocephala*, taken on September 29 last year, which might interest your readers. The plant bloomed well on into October till spoiled by the frost. The seeds were sown in March last in pans and pricked out later in a damp, shady spot. They should be treated as biennials, but mine look like flowering again this year.—M. J. WOLFLEY.

[*P. sphærocephala* is a violet coloured species, hailing from China, but obviously closely related to the beautiful *P. Mooreana* and others of the "capitata" kin.—ED.]

FERN SPORES IN GARDEN SOIL.

I WONDER how many readers of THE GARDEN

have seen Ferns growing inside bottles thrust into the ground upside down. In a cottage garden here are some sixty "Camp Coffee" bottles used as edging to a path, and most of them have Ferns growing from the soil forced up into the neck of the bottle. The owner tells me the bottles have been there about five or six years, and probably the Ferns are now at their best. I was allowed to remove four bottles to be photographed and enclose a print. The Fern in the bottle on the left is the common Ribbon Fern, *Pteris serrulata*, and the others appear to be the Soft Shield Fern. I imagine that pot Ferns have been stood on the spot in the summer and shed their spores, but it must have been a long time ago, as the present occupier has been in the cottage for a good many years and says they have never stood Ferns there. I have read that this may be expected to happen anywhere if a glass jar is inverted in the soil, but have never before seen it.—H. C. WOOD, *Lingfield*.

"CODDLING" ALPINES.

AN article entitled "The Coddling of Alpines—a Warning to Rock Gardeners," appeared recently in the *Times*. The writer—presumably an expert—condemns in no measured terms the use of glass protection for the more delicate kinds.

I am far from being an expert rock gardener, but I certainly am an enthusiast, and this article has caused me a certain amount of bewilderment as, apart from the almost universal recommendation of the practice by all writers, my own limited experience has found it most valuable. I have certainly found none of the spotty appearance attributed by the writer to the use of these "silly sanatoria." On the contrary, to take one instance



A COLONY OF PRIMULA SPHÆROCEPHALA.

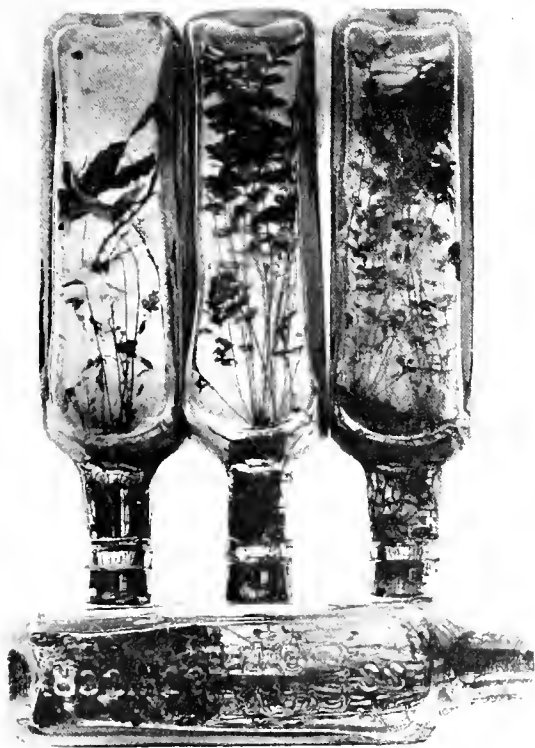
only, those of my *Kabschia Saxifrages* which I have thus protected are not only vividly healthy, but shew great promise of bloom, while those not so sheltered look far from happy after the drenching rains of the last few weeks.

I venture to encroach on your good nature with this somewhat lengthy epistle as I think the subject might be of interest to many of your readers, and your views would certainly be most welcome to a tyro like myself.—COTSWOLD.

[Most readers would probably agree that the building of "sanatoria" in the rock garden should be kept to a minimum, but undoubtedly a certain amount of protection is necessary for woolly foliaged plants, such as many *Androsaces*, at any rate in the neighbourhood of manufacturing areas. From a cultural point of view there is no possible objection to such "sanatoria" since most alpines do splendidly under glass in winter and early spring, but few people like their rock gardens to look like the Mappin Terraces at the Zoological Gardens or worse!—ED.]

LITHOSPERMUM ROSMARINFOLIUM.

THE winter so far being mild, we have enjoyed an unusually good shew of blossom on this gorgeous species, whose deep azure flowers seem to be stained with the magic colour of its own native home of Capri. Given a sheltered, sunny position, *L. rosmarinifolium* will stand considerable frost with impunity, and although some have difficulty in satisfying it, the plant grows away here with the vigour of a prostrate Lavender, to which, in foliage and habit, it bears no little resemblance. It likes best a free, even stony, root-run, such as the top of a low retaining wall might afford, and a few lumps of old mortar are appreciated. The flowering season varies a good deal in open-ground plants, this being governed by the weather to great extent. As a rule, however, we expect the first blooms to open in late autumn, and a succession is usually maintained (omitting severe spells) until February or later. This is a first-rate cold-house plant. Propagation is very easily effected by cuttings struck about midsummer.—N. WALES.



THE FERNS IN THEIR STRANGE "CLOCHES."

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

General Work.—In the ordinary course of events we may expect better weather and a gradual return to brighter and longer days, so it is essential for us to push on with the preparation of all vacant ground for future crops. Weeds are beginning to push up, and, where possible, they should be dug into the soil and on no account be allowed to produce flowers. Pea sticks can be prepared, and "seed" Potatoes for the main crop spread over the floor of a cool shed, where they will form short-jointed growths, and on wet days the ware or kitchen Potatoes can be looked over for diseased tubers, while other vegetables in store may also be examined.

The Flower Garden.

Climbing Plants.—In many gardens climbing plants are quite a feature and although often it is a good plan to allow them to grow unchecked, specimens on or near the dwelling-house will need attention. Wistarias and such like should be overhauled and any weak growths removed. Where a climber is intended to cover a certain area, a few young shoots should be retained near the base whenever possible, eventually to take the place of any worn out branches or dead wood. Here at Castleford, trees of useless varieties of Apples and Pears have been employed for supports of the various forms of Vitis, Lonicera and Clematis, especially those of the montana type. The climbers have in most instances covered the trees, and one can now see the plants at their best. Solanum crispum, S. jasminoides and Polygonum baldschuanicum, are also suitable for this purpose. When planting climbers at the base of useless trees, a portion of the soil should be taken out and replaced with a mixture of loam and leaf-mould or good garden earth.

Rambler Roses.—Roses of the Dorothy Perkins type should now be overhauled if the work was not done immediately after the flowering season, cutting out the old wood and tying in the growths produced last summer. Replace decayed poles or arches and use good quality tarred twine. These remarks are important because it is nothing short of a calamity when poles and twine give way just as the plants are in bloom. Old and worn out specimen plants should be replaced as the work proceeds, and I can strongly recommend Scarlet Climber; it is one of the finest Pillar Roses in commerce.

Fruit Under Glass.

The Orchard House.—This structure generally accommodates fruit trees growing in pots, perhaps in addition to a few permanent trees such as Peaches and Nectarines growing on the sides of the house. The latter should be pruned and cleansed and the trees in pots should also be dealt with in like manner. The pruning of all trees should now be completed. With pot trees it is a great mistake to overcrowd the shoots or to leave the growths of Peaches too long unless they are needed for the extension of the tree. As a rule each growth can be cut back to within 6ins. of its base but always prune to a leaf bud. Cherries, Plums and Figs are often grown in pots, also a few Apples. The pots should be plunged nearly to the rims and the roots must always be kept well supplied with water. Admit air freely.

The Hardy Fruit Garden.

Small Bush Fruits.—The pruning of these trees should now be finished and when the operation is completed lightly fork over the ground and give a mulching of manure. Red and White Currants should be pruned on the spur system, cutting back the side shoots to two or three buds, and allowing the leading growths 6ins. or 8ins. extension. Branches occasionally decay, and where this has happened a new shoot should be retained to take its place. The pruning of Black Currants consists of thinning out the old wood, leaving the strong young growth of last season. Old neglected trees may be rejuvenated by cutting all the branches near the ground level. New shoots will spring up from the base and form the fruiting wood next year. Gooseberries should be well thinned to allow light and air to enter the centre of the bushes and also to permit the fruit to be gathered with ease. If possible the Gooseberry should be grown on a single stem about 8ins. in length, and, when pruning, low-lying branches must be removed in their entirety.

T. W. BRISCOL

(Gardener to W. R. Lysaght, Esq.
Castleford, Chepstow, Gloucestershire.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Leeks require a long period of growth for their full development, so the seed should be sown as soon as weather conditions will permit. Sow in a sheltered corner in rich soil, either broadcast or in lines 6ins. apart; as the crop will be planted out later on, the seed bed need not occupy much space.

Brussels Sprouts.—When these are sown in autumn they turn in rather early for general purposes, and when sown out of doors in spring they often fail to attain full size. It is advisable therefore to sow in boxes in a cool house, the seedlings to be in due course pricked out into a cold frame. Solidity is one of the best varieties.

Kidney Beans.—Where these are required early a sowing should be made in a warm house in 9in. or 10in. pots, placing four or five seeds in a pot. Use a fairly rich soil and leave room in the pots for an inch or so of top-dressing later on. Use a dwarf variety such as Ne Plus Ultra.

The Hardy Fruit Garden.

Planting.—If the planting of fruit trees or bushes was not undertaken in the autumn, the work should be done now, whenever climatic conditions will permit. Examine the roots and cut away any parts that are damaged or diseased and shorten any bare roots of undue length. See that the bottom of the pit is level or slightly convex rather than concave, spread out the roots and tread the soil firm as the filling-in of the pit proceeds. Beware of planting too deeply; the aim should be to keep the roots near the surface. Fruit trees in the open should be staked promptly and wall trees should be nailed into position.

Transplanting Young Bushes.—Where cuttings of Gooseberries or Currants were inserted two years ago these should now carefully be lifted and transplanted into nursery lines about 2ft. apart, allowing 18ins. between the plants in the line.

The Flower Garden.

Sweet Peas.—The seeds should be sown during the course of the week. Some cultivators sow in small pots, but excellent results are obtained by sowing in ordinary propagating boxes. Maiden loam with a little old hot-bed manure forms an excellent compost; pass the whole through a 4in. sieve and place the rough portion in the bottom of the boxes. Sow in lines 2ins. apart allowing an inch between each seed in the lines; drop the seeds into holes barely 3in. deep formed by the aid of the forefinger or a blunt wooden peg. Place the boxes in a moderately warm house till germination takes place. The utility of chipping the seeds is a debatable subject. I never practise it and have had no cause to complain of results. The purple and lavender shades germinate least satisfactorily on the whole.

East Lothian Stocks.—If not already done, seed of these useful plants should be sown without delay. Ageratum and Lobelia may also be raised from seed now. An intermediate temperature is suitable for germinating all the foregoing. Cover the boxes with sheets of glass or with newspapers to prevent too rapid evaporation.

Fruit Under Glass.

Early Vines which have made about a foot of growth should have the shoots only slightly tied down at first as they are very easily broken or heeled off. The afternoon of a sunny day is the best time for undertaking this work as the shoots are then in a more or less flaccid condition.

Late Vines which should now be started should have a temperature of 45° at night, with a rise of from 5° to 10° during the day, the latter figure being for a spell of sunshine. Spray the rods gently with lukewarm water morning and afternoon.

Cucumbers.—If a sowing is made now the subsequent plants will begin to bear early in summer. Sow singly in 3in. pots only partially filled with fairly rich soil and plunge in bottom heat. A minimum temperature of 60° will suffice. Lockie's Perfection is an excellent variety.

The Shrubby.

Planting.—Advantage should be taken of open weather to carry through this operation. In addition to dwarf shrubs, such as Hypericum and Ericas the front of the border or bed may be furnished with such plants as Funkias, Hellebores and Saxifraga peltata.

CHAS. COMFORT.

(Formerly Head Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Calceolarias of the large-flowered herbaceous section sown last August should now be ready for potting on. The plants enjoy a rich compost, to which some dried cow-manure or old mushroom bed manure should be added. After potting, the plants should be kept close for a few days until the roots get a hold of the new compost. Afterwards they should be kept as cool as possible, with ample ventilation according to the weather conditions. These plants are very subject to attack by green fly, but this pest may be prevented by frequent fumigation. Calceolarias of the shrubby section, as represented by C. Clibrani and C. Allardii, propagated by cuttings last autumn, should now be potted on. These plants can do with a slightly heavier compost and firmer potting than the herbaceous section.

Calceolaria integrifolia (syn. C. rugosa) is an old garden plant which is worthy of more general cultivation for the conservatory, as it will make a fine large specimen if potted on into 8in. or 10in. pots. It also makes a fine specimen if planted out in a bed or border in an unheated house. This species is hardy outdoors in South Devon and Cornwall. Plants propagated from cuttings last season should now get a shift into large pots, and are best grown in a perfectly cool house.

Calceolaria Burbidgei is a fine kind for autumn and winter flowering. Plants rooted from cuttings next month will make good plants for the stages if stopped several times and grown on into 7in. pots. Last year's plants if potted on into 10in. pots will make large specimens 6ft. or 7ft. high.

Erica melanthera has now been in flower for several weeks. This South African species is one of the largest growing and easiest of our greenhouse Heaths, for if potted on into 10in. pots it soon makes large specimens from 4ft. to 6ft. high. On the other hand, it can be grown and flowered with wonderful freedom in 5in. pots. It is one of the easiest of greenhouse Ericas to propagate from half-ripened twiggy growths. These should be about 2ins. in length and inserted in pots of fine sandy peat. The cutting pots should be half filled with crocks and the compost rammed very firm, covering the top of the compost with clean sharp silver sand. The cuttings should be well watered in with a fine-rosed watering can, and when the pots have drained they should be stood under bell-glasses in a cool house. The cuttings root more quickly if they are stood in a case with slight bottom-heat, but the house otherwise cool. All the soft-wooded winter-flowering Ericas may be propagated in this way at this season or as soon as suitable cuttings can be obtained.

Sweet Peas sown in pots last autumn and wintered in cold frames should now be ready for transferring to their flowering pots, which may be 8in. or 10in. in size. The compost should consist of good mellow loam pulled up roughly, with the addition of some old mushroom-bed manure, also some soot and a 6in. potful of fine bone-meal to every bushel of soil. The plants should be potted fairly firm and almost needless to say, in giving such a large shift—usually from 5in. pots—watering must be very carefully done until the new compost is well filled with roots. When well rooted and growing freely these plants enjoy plenty of water, and may be fed twice a week with diluted liquid manure and soot-water, giving guano occasionally for a change. The plants must have a cool, airy house and be given plenty of air without draughts on all favourable occasions. They should as they require it be kept secured to neat supports.

Tuberous-rooted Begonias.—If not already done, seed should be sown, watering the seed pots or pans and allowing them to drain for several hours before sowing. The dust-like seeds should be sown on the surface of the soil. If the seed-pans are covered with a piece of glass, they will not require any watering until the seeds have germinated. If the plants are well grown, the strongest of them should flower well during the autumn and make a good succession to the plants grown from dry tubers. After selecting what is required for growing on in pots, the rest of the seedlings, after being hardened off, should be planted out during June, when they will make good tubers for next year. A batch of dry tubers may now be selected and started into growth in a warm house, laying them out in shallow boxes with leaf-soil and sand, or they may be put directly into small pots, watering them carefully until they start into growth.

J. COURTS.

Royal Botanic Gardens, Kew.

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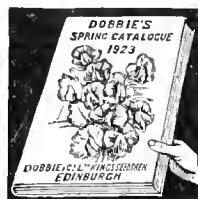
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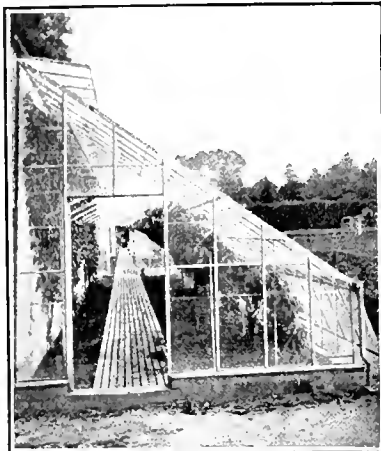
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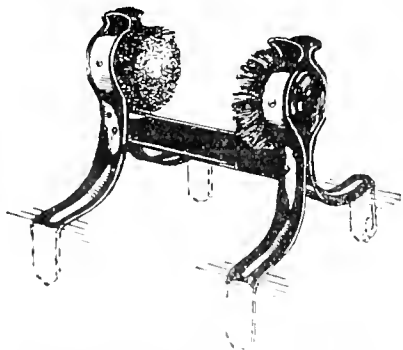
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VEGETABLES ALL THE YEAR ROUND

THE present month must undoubtedly be regarded as one of the most important in the year by those who aspire to the production of an unbroken succession of excellent vegetables, and this notwithstanding the fact that far more seeds will be sown in March than can safely be consigned to earth until February has run its course. At the moment we have not to consider only the work that is to come, but the work that is past since it is now that we shall see the fruits of it.

A NOTE ABOUT SOILS.

It is notoriously a period of treacherous weather and the man who would achieve the finest results must be ready to grasp each golden moment as it reaches him, for it can never come again. The strong land which was deeply, thoroughly and roughly dug in the autumn or early winter, and manured at the same time, will go down splendidly in favourable weather under the influence of the fork and we shall soon have a capital tilth, congenial alike to seeds and plants. Grasp the first chance then to dig it over, but make no efforts in that direction when the land is sodden, or infinitely more harm than good will be done.

Soils which have been allowed, wisely or unwisely as the case may be, to lie solid through the winter, should be dug and manured as soon as possible, and here again it is essential that the weather shall be accepted as the governing factor. Bear in mind that it is impossible to work too deeply, that the manuring must be on the generous side, preferably with thoroughly rotted cow manure on sandy lands if it is procurable, and that there must be consolidation, either naturally by settlement or artificially by heavy treading, before the prospects can be regarded as even reasonably good. Seeds do not germinate and grow vigorously, young plants do not take kindly to a loose medium and there is the further supreme disability that looseness directly favours dryness, which is a condition of affairs that is by no means conducive to the best results. In all soils and for all crops firmness is necessary, and in light, sandy lands it must be looked upon as of paramount importance. If natural settlement is to be relied upon at least a month must elapse between cultivating and sowing or planting; as a matter of fact treading is much wiser and it ought to be done heavily on each spit and not simply on the top, because this latter will not be fully effective.

CROPS IN GROWTH.

Speaking generally, the several green crops look well and, unless something over which growers have no practical control occurs, the supply should last easily until Spring Cabbages come in. A word or two about the last named. It is comparatively common for them to reach a standstill that is almost complete in the winter and it often requires a little special persuasion to set them going again. For this purpose nitrate of soda is unequalled, but it should not be used at more than one ounce to the square yard, and usually three-quarters of an ounce will suffice, and in most soils it is not desirable that it shall be used until nearly the end of the month. Young plants which have spent the winter in nursery beds should be set out in permanent positions on the first favourable opportunity. Dead and yellow leaves should be removed from all green vegetables as necessary; they are unsightly and valueless.

SEEDS TO SOW.

The soil and climate of the garden must have scrupulously careful consideration when this particular work is in hand, but a big start will be made in all instances. Where either a gently

heated frame or greenhouse is at command it is certain that there will be sowings, small or large, according to individual circumstances and requirements, of Brussels Sprouts and Cauliflowers, with Leeks and Celery in many places and Onions certainly, where the cultivator desires to produce three or four pounders—the chances are against success, but we all like to try our 'prentice hands. Shallow boxes and a light compost will suit all except the Onions, which are better in a box 8ins. or 10ins. deep and a richer soil. In all instances the soil must be firm and pleasantly moist and the seeding thin, at once to economise in seeds and in labour when thinning. A high temperature is prejudicial rather than favourable, but it is undesirable that the fall shall be lower than to 38° at night.

It is when we turn to outdoor operations that we have most closely and intelligently to consider our climate and surroundings. Those who enjoy the possession of a border with a south aspect and of which the soil is comfortably on the light side can go ahead, but the man who has no such genial site and whose soil is naturally cold and heavy must walk very warily or his failures will be out of all proportion to his successes. Parsnips should be sown in all instances where it is possible to get on the ground. Drop clusters of seeds 12ins. apart in lines 15ins. to 18ins. asunder. At least a couple of rows of early Peas must go in somehow, even at substantial risk; set the seeds rather closer than would be necessary after the middle of March on a flat, firm base and cover in 3ins.; the distance from row to row should be equal to, or slightly more than the height of the variety. Long-pod Beans, too, are a necessity and the same rules in respect of sowing and distance should be observed as for Peas. If circumstances permit of a sowing of each of these early in the month there should be a second at the end to maintain successions.

Admirably sprouted sets of a first early Potato ought to be planted; the distance between the lines must depend on the habit of the variety chosen, but in all cases the covering should be from 4ins. to 6ins. according to the staple. It is certain that both Turnips and Spinach will be sown in numerous gardens, but they have not the outstanding importance of the kinds previously named.

Finally, we may speak briefly of Onions. If the foundations of the bed were laid in the autumn, and it is feasible to get on the ground, by all means sow before the end of the month 3in. to 1in. deep in drills 10ins. to 1ft. asunder, but if the bed has had to be made since the turn of the year, sowing will have to wait until March unless the conditions have been peculiarly favourable to consolidation, since it is quite useless to attempt to grow this vastly important crop on any other than a solid bed.

W. H. LODGE.

FORTHCOMING EVENTS.

February 5.—National Chrysanthemum Society's Annual Meeting to be held at the R.H.S. Hall at 6.30 p.m. Lecture at the University College, Gower Street, London, W.C.1, at 5 p.m., by Sir John Russell, F.R.S., on "Development of the Idea of Soil Population." Admission free.

February 6.—Royal Caledonian Horticultural Society's Meeting.

February 7.—Lewes Horticultural Society's Annual Meeting. Lecture at the University College, London, W.C.1, at 3 p.m., by Mr. H. C. Thornton, B.A., on "Occurrence of Bacteria in Soil—Activities Connected with the Acquisition of Energy."

February 8.—Royal Gardeners' Orphan Fund Annual Meeting and Election at Simpson's Restaurant, Strand, London, W.C.2.

BOOKS

Willing's Press Guide.*—This useful Press directory with its familiar red and blue covers has just made its annual reappearance. This is the fiftieth year of publication. Besides English newspapers and periodicals, the titles, addresses and days of publication of the principal American, Colonial and Continental publications are included.

The Horticultural Directory.†—The new edition of this publication will be welcomed by amateur and professional alike. It contains a budget of information which will prove of inestimable value to all those connected with the horticultural world. Here will be found, indexed under their respective counties, all the principal private gardens in the British Isles, their owners and head-gardeners, together with full postal addresses. The names and addresses of all the leading nurserymen, seedsmen and sundriesmen are also given; so are horticultural societies, with their secretaries' names and addresses. Parks and public gardens have not been forgotten, and botanic gardens and experimental gardens in the Colonies have also been embodied in this very useful work of reference.

The Welsh Poppy.—A charming and elegant plant in its right place, beautiful in the fresh green of its pretty foliage and large, lemon-yellow flowers. *Meconopsis cambrica* is, or can be, a terrible pest where it is not wanted. In the rock garden or steps its habit of seeding into every available crevice and into the midst of every neighbouring plant is a pernicious one, and not a few who have established it in such places have repented grievously and wished that its thongy roots were more easily destroyed. Yet in the woodland this is often a most desirable plant. It associates well with native Ferns, creeping Ivy and such vegetation, and is quite content without sun. The single orange form is happily much less rampant, a lovely thing with all the good points of the type and few, or none, of the bad ones. Even less ambitious, if also, perhaps, less beautiful, are the double yellow and double orange. The latter is the more pleasing of the two, but both of them seem to lack the peculiar charm of the singles. *M. cambrica* is a true perennial in all varieties, but the double ones are often short lived.

A Novel Competition.—Mr. T. W. Sanders has, it is announced, undertaken to judge the entries for Messrs. Carter Page's Bean Competition. This competition should have considerable success, since everyone can and does grow Runner Beans, and the fact that there is no entrance fee or restrictions of any kind makes it an attractive way of increasing interest in the kitchen garden. All one has to do, it appears, is to buy a packet of Carter Page's well known Best of All and send in, next September, twelve Beans to compete for the prizes. The first prize is £25, the second £10, and there are fifty other prizes. Full particulars and rules can be had at the showrooms at 52 and 53, London Wall, E.C.2.

* "Willing's Press Guide, 1923." Published by Messrs. James Willing, Limited, 30, King Street, London, W.C.2; price 2s. 6d.

† "The Gardeners' Chronicle Horticultural Directory and Year Book for 1923." Published by the *Gardeners' Chronicle*, Limited, 5, Tavistock Street, Covent Garden, W.C.2.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

NARCISSI FOR MARKET (N. L. B.).—The most serviceable varieties of Narcissi for our correspondent to grow would, in the circumstances, be the following: Paper White, pure white; Princeps, sulphur white; Yellow Trumpet; Cervantes, very early, primrose yellow; Golden Spar, yellow self; Sir Watkin, primrose, rich golden cup; Emperor, perianth pale yellow, trumpet pure golden yellow; Potions ornatus, white with orange-red eye. These should be planted in large numbers rather than a few of many more varieties. Rabbits should be shot, of course, but to make sure of protection the half quarter should be adequately fenced in with small-meshed wire netting.

LAWN UNSATISFACTORY (R. H. B. Redruth).—As moss now covers the lawn it is evident that the soil is both sour and poor. Our correspondent does not say when the grass seed was sown—in spring or autumn—the former time we presume, and if the soil was too loose then and also poor and sour, the moss would spread at the expense of the grass roots as autumn weather came, last season being favourable for this condition to obtain. Thoroughly rake off as much moss as possible now and apply a good surface dressing of wood-ashes and, in addition, two barrow-loads of good loam, broken up or passed through a lin. mesh sieve, per square rod. Roll frequently while dry and next March sow more grass seed containing a fair quantity of Hard Fescue. Apply 2oz. per square yard finely ground bone-meal late in May.

ABOUT PLANTING SWEET PEAS (A. O. P.).—In the first place our correspondent should replace 2ins. or 1ft. of soil in the 3ft. trench without adding any manure to it. The remaining soil should have some well rotted manure mixed with it as it is returned to the trench. With the top layer, about 1ft. deep, mix 3oz. of bone-meal per yard run of trench, also some old lime rubble with the whole of the returned soil. About three weeks before the Sweet Peas are planted fork in lightly 2oz. of superphosphate of lime per yard run of trench. The work of filling should be done at once if the soil is dry enough, as it must not be disturbed while in a wet condition, then the whole will set down firmly—an important matter by planting time—the first week in April.

HARDY PLANTS FOR TWO LONG BORDERS (F. H. R. France).—As the borders are narrow, tall-growing plants would not be suitable, neither would it be very satisfactory to attempt the arrangement of tall, medium and dwarf-growing kinds in the usual way. An edging of blue or white Violas, or both, would yield a mass of bloom and also the following over a long period: Centaurea montana, Scabiosa caucasica, Anemone appendiculata, Achillea millefolium, Pinks, Delphinium spectabile, Pyrethrum in variety, Aubrietia Leitchii, Lychnis viscaria, Gaillardia, Poppies, Lobelia cardinalis, Hebe sanguinea, Coreopsis, Doronicum, Anthemis, Genui, Monarda, Alyssum saxatile, dwarf Michaelmas Daisies, Iris, Delphiniums, dwarf Phlox and Campanulas. These will provide blue, white, pink, rose, crimson, yellow, lilac, orange and purple colours.

FINE VARIETIES OF IRIS (A. E. B. Birmingham).—In a recent catalogue of Messrs. R. W. Wallace and Co., The Old Nurseries, Tunbridge Wells, most of all our correspondent's varieties are listed, including Asyrie, Ma Mie, Minc, Chereau and Mrs. Routh, all belonging to the Iris plicata section (aphylla of gardens). They also list Thorbecke. The types described as "Standard and falls copper and lavender, through yellow and brown," must refer to the Squalens or Variegata section, and of these we would prefer the latter section, in which the colours are brighter and better defined. An old one of this type is Graebius, with primrose standards and fall-veined and shaded purple. Prospero was new a little over two years ago and has pale lavender standard and deep red purple falls with paper margins. Others are Iris King, Maori King and Robert Burns. The last named and all the others except Prospero, perhaps, can also be obtained from Messrs. Barr and Sons, King Street, Covent Garden, London. The six can be selected from the above ten, for they are all good.

UNSATISFACTORY BORDER (M. E. Cheshire).—The soil is poor, as our correspondent says. About three parts of it consists of fine sand, with some small stones in it. The small creatures described are most likely springtails, which may feed on decayed roots, but they are not credited with eating and killing plants. They are often present in similarly sheltered places, even among window plants and in hot-houses. They must such places, simply for the sake of shelter. The Privet hedge and the eastern aspect are the chief sources of trouble. It is a question of light chiefly. The trenching and manuring will improve the soil. The lime may have deteriorated by becoming air-slaked, but it will be less carbonic and not waste the vegetable matter in the soil so much. The hedge should be kept down to a height of 4ft. and pruned twice a year. Delphiniums and Lupinus should succeed because they are tall, and Campanulas succeed in shade; but Antirrhinum and Nepeta require longer sunshine than the morning sun can give them to flower well, and they should be planted furthest away from the hedge. About 4oz. of lime to the square yard will be enough for a sandy soil. It will sweeten the soil and drive away or kill springtails and similar creatures. They had crept up and disappeared from the soil sent.

THE CAPE GOOSEBERRY (South Devon).—Seeds of the Cape Gooseberry (Physalis peruviana) may be obtained from Messrs. Sutton and Sons, Reading, or from Messrs. Ryder, Limited, St. Albans, who catalogue it under its synonym P. edulis. While it is not hardy in this country, there are no difficulties attendant on its cultivation, and we have seen it fruiting abundantly in

North Cornwall. The method followed was to sow seeds in gentle heat towards the end of February. Pick off the seedlings in small pots of leafy, sandy soil, keeping the seedlings as cool as possible till the beginning of May, when they were planted out of doors in an open, sunny position, allowing a space of 3ft. from plant to plant. No thinning of the shoots was practised, but the plants were allowed to grow naturally. In this way they fruited freely until the late autumn frosts killed the plants.

TREES AND SHRUBS.

FLOWERING SHRUBS FOR NORTH-EAST FRONT (E. Sutcliffe).—Forsythia spectabilis, Philadelphus Lemoinei erectus, P. microphyllus, P. Virginian, Hypericum calycinum, Kerria japonica fl. pl., Hydrangea arborescens grandiflora, Diervilla Eva Rathke, Colutea arborescens, Buddleia variabilis, Cytisus scoparius, Potentilla fruticosa, Spiraea Menziesii and var. triumphans, S. japonica and var. Anthony Waterer, Both Jasminum nudiflorum and J. officinale would be suitable for the porch. Being difficult to root from cuttings, Rosa Meysei is bidden; the alternative method of propagation is by layering. In raising from seeds few of the seedlings produce the wonderful lurid dark red flowers.

SHRUBS FOR BANK TO HIDE WALL (W. M. Cheltenham).—Back row: Berberis stenophylla, B. Darwinii, Cistus laurifolius, Escallonia langleyensis and E. Philippiana. For the front, plant Berberis Aquifolium, Hypericum calycinum, Olearia Haastii, Veronica Traversii, Clem. europaea fl. pl. (Double Gorse), with, possibly, Lavender and Rosemary.

CLIMBING PLANTS FOR WALL (E. A. G. M. Bucks).—South: Clematis dentata, C. rigidus, C. thyrsiflorus, C. Veitchianus, Escallonia macrantha, E. rubra and Ribes speciosum. North: Rose Gloire de Dijon, Hydrangea scandens, Jasminum nudiflorum and Clematis Jackmanni. West: Clematis Nellie Moser, C. Henryi, C. Lady Northcliffe, Choisya ternata, Cydonia japonica, Forsythia suspensa, Chimonanthus fragrans and Lonicera Early Dutch. East: Jasminum officinale, Pyracantha Lalondei, Lonicera Late Dutch and Trachelospermum japonicum.

FLOWERING TREES (W. E. W.).—The following trees should thrive in our correspondent's clay soil: Esculus Hippocastanum, A. carnea, Catalpa bignonioides, Crataegus Carnei, C. cordata, C. Crus-galli, Laburnum alpinum, Prunus Avium fl. pl., P. Padus fl. pl., Pyrus Aucuparia, P. baccata or spectabilis and Robinia Pseud-acacia. If our correspondent does not object to a number of Thorns (Crataegus), which are particularly hardy trees, include Paul's Double Scabrid.

SEA BUCKTHORN AND BUTCHER'S BROOM (F. E. J.).—We know of no way to distinguish between the male and female of these two plants when not in flower or fruit. It is necessary to grow both sexes together to obtain fruit. In the case of the Sea Buckthorn shoots of the male are sometimes grafted on a female tree. The Butcher's Broom is usually but not always unisexual.

TREES FOR HEDGE SCREEN (N. B.).—Two of the best quick-growing evergreen trees to form a screen are Thuja plicata and Cupressus Lawsoniana. There is very little to choose between the two, the latter is the more ornamental tree, though the first named would probably form a hedge quicker. For an immediate effect the best tree to plant would be an upright-growing Poplar, Populus alba pyramidalis or P. nigra pyramidalis are both deciduous, but the twiggy growths are thick and soon form a screen even in winter. Either of these could be planted now, 10ft. or 12ft. in height. April or May is the best time to transplant Thuja and Cupressus.

COTONEASTER PANNOSA (H. E. W.).—This is a suitable shrub for a hedge, though our correspondent will find it rather more robust than Berberis stenophylla. This, however, can largely be overcome by pruning. Cotoneaster pannosa forms an evergreen bush 10ft. or 12ft. high, so no difficulty will be experienced in making a hedge 6ft. to 7ft. high. Planting 4ft. to 5ft. apart would be sufficient, but careful training is necessary in the early stages to ensure there should be no gaps at the bottom, as C. pannosa does not make growth freely so low down as Berberis stenophylla. Another useful evergreen flowering shrub for a hedge is Escallonia langleyensis.

TREATMENT OF ROMNEYA COULTERI (W. M.).—It depends on the size of the plants and the length of the roots whether it would be preferable to pot the plants now and plant outside later or plant at once in the flowering position. Small pieces would be best placed in pots in a cool greenhouse, but those with long and thick fleshy roots should be placed at once in the flowering positions. We have not heard of the successful culture of Romneya Coulteri in pots. The conditions under which this plant thrives outside suggest that it would not make a good pot plant. Select a sheltered, sunny position at the foot of a south or south-west wall or fence, for instance, where the soil is fairly light and very well drained. Work in some leaf-mould and coarse sand if required when planting if the ordinary garden soil is at all heavy. A mulch of half-decayed leaf-mould would be beneficial. April is preferable to now for planting, but some pieces should grow now.

FLOWERING SHRUBS FOR BEDS (E. A. G. M.).—Two beds each 53ft. by 19ft. would require about one hundred shrubs in all. For the first two or three years after planting a thin sowing of annuals or such plants as Foxgloves and Honesty could be effectively made between the shrubs. Deciduous shrubs: Berberis polyantha, B. Wilsonae, Buddleia globosa, B. variabilis, Corynthus Gloire de Versailles, C. Marie Simon, Cornus spathulifolia, C. strobilata variegata, Cotoneaster frugida, multiflora, Simonsii, Cydonia japonica varieties, Cytisus albus, C. nigricans, C. praecox, C. purpureus, C. scoparius and var. Andronicus, Daphne Mezereum, Deutzia in variety, Diervilla Abel Carriere, Eva Rathke, Mont Blanc, Forsythia spectabilis, Fothergilla major, Genista hispanica,

G. tinctoria fl. pl., Hamamelis mollis, Hydrangea paniculata grandiflora, Hypericum Henryi, Kerria japonica fl. pl., Magnolia conspicua, M. stellata, M. Soulangiana, Philadelphus in variety, Prunus sinensis fl. pl., P. trilobata fl. pl., Pyrus floribunda, Ribes aureum, R. sanguineum, Rosa Hugonis, R. Moyesii, Spartium junceum, Spiraea in variety, Staphylea trifolia, Syringa (Lilacs) in variety, Tamarix pentandra, Viburnum Carlesii, V. Opulus sterile and V. plicatum. Evergreen shrubs: Berberis Darwinii, B. stenophylla, B. Aquifolium, Cistus laurifolius, C. cypricus, Cotoneaster Henryana, C. horizontalis, C. pannosa, Escallonia langleyensis, E. Philippiana, Hypericum Moserianum, Ilex Aquifolium (Hollies) argentea regina (Silver Queen), marginata regina (Golden Queen), Olearia Haastii, Osmanthus Delavayi, Rosmarinus officinalis, Veronica Traversii, Viburnum Tinus and Yucca gloriosa.

ROSE GARDEN.

SWEET BRIARS (F. E. J.).—It may be desirable to shorten some of the shoots this spring, being newly planted, to make sturdy bushes, but it is not usual to prune the Sweet Briar as one does ordinary garden Roses.

WEeping ROSE (F. E. J.).—Grass an Euphrasia and American Pillar are both hardy and good growers. American Pillar would make the better tall weeping standard. Our correspondent will find it necessary to shorten some of the longest growths at first to form a good foundation.

THE GREENHOUSE.

PRIMULA MALACOIDES ATTACKED (A. V. W.).—The Primula has been attacked at the collar by a fungus, which is the cause of the rot. In all probability the plant has been growing in conditions which have caused moisture to accumulate there, and this has enabled the fungus to gain a footing and carry out its destructive work.

CINERARIA FOLIAGE ATTACKED (E. B. J.).—The leaves are being fed by the grubs of a small two-winged fly. Pinching the ends of the tunnels where the grubs are feeding between the finger and thumb will be the best method of dealing with the insect if only a few plants are involved. If many, spraying with a nicotine wash would be wise.

FRUIT GARDEN.

CLEARING OLD BARK FROM FRUIT TREES (F. E. J.).—Only the really loose bark should be removed from fruit trees, and great care must be taken to avoid injury to the trunks. A dog chain may be used in experienced hands, but a piece of new cart rope is better still and not as liable to cause injury to sound bark. We do not know of special chains being sold for this particular purpose.

TREATMENT OF SLOES (F. E. J.).—Sloes usually fruit in the hedgerow. They must be growing in a poor position not to fruit with our correspondent, though facing south they are apparently much overbearing by the hedge. Our correspondent should clear the worst of this away and thin the Sloe bushes a little (described by him as a thickset). It might also be worth while clearing the ground beneath and mulching with some old decayed manure. The point to aim at should be to improve the growth this year and mature fruiting spurs for next year's flowering.

NAMES OF FRUIT.—G. P. T.—Apples: 1. Upton Pym; 2. Munchall Crab.—H. M. L. Rogers.—Pear Marie Louise. This variety will not keep long after Christmas. The very bad Pear season is no doubt responsible for the poor ripening and quality.—H. Rob.—Apples: 1. Winter Greening; 2. Hubbard's Pearmain; 3. specimen too bruised and malformed to identify; 4. Bedfordshire Foundling.

NAME OF PLANT.—W. T.—Rhododendron dauricum atrocinereum.

CATALOGUES RECEIVED.

Messrs. Blackmore and Langdon, Bath.—Begonias, Delphiniums, Gloxinias, Cyclamens, etc. Well illustrated in black and white and colour.
Mr. C. Englemann, Saffron Walden, Essex.—Perpetual-flowering Carnations.
Messrs. Dobbie and Co., Limited, Edinburgh.—Spring Plant List.
Messrs. Fidler and Sons, Royal Berkshire Seed Stores, Reading.—Flower and Vegetable Seeds.
Messrs. J. Cheal and Sons, Limited, Lowfield Nurseries, Crawley, Sussex.—Flower and Vegetable Seeds; and Hardy Plants.
Messrs. John Jeffries and Son, Limited, Royal Nurseries, Cirencester.—Flower and Vegetable Seeds.
Messrs. Hewitt and Co., Limited, The Nurseries, Solihull.—Gladioli.
Messrs. Thompson and Morgan, Ipswich.—Flower and Vegetable Seeds.
Messrs. William Cutbush and Son, Barnet, Herts.—Flower and Vegetable Seeds.
Messrs. Richard McHush, Limited, 59, 51 and 84, Fetter Lane, London, E.C.4.—Garden Tools.
Perry's Hardy Plant Farm, Enfield, Middlesex.—Japanese and other Lilies, Begonias, Gladioli, Montbretias, with Alpine and Perennial Seeds.
Messrs. Lowe and Gibson, Crawley Down, Sussex.—Gladioli.
Messrs. Bowell and Skaratt, Cemetery Road, Cheltenham.—Hardy Orchids.

FOREIGN.

Mr. J. B. Van de Schoot, Hillegom, Holland.—Begonias, Gladioli, Perennials and Rose Trees.
Messrs. W. Albee Burpee and Co., Philadelphia, U.S.A.—Flower and Vegetable Seeds.

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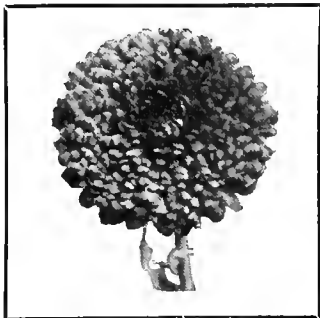
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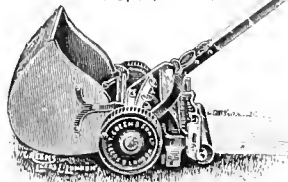
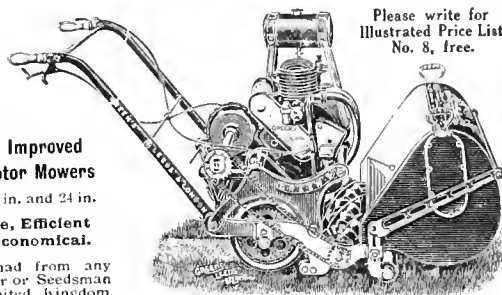
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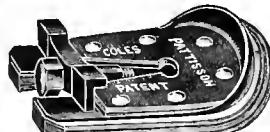
HORSE
BOOTS

FIG. 1.—For Shed Horses.

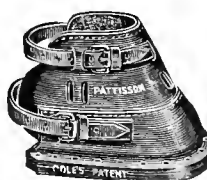


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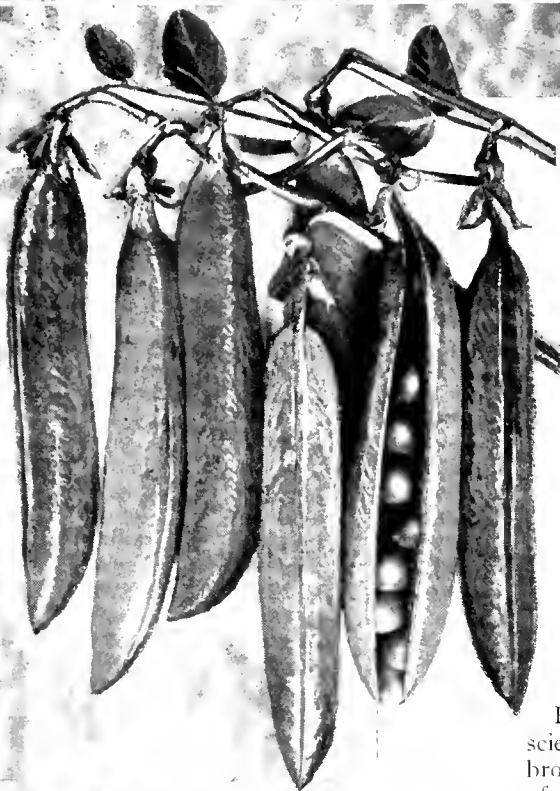
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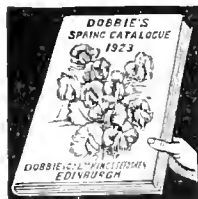
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(On Page 160).

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50 " " " " " "	27 6
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SUTTON & SONS The King's Seedsmen **READING**



No. 2673.—VOL. LXXXVII.]

[FEBRUARY 10, 1923.]

ROCK GARDEN CONSTRUCTION—I.

THE construction of a rock garden divides itself naturally into two parts, which we may call the general and the particular. These bear much the same relation the one to the other that, in warfare, strategy bears to tactics. First of all we must decide the general scheme of the garden—its hills and valleys and passes and, it may be, its brooks and pools. We must visualise, too, the general effects of planting, since on them much depends. Having as it were rough-hewn our rock garden, we have the detail work still to do, especially the placing of the actual stones. The difficulty of this last depends largely upon the class of material employed, but the arrangement and placing of the stone is, in any event, of immense importance. No beauty of idea will in any way compensate for an improbable or unnatural disposition of our materials.

To day let us discuss the general design, leaving for a subsequent article the equally important detail work. Now, to great extent, the form of the garden must depend upon the site on which it has to be placed. Let us commence, therefore, by defining the conditions which are necessary and also those which are very desirable in a rock garden. First of all the rock garden should be wholly or, at any rate, very largely free from the shade of trees; if genuine alpine plants are to be grown this is absolutely essential. Secondly it is very desirable that a small rock garden should run from north to south; this provides, without special care, that the greater number of sites will have an easterly or a westerly exposure, which aspects, in our climate, suit the majority of rock-garden plants. Thirdly, it is advantageous, especially where the garden is to be small, that there should be a

natural difference in levels between the two ends of the garden. Fourthly, it is preferable for this fall to be from north to south, rather than *vice versa*. Fifthly, a solid background of trees or shrubs at the northern end is desirable and a screen of trees at a little distance on the eastern side is also beneficial. The value of this screen depends upon its being at just the right distance, so that, while keeping no valuable light and air from the plants, it is yet sufficient, in early spring, to prevent the rays of the newly risen sun striking upon and scorching frozen blossoms.

Beside the five conditions mentioned, there is the very important question of pure air, but since few of us select our habitation from the point of view of the rock garden, we may let that pass. There are some very charming rock gardens in quite suburban localities and if a few of the choicest plants "refuse," such species are not generally those which we class broadly as "effective."

Returning then to our "five points." Point I is absolutely essential; a rock garden *must* be in the open. Point II can be overcome by careful

arrangement of the stone; and by a judicious "handling" of the hills and valleys we can provide the aspects desired in a garden running east and west, particularly if there is a fair width of ground to play with. An expert will readily overcome the difficulties suggested by Point III and provide a charming and natural looking rock garden on what was originally a dead level site, but special care is necessary to work such into the general garden scheme. There are many places where the suggestion of a sandstone outcrop would look quite satisfactory and yet an elaborate garden of weather-worn mountain limestone would appear absolutely ridiculous. With regard to Point IV, a steep fall from south to north is a very great drawback; a slight one, given careful arrangement, is of little account. Proper backgrounds must be provided if the rock garden is to be a success. To that extent Point V is an essential one; but, fortunately, such backgrounds can always be provided, though the effect of matured shrubbery or woodland cannot, of course, be obtained forthwith. Few will have the screen belt in just the right position

to eastward; great numbers will be quite unable to provide it. These must take special pains to provide shade from the east at various spots in the garden itself.

Now let us consider a couple of typical sites and discuss methods of laying them out advantageously as rock gardens. Fig. 1 shows the portion nearest the back of the house of such a rectangular strip as is attached to many thousands of houses in the County of London. A dry walk leads to the kitchen garden on the west side—it is supposed that the front of the house faces south—and a simple treatment of lawn and border is the only ornamental feature. Such an arrangement, if undistinguished, is at least not distracting.



A GLIMPSE OF A NEWLY BUILT ROCK GARDEN IN WATER-WORN LIMESTONE.

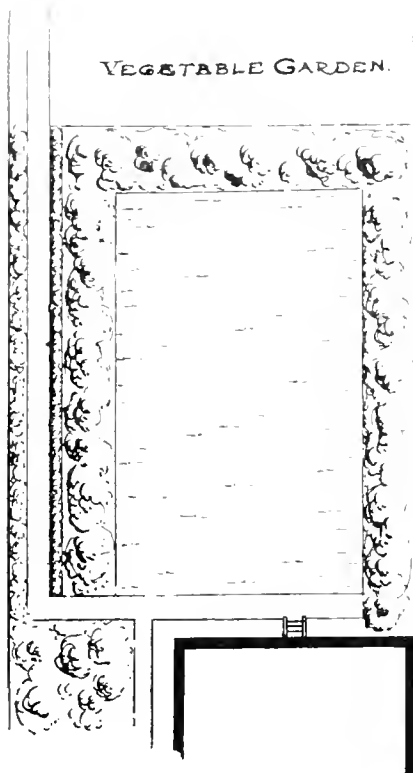


FIGURE 1.

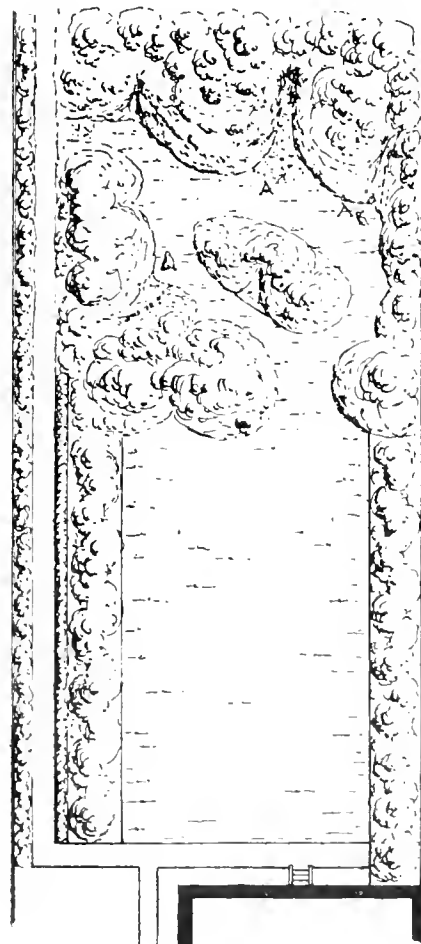


FIGURE 2.

Now the occupier of the house—perhaps a new owner—wishes to include a rock garden. How is this to be done? Fig. 2 provides a solution, worked out for a level or practically level site.

The opening from lawn to rock garden is opposite the garden entrance to the house. The paths in the rock garden are of turf, from which the various plantings are made to rise as naturally as possible. The central area of turf is hollowed out ("dished") to a considerable extent and the soil removed is used for building up the banks as shown. A moderate amount of "dishing" and the consequent use of material from outside the garden to complete the mounds is desirable, but if necessary steps can be introduced as required and the whole of materials excavated on the site. When thus contouring ground it is necessary always to bear the question of drainage in mind and if this is at all doubtful, to improve it.

The central mound of rockery will inevitably be in full view of the house windows and will serve to close the vista from the house across the lawn. It is necessary then to plant some interesting shrub or group of shrubs to mark the termination of the vista and to arrange the supporting planting on either hand to give a balanced effect. Owing to its pleasing greenness when devoid of foliage and other goods points for the position, *Cytisus praecox* comes at once to mind for this central feature, but a specimen dwarf conifer, a clump of *Kerria japonica* simplex or many other things would also prove suitable. The character of the planting in the shrubbery dividing lawn from rock garden would naturally influence one's choice.

This view across the lawn should be the first garden picture to receive consideration; it is a very important one. Once inside the rock garden a succession of pictures should be arranged and as great a variety as possible should be sought for. In a small garden such as this and on what was naturally a level site, "pass" effects are scarcely feasible. The paths will follow the lowest ground leaving cliffs or rocky slopes upwards on either hand. In the diagram two moraine slopes between more or less precipitous cliffs are shown on the north side (looking south) and marked "A." One of these projects outwards a little from the cliff in the hollow lawn, the other retreats somewhat up its channel and a loose piece of rock bedded in the sward (and probably overplanted with a dwarf Juniper) marks the continuation of its course. On the west side of the garden a similar outlying rock marks the termination of another small moraine or stony peat bed with a north aspect. The use of this will be explained when detail construction comes to be considered.

No exact rules can be given for forming the garden pictures already referred to—so much

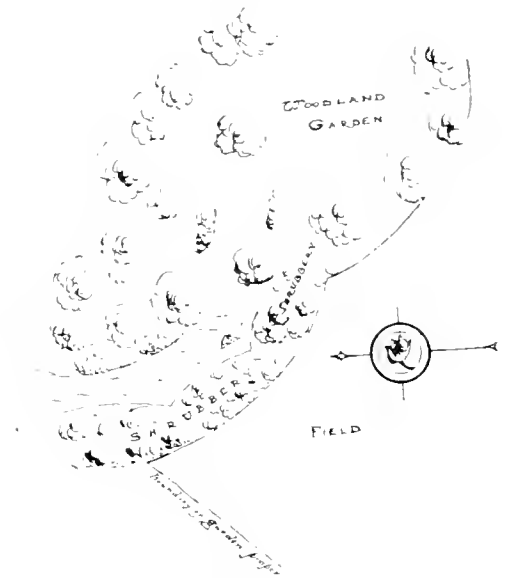


FIGURE 3.

depends upon the class of stone and the specimen plants available, but those with the ability to make a satisfactory sketch will find their gift exceedingly helpful. Others will have to form their pictures and here the commonest and ugliest things may be pressed into service to assist the judgment. Given a few suitable dwarf shrubs and what not and a little imagination, a Tate sugar box or two may be used to determine the

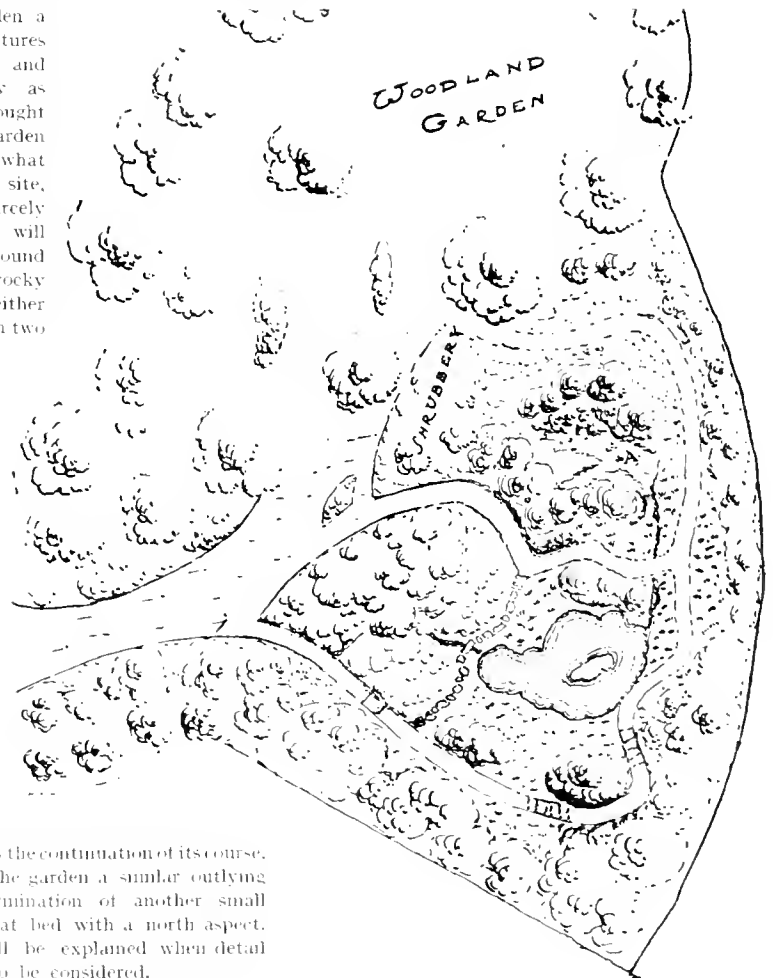


FIGURE 4.

best place for a precipice with much less labour than would be involved in repeatedly setting up and taking down stones for the purpose!

In Fig. 3 is shewn an entirely different site. A small spinney here was just outside the garden scheme of a newly-erected country house. The great possibilities of this spinney for a woodland garden were borne in mind and the owner very wisely connected it to the gardens proper by attractive but semi-wild shrubberies bordering an artificial grassy glade.

When, in time, the gardens as laid out got into thorough working order, the inevitable mistakes had all been rectified or, as far as possible, disguised, it was felt that the addition of a not over-large but well designed rock garden would be an improvement. A suitable site presented itself between the garden proper, the converted spinney and the connecting shrubbery. Fig. 4 suggests the treatment that was accorded. There was a slight fall from the connecting glade down to what was to be the boundary of the rock garden and this was accentuated by skilful planting and also by rather subtle contouring. The path at the bottom of the garden was excavated to assist to form an irregular bank against the field. Further excavation outside the boundary lifted the bank further and with the assistance of the usual brickwork completed a ha-ha.

The soil excavated for the pool shewn was devoted to forming the "highlands" which at the east end surround the moraine marked "A," and which at one point terminate as a cliff against the central path forming, for the path is walled up on its western side, a "pass." At the western corner of the garden, as the steps in the curving path would suggest, there is another highland through which, despite the steps, the path is taken in a cutting. As one goes southward from this corner there is a cross glade giving a delightful view across the pool to the "highlands" beyond; then further shrubbery planting at the level of the path, or a little higher, again restricts the view. The stepping stones shewn on the plan, run at the foot of a bank—in places fairly steep, in others of quite easy gradient—which supports heavy planting, largely consisting of the original shrubbery. Down this bank splashes a miniature rivolet.

Another trickle of water may be discharged into the head of the moraine "A," a very desirable thing in droughty weather or may be cut off there and turned on just at the foot of the moraine. In either case it wends its slow way to the pond, to which there is, of course, fitted a drain overflow. Thanks to this trickle of water the soil on the north side of the southern path is always moist, not to say boggy, and a considerable piece on the south side of this path is also kept damp by the same means. This moist ground suits a great variety of *Candelabra Primulas* and semi-bog plants. Reverting for a moment to the central path, immediately below the cliff already referred to there is a wide bottomed valley, planted partly with Heaths and partly with bogland plants and on the opposite side of the path and dividing this latter from the pool a ridge capped with large-growing Heaths and *Rhododendron* species.

At the eastern end, the garden dies away into the woodland, the ground gradually becomes more level and an occasional happily placed rocky boulder serves to connect the two styles of gardening without any hard and fast line. There are many plants which like the situation thus provided. It will readily be seen that a rock garden such as this, small though it be, contains situations suitable for an immense variety of plants and that without any appearance of forced effect. Because of the variety it offers we shall hope, in a future article, to detail some of the construction and planting.

SOME CHOICE ANNUALS FOR SPRING SOWING

NOW that the seed lists are in and orders must be sent out, a few suggestions regarding annuals may be of service to amateurs, who are often at a loss to know what to select. Omitting all or most of the better-known annuals—those commonly grown by the majority—I will confine the following notes to a number of desirable species and varieties which, though generally as easy as the more familiar ones, are seldom seen in the average garden.

Consider, for example, the annual *Lupinus*. Here is a class that affords a wide variety of wonderfully showy plants which are admirable for border or bedding, easy to grow and adaptable for almost any soil, yet one very seldom sees them anywhere. The crimson-scarlet hybridus *atrocoeruleus*, *Cruikshanksii*, *Hartwegii* and sub-*carneus*, a fine blue, are among the most noteworthy and range in height from 1ft. to 2ft. Then there are among the Evening Primroses (*Oenothera*) a number of handsome species which are well worthy of wider

are probably most successful if treated as rather tender "half-hardies." That is to say, it is wiser in most districts to bring them on early in a frame or even in a heated house and to put them out against a warm wall in May or June. They enjoy plenty of old cow manure and moisture. If a westerly aspect is given them, the flowers, which otherwise go off early in the day, will remain open till noon.

The exquisite, clear blue tones of some of these *Ipomoeas* remind one of the blue annual Pea (*Lathyrus azureus*), a delightful little climber of some 4ft. which will yield throughout the season a succession of large azure blossoms suffused with rosy tints. This may be sown where it is to grow and it ripens seed freely for the following year. Yet another good blue is that of a tiny annual of quite another kind, *Sedum caeruleum*. A few pinches of its seed scattered about gritty, sunny spots in the rock garden will bring an ample reward. Some grow this charming little thing in cool, rather damp places, but we find full exposure



A BEAUTIFUL WHITE EVERLASTING, RHODANTHE MACULATUM ALBA AT GRAVETYE.

appreciation, *Oenotheras triloba*, *Drummondii*, *odorata* and *maxima* all being good and asking no more than ordinary half-hardy annual treatment.

For a hot place, well drained, there are few annuals to approach in beauty *Calandrinia grandiflora*, with its large, fleshy leaves in a peculiar jade green, red stems and big, crinkly poppy-like flowers in rose pink which nod at the tips of the thin stems. Once seen, this splendid Rock Purslane will never be omitted from the seed list. Readers who are not outraged at the presence of magenta may also try *C. umbellata*, treating it as an annual; also the brilliant crimson, *C. Lindleyana*.

Convolvulus minor (tricolor) affords a whole list of attractive colours—light and dark blue, rose, violet and white—all of which are good and easy and not usually exceeding 1ft. in height. These are attractive for the front of the border, where they can disport themselves among such plants as have gone out of flower—*Aubrietias*, for example. The same genus gives us the wonderful "Morning Glories" (*C. major*) with their gorgeous trumpets of various vivid colours which adorn the roof, stems from midsummer to the first frost, the indescribably lovely *Ipomoea rubrocaerulea* and the exquisite blues of *I.hederacea*. These

and a free soil gives more certain results, and under such conditions the leaves and stems become stained with a more brilliant crimson.

Also for hot, dry situations in the rock garden or front of the border we have those diminutive (vin.) *Eschscholtzias crispisoma* and *tenuifolium*, with delicate, carrot-like foliage, faintly glaucous, and pale yellow flowers which open flat like a Buttercup. For association with these in sunny places the *Leptosiphons* are first-rate, especially *LL. aureus*, *androsaceus* and the hybrids, all of some 3ins. to 6ins. in height. Seed of these may be dispersed at random in dry walls, about steps or flagged walks, or along the margins of paths. *Lasthenia*, a pretty Californian annual in various shades of yellow and deep orange, is also useful for similar purposes.

The velvety gentian blue of the *Phacelias* gives these latter high rank among the best of annuals, but they are not everybody's plants. Though not really difficult, even when sown direct in the open, *Phacelia* has not a good reputation with many. In our experience such kinds as *PP. campanularia* and *Douglasia* prefer a light, sandy soil and not too much sun. A spot that would suit their fellow countryman, *Nemophila insignis*, to which the *Phacelias* bear some resemblance, should

satisfy them. The probability is that many failures may be attributed to slugs, which will travel far for *Phacelia* seedlings. In their own country (California) plants of this genus may often be seen cropping up in the ashes of forest fires (a hint here for the use of burnt soil and wood-ash) and not a few grow on calcareous soils in great abundance.

Those who have a weakness for annuals of the "Everlasting" class should try some *Rhodanthes*, pretty, glaucous-leaved plants of about 1 ft. which should be raised early under glass and pricked out young in good soil. *R. Manglesi* in rose and *R. maculatum*, vivid carmine, white and other colours are both reputable kinds. *Erysimum Perofskianum*, of 1 ft. or more, will yield handsome racemes of orange yellow, wallflower-like blossoms towards the end of summer, and the clear rose *Eucharidium Breweri*, brought on in March and put out in masses later on, will give an effective and uncommon display. Perhaps the dahlia-like *Cosmos bipinnatus* is too well known to need mentioning here, but it is such a beautiful and useful plant for the autumn border that it should not be overlooked. Few annuals are more easily raised, but *Cosmos*, in all its various forms and colours, needs to be raised under glass, otherwise the season will be short. *Statice sinuata hybrida*, in a number of colours, is well worth growing. It should be treated as the last mentioned and grouped in the front of the border.

The *Linaria* group provides us with several very lovely annuals of about 1 ft. which do well sown in groups in the open ground in spring. *L. multi-punctata*, dark chocolate or black, speckled with yellow, is one of the prettiest. *L. aurea-purpurea* has flowers in various shades of rich orange and purple. *L. bipartita* var. *splendida* can also be recommended, and there are a number of very showy hybrids. All of these are easy, good-tempered plants in any free soil with full exposure.

The Swan River Daisies (*Brachycome*) comprise another little family of annuals from Australia which grow to about 6 ins. and fully reward one for the trouble of bringing them up in gentle heat, like *Cosmos*. A mixed packet will give a wonderful variety of bright colours, but those who prefer to grow the species apart may rely on *BB. iberidifolia* in blue (Little Blue Star), the newer Summer Beauty (mauve), Snow Star and Purple King. For a hot, dry place *Bartonia aurea* (*Mentzelia*) is admirable, its big golden cups nestling in handsome foliage. Nor should one omit a selection of the beautiful South African *Arctotis*. *A. grandis* is one of the finest of these with grey foliage and large daisy flowers with a lavender eye and long white rays starting from a yellow basal ring. A well grown plant of *A. grandis* will reach 2 ft., but early sowing in heat is essential, and a warm spot when planting out should be chosen. Another annual of the same character, also from South Africa, is the Namaqualand Daisy (*Dimorphotheca*), a most attractive plant in all its forms, the soft shades of golden buff, orange, cream and salmon-pink of the several varieties being accentuated by a centre of black or other dark colour. *D. aurantiaca*, with orange-salmon rays and dark eye, is the type species of most of the hybrids.

Sanvitalia procumbens is a neat little yellow Composite for late blooming, the double form being perhaps more effective than the single. Yet another of the same Daisy family is the Mexican *Sphenogyne* (*Ursula speciosa*), which will yield an abundance of blooms in the later summer in shades of yellow varying from lemon to a golden buff. The habit is semi-prostrate, or spreading, the many slender growths rising to a height of about 6 ins. In striking contrast

to the flaming tints of the foregoing is the chaste and refined *Onophalodes linifolia*, with foliage of a cool sage grey, soft as kid, and large forget-me-not flowers in a glacier white. *O. linifolia* is so easy, such an everlasting bloomer and so curiously attractive that we are never without a few good groups of it. It grows to about 1 ft., and may be sown where intended to grow. In many gardens it comes up year after year from its own September-sown seeds. The very charming campanula-like *Specularia Speculum*—dreadful name for a thing so sweet and modest!—will also sow itself in favoured gardens, but where



A GORGEOUS CLIMBING ANNUAL,
CONVOLVULUS MAJOR.

it does not, a fresh two-penn'orth of seed each spring should be everyone's resolve. *S. Speculum* is a slender habited, semi-trailing annual with bells of gorgeous violet. There is a form with blossoms much larger than those of the type, and a double one which is less pleasing than either of the singles. *S. pentagonia* we have not yet tried, but it is said to be admirable.

For massing in groups for a bold effect, what is there in the taller annuals better than the Mallowworts (*Malope*)? I have seen them well grown in beds, and they are first-rate for filling up blanks in the borders of late summer. *M. grandiflora* is one of the most showy, the large, glossy flowers being a rich blood crimson in the type, satiny rose in the variety *rosea* and white in

alba. *Malopes* may be sown in the open, but, like Hollyhocks, they enjoy good feeding and so should have a deep, liberally prepared bed. They go up to about 2 ft. *Scabious* may be mentioned here as being about the same height as the above and most useful for border work; but, well known as the annual *Scabious* may be, it is not often that one sees other than the dull reds and crimsons. In addition to these there are some extremely handsome varieties in shades of coral, yellow and lavender, one named Fairy (if memory can be trusted) rivalling the superb *S. caucasica* in the exquisite delicacy of its blue-lavender flowers.

The Pimpernels (*Anagallis*) include some fascinating little plants in a variety of rich colours—blue, purple and ruby red—and these may be easily grown in any vacant spots in the rock garden. Nor can one pass by the claims of *Whitlavia grandiflora*, perhaps one of the best things we have had from the home of gay annuals—California. *W. grandiflora* attains the height of some 12 ins. and bears a crop of fine large bells in an intense blue.

The species may be sown where it is intended to grow, a light, friable soil being desirable. With the mention of yet one more Californian this list must be closed, conscious as I am of many omissions. I refer to the splendid *Argemone* (Prickly Poppy), very choice and distinguished with its big, white, golden-centred Poppy flowers adorning its 2 ft. stems. In its own favoured land *Argemone grandiflora* is, I think, perennial, but it is as an annual that most of us here must consider it. Even so, it is well worth the trouble of raising the seedlings in heat, well worth the choicest and warmest corner and the kindest soil.

A. T. J.

THE WHITE 'PERUVIAN DAFFODIL'

LOVERS of summer-flowering bulbs should, when ordering, not omit to secure a few bulbs of the beautiful "Peruvian Daffodil," *Ismene calathina*. The average garden dictionary quotes it as a stove and greenhouse plant, but in reality it flowers splendidly out of doors. The best plan is to pot up the bulbs about March and stand them in a cold frame. Growth is somewhat slow to start, but by the latter end of May the foliage will be several inches high, and the plants may then be turned out. During June the growth is very rapid, and almost before one realises it the glorious snow white trumpet-shaped flowers are out, each stem bearing two.

The flowers are not unlike a Daffodil in shape, but the perianth segments are narrow in comparison with the trumpet. Moreover, the stamens are not in close touch with the pistil, as on the Daffodil, but are attached to the inner side of the trumpet.

Any ordinary soil is suitable, and on fairly light soils the bulbs may be planted in the open when dormant. Indeed, to keep up a succession, it is a good plan to pot up the first batch and plant others in the open when planting *Gladioli*. Of course, this delightful, yet rarely seen bulb makes a fine pot plant. Like other members of the *Amaryllis* family it is increased by offsets. The bulbs should be lifted by early October and thoroughly dried off, as only by forcing them to rest can they be made to flower annually. The bulbs are quite cheap; certainly no more costly than cores of a good *Gladiolus*.

T. A. W.

ALPINES AT CHISLEHURST

A CASUAL word from an alpine lover who had been there sent the Editor recently to visit the Chislehurst nursery of Mr. G. G. Whitelegg. It is a long while since he remembers time passing so quickly as it did while, in company with Mr. Whitelegg himself, he made the tour of the frames and houses devoted to alpinists. It was only when he had finished the inspection and came to collect his impressions that he realised what a very large proportion of the plants were what one considers choice alpinists and how very considerable a proportion of the stock represents really scarce plants.

At the time of the Editor's visit stocks of *Aubrietias*, the commoner Mossy Saxifrages and similar furnishing plants were doubtless at rather a low ebb, for such things are planted mostly in autumn, winter and early spring. An immense number of the best varieties of *Aubrietia* were, indeed, in the propagating cases, and an especially good strike was in evidence. Still, ebb or flow, the Editor must have seen plants which could (given time!) be numbered by the hundred thousand, and an overwhelming proportion represented really choice alpinists—*Kabschia* and *Engleria Saxifrages* with some of the very choicest of the Encrusted section, *Ramondias*, *Gentians*, *Haberleas*, choice *Primulas*, the better Alpine Pinks, *Silene acaulis*, *Potentilla nitida*, *Aquilegia pyrenaica* and *A. glandulosa vera*, *Asperulas*, choice *Campanulas*, the choicest *Drabas*, *Incarvilleas*, *Lithospermums*, *Onosmas*, alpine *Ranunculi*, *Sempervivums*, including the strange *S. spinosum* (more accurately *Cotyledon spinosa*), *Shortias* and *Soldanellas*.

Now for a few detailed impressions! The choicer Saxifrages are evidently favourites of Mr. Whitelegg. Among the Encrusted sorts a very fine batch of specimen longifolias, owing to their size, claimed first attention, but a moment later a stock of a form of *S. Cotyledon* with huge rosettes proved even more interesting. Broader in the leaf than the plant generally known as

S. Icelandica and even larger in the rosette, this splendid form is known as *S. C. platyphylla*. Some hybrids of *Saxifraga longifolia* of Mr. Whitelegg's own raising were also very attractive. Attractive, at any rate, as regards foliage, for some of them were as yet unflowered. These were large rosetted sorts, quite different from the fine longifolia hybrid Cecil Davis, also stocked, which has comparatively small rosettes. Of the more ordinary "Encrusted" there is little need to write.

Coming to the *Kabschia* varieties, the Chislehurst nurseries contain a good stock of *Saxifraga valdensis*, which is not *S. cochlearis minor*. Mr. Whitelegg, indeed, prides himself upon the trueness of his stock, and points with pride to true stocks of such plants as *Draba rubricata*, *Aquilegia alpina*, and *A. pyrenaica* and *glandulosa*. Out of a host of other tufted sorts, including such excellent hybrids as *Petralschii*, *Paulinae*, *Faldonside*, *Cherry Trees*, etc., we remember noticing *SS. Boydii*, *thessalica* (vera) and *lilacina*, the two former because, whatever catalogues may suggest to the contrary, they are uncommon and the last because of its minuteness.



THE EXQUISITE BLUE *AQUILEGIA ALPINA VERA*.

Saxifraga lilacina bears to the ordinary run of Tufted Saxifrages the same relationship that, among the Porphyrians, the close-growing *S. retusa* bears to the more luxuriant forms of *S. oppositifolia*. Mention of *S. oppositifolia* brings to mind Mr. Whitelegg's opinion that of all the *oppositifolia* forms *S. o. W. A. Clark* is the best and finest.

While inspecting Saxifrages a few plants of a miniature order, obviously a *Tsuga*, but unknown to the Editor, attracted attention. This is the rare *Tsuga Albertiana conica*. It is only fair to state that Mr. Whitelegg has a very fine lot of miniature conifers of many kinds, including beautiful plants of *Cupressus obtusa nana* and some fine specimens—oft. or roft. across—of *Juniperus prostrata*.

There are thousands of *Ramondias*, including a batch of the rare but not specially beautiful pink form. Some of these plants are collected specimens, others from seeds, but all in full health and vigour. Of *Aquilegia pyrenaica*, again, a large breadth and many thousands of tiny seedlings which will be splendid plants by another season. The beautiful *Ranunculus glacialis* is another plant of which a large stock is held, while there are also several hundreds of plants of *Primula integrifolia*, some of them, so Mr. Whitelegg said, splendid colour forms. In another house, mostly noteworthy for thousands upon thousands of the best and choicest *Campanulas*, from the glorious *Allionii* and the tiny *Waldsteiniana* to such beauties as *pulla* and *pulchra*, one paused instinctively to query a batch of unidentified growing points—just piercing the soil. These, it seems, represented the tiny rhizomatous *Iris arenaria*, with soft yellow



THE BEAUTIFUL SUB-SHRUBBY WHITE-FLOWERED *DRYAS OCTOPETALA*.

flowers, a plant about which Mr. Whitelegg waxed enthusiastic. Attaining a height of only pins, or so, an established plant will continue to produce its attractive blossoms for a period of six weeks in springtime. It was here or hereabouts that a healthy batch of Kurume Azaleas attracted attention, mainly the splendid varieties *Hidemanyo* and *Hinode-giri*. The nursery holds a very large stock of the *Candelabra Primulas*—*P.P. helodoxa*, *Bulleyana*, *pulverulenta*, *pulver-*

lenta hybrids (*Lissadell*, *Adm. Aroon*, etc.) and *japonica*—and also of *Gentians*. Of these last Mr. Whitelegg's favourite is *G. Lagodechiana*, and who shall say that he displays bad taste! The lovely *Lithospermum rosuarnitolum* is another favourite. What a pity that it is not truly hardy in most counties.

One could write pages about other interesting plants, especially the tiny seedlings of all sorts of choice alpinists, including *Saxifragas*, *Primulas*,

Ranuncias, *Haberleas*—wonderful batches—*Gentians*, etc., always attractive to an alpine lover, but we must forbear.

Enough has already been written to show that for anyone who really knows and loves alpinists a visit to the Chislehurst nursery now would provide a treat. Those with perhaps equal enthusiasm but less knowledge would be wiser to wait a few weeks until there is a greater show of bloom.

SPRING FLOWERS AT VINCENT SQUARE

IN the unofficial opinion of the chairman of the Floral Committee a record was created at the meeting of the Royal Horticultural Society on January 30 in that there was not even one solitary novelty plant or flower for his committee to sit upon in judgment. Nor can we, in a considerable experience of R.H.S. meetings, recall such another blank day in this respect, though we remember on a dull day in drear December some years back when, in response to the expressed desire of certain Fellows, the Council called the committees together on a Tuesday before Christmas in order that no valuable novelty should go uncertificated because it was so misguided as to bloom during that four weeks or so when no R.H.S. meetings are held. On that occasion one solitary plant, devoid of merit, was sent, so the experiment was not repeated. On the present occasion no award was made to a novelty by the Fruit and Vegetable Committee, but the Orchid Committee made several awards to new Orchids. The exact number is somewhat a matter for conjecture. The official list, which was posted on the notice board in the vestibule, gave the names of three new varieties and their exhibitors, but in the hall only one could be found, though two other varieties had award of merit cards, but their names were totally different from those on the official list.

The floral groups in the hall were of a decidedly spring-like character, and although several exhibitors had for various reasons to cry off at the last moment, it was quite a bright and interesting show. The vacant places were filled with exhibits of garden sundries, photographs and paintings of flowers and garden scenes. The most valuable and interesting exhibit in this category contained water-colour drawings of British fungi by the late Mrs. Richard Gill. These were of great artistic merit and correctly named. Mr. R. H. Malby had a wonderful collection of photographs of Cones on their branches, mainly of Pine, Fir, Spruce and Cedar.

Among the flowers the early Frises were very prominent. *Tris reticulata* and *T. tingitana* were well shown by many exhibitors; while Messrs. William Cuthbert and Sons had particularly good plants of the dwarf, sweetly-scented *Tris Sind-pers*. Messrs. Carter and Co. made an artistic display with large bowls of *Tris tingitana*, *Primula malacoides*, *Princess Mary* and *Cynthella Hyacinths*. *Tris tingitana* is increasingly popular. The early *Primulas* were also of more than

passing interest. Messrs. Bakers, Limited, arranged a splendid batch of *Primula Wanda*, which is much like a larger and deeper coloured *P. Julia* and quite as free-flowering. The latter sort was also present in agreeable quantity. Messrs. Carter Page and Co. shewed it with Wilson's Blue Primrose, while Messrs. R. Tucker and Sons associated it with the fascinating *Primula Winteri*

pink *Schizostylis* Mrs. Hegarty. A brilliant batch of *Anemone fulgens* near a pan of *Crocus Susianus* was shewn by Messrs. Waterer, Sons and Crisp.

Some interesting varieties of the less-known Hellebores were contributed by Messrs. Barr and Sons, with alpinists and pots of double Daffodils. The Hellebores included *H. graveolens ruber* and *H. antiquorum roseum*. The white "Christmas Rose" was well represented by *H. niger maximus*, which Messrs. R. & G. Cuthbert arranged with their welcome *Cynthella Hyacinths*.

Camellias were again well shewn by Messrs. Chaplin Brothers, who have taken over Messrs. Paul's stock. Their neat plants were well flowered and, besides many doubles of merit, included *Mars*, a very large semi-double of reticulata colour; *Waltham Glory*, a brilliant single; *Snowflake*, an excellent pure white single; and the semi-double red *Apollo*.

Many good plants of *Azalea indica* varieties were associated with floriferous little bushes of *Prunus triloba* by Messrs. L. R. Russell, Limited. Messrs. Stuart Low and Co. also had some *Azaleas* with their *Acacias* and winter-flowering *Begonias* adjoining the larger collection of Carnations. *Cherry Ripe* and the pink *Eileen Low* were very attractive, while *Sheila Greer*, a pale apricot and rose-coloured tawny Carnation, was highly decorative.

Among the large collection of Carnations by Messrs. Allwood Brothers the vases of brilliant blooms of *Edward Allwood* were very prominent. *Vivid*, a new variety which suggests a *Mary Allwood* of flatter shape and much deeper colour, was very bright.

Vegetables were represented by a collection of Leeks from the Society's Wisley Gardens and some eighty baskets of Potatoes from Messrs. Sutton and Sons. These were all splendid tubers, and the coloured varieties interested many visitors, who seemed surprised to see in the cut tubers that the deep colour of *Black Prince* was continued in the flesh. *Royal Purple*, *Eightyfold*, *Mr. Breeze*, *Reading Russet* and *Border Queen* are the names of a few others of the coloured tubers. The very many white Potatoes were also of excellent quality. The Leeks were well grown examples of varieties which had received awards at the Wisley trials.

NEW AND RARE PLANTS.

Brasso-Cattleya Helen.—In colouring this hybrid Orchid favours the *Cattleya*, but the purplish mauve is rather brighter and clearer



WHITE-FLOWERED CAMELLIA SNOWFLAKE.

which Messrs. R. Gill and Son shewed with that earliest *Rhododendron* *Nobleanum* and *R. argenteum*. *Anemone blanda atrocarulea*, *Arabis aubrietoides* (bearing a goodly quantity of pink mauve-flushed flowers), *Soldanella alpina*, *Saxifraga Burseriana Gloria* and *Adonis amurensis* were very interesting among the alpine plants. The last named was shewn by Messrs. Wallace and Co., who again staged pans of the early *Crocus* species, excellent conifers and plants of the beautiful

than is usual in that genus. The broad, elegantly fringed lip is of the same colour as the remainder of the flower, but is enhanced by the patch of old gold on the basal throat. Award of merit to Mr. J. W. Bird.

Cypripedium Dulcis Lambeau's Variety.—An exceedingly handsome Lady's Slipper Orchid of rather more than medium size. Its chief beauty lies in the large dorsal sepal, which is beautifully waved and broadly margined with white; the colour is warm chocolate, shading to rosy purple. The wings and lip are coloured green and brown, and the former are margined with greenish yellow.

A very healthy and vigorous plant of this green-leaved variety was shewn. First-class certificate to M. Firmin Lambaert.

Odontoglossum Llewellyn. The plant bore a magnificent spike of well formed flowers set at regular intervals. The general colour is rich chocolate, and this is lightened by white markings and a broad white tip to the lip. Award of Merit to Messrs. Charlesworth and Co.

A HORTICULTURAL MARVEL

A Red Letter Day for Prepared Hyacinths.

READERS of old books about garden matters are conversant with the numerous receipts that are given with all seriousness to produce horticultural wonders of different kinds. I give one as an example from Adam Speed's "Adam out of Eden." The second edition of this small book was published in 1659 and Chapter XVIII is headed "To make five sorts of Roses grow upon one Stock without inoculation." This is how it was to be done. "When they begin to knot, bore with an Aul under the knot, and with a feather put Green in one, and Yellow in another. Red in the third, and Blew in the fourth, and close up all the holes handsomely." One smiles and wonders. More smiles and more wondering when, a few pages on, we are told how to produce yellow Roses. "The roots of Roses with their slips and knots removed and set amongst Broom, will bring forth yellow Roses." These I venture to think are marvels of the imagination only—perhaps my friend Mr. McGredy will correct me if this is how he produced his now famous Christine. The display at Haarlem, of which two views are given on this page, fore-dated spring by a good many weeks and was a real marvel. To have Hyacinths and Tulips in such perfection and in such quantities as were to be seen in the horticultural hall in that town on December 23, 1922, would have been almost unthinkable at the beginning of the present century, but I believe a similar display could be made any year now, not only in Holland, but in England.

The Tulips are those which experiment has shewn to be most amenable to this very early

flowering, helped with bottom heat and perhaps with some shade, if not total darkness, for a short time. The Hyacinths were all "Prepared Bulbs," and the display on December 23 last shews how great has been the advance in the methods of preparation. I can only say from my own personal experience what a valuable asset these prepared Hyacinths are to our gamut of early forced bulbs, even if they are treated exactly as ordinary ones and no special forcing treatment has been given them.

The following are the names of the best Hyacinths and Tulips shewn. Hyacinths.—White: Mad. Kruger, L'Innocence, Arentine Arendsen, Hein Roozen. Blue: Fürst Bismark, Gloria Forum Supreme (double), Lord Nelson (double), Gen. van der Heyden, Schotel, Verdi (large white centre, bold truss), Red and Rose: Van Tubergens Scarlet, Fen de l'Empire, Victor Emanuel, Nimrod, Moreno, Maria Catharina. Purple and Yellow: Distinction (deep purple), Laura (lilac), Yellow Hammer (yellow).

Single and Double Tulips.—Duc van Tholl (all varieties), Vermillon Brillant, Brillant Star, Mon Trésor, Rose Précoce, Salvator Rosa, Le Matelas, El Toreador, Fred Moore, Maes, Tournesol.



"PREPARED" HYACINTHS AT CHRISTMAS TIME.

Golden King, King of Yellows, Diana, L'Espérance, Lady Boreel, La Reine. JOSEPH JACOB.

A SWEET PEA SELECTION FOR 1923

THERE may still be many readers of THE GARDEN who have not yet made their final selection of Sweet Peas for the coming season. The present is a suitable time to sow the seeds under glass. My choice of varieties in the following article is not intended as a selection of the best, for that is almost impossible when individual tastes differ so much and when there are so many varieties nowadays of almost equal merit, but the list of names represents a large proportion of the most popular standard varieties and one or two of the outstanding novelties that I have found to be good.

Unlike many Roses, most Sweet Peas are equally useful for exhibition and garden decoration, but a few of the varieties are not capable of giving blooms large enough to win in strong competition, while the salmon, orange, orange-pink and orange-scarlet varieties need shading, which is sometimes rather detrimental from a decorative standpoint, so that, where necessary, I will give a variety specially recommended for the exhibitor and an alternative kind for garden decoration.

A white is usually desired, except by growers who live in smoky districts, where it would be preferable to substitute a cream variety. Constance



A "SPRING BORDER,"

Both pictures taken at Haarlem Show on December 23 last.

Hinton is undoubtedly the best white for exhibition on account of its great size and fine broad standard. It is always a good plan to grow a few extra plants of this variety, as some of the flowers are very faintly tinted with pink (although it must be said that the best stocks now have a very small proportion of these). Constance Hinton is a brown seeded white and it may never be possible to obtain an absolutely pure stock. In a wet or cold period Constance Hinton is not very reliable, as the young blooms have a greenish edge, but this gradually passes off as the flower opens. In a sunny season it is superb. Edna May Improved is the best pure white, and I would recommend it for general garden cultivation. It is a vigorous grower and gives some fine long-stemmed flowers.

A lavender is indispensable in an up-to-date selection. It depends whether rosy-lavender or pure lavender is preferred. Some say that the rosy tint gives a warm, pleasing effect, others that it is not as delicate as a self colour. Austin Frederick Improved and the old favourite, R. F. Felton, are both good rosy lavenders. I think I should choose the former if I had to decide between the two. Both are very vigorous growers and give four bloomed sprays in plenty. For a pure lavender it would be difficult to find a better choice than the novelty Powerscourt, which is certain to be one of the great Sweet Peas of the season. These three lavenders are good for all purposes.

I would recommend Matchless as the best cream for the exhibitor. It has entirely superseded Felton's Cream, being as vigorous and more frilly in the standard. Although Matchless can be used for decorative work I think I should prefer the pretty edged and flushed cream-ground Mrs. Wakefield for the garden, especially now that Mr. Unwin offers a new and much improved stock. It is a charming variety for table work.

Mrs. Tom Jones requires a fine season to bring out its bright blue colour. Then it has no equal. I choose it as No. 4 both for exhibition and garden.

Picture is such a delightful companion for it in the stand—I would always place them near each other, preferably in a front row—that it must come as the next choice. Its lovely deep cream-pink colouring, its great size and the ease with which four-bloomed sprays can be produced make it one of the most popular Sweet Peas in commerce. I have found that its colour improves if only soot water is used for feeding purposes in the flowering season. For those who prefer a pale cream-pink I cannot recommend a better variety than Cecily, a very fine all round variety.

It is difficult to say which will prove the better scarlet-cerise, the well known Royal Scot or the novelty Wonderful. One of them should be in every collection, as not only is the colour so rich, but both varieties are perfectly sunproof. If you believe in old favourites choose Royal Scot, if you prefer the novelty I feel confident that Wonderful will not disappoint.

Doris is my seventh choice. Like Royal Scot and Wonderful it is one of those rich, telling colours that does not fade in the hottest sunshine. A good grower, a sure four-bearer and the blooms well placed on long stems, this fine pale cerise or cherry-pink has many years before it. Under artificial light it is exquisite.

I have always considered that Hawthorn Pink has been rather disappointing, but now that there are some very fine stocks on the market it is worth growing for those unique, richly coloured pink blooms that instantly arrest attention. Even the best stocks give a low paler tinted flowers and the variety rather lacks vigour. One hardly knows whether to give eighth place to it or Hebe, an improved Hercules and a very fine exhibition variety, or Elegance, a beautiful lilac-blush, one of the most refined Sweet Peas we have.

No. 9 must be a dark variety, for the maroons supply the necessary balance of colour in a stand, and they are effective if mixed (in a small proportion), with a white, cream or salmon variety. I recommend The Sultan for the exhibitor. Its glistening black-maroon will contrast well with the lighter shades. It is a very vigorous grower, has big blooms, mostly in fours on huge stems, while it seems to have all the qualities of a first-class variety. If a chocolate maroon is preferred I would suggest Warrior, now very well known.

Few will disagree with my choice of Charity (crimson) and Royal Purple for tenth and eleventh places, respectively. Both are good growers, distinct colours and useful for all purposes.

My last choice is Tangerine Improved for the exhibitor. Its colour, so aptly described in the

name, is one of the loveliest shades we have in Sweet Peas. Alas! it is not easy to grow, for it is not very vigorous and requires shading; but when it is grown on a single stem and protected from the sun it will repay a little extra care.

I think I should suggest either Valentine (blush-pink) or Annie Ireland (white, with a Picotee edge of pink), in place of it for garden decoration. The latter is one of the daintiest of Sweet Peas.

For keen competition all varieties should be grown on the "cordon system," but after the shows are over they can be allowed to grow away freely when they will provide plenty of cut flowers, and in a favourable season, finish well above the supports.

NORMAN LAMBERT.

NOTES OF THE WEEK

A RECENT visit to Kew Gardens confirmed a previous impression that, despite the mild winter, many plants are distinctly backward this season. This is particularly the case with alpinists which, even under glass, are far more backward than one would expect. The plants in the Alpine House, in fact, seem more backward than those in the frames, which probably affords an explanation of the phenomenon. A spell—even a short one—of hard weather would have "put the plants to sleep," and they would now be less drowsy!

Primula Winteri Outdoors.—Everyone—at any rate, every lover of choice hardy plants—knows that *Primula Winteri* is hardy and knows also that it does not succeed outdoors! A little colony of plants, which have now had practically twelve months outdoors, is therefore of special interest. These are planted quite under the shade of Sargent's weeping form of the Canadian Hemlock—*Tsuga canadensis Sargentii*—and owing to the umbrella shape of the tree are quite immune from drip. The plants certainly look healthy, not to say robust. No visitor to Kew interested in the plant should fail to look out for them in the rock garden.

Snowdrops.—To most people, even to many keen gardeners, Snowdrops are very welcome harbingers of spring, and of their form and colouring they have quite a clear idea. That there

are quite a number of species and varieties does not occur to one simply because—excluding the rather bloated double ones—they are so much alike. Yet some forms are finer than others and, what is even more important, some are decidedly earlier than others. The beautiful and early *Galanthus Elwesii* is, at any rate, in a good form, admirable, but it needs a little more shelter than the forms of *G. nivalis* or the very closely related *G. Imperati*, which is illustrated and which is extremely beautiful. One of the most distinct of Snowdrops is *G. latifolius*, with foliage almost broad enough for a Tulip.

Box Hill.—We publish on another page an appeal from the Editor of *Country Life* for funds to round off the National Estate at Box Hill. It is essential for the public enjoyment of the land already given that the area now offered by Lord Francis Hope should be saved from the hands of those who would disfigure one of England's most precious beauty spots with unsightly erections, such as are already springing up in the neighbourhood. Box Hill may be looked upon as a National garden—indeed, many gardeners might learn much as to the arrangement of trees, shrubs and plants from a visit there—and we confidently commend to all garden lovers the purchase of this additional area as an entirely worthy object and one of lasting benefit to the community.



THE WIDE-SKIRTED GALANTHUS IMPERATI.

NOTES ON DAFFODILS

A FINE NEW WHITE TRUMPET DAFFODIL.—*Narcissus Everest*, illustrated herewith, was shewn by the Donard Nursery Company of Newcastle, Co. Down, at the Midland Daffodil Society's Show at Birmingham last April, when it gained a unanimous award of merit. It was much commented on, and was in my opinion one of the very finest things at the show. The flower is pure white throughout and is of fine waxy texture, having broad, well formed perianth standing at right angles to the trumpet, which is beautifully finished with a neat flange at the brim; perhaps its most striking feature was its tallness. White trumpets are, unfortunately, rather short-stemmed as a general rule, but I should say that the stem of this variety must have been about 20 ins. in length. It is an early bloomer.

THE NARCISSUS FLY.—I have never had serious trouble with this pest here, as it is probably not so much at home in our rather cold, wet and cloudy climate as in districts that enjoy a considerably greater amount of sunshine; however, I have usually had a few odd bulbs destroyed by it, and a method of dealing with it which I have just tried with apparent success may be of interest. It has been my practice to go over the Daffodil-beds any time between November and the end of January, when top growth is well started, very carefully uncovering the tops of all the bulbs row by row with the assistance of a boy, the boy working on one side of the bed and myself on the other simultaneously. When the bulbs are thus uncovered it is quite easy with a very little practice or experience to detect any bulb or nose of a bulb which has not sent up its strong white shoot or whose growth is in any way defective or sickly-looking so as to give rise to suspicion. Where the growth has failed to come from a nose, it will almost always be found if the bulb or offset is taken up and split open that it contains a Merodon grub. I have found them in all stages of development, from such a small size that some care is required to find them up to full grown. Each row of bulbs is, of course, covered again after examination before proceeding to the next. By this method I think that very few, if any, grub-infested bulbs escape detection, and it must certainly be very effective in reducing the number of flies provided that they have no other adjacent breeding-ground. In the winter of 1921-22 following on the hot, dry summer of 1921, which was doubtless exceptionally favourable to the fly, we found a greater number of grubs than usual, so in addition to the above method of

attack we adopted a plan of defence as follows: Throughout the growing season the soil is kept constantly cultivated between the rows of bulbs; this was done very thoroughly, with frequent forkings last spring; and just when the flowers were over, the weather being dry at the time, we gave



NEW WHITE DAFFODIL EVEREST.

the beds a final thorough and fairly deep forking, but not deep enough to disturb the roots. After this the loose soil was drawn up with the hands into little ridges as high as possible against the rows of plants and carefully packed as closely as possible around the foliage to prevent the fly crawling down the holes left by withering stems and foliage to the bulbs, which are thus, for the time being, more deeply buried than usual. This operation is very simple, and can be carried out a good deal more quickly than might be supposed when the soil is dry. When the foliage had died down it was raked off, the little ridges levelled, and the beds again forked over. The frequent forking and disturbing of the surface soil is in itself undoubtedly a safeguard, as any stray egg or minute newly hatched grub is likely to be put beyond reach of its objective thereby.

The result of our efforts has been most satisfactory, for, when we began our usual hunt for grubs this winter by uncovering the bulbs, about a month or six weeks ago, we could not find a single grub-infested bulb, although large numbers were carefully searched. Last season was, doubtless, less favourable to the propagation of the fly than the preceding one, but the complete absence of grubs can scarcely be attributed to that here, as I found

two in a small bed which I fancy had been overlooked when earthing up in another garden where I grow some of my Daffodils about half a mile from here. Whether our success was mainly due to our having exterminated most of the flies in the grub stage by the bulb to bulb search in the winter of 1921-22 or to the defensive method of carefully forking the surface soil and well earthing up the foliage last spring it is difficult to say; but I am rather inclined to give most credit to the latter operation—which has the merit of being much more easily and quickly done—as, when the former only had been carried out in previous seasons, grubs were never completely absent, as they appear to be this winter.

Broughshane, Co. Antrim. GUY L. WILSON.

A ROCK GARDEN INDEED

SO many beauties of nature have been swamped by the ever-rising tide of villas and hotels on this sunny coast that it is pleasant to state there is a spot—indeed, a unique one—high up among the rocks under the Crag of Monaco where true taste and the art of the gardener have successfully added to the natural flora and created a *new world*, one may say. To anyone entering this rock-bound area, where the late Prince of Monaco commenced a garden for Cacti and succulents some thirty years ago, the spectacle of tall, columnar and branching Cacti that have now grown to the stature of trees is startling in itself, and the bright red fruits with which they are so plentifully adorned add to the strange effect. That is, however, a mere beginning to the wonders to be found as you advance.

During all these years the late Prince and his excellent gardener, M. Gastaud, have been collecting plants and seeds from Mexico, Peru, the Cape, the Canaries and other far-distant lands and, not content with merely planting them, have been busily engaged in making new hybrids and carefully making selections from the seedlings they have raised. To do justice to it needs another pen than mine, but any account, however inadequate, is better than none. The garden is so high up and so inaccessible till these new roads have been made that it has been but little visited. No doubt the Prince was glad to have a retreat where he could get away from the crowd and feel as if he were travelling in a far-off land! What may happen under the new ruler I do not know, but I sincerely trust it may be kept up, as there is nothing to compare with it in variety and richness. The flowering Aloes and succulents, the weird Cacti, the strange Euphorbias and Senerios must be seen to be appreciated. Perhaps one of the most striking things is the way some of these succulents mimic the growth and general effect of Fir trees or other evergreens. In particular, some of the Phyllocacti, with their upright growth and flat tiers of spreading branches, recall a young Araucaria or some other conifer so closely that at first sight one wonders why such a tree should grow here. The mimicry of some of the Euphorbias is well known, of course; it takes an expert to decide at first sight whether it be Cactus or Spurge till you cut it, when the milky sap tells its own tale. Here, indeed, there are wonders enough for the wisest of men, and the flowering of the Aloes in February will give a blaze of colour as great as any bed of Geranium or Tritoma can give in August in northern gardens; while the variety in stature and mode of growth are a delight to the eye of the artist and the discerning

gardener. Cactus, *Cereus*, *Phyllocactus*, *Echinocactus*, *Kleinia*, *Mamillaria*, *Mesembryanthemum*, *Sedum*, *Senecio* and many another genus or species are all there with their hybrids in bewildering variety. As a rule one may say each is more thorny than its neighbour and unassailable to the toughest customer in the desert from which they spring. I should doubt if the horny hoof of even a mule could succeed in breaking through the array of spines that protect the juicy globes of these desert plants that store up sap where no water can be found. To sit down hastily in this garden would be a disaster, so the Prince has kindly provided seats at intervals in the ascent. We have all heard of "stony griets," but here there are "thorny joys" as well, a combination rarely met with and one that will live long in the memory of

Nice,

F. H. WOODALL.

BULBS FOR SPRING PLANTING

MUCH that is really essential in the flower garden during the late summer and autumn is supplied by bulbous and tuberous-rooted plants that may be planted in early spring. Among these, *Gladioli* are worthy of first mention, to be closely followed by the newer *Montbretias*. The Cape Hyacinth, *Galtonia candicans*, is quite distinct and handsome withal; while for Lilies—particularly the *speciosum* group, no praise is too high. Other species of a dwarfier nature there are, but on this occasion our concern is for the taller and more gorgeous of these, which should be planted towards the end of March and beginning of April. The modern *Gladioli* are stately plants, much superior in every way to the majority of those in commerce throughout the greater part of the last century. They have been kept up with the times by those who are alive to their possibilities. By careful breeding and selection the weak-habited, washed-out coloured varieties have been gradually removed, so that at the present time there is hardly a named sort in the catalogue of a reputable firm that is not worthy of its place in any garden. Some of these have 3 ft. long flower-spikes, as much as half of which is closely studded with vivid-coloured flowers which open in their turn from the base upwards, a process taking up considerable time, thereby enhancing their value not only in the garden, but for cutting. Scarlet, pink, yellow and blue are all now available, and it would be difficult to imagine a garden where their free use would not greatly enhance its early autumn charm. In conjunction with perennial *Phloxes*, with many annuals and carpeting plants, or in combination with the white-bellied, *Galtonia candicans*, already alluded to, it is only a question of blending or contrasting their colours as individual taste may prefer, in order to obtain beds and borders rich in beauty with the least possible amount of trouble. To fill in the dull spots in the herbaceous border, which cannot be avoided in spring and early summer flowering plants are employed. *Gladioli* are invaluable. They may be planted, assuming the soil to be in fair condition, without the necessity for much disturbance of the plants near, and in colonies of sixes or nines, according to the width of the border. Nothing that is now available for planting in a dormant state is more reliable or more beautiful.

No less remarkable has been the advance during the last decade or so of *Montbretias*. Nearly

every lover of hardy flowers is familiar with the perennial occupant of old flower borders, *Meibomia* and its varieties, with their small spikes of orange-coloured flowers which invariably failed to open out fully, as if afraid of too close inspection. That they were permitted to reign in many cases was because their requirements were of a simple order, and they were hardy in the extreme. It is perhaps not too much to say of the newer hybrids that, both in habit of growth and flowers, they are *Gladioli* in miniature; but they are much more artistic, since the spikes are lighter and, though branching, are not heavy. In accordance with all this is the setting of the flowers—they do not overcrowd. Reference has already been made to the shortcomings of the flowers of the old species, but in the new hybrids these have given place to a fully expanding type, 2 ins. to 4 ins. across. Some of them are quite flat, and with age have a tendency to recurve, thus revealing the richness of their markings in the best possible manner. *Star of the East*, *Germania*, *Prometheus* and *George Davidson* are but a few, typical of many, possessing the foregoing qualities at a reasonable price, and which justly entitles them to a place among the choicest plants for garden decoration while for cutting they have few equals. In order to enable these to give of their best it is most essential to bear in mind that they are vigorous growers and bear no comparison to the retiring disposition of the old species. They must be liberally treated in the matter of

soil preparation, and on no account allowed to suffer through lack of moisture at their roots. Of equal importance is it that they should be lifted and stored during the winter in a similar manner to *Gladioli*.

With a host of Lilies to select from the reason for preference being given to the *speciosum* group is that there is less likelihood of them proving disappointing, since they are of the easiest cultivation, having none of the likes and dislikes of soil, situation and locality of some of those generally recognised as garden varieties. All the popular sorts comprising this fascinating group are now being imported freely and the bulbs are of good quality. A great many find their way into pots for greenhouse decoration, but in many parts of the garden they are welcome additions to the ranks of early autumn flowerers. In common with other Lilies they revel in a light sandy loam, and time spent in preparing stations for them is amply repaid. They are stem rooting, and the bulbs should be planted rather deep in consequence and be covered with the lightest soil.

In *Galtonia* or *Hyacinthus candicans*, we have one of the best bulbs for present planting. In the mass their towering white spikes, over 4 ft. in height, are very effective. For grouping among early-flowering shrubs or at the back of the herbaceous border few things are more useful. As with Lilies, the bulbs should rest on and be surrounded with sandy soil, and they should be put some 3 ins. below the surface. J. T.

THE SNOWFLAKES

BEST of all the spring-flowering Snowflakes—if one excepts the charming *Leucojum nicaense* (illustrated in our last issue), which is too particular in its requirements for outdoor culture in Britain—is the plant illustrated below, which, botanically a variety of *L. vernum*, is, from a garden standpoint, entirely distinct. The blossoms are a beautiful warm creamy white, very welcome at this season when, though vegetation is awakening, it is still far from wakeful. Each flower segment is attractively tipped with gold. By comparison with this treasure the typical Spring Snowflake,

L. vernum, is a coarse plant, yet taken on its own merits it is a very desirable plant, bolder and showier than the Snowdrops and quite as early to flower. It takes a year or so to establish imported bulbs, but, once established, it is an easy doer in light soil, not deficient of humus, and increases rapidly. It succeeds quite well in the border in sunny woodland, but is perhaps seen to best advantage on a sunny ledge in the rock garden.

The so-called Summer Snowflake, which actually flowers in late spring, bears clusters of snowdrop-like blossoms on stems up to 2 ft. tall. It is an interesting-looking, though old-fashioned plant,



A BEAUTIFUL FORM OF THE SPRING SNOWFLAKE—*LEUCOJUM VERNUM CARPATICUM*.

CORRESPONDENCE

SPOTTINESS IN PLANTING.

IN your issue of January 27 there is an illustration of a water garden bearing underneath the words "admirably planned and planted." I wonder if other readers besides myself felt that there was something wrong with the picture, that the words were not perfectly appropriate. There is so much to be learnt from looking at garden pictures. I have been looking carefully at this one and asking myself why it seemed, to my judgment, unsatisfactory. Do not you think the planting needs simplifying and broadening? Look, for instance, at that one plume of—is it *Stenanthium*?—on the right. If the plant had been massed it would have looked right enough, as it is it looks like a botanical specimen just in the sort of place where such specimens look most out of place. In front of this is a clump of some half a dozen roots of a Bearded Iris. Would not it have been far better to have had a much larger planting of a water-loving Iris such as *sibirica*, *Emperor* or *Snow Queen* or *Kemperi Morning Mists*? The single clump of *Funkia* (*Sieboldi*?) on the bank opposite would look fine if better placed, but here seems merely an unrelated "spot plant." The big *Spiraea arifolia* is splendid, of course, and so is the dark background; but, apart from these features, much of the planting seems (to judge merely from a photograph) to lack something of the breadth that streamside planting generally calls for. I send you this note not, of course, as a criticism of the delightful illustrations in *THE GARDEN*, but simply as an amateur's analysis of one picture. Some other reader, perhaps, will be sufficiently amused to turn up the back number and see if he agrees with my comment. I was so glad to see in the same number what you say about the different qualities of white in border flowers, and about the unpleasant effect of overlarge masses of cold white. A few more warm whites occur to me as perhaps worth adding to your list: *Camassia Leichtlinii alba* (excellent with single scarlet *Paeonies*), *Hyacinthus candicans*, of course, and *Yucca filamentosa flaccida*. A long-flowering little shrub useful in the border, is Farrer's white natural hybrid of *Potentilla fruticosa*. Poppy Perry's White is beautiful in colour.—A PAINTER.

[Without seeing the garden from which a picture is taken, one is at some disadvantage in criticising the planting. To the Editor the little glade shewn seems too small for very large clumps of plants. Probably the plants shewn are outlines of larger groupings in the background. In which case their presence needs little justification, yet on looking carefully at the picture again probably "admirably planned" would be a more fitting title to the picture than the one given. The arrangement of the stones in the bed of the little stream is certainly much above the average.—Ed.]

THE MILD WINTER.

THIS is not by any means a warm district, but this is an exceptional winter here as elsewhere. I enclose a spray of parsley-leaved Blackberry growing on a wall with an eastern aspect which has been flowering for several weeks, and has even managed to set some fruit.—W. H. ST. QUINTIN, *Scampston Hall, Yorks.*

[The spray of parsley-leaved Blackberry, *Rubus laciniatus*, bore fast ripening fruits, and had obviously been quite recently in flower.—Ed.]

THE GOLDEN THYME.

THE Golden Thyme referred to by Mr. Clarence Elliott on page 25 was not found wild on the Welsh hills. In October, 1905 or 1906, I

saw a golden spray coming out of the crown of an Encrusted Saxifrage which Mr. Wolley Dod had given me shortly before his death. The wild Thyme referred to by Mr. Clarence Elliott was found on the top of Snowdon in 1891. It flowers from two to three weeks earlier than any other variety.—E. CHARLES BUXTON, *Bellis-y-Cood.*

IRIS RETICULATA UNDER GLASS.

I SHOULD fancy that most readers of *THE GARDEN* know *Iris reticulata* as one of the most welcome—as it is certainly one of the most beautiful—of early-flowering bulbs. I have been successful in establishing it both in the rock garden and in short grass. Properly arranged it is exceedingly charming in the turf of the wild garden, which sometimes borders, happily enough, the rockery. The enclosed picture shews this plant put to a new use. If good enough for reproduction it would, I think, interest many readers. Like most Irises, it resents forcing, but even if grown in an entirely cold house the blossoms appear under glass early in the New Year.—G. HARVEY.

[The photograph mentioned, of a pan of *Iris reticulata* was hardly suitable for reproduction. The picture accompanying the note is of a bowl of these beautiful flowers exhibited at the mid-January meeting by Messrs. Sutton and Sons. The plant is neat enough to associate with the choicest of alpinists under glass.—Ed.]

THE VALERIAN AND SELF-SOWN SEEDLINGS.

I WAS very pleased to see your note on the above plant (*THE GARDEN*, December 23, 1922, page 652). My business engagements have taken me away from home very often during the past two seasons, consequently one part of my garden—the rock border that claims my personal attention—has been neglected and allowed to run wild. To-day this rock border is a riot of self-sown seedlings and young plants of trees, such as *Sycamore*, *Thorn* and innumerable common weeds. There the beautiful *Valerian*—one of my favourite plants, either wild or cultivated—has become a weed and a pest, with a special liking to establish its numerous off-spring among my beds of Mossy Saxifrages and Sedums, while groups of alpine *Dianthus* and *Aubrietia* are their special abiding places.

Among the Flag Irises they have also found a home. This *Valerian* will certainly soon fill a garden if left to seed. The reminder in the note referred to—"the easiness of its cultivation makes it a most desirable town garden plant, so long as it is not permitted to seed"—should therefore be borne in mind. I grow this plant upon a raised border, where I find a difficulty in establishing most plants, the soil being little more than sand, with very sharp drainage. The

Valerian is just the plant for such dry and hungry soil. The natural habitat of the *Valerian* is among limestone formations. In the sowing of seed great care should be exercised in the selection of varieties. When I commenced to grow the *Valerian*, seed was purchased from a first class firm making a speciality of an improved coloured form. My disappointment was great when viewing this plant growing wild by the tens of thousands, one colour form of the wilding throwing my special plants quite into the background. In North Wales there are three distinct colours—a very vivid and distinctive ruby red, crimson and pink. The latter colours should be avoided for garden



A BOWL OF THE DAINTY IRIS RETICULATA.

decoration. There is also a very beautiful white variety growing in the Llandudno district.—GRANITICUS.

TRAPPING VERMIN.

MOST of the methods advised by your contributors of notes on above to *THE GARDEN* recently are, so far as tried by myself, as disastrous to birds as the vermin they are set to destroy. Usually the first victim in the "break-back" is the friendly robin which follows one's doings in the garden very attentively. The hedge sparrow that early in the year gives forth its not unpleasing melody is also a not unusual victim and, of course, the beautiful and entertaining tits, which probably do considerably more good than harm in the majority of our gardens; I do not think there is any question that they mainly subsist on insects, larvæ and pupæ, which they are constantly ranging the trees and shrubs for. The "brick" trap advised and illustrated would probably be as disastrous to bird life as the "break-back." Our gardens would lose one of its great attractions if it were not a sanctuary for bird life, and in most gardens the damage they do is compensated for by the pleasure and companionship that is felt towards them, at any rate by some, and the beautiful music they generously provide, especially in the springtime of the year. Mice trouble me considerably at times, especially playing havoc with *Crocus* and other bulbs, and also nibbling back the *Dianthus*, alpine *Phlox* and other similar plants, which they at times

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

carry away wholesale and store in their temporary domicile. In trapping I usually use the old-fashioned three-hole wood mouse trap which has wire spring nooses tied down with thread and which is baited with cheese, nuts, aniseed, etc., to reach which the mice have to nibble through the thread, which releases the spring. It does its work quite as effectively as the "break-back," and I have never had a bird of any kind trapped in it. I have had three mice trapped at one time and often two. Sometimes the bait is extracted without the thread being cut through, probably by the "pigny shrew," a lovely, quaint little animal which can possibly push its way through between the threads. I have often had the bait taken off the "break-back" trap (set inside) without releasing the trigger. Some of the mice seem almost to suck the bait off. Recently I noticed some Tulip (species) seeds which were just coming through, were being tampered with by something, and set three traps in the frame, the whole of them on occasion having the bait taken without going off, but during the first week of this year I took two long-tailed field mice, two field voles and a pigny shrew out. I have also tried the "Colm Pullinger" trap advised in THE GARDEN some time ago, but, unfortunately, got one that was not properly balanced and, of course, did no good with it. It was altered for me, but the balance still does not seem to be right, and I have only had one mouse in it. The drawback to this trap is that the mice are caught alive and either die a lingering death or it alive when the trap is examined have to be drowned.—T. A. LOFTHOUSE.

CHRYSANTHEMUM TOKIO.

AS an old "Mummer" I was much interested in the pars. by Mr. E. H. Woodall and my old and esteemed friend, Mr. Harman Payne, *re* the variety Tokio. I am pleased at times to read and to feel that Mr. Harman Payne's enthusiasm and unbounded interest in the Chrysanthemum has not waned with years. He has carried on correspondence and kept up *L'Entente Cordiale* with our French neighbours for years, much to the advantage and benefit of many of us on this side of the Channel who have never been able to visit the French exhibitions and see their methods of staging. When I read Mr. Woodall's note, and subsequently Mr. Harman Payne's, describing the variety Tokio as a good pink, I felt that there was either a mistake or that there were two varieties in cultivation under the same name. I grew and used Tokio some thirty years or more ago in my exhibition groups, on account of its bright red colour and dwarf habit, for the front plants. Bright colours were not so plentiful then. Mons. Henri Jacotot was then one of the best and largest, as well as the brightest. Later on we had Cullingford, very effective for colour. Perhaps Mr. Payne may enlighten us on the subject.—C. ORCHARD, *Bembridge, Isle of Wight.*

FORTHCOMING EVENTS.

February 12. United Horticultural Benefit and Provident Society's Meeting. Lecture at the University College, Gower Street, London, W.C.1, at 5 p.m., by Mr. H. C. Thornton, B.A., on "Conditions Affecting Bacterial Activities in the Soil—Activities Connected with the Intake of Protein Building Materials."

February 13. Royal Horticultural Society's Fortnightly Meeting and Annual General Meeting.

February 14. Lecture at the University College, London, W.C.1, at 5 p.m., by Mr. D. W. Cutler, M.A., on "Protozoa of the Soil."

Herbs. Perhaps the most popular herb is Mint, and to obtain this of the best quality a new bed should be made every year. It is increased by division and now is a good time to replant. Parsley is raised from seeds and the first sowing can be made during this month and another in July. Sow the seeds thinly and thin out the plants to 6 ins. Sage can also be raised from seeds, but preference should be given to cuttings taken in the autumn. The common Thyme may be increased by division at this season, or raised from seeds, which may be sown any time during the spring months. There are a number of other herbs in cultivation, most of which can be raised from seeds.

Broad Beans.—If the soil is in a fit condition the main crop of this useful vegetable should be sown in double lines 2 ft. apart and 6 ins. apart in the rows. Beans enjoy a strong soil, but good crops can be obtained from any ordinary garden. The Longpod varieties are usually grown by the amateur, but the Windsor kinds should certainly be given a trial.

Parsnips.—Whenever possible Parsnips are sown about this time, but no anxiety need be felt if such is deferred for a few weeks. The seeds should be sown thinly in lines 15 ins. apart, lightly cover the seeds and then draw a wooden rake over the bed, but this must be done in the same direction as the rows. Parsnips should be given a deeply dug piece of ground and a patch that was manured for the previous crop. Use the hoe directly the seedlings appear and thin out 1 ft. apart. Hollow Crown and Student are both reliable varieties.

The Flower Garden.

The Frame Ground should always be kept neat and tidy and the plants in cold frames must be looked over for weeds and decayed foliage, while the soil may be stirred lightly with a pointed stick. Viola cuttings should have their tops pinched out and cuttings of various shrubs, if well rooted, can be transferred to nursery beds. Rock garden plants such as Saxifrages, Thymes and Androsaces, if propagated last August, will be ready for their permanent quarters, but it will be necessary to well harden them by removing the lights both night and day.

Salvia patens.—Among blue-flowered bedding plants *S. patens* occupies a high position and the old plants ought now to be introduced to a warm greenhouse to start them into growth. Large examples can be divided into several pieces and potted up, while sufficient cuttings should be inserted for bedding purposes. This delightful Sage can also be raised from seeds.

Dahlias.—Since the advent of the Peony-flowered and Single varieties, Dahlias have been extensively employed for bedding purposes and few plants are more effective for large isolated beds. The old stools should now be placed in a little heat where they will soon produce a quantity of cuttings. These will readily form roots if sandy soil is used, and the pots of cuttings are arranged in a close propagating frame. Cooler treatment should be the rule directly roots are formed and each cutting must be given a separate existence by potting it off in a mixture of loam and leaf-mould.

Fruits Under Glass.

Peaches and Nectarines.—In most instances far more fruits set than are required for a crop, so it will be necessary to begin thinning them at an early stage. This must be done gradually and the same remark applies to disbudding of the shoots. When disbudding a thought must be given to the future welfare of the tree, remembering that the growths retained now will form the fruiting wood next year. All foretigh shoots should be removed, and care must be taken to see that the base of the tree and the main branches are well supplied with new growths. The shoots that were tied in this season will produce a number of growths and when disbudding the basal one must be preserved, also the terminal shoot and three others equal distances apart. A fortnight or so later two more growths may be removed. Disbudding can commence when the shoots are about half an inch in length. A watch should be kept for aphids for they do irreparable damage in a short time. The house may be lightly vaporised, or the trees syringed with a weak solution of any reliable insecticide.

Cucumbers.—Proceed to transfer the plants to their fruiting stations before the roots become starved. A low house is essential and the vines

should be tied to wires placed about 15 ins. from the root glass. A peck of fibrous loam should be set in position for each plant, but this must be thoroughly warmed before planting. Growth will be fairly rapid in a moist temperature of 65° to 70°, and each lateral must be stopped just beyond a fruit. When the roots appear through the soil add more loam and rotten manure and keep the plants well supplied with moisture. Warm water should be used both for syringing and watering purposes.

The Hardy Fruit Garden.

Autumn-fruiting Raspberries.—Where these are appreciated the Hailsham should be given a trial. All the canes should be cut down to their base and when new ones appear they must be moderately thinned.

T. W. BRISCOE,

(Gardener to W. R. Lysaght, Esq.)

Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas. Weather permitting, an early sowing of Peas may be made. It will still be advisable, however, to select the warmest site available, and the drill should be partly filled up with some fine, rather dry soil. Precautions should also be taken against damage by mice or rats.

Broad Beans.—A sowing should now be made for early supplies, and the quick-maturing Early Mazagan is suitable for this sowing. Two feet between the drills is sufficient for this variety.

Rhubarb.—This is a suitable time for making new plantations. The plant being a gross feeder, it requires liberal cultivation. Trench or double dig the quarter, working in a good supply of organic manure with each spit. When the soil has settled a little, plant single or double crowns about 4 ft. apart each way. An alternative system is to excavate pits from 30 ins. to 30 ins. in diameter and 30 ins. deep, and incorporate a good supply of manure with the soil as the pits are being filled in; distance apart as above.

Fruit Under Glass.

Peaches which have set their fruit should be vigorously syringed to rid the trees of the decaying flowers. The trees should now be syringed every afternoon and the pathways sprinkled with water twice daily. The trees must not be allowed to get dry at the root. Ventilate on all favourable occasions and maintain a night temperature of 50° or thereabouts.

Strawberries.—Plants in flower should be fertilised by means of a camel's hair brush or a rabbit's tail. A rather dry, buoyant atmosphere is desirable at this stage. Plants which are swelling their fruits should receive the assistance of some approved fertiliser, such as Clay's or Icthemio guano, rather weak and frequent doses being preferable to strong doses given at long intervals.

The Flower Garden.

Antirrhinums.—For planting in masses the Antirrhinum is hard to beat. Seeds should be sown now to furnish plants fit for planting in the first week in May. Sow in boxes as for the general run of half-hardy annuals. Of the three classes, tall, medium and Tom Thumb, the medium varieties are the most useful.

Dahlias.—Cuttings should be taken as soon as they can be had from 2 ins. to 3 ins. long. Insert these in an ordinary propagating bed, where they will soon root. When sufficient cuttings have been obtained the old tubers can be transferred to a cool structure with a view to their being planted out in the herbaceous border or elsewhere.

Spring Bedding Plants.—Take advantage of dry, open weather to stir the soil with a small hoe between Wallflowers, Forget-me-nots and Daisies. If mice are tampering with Tulips, they should be trapped or poisoned.

The Hardy Fruit Garden.

Strawberries.—Where plantlets have been laid in in nursery lines for spring planting preparations should be made for planting them out. The quarter, if trenched or dug in autumn, should now only require to be forked over when weather permits. Run the Dutch hoe through between Strawberries planted in the autumn.

The Pleasure Grounds.

Lawns.—Any turfing which has to be done should be dealt with as soon as possible. Happily this work can be taken in hand when the weather forbids many other jobs being dealt with.

CHOICE IRIS from CHISLEHURST

If you are contemplating either adding to your Iris garden or forming a collection of Iris, you cannot be without the following varieties. Order them now for Spring planting:

Alcazar (Vilmorin).—S. bright deep aniline blue, F. rich deep velvety violet purple, with a prominent yellow beard. Very tall.

Ambassadeur (Vilmorin).—Flowers large, with smoky reddish violet standards, and falls dark velvety reddish violet. Beard yellow. Height 4ft. A.M., R.H.S.

Ambigu (Vilmorin).—S. clear smoky red, and falls a velvety reddish brown. Height 2½ft.

Asia (Yeld).—A.M., R.H.S. Pale lavender standards suffused yellow at the base, falls light purple violet, paler at the edges, heavily reticulated at the haft. Bright yellow beard. Height 4-4½ft.

Crepuscle (Vilmorin).—A fine violet blue self, with very large flowers. Very free flowering.

Dejazet (Vilmorin).—Of distinct and beautiful colouring. Dusky rose orange, and F. clear reddish violet. Robust grower, of medium height.

Eldorado (Vilmorin).—S. yellowish bronze, shaded beautifully with heliotrope, falls bright petunia violet, tinged with bronze yellow at the haft, and a prominent yellow beard.

Ed. Michel (Vilmorin).—A.M., R.H.S. Of imposing appearance of a distinct reddish petunia violet colour, with falls slightly deeper than the standards.

Halo (Yeld).—An exceedingly fine Iris, with large and good quality flowers. S. light violet, F. bluish violet.

Lord of June (Yeld).—A very strong grower with massive flowers. S. palest lavender blue, F. deep rich aniline blue. A.M., R.H.S. Height 2½-3ft.

Lohengrin (G. & K.).—S. pure light aniline blue, F. bright pale violet. Very beautiful. A.M., R.H.S. Height 2½-3ft.

Mrs. Neubronner (Ware).—Uniform shade of rich golden yellow, one of the finest yellows. Height 2ft.

Oriflamme (Vilmorin).—S. brilliant pure blue, F. deeper blue purple. Height 2½ft.

Opera (Vilmorin).—Magnificent variety. S. rich pansy violet, shaded to brownish violet at base; F. a rich velvety violet purple. Height 2½ft.

Prospero (Yeld).—A.M., R.H.S. S. pale lavender, F. rich deep violet purple, slightly paler at margins. One of the best.

Pallida Celeste.—Pale silvery blue standards, and lavender falls. Very beautiful.

Richard II (Dykes).—Standards, pure white, falls deep violet conspicuously margined white. Most prolific. Height 1½-2ft.

Queen of May.—A pallida form, rosy pink.

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All coarse patches of grass should be removed and be replaced by suitable turf. Any depressions should have the turf thrown back and the depression levelled up with soil that is not too rich.

Walks requiring a fresh supply of gravel should have attention now. Old walks can be freshened up by loosening the surface to a depth of a few inches and sifting the earthy portion into a barrow to be wheeled away, only the clean gravel being retained.

CHARLES COMFORT

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Salvia azurea var. grandiflora (syn. *S. Pitcheri*) is a beautiful blue-flowered plant which is hardy in the south, but flowers very late, often getting damaged by late frosts. It is, however, an excellent plant for the cool conservatory. It is easily raised from seed sown at this time, or from cuttings, which may now readily be rooted in a case in a cool house. In fact this plant may be given exactly the same treatment as *Chrysanthemums*. Good specimens can be grown in 10-in. or 12-in. pots, and during the summer they should be stood out on an ash bed. These plants require strict attention as regards watering and feeding for, if neglected in this respect, they are apt to lose their bottom leaves and also suffer from attacks of red spider.

Salvia uliginosa is another late-flowering blue species, also worth growing in the same way. It is a strong rooting species and requires very generous treatment. Here at Kew it is not over hardy and requires some dry leaves or ashes over the crown to keep it safe.

Salvia Greggii is a very pretty red-flowered species, useful for the greenhouse and conservatory during late summer and autumn. It is a shrubby plant and makes neat specimens in 6-in. pots. It is easily propagated at this time by means of cuttings, which root readily in a case in a cool house. During the summer it should be stood outdoors in cold frames or on a bed of ashes in the open.

Fuchsias raised from cuttings last September and kept growing steadily on during the winter should now be potted on, giving them a rich compost, as it is essential that they make free and rapid growth. If given generous treatment they should make good specimens during the coming summer. Old specimen Fuchsias should now be got out and pruned, at the same time cleaning them; this is very necessary if they were attacked with mealy bug last season, and they are very subject to attack by this pest. If well watered and stood in a warm greenhouse, where they can be syringed several times a day, these plants will soon start into growth, when they may be turned out of their pots and a portion of the old soil removed. They should then be repotted into the same sized pots. They should be kept close and sprayed over with the syringe several times a day until they are growing strongly, when they may be given more air, regulating this according to the outdoor conditions. Where it is desired to increase the stock, plants should be started into growth in a warm house. The young shoots when pins, in length root very readily in a close case. Where they can be planted out Fuchsias are ideal plants for training on rafters and pillars in the conservatory and in such positions they grow freely and flower with wonderful profusion right through the summer and autumn. Many of them are also excellent for filling baskets; for this purpose varieties with a natural drooping habit should be selected. Mrs. Rundle and Mrs. Roberts are good examples of this type. Cloth of Gold is a slender, drooping variety with golden foliage.

Malmaison Carnations wintered in 4-in. pots should now be ready for a shift into 6-in. pots. The compost should consist of a good medium loam and unless it is on the heavy side is better without the addition of leaf soil. Lime in some form is necessary for all Carnations and where it can be procured old mortar rubble may take the place of sand in the compost. A 6-in. potful of fine bone meal and a dusting of soot should be added to every bushel of soil. If fresh lime is used in the compost do not add soot. Firm potting is essential and the plants should be kept close for a few days until they get a hold of the fresh compost. Specimen plants should now be growing away and will require more water at the root. There will now be less danger of rust. The only preventive and cure for this is dryness during the dull months; not a drop of water on the foliage and no more at the root than will keep them from shrivelling.

All the spraying nostrums only aggravate the evil, as a certain amount of moisture is essential for the growth and spread of the rust. Perpetual-flowering Carnations may still be propagated according to requirements, while earlier rooted batches should be potted off. Keep a strict outlook for aphids on plants nearing the flowering stage. Occasional light fumigations should be given as a preventive.

J. COCHRAN.

Royal Botanic Gardens, Kew.

The Amenities of the National Estate at Box Hill

We have received from the Editor of "*Country Life*" the following:

ABOUT a year ago attention was called, in the Press, to the fact that Box Hill was in danger, a very large adjoining portion being for sale and described as "ripe for development." The Nation's property there, after Miss Warburg's gift last year, consists of Box Hill and half a mile of the main ridge to the eastwards, together with the northerly spur, the valley up which the road runs, and the next spur to the east, which forms one side of the most beautiful part of the whole place, "Happy Valley." Thus the Nation's estate of 300 acres is of an "L" shape, very narrow on the main ridge.

It is the area, 248 acres in all, immediately north of this narrow strip, which is now offered for sale by Lord Francis Hope. It consists of open woods, a bracken-clothed plateau with gorgeous views over "Little Switzerland," and the line of the downs westwards, and—most important—forms the eastern side of "Happy Valley." Its acquisition would convert the Nation's property into a compact rectangle. Lord Francis Hope has intimated that, in the event of the land being sold to the Nation, he would put forward to his Trustees a price of £5,000 for the land, plus £2,000 for the timber or, alternatively, £5,000 net, provided he is allowed to cut timber not exceeding £2,000 in value before sale. This latter, of course, is most undesirable. The offer is a generous one for it works out, with the timber, at £28 per acre, as compared with £50 per acre paid by the late Leopold Salomons for the original gift of Box Hill proper.

The articles and correspondence which appeared last year in the Press provoked an offer as generous from a reader of *Country Life* living in Rio de Janeiro, who wrote as follows:

"I have carefully studied the matter and think it is a good opportunity for anyone wishing to do something *pro bono publico*, and therefore am very glad to send you the enclosed draft of £1,000 towards the purchase of the land (with the conditions I will mention later).

"In buying land for the public one has to be careful that private interests do not reap as much or more benefit than the public, but the present estate, lying alongside a piece already public property, gives the public not only its own actual area, but adds a value to what the public already owns. This is a great point."

(We would add that it does more; it prevents the deterioration of what the public now holds, through the sale of the land for what proves to be the most vulgar form of development.)

"Now I am not a wealthy man; I work very hard for every thousand pounds I earn, but I do not pay English taxation, and I want to help decent things to be done in England.

"So I send you the thousand pounds with the following obligations and conditions:

"(a) That the purchase be completed before September 30th, 1923.

(b) That in addition to this £1,000 herewith,

I will subscribe the last £1,000 required.

This should encourage other subscribers.

"(c) That if the money be not subscribed by the date mentioned above, you return to me the thousand pounds and I am absolved from further responsibility.

"I think it very good of you to be working up this purchase. I do not want my name to figure, you can use my initials.

Yours very truly,

H. H. C."

The Box Hill Committee have voted £1,000, but we must appeal to England for the balance—£4,000, to those who, like our friend in South America, wish to see decent things done in England. *Country Life* will give an initial £250 on condition that three donations of a like sum are forthcoming.

The danger is a very real one. Where land has already been developed, as along the road to Box Hill from Walton, it is horribly disfigured by ruined woods, and bungalows of the meanest sort. The oaks on the land under consideration have already been marked for felling and unless the money can be secured, the beauty of the Box Hill woods will be greatly diminished.

We hope that you will permit us to make use of your columns in order to appeal to your readers for subscriptions, which will be very gratefully received if addressed to: "The Box Hill Fund," 20, Tavistock Street, Covent Garden, W.C.2.

(Signed) P. ANDERSON GRAHAM.

ANSWERS TO CORRESPONDENTS

QUESTION 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.

THE ROSE GARDEN.

YELLOW ROSES FOR A CIRCULAR BED (S. C.).—The varieties named by our correspondent (viz., *Golden Ophelia*, *Benedicte Sequin*, *Lady Hillington* and *Emily Gray*), are quite suitable for the purpose, but we prefer *Golden Emblem* to *Benedicte Sequin* as the flowers are a truer yellow. There is a terra-cotta shading in the blooms of *Benedicte Sequin*. *Golden Ophelia* is vigorous and, with good treatment, makes a fine bedding Rose. *Emily Gray* would form a suitable weeping standard and the whole combination a very charming bed.

TREES AND SHRUBS.

AUCUBAS ATTACKED (W. T. B., I. of W.).—The Aucubas are attacked by a scale insect called *Aspidiotus loderae*. This species is extremely uncommon outdoors, though it sometimes occurs in greenhouses. The best treatment will be spraying with nicotine-soap wash made by mixing 3oz. nicotine, 4lb. soft soap, 40 gallons water, or with paraffin emulsion at summer strength.

BEECH AND HORNBEAM (Constant Reader, I. of W.).—The trunk of the Beech is smooth, whereas that of the Hornbeam is commonly rugged or fluted. The habit of the former is open and branching, and of the latter closer and more elegant. Beech leaves are coarsely toothed or have unevenly undulated margins, whereas those of the Hornbeam have a much toothed edging. Again, the Beech has six or seven pairs of leaf veins, whereas the Hornbeam has ten to thirteen pairs, much more closely arranged. The Beech fruit consists of triangular nuts enclosed in a husk; that of the Hornbeam is a ribbed nut at the base of the bract. Beech wood is easily worked, whereas Hornbeam is hard and almost bony in character.

HONEYSUCKLES (C. G. A.).—The nomenclature of the climbing Honeysuckles is very much confused. According to the Kew Hand-list of Trees and Shrubs *Lonicera brachyphylla* and *L. flexuosa* are synonyms for the same plant, which is a variety of *L. japonica*. The flowers should be pale red outside, inside white, changing to yellow with age. It is a vigorous grower and should make a beautiful screen on a wire fence at Torquay. The plant with creamy-white flowers changing to yellow with age is *L. japonica* var. *Halliana*. *L. Heckrottii* in habit is more a loose shrub than of a climbing nature. The flowers are rich pink outside, yellow within, and very freely produced on healthy plants.

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THE GREENHOUSE.

CHRYSANTHEMUMS ATTACKED (Y. R. R.).—The best treatment for Chrysanthemums attacked by the mining maggot is to spray them with a nicotine wash made of 3oz. of nicotine, 4lb. soft soap, 40 gallons of water.

FRUIT GARDEN.

PEAR BEURRE D'ANJOU (Felsted).—The Pear which our correspondent refers to is, undoubtedly, the one named above. It is large, yellow, with russet suffusion in patches, the flesh is white with an agreeable aroma. In the southern counties it may be grown in bush form, but as the growth is moderate to weakly, even in warm counties this Pear is better trained on a wall. Certainly, in the midlands and more northern districts, wall protection is advisable. It is in season from early November till a little after Christmas. By judicious treatment in gathering and storing the season may, in the midlands, be prolonged till the latter part of January.

MISCELLANEOUS.

CARBIDE WASTE (G. H.).—Carbide waste may safely be used for all purposes for which lime is required in the garden, provided it has been exposed to the air for about six weeks after removal from the generators.

GAS LIME (H. A. G.).—Very old gas lime, if it has been exposed to the air, should be safe to use for mixing with soil. If plants are growing on the heap they will shew whether or not damage is likely to occur from its use. If the material is free from smell it is probably safe to use.

FLOWER FOR IDENTIFICATION (E. W. S., Northumberland).—The flower sent for identification is *Phyllocactus Ackermannii* var. There are many varieties of this species. It is difficult to say what is the matter with the plant without seeing it. Overwatering or cold may have the effect of making it droop or become flabby. All *Phyllocacti* are of easy culture; they prefer a rather dry, warm greenhouse temperature, but will succeed in a colder house when established. The most suitable soil is a light porous loam with some leaf-soil and brick rubble intermixed. The pots should be filled to the extent of one-fourth with broken crocks, and rather small pots in proportion to the size of the plant should be used. When the pots are full of roots an annual top-dressing of soil and dried cow-manure may be given. Watering must be carefully done, and the plants should be kept rather dry in winter.

NAME OF PLANT.—E. M. H.—*Mesembryanthemum nelandens*.

CATALOGUES RECEIVED.

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FOREIGN.

Mr. Henry A. Dreer, 714-716, Chestnut Street, Philadelphia, Pa.—Flower and Vegetable Seeds.

The National Hardy Plant Society.—At the annual general meeting of the Society, held on January 30 last, Mr. Giffard Woolley was unanimously elected Chairman for the coming year, in succession to Mr. Bouskell, now elected President of the Council of the Society. Mr. A. J. Macself of Dactylis, Clifton Park Road, Caversham, Reading, was re-elected Hon. Secretary, and to Mr. Gerald Hillier (20, Tavistock Street, Covent Garden, W.C.2) was given the Assistant Hon. Secretaryship. It was decided that a number of silver and bronze medals should be allotted to horticultural societies for award in 1923 to meritorious exhibits of hardy plants. Societies desirous of obtaining these medals should write to the Hon. Secretary as soon as possible. The accounts shewed a balance in hand at the end of 1922 of about £45, and the Hon. Secretary reported a gratifying increase of membership. So great, he said, had been the flood of correspondence recently from those interested in the doings of the Society that he had been unable to keep pace with it. Suitable arrangements have now been made, however, to ensure that future enquiries have prompt attention. An important item of the Society's programme for 1923 is the periodical issue of a journal detailing the Society's activities and giving information with regard to new or specially noteworthy hardy plants. A large influx of new members is wanted and confidently looked forward to. Everyone interested in hardy plants should enrol himself (or herself)—the subscription is only 7s. 6d.—or if in doubt, write to the Secretary or Assistant Secretary for further particulars.



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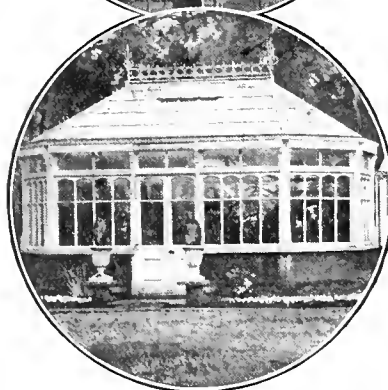
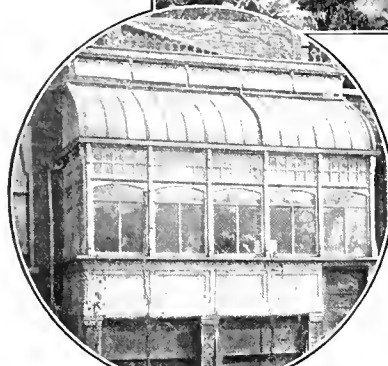
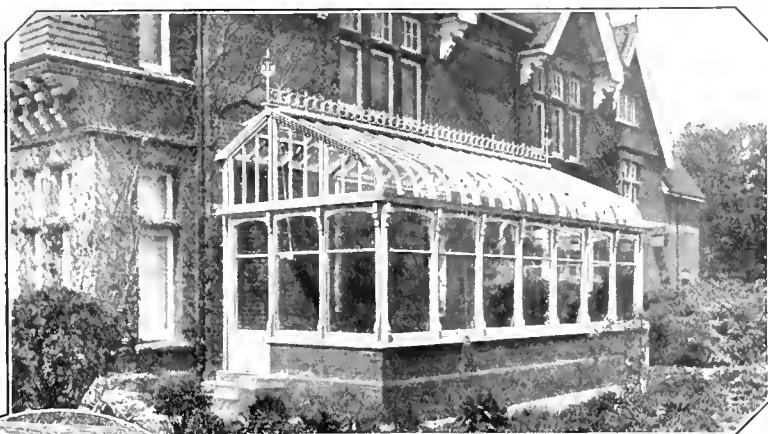
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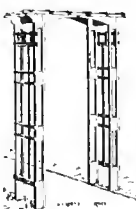
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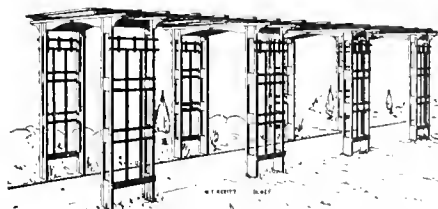


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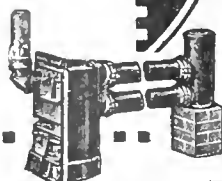
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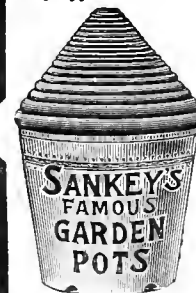
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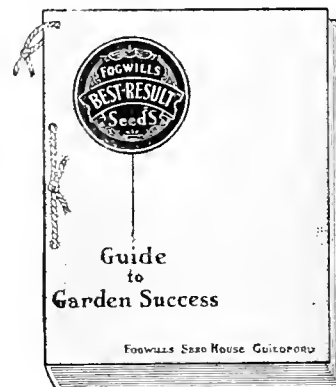
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No. 2674.—VOL. LXXXVII.]

[FEBRUARY 17, 1923.]

THE USE AND ARRANGEMENT OF THE CROCUS

THE Crocus is just as suitable for naturalising as the Narcissus. It has, indeed, the great advantage of flowering at a season when flower is particularly welcome. Save some few harbingers of spring in rock garden and shrubbery and the always welcome but rather cold-looking Snowdrops, it provides our earliest flowers. Purple and yellow and white, there is more colour variety in the Crocus than in the Daffodil, and if there is less variation in form, there is variety enough. The immense selection of splendid Daffodil forms is rather a drawback than an advantage when we come to naturalise them, since we are tempted to use too many sorts and so to destroy the very desirable breadth of effect.

If we study natural groupings of bulbous plants or, indeed, of plants of any kind, we may find the species investigated growing in huge sheets or masses—Bluebells, Anemones or Campions in our own woodland, for example—or, at the other extreme, very sparsely; some plants of the easiest culture in gardens are never found growing profusely in nature. We may find a species with hillside or woodland practically to itself when in flower or in the closest association with another species or higgledy-piggledy with several other species. We may, accordingly, arrange our plants in a variety of different ways without outraging natural effect, but it is quite unusual to find more than two species of the race growing near together, and if we try to arrange two or three dozen different varieties of the same race (and flowering together) in one stretch of grassland, we are certain to destroy the natural effect which we had been at some pains to create.

The Crocus is an accommodating plant which grows equally well in garden soil or orchard turf, and can hardly be used ineffectively. It is largely used in serried

ranks to edge beds of spring flowers, and is very effective for the purpose, yet it is when seen in irregular, seemingly natural masses in not too rank herbage that it shews to best advantage. Thus it may be seen growing by the million at Warley Place. The great plantings at Kew are perhaps more familiar to many readers, though, in the nature of things, hardly so effective.

Fortunately, Crocuses and Daffodils may readily be grown upon the same ground, for, whereas the Daffodil prefers moderately deep planting, the Crocus likes a shallow root-run and, indeed, by its method of increase tends each year to get nearer to the surface, so that in ordinary garden soil the corms, if not lifted and replanted, ultimately appear above the ground. Under grass this is not, of course, feasible; the turf mat which allows passage of the tapered growth effectively holds down the lifting corms.

Those readers who have a stretch of grassland already planted with Narcissi may easily have a show of Crocuses next year as well, if they undertake the planting as soon as the corms are procurable in autumn. The turf may then be stripped fairly thinly, the soil beneath lightly pricked up and the Crocuses planted in irregular drifts. If

planting be left too late, the pushing Daffodil "grass" will, of course, be severed by the turf-plough. The yellow and purple Crocuses are most effective. They should be planted in separate drifts, but so used that the eye sees the two glorious colourings in combination. The white varieties, though less effective, may also be used either alone or among the purple ones.

Thinking and planning are really easier than planting. Do not spare the planning, therefore! See as much effective Crocus planting as possible now, while the sheets of blossom are in evidence, then study the lie of the land at home and arrange the groups to best advantage. Note the banks and let their swelling shoulders bear in February a garb of purple and gold! Let the hollows also receive their trickles of colour. If the edges of banks above old pits are harsh and unlovely in contour, it is not as a rule a very big task to round off the unsatisfactory corners and with the surplus subsoil—the top soil should be laid aside and returned—to soften the curves at the foot of the bank. Bold sweeps—not stiff escarpments—suit both Crocus and Daffodil, but, while eschewing pettifoggery variety, do not attempt to put an even lip all round a hollow. The appearance of artificiality must, at all costs, be avoided.

The Crocus is often planted on lawns. Such a course would not, however, commend itself to a turf expert! for either the Crocuses or the lawn must in the nature of things suffer ill-treatment. If mowing is suspended to allow the Crocus foliage to die off, the turf gets rough and progressively deteriorates. If mowing recommences before the Crocus "grass" is withered, the Crocuses are quickly exterminated. Nevertheless, the Crocus may be used in the mown sward of the wilder parts of the garden where Daffodils with their lingering foliage would be inadmissible.



CROCUSES AMONG GRASS AND FERNS AT WARLEY PLACE.

Some of the best of the Crocus is the one which is not all of us have started to grow. It is much to naturalise but it is not so easy to plant all our Crocuses in the one or a lot of it. There are few gardens nowaday in which there is not one corner where things are allowed for caused to look as natural as possible. The Crocus, thanks to its foliage, is almost as effective out of grass as in. Among Ferns or other plants which do not bulb in springtime it may be beautifully arranged, for the Crocus though effective when planted by the million, is equally so when grouped in a small garden in colonies of a hundred or so. Groups may be used to edify at this season the front reaches of the herbaceous border, which, if established, could now afford some background or pushing vegetation. Even in the paved garden, Crocuses are really more effective in irregular drifts than in the usual straight lines.

For naturalising in turf there is nothing to equal some of the many named varieties of Dutch Crocuses, but some of the Crocus species are very beautiful and worthy of more extensive planting. Readers will remember that two of these, *C. Tommasianus* and *speciosus*, received last year the award of garden merit from the Royal Horticultural Society. *C. Tommasianus* is an early-flowering and graceful species with pale sapphire-purple blossoms, and *C. speciosus*, blue and blue, is an autumn-flowering species and so somewhat out of the range of these notes.

The genus, however, extends to nearly seventy species, so that there is a great opportunity for those who like flowers in their gardens which are not to be found in those of their neighbours. *Crocus vernus* is, practically speaking, the purple Crocus of gardens. It is, even in nature, an exceedingly variable species with flowers ranging from deep purple to pure white. *Crocus Susianus* is listed usually as Cloth of Gold and as such is well known and deservedly favoured in gardens. Not only its glorious colouring but its earliness commends it to our attention, for Cloth of Gold always expands its blossoms before the purple and white varieties of *C. vernus* km. *C. biflorus* is sometimes called the Scotch Crocus, it comes from Southern Europe and Asia Minor or, more intelligently, as Cloth of Silver. The flower segments are white or, sometimes, pale lavender and the outer segments are distinctly feathered with purple. This species is seen to best advantage on slopes of the rock garden or in pans where the feathering can be appreciated, rather than in broad stretches where it does little but smudge the total effect. There are a number of geographical varieties, all beautiful and interesting. *C. Imperati* is an early-flowering species of robust habit and very suitable as a companion for *C. Susianus*, as it flowers at least a fortnight before the common *C. vernus*. In the typical form the ground colour is lilac purple, heavily feathered rich deep purple, but there are pure white and clear rose forms. *Crocus Sieberi* is a species from the Greek Archipelago, usually clear bright lilac with white at the base. There are, however, a variety of forms in many shades and combinations of colour from white to deep purple, all with the same feathery effect.

Crocus chrysanthus is another early spring-flowering species, it produces small orange-yellow flowers but there are pure white and sulphur yellow forms, the latter being very fine. The flowers are base colour of a pale yellow, and the yellow Dutch Crocuses, the white plants, are ranging the ground colour, striped with the red hue.

Other interesting spring-flowering Crocuses are *C. altavicus*, white, flecked purple, and *C. calypso*, a combination of deep purple and white, and *C. chrysanthus*, a deep purple and white.



A WEALTH OF BLOSSOM.



CROCUSES BY THE PATH SIDES.



CLOTHING THE SWELL OF A BANK

COLOUR IN THE WINTER GARDEN

THE cheerful way in which the early-flowering Heaths put up with the worst of weather at this season places them in the very front rank of winter-flowering plants. The white form of the alpine forest Heath (*Erica carnea* alba) is invariably the first to open with us, and one's only regret is that it is such a feeble affair. Perhaps, however, I should have added "comparatively," for in all fairness it must be admitted that it has a rival in the type species which is gorgeous enough to make anything less splendid appear rather more second-rate than it may actually be. But one can forgive the white *carnea* much for those few flowers with which it opens the New Year and ushers in that long succession which others of its genus will maintain for the following ten months at least.

Of *E. carnea* (syn. *E. herbacea*) one can only say that it is admirable in all its many forms. The type is itself first-rate, a hardy, easy doer in light loam or peat, and one that can be relied upon to flower profusely every year. It is a low-growing carpet Heath, making a compact growth about 9 ins. deep; the foliage is a soft, often yellowish, green; and the flowers which crowd the terminal shoots are, when fully expanded, a rich rosy red. Of the named varieties of *E. carnea*—a numerous family—some of them well deserve the praise bestowed upon them by nurserymen and patrons, while others appear to lack sufficient distinction. We all have our own tastes in such matters, but my choice in the *carnea* hybrids leans towards the deeper tints, one called *præcox rubra*, in a vivid carmine, being particularly striking and early.

E. carnea this year opened its first flowers here on January 10, a week or two earlier than *E. darleyensis* (*E. mediterranea* hybrida), which is another of the indispensables where winter Heaths are the object. This latter has all the precocity of *E. carnea* combined with the greater stature and more branching habit of *E. mediterranea*, it being a hybrid between these two. It does not, perhaps, always bloom quite so heavily as either of its parents; but it is a good thing, quite distinct, and its clear porcelain pink flowers are very charming.

Of *E. mediterranea* which, with the aforementioned, is said to prosper on a calcareous soil, one cannot speak too highly. It is seen in many forms which, when well grown, are all good. The type species may be described as a sturdy, upright, bushy-habited shrub of some 3 ft. to 5 ft. in height with dark green foliage and long terminal spikes closely packed at the leaf axils with flowers in a clear rosy red. In favourable districts the blooms begin to open at the end of February should the season be mild, and they will continue to increase until spring is well advanced.

E. mediterranea is hardier than *E. lusitanica*, which usually blooms a little later. Indeed, it appears to be able to withstand severe frost and biting winds without injury. Though the typical plant is so admirable for grouping, there is a form of it known as *E. m. superba* which is larger in all its parts, even more floriferous and more richly coloured. This makes an excellent specimen for the lawn or foreground of the shrubbery.

E. m. var. alba is, unlike the white *carnea*, a really fine white Heather, a prolific bearer of an abundance of long, densely flowered spikes of pure white. It is difficult to understand why such an excellent variety as this is comparatively so uncommon in gardens. There is a pretty dwarf variety (nana) of this species which is very suitable for the rock garden or edging and another (glaucæ) with a bluish-tinted foliage.

In its own way *E. stricta* is always very effective at this season, whether used as a low hedge or grouped. I refer not only to the very distinct foliage of this Corsican Heath, but to the dead flowers which glow with a warm, foxy red against the pleasing moss green of the stiff and fuzzy branchlets which bear them. The faded bells

resist all manner of inclement weather, keeping their fine healthy green untarnished and carrying their brilliant berries right on to spring. A group, mainly consisting of what are generally known as the Davis Hybrid *Pernettyas*, can always be relied upon to provide a crop of these fruits whose colours range from pure white through pink to rich blood crimson. Though very striking and large, birds seldom touch these berries, but I rather suspect that mice take their share sometimes. Apart from their beauty in winter, their red-stemmed spring growth and hoary little white flowers, the *Pernettyas* possess one further great advantage, and that is they never call for attention and with us never get any, and yet they are always fresh and neat.



MANY FORMS OF LING ARE BEAUTIFUL WINTER AND SUMMER.

of most of the summer-autumn blooming *Ericas* have their own peculiar winter colouring, soft tones of grey and russet brown, but none of them can equal *E. stricta* in this respect.

Then in the *E. vulgaris* (*Calluna*) set we have three varieties notable more for the colour of their foliage than their flowering, viz., *argentea*, *aurea* and *cuprea*. These might be described as good, better and best in the order given. The last named, i.e., *E. v. cuprea*, has, indeed, the most strikingly coloured winter foliage of all the *Ericas*, the lower parts turning a subdued gold which warms to a rich coppery hue at the tips. The form *argentea* is not as silvery as its name suggests, nor is *aurea* so golden, but, nevertheless, these are distinctly effective if happily placed in good groups. The best silver-leaved Heath known to me is a variety of *E. Tetralix* called, I believe, *E. T. mollis*, with white bells, and there is another fine variety of the same thing with very large blossoms in clear shell pink of which the leafage is distinctly glaucous in winter.

One must say a good word for the *Pernettyas* at this season for the splendid way in which they

Long before January is out the buds of *Forsythia suspensa* begin to swell and often in February the wand-like shoots will suddenly be wreathed with their yellow flowers. It may be contrary to orthodox practice, but I must say here that *F. suspensa* grown as a rambling bush overhanging a bank is a more pleasing object than the same thing severely pruned and thereby rendered stubby and void of grace. Moreover, it seems to me that a shrub like this, which is utterly destitute of leaves at flowering-time, and of which the blossom-colour is anything but striking, needs some background to be appreciated to the fullest possible extent. Here *F. suspensa*, always better when viewed from below, is grown on an Ivy-clad slope in the open woodland with pleasing results, as also is *F. viridissima*, though the latter is better off, inasmuch as it retains most of its leaves. With a similar background, including an old stump for it to trail over if it will, we have got the Winter Jasmine (*J. nudiflorum*), which, having some protection afforded by the branches of Oaks, is less liable to suffer from frost at flowering

time. Yet it must be admitted that the best we can do for this fragrant favourite is not so agreeable to it as the neglect which it enjoys in the little gardens of cottage neighbours.

It has been found that the screen just mentioned is often sufficient also to save the beautiful rosy pink flowers of *Rhododendron praecox* from destruction. These have been out some weeks, and they make a sweep of lovely colour on a westerly bank. *R. Nobleanum* gets a little of the same kind of protection, and the intense crimson of its wonderful trusses is in strong contrast to the chaste silvery pink of *R. Silberhad*, which this year has started unusually early. It sometimes might seem as if the rich and vivid colouring

of these and other *Rhododendrons* would strike a rather too exotic and incongruous a note in our winter gardens. Much depends, however, upon the way in which such plants are handled, and, after all, they are not alone, as I have tried to shew. The Heaths in themselves are sufficient in their colour display to dispose of any such suggestion and to invite further efforts towards harmonious companionship. NORTH WALES.

[It is a little surprising to see *E. carnea* and its white form written of as earlier flowering than *E. darleyensis*, which generally opens its first blossoms in November. Nor should we call the latter's blossoms porcelain pink. A very pale lilac rose would perhaps more accurately describe them.—Ed.]

WATER AND BOG GARDENING

II.—Planting.

IT is when the water garden is completed, filled with water and found to be watertight, that the question of planting comes up for consideration and it is here that the real joy of possession begins. Until then it has been a work of planning and carrying out, of earthquakes and planks and barrows, cement or bricks or puddling; necessary evils, but evils none the less.

With a clean sheet of water before one, with gently undulating margin, with stretches of bare earth and vision and imagination, what a world of possibilities lies before us! First of all I would suggest to go and stand by the water's edge and view it from various aspects, in order to pick out the most favourable places for massing a few trees, shrubs, or, may be, if the area is restricted, tall growing plants that will have a "reflection value."

The point selected makes a considerable difference and one should make quite sure where is the point at which this is greatest. Masses of flowering

Rhododendrons, giant perennials, placed where they will overhang the edge of the water, double their value when a brilliantly coloured reflection is flung back from the surface and so these should be our first consideration. It matters not what the area of the water may be, even the smallest rock pool demands this consideration and we should do well to give it our first attention.

Coming to the water surface itself, in the majority of cases by far the larger number of plants chosen will be Water Lilies and, with these, the best method of planting is to use shallow baskets. These should be filled with rich turf loam and half-rotted leaves, the roots of the plants firmly embedded in this, the basket tied together and then sunk in a suitable depth of water, varying, according to the vigour of the variety, from 1ft. to 2½ft. Another useful way, where a flat-bottomed concrete pond or brick tank is being planted, is to construct some openwork brick piers, cemented together when the pond is built, but leaving an ample openwork so that water can flow in, and roots and soil

make their way out. These pockets should be filled with soil as before and the roots planted in them, afterwards covering with water.

When planting or replanting is being done, no time is better fitted for this than late April and early May, for the temperature of the water is then well on the upward grade and the plants grow away rapidly and strongly. By the way, a note should be made not to allow *Nymphaeas* to remain for more than three years without division and replanting, for, after this time, the rhizomes become too crowded to do well and the result is that one gets too many leaves close together, so that they push one another above the surface of the water, thus spoiling the appearance of the flowers by partly burying them.

One's purchases should never be to the full capacity of the tank. One must have clear spaces of water between plant and plant, if one is to get the fullest effect and alas! water surface is small and the Water Lily very, very beautiful. But it will not do; the conglomerate mass is never pleasing, never satisfactory; there must be clear areas of unbroken water.

Other hardy aquatics, quite a number of which are native plants, by the way, may be planted much earlier in spring than the *Nymphaeas*, just before new growth is commencing being the best time of all, and similar practice is followed save that, in the case of some, tubs may be used, which are filled with suitable soil and sunk where required, while—in the shallowest water and for the dwarfest growers—small mounds or bays, constructed with bricks and filled with loam, are used. One should not confine oneself solely to what I may term "flat" plants, by which I mean those that rest upon the water surface only; add a few that rise upwards into the air, although rooting in the mud below the water. These are invaluable for diversifying height and, even in really small ponds, great value attaches to their restrained use, but one must avoid too many. They are, in many cases, bold, handsome and unusual, thereby adding a great deal of character, but one must avoid any appearance of competing with the flatter surface plants. In most cases they are best kept towards the edge of the water and colonised in small bays, perhaps intermingling one with another so as to give a more or less informal look, without studied grouping. To "dot" them in here and there among *Nymphaeas* is quite wrong and entirely spoils both. Keep your "flat" plants together and use your grasses and bushes to form strong "foregrounds," or, it may be, backgrounds; it depends upon the point of view and the position in which one may happen to be standing.

Another excellent service that these upright growing aquatics render us is as a wind screen to dwarfier plants which love to be quiet and unruffled, for, by planting the latter upon the south or west side of the taller growers, the latter form quite as efficient a shelter or screen as do a belt of shrubs or trees to a wind-swept garden.

Use all your knowledge of the plants in grouping and arranging, so as to get the very utmost possible out of them and see that the whole is linked together, as far as possible, there must not be a strongly defined line of demarcation between the water and the semi-aquatics or between these and the moisture lovers to which they lead. Each one should fall into its place, each one should lead to the other, so that a real and complete picture of exquisite softness and charm results.

In concluding these remarks upon planting, I would warn those with a good sheet of natural water against the depredations of the water rat. He is an evil beast, capable of working a considerable amount of harm before his presence is detected or suspected, and a war of extermination should be waged against him. H. W. CANNING-WRIGHT.



THE BOG BEAN, *MENYANTHES TRIFOLIATA*.

WINTER FLOWERS AT READING

A RECENT pilgrimage to Reading to see what Messrs. Sutton are doing this season with winter flowers was exceedingly profitable, since both *Primulas* and *Cyclamens*, if a little past their best, were in excellent form, while some batches of *Cinerarias* were sufficiently advanced to shew

new crimson which will one day—when it can be persuaded to seed more freely—be a gorgeous novelty. Even the coral pink varieties pale their (comparatively) ineffectual fires before the glorious Symmetry which Messrs. Sutton class with the stellata forms, but which is in reality an improvement upon both Star and Show types. Of a



IMPROVED GIANT WHITE STAR MIGHT BE DESCRIBED AS AN ALBINO SYMMETRY.

their character. Most readers of *THE GARDEN* will know that Messrs. Sutton's trial grounds are the place to see a wonderful collection of Chinese *Primulas*. As usual, the results of cross pollination as evidenced in the first, second and third generations were of extraordinary interest, though in the vast majority of cases no striking advance is manifested in the produce of these crosses. One singular result may perhaps be worth mention. The fiery crimson *Etna* was crossed with *Giant White*. In the first generation (F_1) two forms were produced, one an old type of white-flowered *Primula* and the other a salmony-pink form, also of out-dated type. This production of two forms in F_1 of course, irregular; but, more singular still, instead of breaking up in the usual way in F_2 , these F_1 forms reproduced themselves true and have since proved to be fixed. This is obviously a case of reversion to type, but it will not be easy to fit into the Mendelian Laws as at present understood.

There is no need to run through the list of lovely varieties of *Primulas* in flower. There are some to suit all tastes and most of them are familiar to all lovers of greenhouse flowers. There is not one variety of all those offered in Messrs. Sutton's list which has not real claim to inclusion, which is not, in fact, well worth growing, though, naturally, individual tastes and preferences are catered for. All visitors to Reading this season will, however, agree that the main interest does not centre in the glorious dark *Etna* nor even in that splendid

glowing cerise rose shade, with substantial five petalled flowers, well rounded but not overlapping, carried on stout stems well above the beautiful foliage, this is certainly the *Primula* which an amateur should grow if only one variety is wanted. *Giant White Star* is a pure white counterpart to this, big and bold and handsome, yet had the writer to choose two sorts for his own purpose (and were strictly limited to two) he would select *Silver Star* as the companion. This is a perfectly eyeless white variety with purple foliage. The flowers are not large, but the plant is imbued with grace and breeding and the unbroken silvery sheen of the blossoms when grown in mass must be seen to be believed. This, by the way, is a splendid variety for cut flower. *Enchantress* holds roughly the same position with regard to *Silver Star* that *Symmetry* holds to *Giant White Star*, which is to say, it is a rosy-crimson variety without the characteristic yellow eye. Except for a touch of white at the narrow throat it is self-coloured. This is also a valuable sort, though compared with *Silver Star* it looks ordinary enough.

Before leaving the sinensis *Primulas* it may be well to mention that Messrs. Sutton have what is (or was) supposed to be the type plant as collected in China by Wilson. Messrs. Sutton have only a few plants of this really beautiful species. To appreciate it, one should look out for it in No. 4 house at Kew. It is not thought at Reading that this plant can be the progenitor of the greenhouse *Primulas*, for, despite repeated trials, it refuses to

cross with the florists' forms. To point to its lack of similarity alike in flower and foliage would perhaps be presumptuous, but it may be permissible to mention that the foliage of the species has a very pleasing *Primula* scent, quite unlike the rather rank smell of the cultivated varieties.

Messrs. Sutton are not flowering their obconica *Primulas* until later in the season, but one could hardly fail to notice a batch of *P. malacoides* in its best forms—it still re-selecting—as little like the original plant which some of us have already half-forgotten as—well! a great-dane is like a small fox-terrier. It will be surprising if, when this strain comes on the market, it does not cause something of a sensation.

Among the *Cyclamens* one, naturally, looked out for *Firefly*, which recently received the R.H.S. award of merit. Though not a large-flowered variety, this is certainly a brilliant one and in a better light the faint blue tone noticeable on a very dark day at Vincent Square, could not be detected. Messrs. Sutton have at least three other brilliant red strains which they are working up and will one day be able to offer. To catalogue all the splendid varieties on view would be tiresome. Suffice it to say that the *Silver-leaved Salmon*, with foliage as handsome as a *Rex Begonia*, was, as usual, in evidence, also the beautiful fringed forms and the large-flowered sweet-scented sorts. Messrs. Sutton point to a wonderful improvement in size with these last. To us it seems that they might claim at least an equal improvement in form! The so-called double-flowered *Cyclamens* make no appeal to the writer, but it must be admitted that they are wonderfully fragrant.

The *Cinerarias* will, a little later on, make a gorgeous display. Even now there is sufficient flower to assist a would-be purchaser in making a selection. *Cinerarias* do not breed true to colour, in the way that *Primulas* can be selected to do, for instance, but Messrs. Sutton have succeeded in so selecting their large-flowered forms that they come true to general colour. The white selection is pure white and constant also to type, the blue comprising several tones of deep velvety blue and purple, the light blues are mostly beautiful china-blue shades and the pink shades are all lovely, some of the china pinks being marvellously beautiful. Sutton's *Scarlet* represents the vivid colouring of the German *Matador* strain, which was very weedy in habit, on plants of the best form and with large and handsome flowers. The *Star Cinerarias* are still popular, but undoubtedly as they become better known the "Intermediates" will largely supersede them, especially the charming *Forget-me-not Blue* which comes wonderfully true to form and colour. The flowers are considerably smaller than those of the large-flowered type, but shapely and produced in extraordinary numbers. With the *Cactus-flowered Star* varieties most readers will by now be familiar, but the splendid *Feltham Beauty* strain is hardly so well known. The plants of the strain are more compact than the true "Stars" and the flowers, though of *Star* shape are larger. The hall-mark of the *Feltham Beauty* strain, however, is the white eye to the blossoms, which gives the whole inflorescence a very light and graceful appearance.

FORTHCOMING EVENTS.

February 19.—Lecture at the University College, Gower Street, London, W.C.1, at 5 p.m., by Mr. D. W. Cutler, M.A., on "Protozoa of the Soil" (continued).

February 21.—Wimbledon Gardeners' Society's Meeting.—Lecture at the University College, W.C.1, at 5 p.m., by Dr. B. Muriel Bristol, on "Soil Algae."

February 22.—Royal Botanic Society's Meeting.

THE ALPINE POPPIES

WHEN I was a boy I once came on a "pierrier" not a moraine—in the chalk Alps of Savoy (Jalouvre) where I really thought I had found the terrestrial Paradise. *Thlaspi rotundifolia*, *Saxifraga cava*, *Valeriana triptens* and *Ranunculus parnassifolius* were there in quantities, but they all "took a back seat" before the altogether delightful white form of *Papaver alpinum* (*P. Burseri*). Hundreds of silk-like and crystal-pure white corollas shivered under the glacial wind of the high Alp, and their delicious fragrance transported me. Myriads of bees were busy collecting the pollen in the rich sheaf of stamens forming the heart of the large white flower. The plants formed big patches bearing, some of them, nearly fifty flowers, and were wonderfully beautiful. I decided, then, to devote myself heart and soul to that plant only; but it was only a child's ideal, and since that time I have seen so many treasures in the high Alps that I was obliged to enlarge my heart.

Never mind! The Alpine Poppy remains one of my "flames"! It is, in the Swiss Alps, not at all a common plant. You may find it here and there. In our neighbourhood the white form is indigenous, and it is glabrous and glaucous, and grows in damp or rather moist, cool places (*coulours* and *éboulis calcaires*). Its finely cut leaves are all slit and slit again into thin strips until the effect is very fine and fern or fennel-like, and the leaves are almost hairless and of a grey tone. Seen in its natural site the plant is a real beauty; it is impossible to describe its grace and its charm. I think it might be compared to a minute and Lilliputian *Romneya trichocalyx*; its scent, too, is delightful, but its charms are as fugitive as its beauty is exquisite. Take a bunch of the flowers and when you arrive home there is nothing left. It is best to cut them in the bud state; then they open well, but do not, alas! last long in water. The white form of *Papaver alpinum*, called *Burseri* by Crautz, is rare. You may find it in the Vergy ranges (Haute-Savoie), on the Dent d'Oche (idem), in the Prealps of Fribourg and of the Bernese Oberland.

Then, again, you may find it on the north side of the Tyrol. It is quite a distinct plant, and when once found will never be forgotten. Quite different is the hairy plant called *P. pyrenaicum*, or *aurantiacum*, which grows in very sunny places, generally in *éboulis* or in moraines, and sometimes even in rock crevices. The plant is more or less hairy, the hairs being rather yellow or brown and sometimes very thick. The flowers are yellow or orange or even red. I have found it in the Pyrenees, on the Maritime Alps and on the Mont Ventoux, where it forms big patches, growing even on the wide motor road!

Of course, all these Poppies are south-western and alpine forms of the Iceland Poppy and originally they came from the north (see the most interesting book of Dr. H. Christ, "*La Flore de la Suisse et ses origines*"). They are very variable. I have grown them all in our alpine botanic garden at the Linnæa (see H. Correvon, "*Cat. des plantes du Jardin bot. alpin de La Linnæa, Geneva*," 1901, page 19), and made, from 1889 to 1900, interesting experiments with them. But after I introduced some plants of *P. croceum*, brought from Central Asia by my friend, the traveller Bonvallot, it was impossible to keep them true. The bees work hard upon them and they cross with extraordinary facility, even when the various species are planted far apart. We planted the Asiatic plant on the other side of the hill bearing the garden at Bourg St. Pierre

(4,900ft. alt.), and I thought that this would be sufficient to hinder cross-pollination. The bees, however, did their work as well as if the plants had been close together. The results were that we had a considerable number of distinct shades, tints and forms and that we could do no more scientific work.

The types are: *P. Burseri*, which I described first of all; *P. aurantiacum* or *pyrenaicum*; then *P. Rhaticum*, near to the last, bearing, however, much larger leaves; *Kernerii*, with small, very short, smooth leaves divided into obovate divisions, sometimes red and short-stalked. It originated in the Dolomites and in the Julian Alps.

I have planted it or sown it in many alpine stations and gardens in the Alps. It always grows there like a weed and encroaches a good deal, but it is at its best in gravelly, sandy soil. We have on the Jura a piece of ground as a subsidiary of *Floraire* for the raising of the seeds;

there, in a very sunny and dry place, we sowed a mixed packet of our alpine forms, the Pyrenean one excluded. We had such a beautiful result that many people went from Geneva up to St. Cergues to admire it.

The flowers became much bigger, and they gave a kaleidoscopic effect with their different shadings and tones of colour. Some are pure white, others deep or light pink, red or crimson or sulphur or pure yellow. Some blossoms carry two colours, while some even came with double flowers. We had, too, a lot with very large flowers we called *grandiflorum*.

For their culture in lowland gardens it must be observed that it is a necessity to give poor, rather stony and gritty soil with exposure to full sun. What gardeners call "moraine" should suit them well, but the wall garden is best of all for damp climates.

Floraire, Geneva.

HENRY CORREVON.

WHY?

EVERY garden-lover who visits many gardens develops a mental note of interrogation. Why was a certain line taken here, a particular planting introduced there? The self-asked question is not always satisfactorily self answered. Sometimes the reason is obvious after a moment's consideration; at others, even though the result is quite successful, the intention of the designer or planter remains obscure. I have often wished that I could get at the person who first conceived

a certain garden arrangement and find out exactly what influence was at work to decide a course of action of which I am seeing the effect. Sometimes when able to do so the result has been disappointing, for the reason that the effect obtained was an accidental one produced by entirely haphazard methods. More haphazard work is done in the garden than anywhere else on earth. True as this is about design, it is more emphatically so with regard to planting. The mere possession of a few shrubs or plants, a possession that may

be quite accidental, is sufficient reason for finding a place for them in the garden. What is worse still, one often finds distressed remnants of ornaments that have long since lost any claim to beauty they ever held, and are now merely old, dotted about, disfiguring an otherwise attractive garden. The only reason for them being used at all was that they happened to turn up and places were found for them. Apply this principle to any other department of domestic life and its absurdity becomes patent. Would the discovery of a keg of paint in an outhouse lead anyone to start redecorating his home? Certainly not; and if the paint was of a different colour to that already used, even though certain portions might need repainting, it would be considered little short of madness to use it. Nor would anyone finding a few old gully trap gratings or drain pipes promptly start introducing a new drainage system into his grounds. But let the same person discover in a barn that is being cleared out the headless trunk of an old stone figure, and it is promptly invested with romantic associations, a council of the family is held which debates seriously on the spot in which it shall be placed, and usually decides on one where it will most prominently disfigure the garden scene. Sometimes by chance the "find" is respectably good and the spot chosen suitable, when the result is happy; more often it is the reverse.

Two questions of this sort arose to my mind when visiting the



A FIGURE PLACED WITH A PURPOSE.

gardens at Burrswood, Greenbridge, last summer. The first was with regard to the figure placed in a somewhat unusual place on the terrace. An exquisite piece of modelling in itself, I could not help admiring it, but wondered why it was placed in just that position. When I reached a point at some distance from the house and looked back I knew. Placed in the angle of the house it was easily the strongest and most appealing note within the view. One looked first at the figure, marvelling at the beauty of the pose and the suggestion of lofty aspiration it conveyed, and then as the eye followed its upward stretch it was caught by the luxuriant masses of a towering *Wistaria* that covered one side of the angle. Man's art became an incident that only served to reveal the beauty of Nature in one of her most beautiful aspects. Looking down once more the figure appeared to sink into insignificance, though losing none of its beauty; but one could not help being struck by the charm of the combination.

The second Why? (in the same garden) was the wonderful mass of *Choisya ternata* planted here and thus. On putting the question to the present owners of the garden I found they were as much at a loss to understand it as I was, although we all agreed that being what and where it was it could be left. Backed by a hedge of noble proportions, evergreen, it fills the border for a considerable distance. In itself it is a simple and beautiful thing, but there is a sense of incongruity in its position in the garden that is not easily overcome, and one is compelled to wonder if its introduction was the result of accident or design. Was the gardener who planted it so fond of its glossy green foliage and fragrant white flowers that he indulged in a *Choisya* debauch and planted this long straight line of it with the resolve that whatever else might happen in the garden here at least he would find something to rejoice in. Or was it that he had a very successful striking of cuttings and just planted them in the border to get rid of them? Whatever the reason, it cannot be denied that the result is successful from the point of view of cultivation, and this fragrant snowy bank is delightful enough, although a trifle monotonous. As an example of how well this "Mexican Orange" will grow and flower in favourable conditions it is remarkable. The plant is, of course, hardy in the South of England and succeeds in many places in the North.

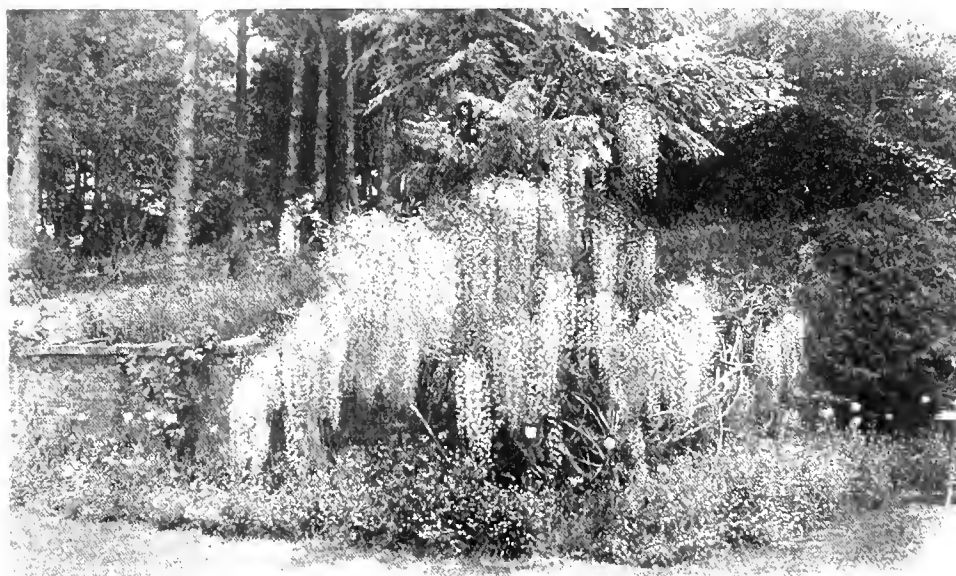
Yet a third Why? arose to my mind a few days later in another garden. Why was *Wistaria multijuga* placed in such a position? Anyone knowing the habit of this beautiful climber would realise that the wall behind is not of sufficient height to keep it as a climber, for which it is most suitable. The individual racemes starting from the top of the wall would sweep the ground. For this reason it was allowed to grow as a bush. This is another instance where the exceeding beauty of the plant has redeemed it from the failure that the choice of position warranted. Grown as a climber, as in the fourth illustration, where its lilac lavender flowers can fall naturally from among its delightful ash green foliage, it is one of the most wonderful of all climbers, and certainly the best of all the *Wistarias*.

It may seem a little thing, this choice of position for every detail that is admitted to the garden; really it is the greatest factor of success or failure. The best and most successful garden is the one in which the composition of its details is as carefully considered as is the arrangement by an artist of all that goes to make a good picture. In fact, the good gardener is an artist, and the good artist, if it were possible for him or her to acquire the necessary technical and cultural knowledge, would make the finest gardener in the world.

GEORGE DILLSTONE.



A HEDGE OF *CHOISYA TERNATA*.



WISTARIA MULTIJUGA—BEAUTIFUL BUT WRONGLY PLACED.



THE SAME SPECIES ON A HIGHER WALL.

A STORY OF A SEARCH

I must be a dozen or more years since I first began to want and to look for the Mt. Cenis Rest Harrow, *Ononis cenisia*, and it was not until 1922 that I first possessed and flowered it at Stevenage. Farrer and I hunted high and low for the plant when we were at Mt. Cenis together, and failed utterly to find it, and I have hunted for it there twice since with the same result. As a matter of fact, I believe that just as there is no such mountain as Mt. Cenis—only a pass named after a mythical mountain—so *Ononis cenisia* does not grow at the place after which it is named, but only on the road leading to it.

Mr. Stuart Thompson in his "Alpine Plants of Europe" gives "the plateau behind the Hospice at Mt. Cenis" as a station for the plant, but I do not think that careful observer ever found it there himself. Probably he was quoting some authority with a gift for "exaggerating things which never happened." For I put the whole of that plateau through the small sieve, quartered and fine-combed it for hours, and finally convinced myself that not only does *Ononis cenisia* not grow there, but that it never reaches such altitudes. You only begin to find it when you get down below Landelebourg. I saw it there by the roadside as I trundled down in a motor *chars-à-banc* in July, 1920. And it was from a *chars-à-banc*, too, that I first found the plant a fortnight earlier. We were going up from Grenoble to La Grave. A mile or so below that village I saw on roadside screes a brilliant little pink and white Rest Harrow, perfectly prostrate, and felt quite sure it must be my long-sought *Ononis cenisia*. I was so thrilled that directly after dinner that evening I hurried back down the Grenoble road and groped about in the dark on the screes, striking matches until I found my *Ononis* and satisfied myself that it was *cenisia*. It is rather *banal* after longing and looking for a rare alpine for a dozen years to spot it finally from the back seat of a *chars-à-banc*, growing in thousands by the roadside. However, motor coaching in the valley of the Romanche is not without thrills. The road runs like a mantelpiece on the sheer cliff, and you get glimpses of the river down on the hearth 500ft. or 600ft. below. At every hairpin corner of the mantelpiece our driver developed a tickle in his left ear which he elaborately scratched with his right hand. These tricks of his, however, were wasted on us. We were already too scared to be further scared by them. Next morning I returned to my *Ononis* screes and dug up a goodly number of youngish plants, and very nicely they came up from the loose, stony soil with good mops of fibrous root. When I got them home they settled down and grew for a week or two—and then died, every one of them. Why, I could not imagine, but they did. After La Grave and a few splendid days at the Lautaret I met *Ononis cenisia* again, and with it more dreadful adventures. We wished to get from Lautaret to Briançon, and we wished to drive. A M. Simon and an ancient phaeton were produced. There were three other passengers, two French airmen and a small French girl. We packed into a seat at the back. A few miles down the Briançon road *Ononis cenisia* became plentiful, little solid clumps of warm rose and snow white all along the roadside, and here and there *Campanula Allionii* in great colonies of almost stemless Canterbury Bells among the loose stones. And just when these two rarities became most plentiful and brilliant, things began to happen. The two airmen in front grew uneasy

and peered over at the ramshackle wheels, the wheels wobbled and rattled as our pace increased, M. Simon kept saying "Oh! oh!" the airmen said they would rather be in an aeroplane, and then very tactfully our horse, which was running away, brought us up with a jolt in the ditch and stood kicking the phaeton to pieces, which was the best thing he could do with it. He was so successful that another conveyance had to be fetched from the nearest village. After a long delay, during which we studied *Ononis cenisia*, we all repacked ourselves in the new conveyance, and, when the passengers were in, there was no seat for M. Simon. However, he fixed himself on the little iron handle of the brake—one of those that you wind round and round—and thus secure he went sound asleep. We had a good sensible horse, however, for with one rein lying in a serpentine along his back and the other hanging in a loop within rin. or zins. of the ground, he safely conveyed us and the sleeping Simon the last eight or ten miles to Briançon. But this, which was to have been a note on *Ononis cenisia*, seems to have degenerated into a tale of high adventure in the Alps. At Briançon, within an hour's walk of the town, we found *Ononis cenisia* again, and in great profusion. No wonder

I had never found it at Mt. Cenis. It is not a high alpine at all, but a sub-alpine, and oh! such a lovely little thing. The largest plants are 1ft. across, and their wiry stems lie flat upon the ground, radiating in all directions from a common centre, and all set with perky little stemless pea flowers with standards of warm, bright rose pink and keels of pure white. The only other plant which interested us at Briançon was Mistletoe growing on Scots Pines, *Pinus sylvestris*. I had never seen Mistletoe on this host before.

In July, 1921, I returned to the Lautaret and walked far down the Briançon road to collect *Campanula Allionii* and seeds of *Ononis cenisia*. But it was a bad year for seeds, and after examining hundreds of plants I only secured a couple of dozen or so seeds. These germinated well, and this last summer (1922) I flowered *Ononis cenisia* at Stevenage for the first time. My two or three planted-out plants on the rock garden look extremely well (all the others of the crop were long ago dispersed) and none the worse for such frosts and rains as the present winter has already given them. For *Ononis cenisia* I would recommend light gritty soil or moraine and the fullest, hottest sun to be found in the rock garden.

Stevenage.

CLARENCE ELLIOTT.

SOME WOOD SORRELS

THERE are few choicer looking British native plants than the Wood-Sorrel, *Oxalis Acetosella*. Showy it is not, though at dusk its fragile veined-white blossoms shew up in a way they never do by day. It is certainly worth naturalising on shady banks in the garden for, though quite easy in shady corners, it never encroaches into the sunlight. There is in commerce a pretty pink form also worth growing.

Not all the Wood Sorrel family, however, are so retiring either in colour or in nature. The brilliant and floriferous *O. rosea*, for instance, usually considered a greenhouse plant, makes a gorgeous display on a ledge with a warm exposure and, if an unusually hard winter kills off the plants, self-sown seedlings are almost certain to appear in near-by crevices the following spring.

O. corniculata, with splendid bronzy foliage, is likewise killed by hard frost, only to renew itself from self-sown seeds.

In fairly gritty soil with a westerly exposure, *O. enneaphylla* will succeed and most rock gardens now contain it, but *O. adenophylla*, of which a picture appears below, likes rather a sunnier aspect. The two plants have many obvious similarities yet, seen side by side, they are quite distinct. Perhaps *O. enneaphylla* has rather the choicer look, but *adenophylla* is certainly freer to flower. Both are typically white, mauve tinted, and both have so called "rose" varieties which are, only slightly deeper in colour than the type.

Less commonly seen is the golden blossomed *O. lobata*, a Chilean species, which flowers in late autumn and is accordingly valuable. It likes a sunny corner.



AMONG THE CHOICEST OF ROCK PLANTS, *OXALIS ADENOPHYLLA*

THE BEST OF THE RAMPIONS

PHYTEUMA COMOSUM, if not a rarity, is one of those plants you find only in special gardens, where it is tended as a treasure of high value. I saw it here and there in English rock gardens and sometimes on the Continent, but it is nowhere common

looking rather like cast-iron, and their teeth are narrow and sharp and look as if they would bite those rash individuals who attempt to molest it.

"Sitting, as it seems," says Farrer, "among the scalloped leaves of sombre greenish-black, unfold the clusters of immense diaphanous, yet solid flowers like bunched soda-water bottles of pale purple, deepening to their tip, from which the curly stigma goes frisking forth in manner weird and wild. It is indeed the strangest of all children of the cliffs, and, I may also say, the hardest to

dislodge." That description is the best I have ever read of this curious denizen of the cliffs, which seems rather a beast than a plant when seen in the dark and shady walls.

We succeed with it here only in a north wall, but in English gardens I have seen it very happy and in some cases (by Mrs. St. Quintin at Scampston Hall and Dr. Jenkin at Hindhead, for instance), better than I ever saw it in nature. They grow it in well drained pots and, as can be seen by the illustration, bring it to perfection.

Geneva.

H. C.



PHYTEUMA COMOSUM GROWING AT HINDHEAD, SURREY.

in cultivation. In nature, however, it is a common thing, at least in its special habitats. You may find it not far from Milan in the north side of the Monte Barro (Brianza), and on the Corni di Canzo, as well as on all the mountains of Lombardy, Bergamo, South Tyrol, in the Dolomites, all over the Lago di Garda, in the rich and picturesque Val di Ledro and up to Dalmacy. Near to Bellagio, at the foot of the rich Grigna, from Lecco to Bellano, and from Bellagio westwards you may take it from the boat if you follow the shore of the lake. There the *Phyteuma* hangs from the rocks and the garden walls just above the lake. In some cases even, the waves break upon it. In the vicinity of Storo (Judicary), and at the foot of the Monte Tombea, it forms enormous tufts of great beauty. In some parts of the Dolomites it is in such quantities that the walls are covered with it.

But how hard to collect it! It sends its fat and fragile roots into the narrowest crevices of hard rocks, especially dolomitic ones, and there one may try and try again. One has the greatest trouble to extract the plant. The best thing to do is to try to find it in some locality where the stone is of friable nature, such as slate, for instance, which is easily broken down. I once found in the wild Vestino Valleys (Lago di Garda), a corner where it grew in old rotten slate cliffs, whence the plant was very easy to extract. Generally speaking, the best means of collecting the plant is to seek it at the foot of the walls, in the heaps of debris (pierriers), where one sometimes finds young ones which are condemned to die, as the plant can never reach maturity elsewhere than in the crevices of rocks. Such is usually the case with all saxatile plants (*Primula Allionii*, *Potentilla Saxifraga*, *Saxifraga florulenta*, etc.).

In the cliffs with a north aspect which it haunts, *Phyteuma comosum* displays its tufts of dark metallic green foliage, which are in themselves a curiosity. The leaves are thick and leathery,

will range over Hollies and Rhododendrons to a height of 15 ft., and more, wreathing them with ropes of scarlet from midsummer to autumn and giving in addition an attractive display of china-blue fruits which produce an abundant crop of seedlings.

It is probable, however, that most gardeners, no matter where they are situated, could grow this handsome climber if the right conditions were accorded it. In the first place an aspect should be selected that is not exposed to the full noonday sun. *T. speciosum* really delights in sun, or rather its upper, or flowering parts do, but its stems and roots should be in shade. The most suitable medium is any free loam liberally intermixed with leaf-mould, well decayed vegetable rubbish and some really old cow manure, this being worked to a depth of 2 ft. at least. The roots should be planted 3 ins. deep in this, just when growth is commencing in spring, and an ample supply of moisture during the first summer is essential.

Those who have tried other means and failed may coax *T. speciosum* into prosperity by this means:—Make a hole, or trench, 3 ins. deep, thoroughly loosening the soil at the bottom, and

THE FLAME NASTURTIUM

THOUGH *Tropæolum speciosum* is not everybody's plant, there are few who have not tried to grow it. A weed in some districts and a plant that refuses to endure life in other places, no matter how great the care lavished upon it, the Flame Nasturtium, naturally, inspires no little interest, apart from its undeniable attractions. It is not that it is tender. Far from it. The warm and sultry south is what it dislikes, a cool aspect and root-run in the north or north-west being its chief delight. In some gardens it

half fill this with the above compost. Now set the roots in the sunk bed, the surface of which will be some 18 ins. below the ground level. Then, when the shoots are about 6 ins. high, commence top-dressing with more of the compost and continue to do this as growth proceeds until the bed is about a hand's breadth from the top, and it is unlikely that one's labour will go unrewarded.

Some have had better results with seed, but in my experience this should be sown in autumn, and the sunk bed may be adopted where there is reason to suppose there will be any difficulty. In any case the Flame Nasturtium has so many excellent qualities that it is worth a deal of trouble.

By way of indicating the variety of uses, other than as a wall covering, to which *T. speciosum* may be put, I may add that our best plantation is in a bed of deciduous Azaleas, whose branches, after the flowers are over, are festooned with masses of brilliant colour. A neighbour grows this plant most effectively among various dwarf shrubs on the northerly slope of a bold piece of rock gardening and yet another, as I have suggested, has established it among the evergreens and flowering trees of open woodland.

CAMBRIA.



SCARLET BLOSSOMS OF TROPÆOLUM SPECIOSUM.

CORRESPONDENCE

PLANTS FOR SWITZERLAND.

I WAS interested in M. Correvo's little note on sending plants to Switzerland. (page 35) as I am temporarily held up from sending plants to France, Italy, Holland and Switzerland including some for M. Correvo himself, though not having performed certain antics which the postal authorities of Stevenage tell me are necessary before I can send plants to these countries. Our Post Office refuses to receive parcels of plants for France, Switzerland, Italy and Holland unless they are accompanied by a Phylloxera certificate, and to obtain this it seems I have to have an expert down from the Board of Agriculture, paying a fee of 2 guineas, as well as the expenses of the gentleman's little jaunt into the country. Not long ago it was enough, in sending plants to France, to capture a Justice of the Peace and get him to perform certain mystic rites and incantations with a Bible. This seemed quite to satisfy the Post Office folk, but now they insist on the more expensive measures. It would be a great kindness if the Editor of THE GARDEN would investigate the whole matter and publish authoritative information for the use of readers of this paper.

If M. Correvo and the Swiss Government are right, then it would seem that our own Ministry of Agriculture and Postal Authorities are wrong and have been misleading myself and other English folk who are wanting to send plants abroad.

M. Correvo suggests that English nurserymen should "deal firmly" with the Post Office. But for an individual to deal firmly with a Government department is about as easy as for an individual to deal firmly with, let us say, a quacksand. If the Swiss Authorities do not require or desire any Phylloxera certificate, why should our own Postal and Agricultural Authorities insist on our going to the expense of procuring it? The older joke of getting a Justice of the Peace, who had never heard of Phylloxera, to swear on the Bible that none existed within so many rods, poles or perches of one's alpine was vexatious, but comparatively harmless and not expensive. This later development, however, threatens to be a serious menace to trade.—CLARENCE ELLIOTT, *Stevenage*.

THE EARLY SEASON.

THOUGH the winter has doubtless been extraordinarily mild all over the country, growth here has never within memory been so forward as it is at the time of writing (January 20). In addition to the usual winter-flowering bulbs (Snowdrops, Eranthis, etc.), which, by the way, were not abnormally early, the following are already bearing fully expanded blossoms: *Prunus Pissardi*, *Rhododendron præcox* and *R.R. Silberhad* and *Nobleaunum*, *Berberis Bealei*, *Daphne Blagayana*, *Azara microphylla*, *Omphalodes cappadocica* and *O. nitida*, *Anchusa myositidiflora*, *Erica carnea* and *darleyensis*, *Cistus rosmarinifolius*, *Gentiana acaulis*, *Genista fragrans* (quite unprotected), *Primula denticulata* and various blue Primroses, *Saxifraga Boydii alba*, *bursiculata*, *apiculata* and others, *Cheiranthus Allionii*, *Pulmonaria Mrs. Moon* (always the first of its tribe here), *Vinca minor* in several colours, *Polygala Chamæbuxus purpurea* (exceptionally good) and a number of other little things. There are shoots on hybrid Clematises 6 ins. in length, and such shrubs as *Exochorda grandiflora* and several *Spiræas* are in almost full leaf. It is also worthy of note that woodland Daffodils are in bud, and many last year's Californian annuals are not only still surviving, but bright with flowers on any sunny day.—A. T. JOHNSON, *Iltycafu, North Wales*.

A LITTLE-KNOWN SHRUB.

THAT interesting plant *Philesia buxifolia* belongs to the Natural Order of *Lilacæ*, and is closely allied to the better-known greenhouse climber *Lapageria rosea*. It is quite hardy in many parts



THE ROSY-RED PHILESIA BUXIFOLIA.

of this country, being especially happy in the moist, hilly districts of the west coast. The plant illustrated is growing in an Essex garden, where it is quite at home, growing and flowering freely. *Philesia buxifolia* was first discovered by Commerson in the Straits of Magellan, but it also extends along the west coast of South America as far as Chili and Valdivia. In the latter country it is known as *Pepino*, and is found at the summit of the Cordillera growing in marshy places under *Alerce* trees. It was first introduced by Messrs. Veitch of Exeter through their collector, Mr. Lobb, and exhibited in flower at the Chiswick Flower Show in June, 1853. In its native country it forms an erect, much-branched shrubby plant 3 ft. to 4 ft. high clothed with narrow evergreen leaves 1 in. to 1½ ins. long. On the tips of the branches the large solitary drooping flowers are produced in June. They are somewhat waxy in texture and rose red in colour, and from 2 ins. to 2½ ins. long. A hybrid has been raised between *Lapageria rosea* and *Philesia buxifolia*, and is known as *Philageria Veitchii*. It is a half-hardy scrambling shrub—W. I.

THALICTRUM ADIANTIFOLIUM AND ITS HARDINESS.

AS the above is a native species, it is difficult to account for Mr. Linders Lea's experience as to its tenderness. *T. minus* (the specific name)

varies considerably in size and other features according to soil and locality, and *T. m. adiantifolium* is one of these forms. It is possible that some of the best garden varieties (*i.e.*, the most glaucous) may prove somewhat tender inland when their place of origin is the sea-coast. A plant from stock secured from the Great Orme's Head, for example, might feel the pinch of winter rather severely on a Staffordshire moor; but I have always understood *T. minus* to be distributed fairly abundantly throughout the limestone of Northern Britain. Our own stock, quite a pretty form, was gathered near Buxton, which should be bleak enough to test anything.—N. WALES

WITH reference to the hardness of *Thalictrum adiantifolium*, I may say that I have grown it for some years and have found it to be quite hardy in the heavy soil of my garden. I have never given it the least protection during winter, yet it has not merely survived, but it has increased considerably.

With the intention of bringing it indoors occasionally I planted a clump in a pot, but there was such a marked contrast between it and that in the ground that it was quite useless for the purpose I had in view. It never looked healthy and died down for the winter a month or more earlier than the others.—G. W. WEBB, *West Wimbledon*.

MANY years experience of the Meadow Rue,

referred to by your correspondent in the January 27 issue of THE GARDEN, is that it grows like a weed. I have it running riot among a lot of tall Irises and a ruthless extirpation is needed to keep it within bounds.

May I add a word in praise of the *Stranvaesia undulata*. Its spreading habit—one of mine is 4 ft. high and 14 ft. across—in no way detracts from its charm and the birds which in former years seemed rather fond of its clusters of lovely red berries, appear to be now regarding them as a last resource in the food line. In my view it is well worth a place in any garden.—HENRY A. SKETCHLEY, *Petersfield*.

IN our experience, extending over a long period of years, we have never had any difficulty with this beautiful little foliage plant as regards its hardiness. We do not remember an instance in which it suffered during winter in the smallest degree. In Mr. Nicoll's beautiful garden at Monifieth it grows like a weed, increasing in size year by year, and that without any special treatment or attention. In a cottage garden at Carnoustie we know of a huge clump growing in what is little else than a heap of small stones, where it increases with such rapidity that the owner has to curtail it every year, and here again not the least protection is given or required. Nicholson gives the native place of *T. minus* (of which

adiantifolium is a form) as the Northern Hemisphere, including Britain; consequently, if this is correct, there should be no dubiety as to its hardiness.—ALBYN.

AS you invite remarks (page 48) as to the hardness of this graceful foliage plant, commonly known as "Poor Man's Maidenhair," I beg to say that I grew it in the open border without any protection for about forty years, during which period we had as much as 20° and even 25° of frost some winters, and I never knew the plant to suffer therefrom in even the smallest degree.—CHAS. COMFORT, *Middlethian*.

PERPETUAL-FLOWERING CARNATIONS IN WINTER.

I SHALL be very grateful if any of your readers can give me a few hints on the secret of blooming Perpetual Carnations in the winter months. I have a small house devoted entirely to Carnations, and get plenty of blooms during the months from March to October, but not at this time of year, when they would be most appreciated. The house is heated, but being the end of a range of houses, the temperature does not often exceed 50°, unless it is sunny. We put our fresh plants in this house in September or October.—FLOWERS.

[We sent the enquiry to Messrs. Allwood Brothers, and subjoin their reply: "The main reason why Perpetual-flowering Carnations do not produce large supplies of bloom in mid-winter is that the plants are late-propagated stock and insufficiently matured, and invariably stopped too late in the summer to produce winter bloom. No growth should be stopped after mid-July to give good winter results; while in the case of young plants, if they receive a check from want of potting during the spring and summer, they never recover sufficiently until the following spring. In the case of plants which are, say, a year old, if these have been allowed to bloom to excess during the previous spring and summer and early autumn, they are too exhausted to give good results during the winter. It is advisable at all times to cut flowers with long stems. All Perpetual-flowering Carnations should be potted during the late spring, and if they are producing abnormal supplies of bloom, certain of these should be removed so as to minimise the strain; but what is the common mistake and, perhaps, the greatest enemy of the Carnation is the practice of using unsuitable chemical fertilisers instead of a slow-acting specially compounded Carnation food. It is very evident that a chemical food acts as a drug and quickly undermines the plants' constitution, whereas a slow-acting organic food gradually feeds and builds up the plants, so that during wintertime, when the growth is at its lowest, it feels the benefit of these plant-building properties. As to the treatment of Perpetual-flowering Carnations during winter, no house should be allowed to exceed 50° at night. If the night temperature is allowed over 50°, the plants have been forced and weakened; but even if the greenhouse is kept at, say, 45° or as low as 40°, it is essential to have some ventilation so that there is a free circulation of air. Once the air becomes stagnant the plants suffer to a marked degree."—ED.]

CHRYSANTHEMUM TOKIO.

MR. ENGLEHEART is quite wrong in saying (page 23) that I am "under some misapprehension about this variety." If he had read my note attentively he would easily have perceived, as I am sure other readers have, that I fully understand what I am writing about. Evidently he does not. Briefly, what are the plain facts? Mr. Woodall on a recent visit to the Paris Chrysanthemum Show saw "a Japanese variety called Tokyo, with tubular petals and

pretty pink colouring," as he tells us, which entirely won his admiration. Is he, too, under some misapprehension? Of course not, for there is no ambiguity about his statement, which is perfectly definite. It so happens that I also saw the same variety at the same show. Both Mr. Woodall and I are in complete accord that we are discussing one and the same variety. Both of us have seen it: Mr. Engleheart has not. That being so, it must be patent to every reader with a logical mind that if there is any misapprehension it is certainly not on my part. The identity of the flower has not been called into question until Mr. Engleheart appears on the scene with his forty-year-old red Tokio "of the strictly decorative class." After my long and varied experience in Chrysanthemum matters at home and abroad, Mr. Engleheart's criticism of my note in THE GARDEN for December 30, 1922, makes me wonder whether I am drifting towards the verge of such floral incapacity as not to know the difference between a pink tubular-petalled exhibition Japanese Chrysanthemum and a small

that the old red To Kio, a mere decorative variety, was raised by Simon Delaux anterior to 1882; the precise date cannot be determined satisfactorily. It was introduced into this country somewhat about that date. The pink Tokio, the subject of this discussion, was raised by Vilmorin and distributed in 1905, as already stated by me. Like many other French show varieties, it was never introduced into English collections, for reasons previously given.—C. HARMAN PAYNE.

THE ROBINIAS.

AMONG the flowering trees of considerable decorative value, the Locust Trees, or False Acacias, occupy an important position. They are good town trees and thrive in light, sandy soils.

The most important species and varieties are: *R. hispida*, the Rose Acacia of the South-Eastern United States, a wide spreading bush or small tree 6 ft. to 9 ft. high with large rose-coloured flowers. The variety *macrophylla* (syn. *inermis*, *Carmel*), has larger leaves and flowers, and



THE ROSE ACACIA, ROBINIA HISPIDA.

red Japanese of mere decorative merit. The only point at issue between Mr. Woodall and me is that he apparently thought that Tokio (or, as he spelt it, Tokyo) was a novelty, whereas I, on the other hand, adduced evidence to prove that it was an old one of many years standing. I was discussing a particular case, not a hypothetical one. That this variety is a pink tubular-petalled Japanese is no matter of personal taste or opinion but a pure matter of fact, and, as between Mr. Woodall and me, it has been proved by ocular demonstration. Mr. Engleheart's alternative that "possibly two varieties have been given the same name," after what has been said, must be considered to be self-evident. Such a thing has happened scores of times since Chrysanthemums began to be turned out in overwhelming numbers by the seedling raisers of the last forty years or more. It is a simple matter to verify these cases. Reference to some of the old Official Chrysanthemum Catalogues would have shewn Mr. Engleheart that To Kio (then usually written in two words) was not the Tokio under discussion. It may be useful to mention

the blooms are richer in colour. *R. Kelsey* is a bush or small tree 8 ft. or 10 ft. high, probably more in sheltered positions. With us it is the most brittle tree cultivated, and unless copiously staked and tied, winds cause frequent losses of branches. Such a beautiful tree, with its rich rose-coloured blossoms, is worth a place on a wall where adequate support can be given the branches. *R. neomexicana* flowers in June and again in August. It is a tree of moderate size from the Rocky Mountains with pale rose flowers. *R. Pseudacacia*, the Common Locust or False Acacia, is a very well known tree with its pendulous racemes of white blossoms. It would not be difficult to give fifty varietal names of the varying forms of this tree. *Decaisneana*, rose; *fastigiata*, a narrow columnar tree; and *inermis*, a small mop-headed tree, a fairly frequent occupant of small gardens, are important. *R. viscosa*, the Clammy Locust from the mountains of Carolina, is a tree of moderate size with pale rose blossoms. Failing seeds, the usual method of propagation is by grafting, using the Common False Acacia roots or small stems as stocks. A. O.

THE CULTIVATION OF THE PEACH

How to Avoid "Gumming."

WHAT are the causes of gumming in Peach trees? I know some of them, but perhaps not all. I therefore pen these lines as a feeder for those who do know.

As for prescribing a remedy, that is entirely out of my power, but I can suggest a partial preventive. We know that this malady is frequently caused by maltreatment or accident. Anything which will interrupt the vital work going on within the inner bark, is likely to cause it, and the outer bark is not sufficiently thick to bear with impunity a blow from a hammer or violent pressure from a nail or tie. We also know that the Plum is liable to suffer in this way if the stems are injured. I have a suspicion, however, that there is something in the Peach, as it is generally grown, to predispose it to gumming.

For one thing, I believe the Plum stock is too powerful and too precocious for the Peach. If you lift a young Plum tree any time and replant it before the ground becomes too cold, you will find on examination within a week or two it will have started making new roots. The chances are it would be doing the same thing if undisturbed, though perhaps to a more limited extent. It is possible that a Peach on its own roots would not do so, though I cannot prove this. I planted some young ones on their own roots some years ago with the object of testing this matter, but had to leave them behind me before the result was apparent. Does the early starting of the Plum stock cause too much and too early an impetus to the Peach? Growing roots cannot be of much use to a plant without leaves, any more than feeding an animal without digestive organs, and it is possible that such early starting of the roots is a disadvantage. Would it not be worth while, if you must have fan-trained trees, experimenting with a less vigorous and less precocious stock, such as the Sloe or Wild Bullace?

I am of opinion that the origin of gumming frequently occurs long before the malady shews itself. Just imagine what happens when a maiden tree has made a vigorous stem. For the formation of a fan-trained tree it must be cut down. This happens after the leaves have fallen and frequently after the roots have started afresh. What then becomes of the liquid matter taken up by the roots? We cannot imagine them growing without taking in something, if it is only water. I am aware that the Peach buds can scarcely be said to remain dormant, excepting in very cold weather, but their appetite is not large, and I think it is quite possible that the predisposition to gumming takes place, even at this early stage. Then at the end of the second year the young growths are cut back again, when they are frequently of irregular size and must be manipulated accordingly. This gives another step forward for the malady.

As partial confirmation of this theory, I may mention that I have grown many trees without any severe cutting and that gumming was unknown excepting from accidents or maltreatment, but in addition to the "non-but-hery," the trees were hit every year late in the autumn. This had the effect of retarding considerably both roots and buds. A fortnight's delay in the time of flowering of outdoor trees in this fickle climate often makes all the difference between a full crop and no crop. It also lessens the liability of a severe check on the constitution of the tree itself.

Why grow fan-trained trees at all? It is the most unnatural system we can adopt. No three branches have the same angle, there being

every possible elevation between horizontal and upright, and we know that those nearest the upright have the advantage. Even the Pear, which is much harder than the Peach, rebels against this system, and the lower branches of a fan-trained tree, being horizontal, never do so well as the more elevated ones. Of course, we know that being near the ground they are more liable to suffer from cold, but this does not account for all the difference. I have not planted a young fan-trained tree during the last half century, though I have shifted some middle-aged ones.

Some very nice pictures on paper have come under my notice and I have seen some of the best trees in the country grown on this system, including those trained by the great pomologist, Mr. Robert Thompson, indeed, I helped to manipulate them, and others were seen at Longford Castle, trained by Mr. H. W. Ward (who wrote a book on the subject), and afterwards well cared for by Mr. Tucker, but nowhere have I seen a perfect middle-aged tree. It is a difficult subject to teach and qualified gardeners seldom take the trouble to shew their young men how to do it, finding it much easier to do the work themselves. Then again it takes ten years to cover a 12ft. wall, even when one procures young trained trees, and that is more than the average life of a Peach grown out doors in this country.

Now having abused the time-honoured system of fan-training, what have I to offer in its place? My plan is to procure maiden trees produced on a soil which is not rich in nitrogenous matter and which in consequence are not over robust and are well ripened. These are planted 5ft. apart against a wall facing as near as possible south, in a suitable compost of loam, wood ashes, bone flour and old mortar. Four feet wide and 18ins. deep will be ample for all time, and half that width will do for the first two years. No nitrogenous manure should be used at this time. If the young trees are ripened to the point, nothing is cut off them, even the lower twigs, if there are any, and they are ripened, are left on, but any unripe growths should be removed. They will make plenty of shoots to select from during the growing season. These are to be trained on each side about 10ins. or 12ins. apart, slightly above the horizontal and have the points stopped not later than the middle of July. Some of these will fruit the following season. An important thing is to take care of the successional shoots, which every qualified Peach grower knows how to do. As soon as the fruit is gathered, the shoots which bore it are cut away, leaving the successional shoots to take their places. With the exception of disbudding—which should not be done too much at once, and not till the new growths part easily from the stem without tearing the bark—this is about all the manipulation required. This plan is followed year after year, and 18ins. on each side of the main stem is found to be sufficient for the bearing shoots.

And now I shall be expected to give some evidence of the success of this plan. Mr. John Wright, V.M.H., said, in a now defunct contemporary, "He now (1881) plants maiden trees, trims off the weak twiggy side growths, but does not shorten the leader. The trees are planted about four feet apart, the leader trained upright and the side branches herring-bone fashion." In a later note he said, "These are not crowded, as sound, stout, clean, green leafage is essential for the development of fine fruit. Every portion of a lofty wall was covered in less than four years and

the crops of fruit were over on my visit, but a first-class judge (Mr. Iggulden), who knew them well, described them as remarkable."

Three years later than the foregoing date (viz. 1884), Mr. Wright in describing the wonders of Wilton, under the management of Mr. Challis, said of the Peach trees grown in a large new house on the same plan. "They had been planted three years and every inch of the trellis was covered. . . . The fruit produced by this generous system of culture was of the first size, colour and quality." WM. TAYLOR.

SOME EARLY SALADS IN SMALL GARDENS

ALL early salads are very tender because the plants are grown without spells of dry weather coming to check progress and thus create toughness. The cultivator should, first of all, take stock of the space available—whether under glass or on the open sheltered border. In every case it is advisable to use a rich soil, even in the cold frame, where an early crop of Potatoes may be grown, in addition to the Lettuces and Radishes. Potatoes thrive in a compost made up of half the bulk of well decayed leaf-soil. The latter and some good loam mixed should be laid on a mild hot-bed to a depth of 1ft. The Potato tubers must be planted 10ins. apart in rows 18ins. asunder, with a level surface—not ridges—to receive the seeds of the Lettuce and Radish. These seeds must be sown very evenly and thinly—quite 1in. from seed to seed. Rake in the seeds and then scatter on them a thin layer of sifted soil. The Lettuces must be thinned at an early stage and used, the leaves being very succulent, and before the Potato haulm covers much surface soil the Radishes and Lettuces are all used up.

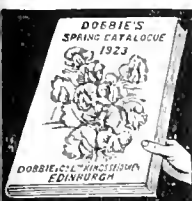
Mustard and Cress may be grown in shallow boxes in the greenhouse, or in a cold frame. Here again a rich compost is advisable. Fill the boxes level with the rims, then press down with a piece of board, water, and sow the seeds thickly, gently pressing them into the damp soil but not further covering with soil, then the resultant plants are clean and free from grit. Sow seeds every ten days to ensure a succession of young plants.

ONIONS.—Where outside Onions are scarce a pinch of seeds, sown in two boxes filled with good loam and made firm, will provide hundreds of young plants many weeks before the latter are available from open-air sowings.

CELERY.—Usually the outdoor stock of Celery is exhausted early in the New Year and a boxful of seedlings will be much appreciated for flavouring purposes. It is only necessary to cover the seed lightly and to keep the soil moist by immersing the box as required.

LETTUCE.—Seeds of an early Cabbage variety should be sown thinly in a box and placed near the roof glass; when the seedlings are quite small transplant them in prepared boxes of soil at 1in. apart and still retain them under glass. The second transplanting should be made in a rich soil on the south side of a wall or fence, the border being slightly raised; plant at 7ins. apart each way and place some sticks 1ft. above the bed to bear any light covering at first for a week or two, especially at night. Directly the young plants begin to form hearts, draw for use alternate ones; those left will attain to a large size.

TOMATOES AND CUCUMBERS.—Where fire heat is limited the cultivator will gain much valuable time by purchasing a few plants raised early in January. At this season such are not difficult to establish in their respective houses. G. G.

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GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Peas.—To keep up a continuous supply of this delightful vegetable fortnightly sowings will be necessary. Peas enjoy a rich soil and plenty of space between the rows. Gradus is a good variety to sow now, and the seeds should be placed in flat drills 1½ ins. deep. A distance of 3 ft. ought to be allowed between the lines. If mice are troublesome, the seeds may be damped with paraffin and then given a coating of red lead. A watch must also be kept for birds, which often destroy the young plants just as they are coming through the soil.

Jerusalem Artichokes may be planted directly an opportunity occurs. Whole tubers should be planted 6 ins. deep in rows 3 ft. apart, allowing about 1 ft. between each tuber. If any of last year's crop are still in the ground, they ought now to be lifted and the tubers covered with ashes until they are needed for the kitchen. When digging up Artichokes care must be taken to remove every tuber, or they will be a nuisance later on.

Seakale.—The thongs prepared some weeks ago may be planted in lines 2 ft. apart and 1 ft. between the sets, covering the tops with rim. of soil. When growth begins it will be necessary to rub off all the shoots except the strongest; then the ground must be kept free from weeds. During the growing season liquid manure may be afforded occasionally, while a light sprinkling of salt twice or three times during the growing period is also beneficial.

The Flower Garden.

Begonias.—Tuberous-rooted Begonias that are to be used for bedding should be placed closely together in shallow boxes with a little leaf-soil and sand sprinkled between the tubers. A warm greenhouse or vinery will be needed to start them into growth, and when the shoots are visible the large tubers may be divided and the cut portions dusted over with lime. Each piece should possess at least one shoot or growing point. A little seed ought to be sown each year, and if this is done now nice plants will be produced to take the place of losses next season. Pots of fine soil should be prepared, and when the seed is sown no covering of soil will be necessary if the receptacle is given a sharp tap near the rim. Cover the pot with a sheet of glass and place in a temperature of 65° to 70°. When the seedlings are large enough to handle prick them off in boxes, where they will make fair-sized tubers, while many will produce flowers. Begonias thrive in a compost consisting largely of good quality leaf-mould and sharp sand, and it ought not to be packed too tight around the tubers.

Lily of the Valley.—After a period of three or four years these lovely plants become too crowded to produce strong flower-spikes, therefore it is necessary to replant a portion of the plants each year. The new ground should be dug deeply, liberally manured and a moderate supply of leaf-mould incorporated as the digging proceeds. Lift the old plants, select the best and strongest crowns, and replant them 3 ins. or 4 ins. apart. A partially shaded position is best for these chaste and beautiful "Lilies."

Fruit Under Glass.

Vines that were started a month or two ago will require attention in regard to the tying and pinching of the shoots. These must be brought down to the wires gradually, and where the spurs are old two or three tyings will be necessary, as the growths, being very brittle, are easily broken. Each shoot will require pinching, and the centre should be removed at the second or third joint beyond the bunch of fruit. Growth not bearing must also be pinched, but here the amount of space to fill must be taken into consideration and the shoot stopped accordingly. Vines that are growing freely should have a night temperature of 60° to 65°, with a rise of several degrees during the day. The atmosphere should be kept moist and a little ventilation given when the sun is bright. This is essential or the foliage may be scorched and irretrievably ruined. Early in the afternoon the floors and walls should be sprinkled with water and the ventilators closed to secure as much sun-heat as possible. When the plants are in bloom the atmosphere should be kept on the dry side and the rods tapped daily to distribute the pollen. Watering the roots must receive attention, and well rooted Vines in a properly

drained border will take a copious supply until the Grapes are well advanced.

The Hardy Fruit Garden.

Raspberries.—The old canes were no doubt cut out at the end of the fruiting season, and now it will only be necessary to remove a few canes where they are too thick. The supports should be examined, and where the posts have decayed they should be replaced. If the supports are barked and the bases given a coating of tar, they will remain in a sound condition for a long period. Tie the canes to the wire supports and lightly fork over the soil between the rows. A mulching of leaf-mould and decayed manure will be beneficial.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Rhubarb.—If established plantations did not receive a dressing of manure in autumn, a liberal one should be applied now, and in either case the ground between the stools should be forked over. The manure should be half decayed.

Celery.—As the Celery crop will be getting well through, the cleared ground should be deeply dug. The site of each trench makes an ideal site for a row of Peas, and if this suggestion is adopted it will be unnecessary to apply any manure.

Chives.—These provide an excellent substitute for Onions in spring before young Onions become plentiful. Established clumps of Chives may be broken up now and transplanted into rich soil.

Spinach.—If the soil is in fairly dry condition, apply a dressing of soot, dry fowl manure or nitrate of soda, and hoe it in with the Dutch hoe.

The Flower Garden.

Herbaceous Plants.—Weather permitting, new plantations may now be made. In breaking up established clumps the outside parts should be selected for planting, as they are the most vigorous. All the beds or borders of this class of plants should be dug over, and if there are blank spaces left for half-hardy plants later on, these should be more deeply dug than the quarter generally.

Early Sweet Peas.—Autumn-sown Sweet Peas intended for flowering in June should be shifted into 6 in. pots and be staked with dwarf, twiggy stakes, beech for preference. Keep the plants cool and well exposed to the light.

Bulbous Anemones should now be planted as soon as the state of the ground will permit. A light, well drained soil is necessary for their successful cultivation, and where the natural soil is heavy it should be improved by the addition of sand or old potting soil. Plant about 2 ins. deep. In the event of keen frost setting in, some protection must be afforded the plants. The foregoing remarks are also applicable to Ranunculi.

Climbing Roses should now be pruned as they start into growth early. A good deal of autumn pruning may have been done among the ramblers, but the operation should be completed now. As far as possible the old shoots should be cut away and the best of the young shoots retained. If the latter are deficient, some of the healthiest of the old should be retained.

Fruit Under Glass.

Early Vines.—Continue to tie down the laterals and stop them, leaving two joints beyond the bunch. Stop all sub-laterals beyond the first joint. If two bunches appear on the same lateral, the weaker of the two should be cut away. Over-cropping generally must be guarded against.

Melons.—As solar heat and light are now on the increase a sowing of Melon seed may be made. Sow the seeds singly in small pots three-quarters filled with pure maiden loam and plunge in bottom heat. Maintain a temperature of from 65° to 70°, and utilise the sun-heat as far as possible at this stage. Hero of Lockinge (white flesh) and Munro's Little Heath (scarlet flesh) are suitable varieties for present sowing, both being good setters and bearing medium-sized fruits.

Tomatoes.—Plants should be shifted into 5 in. pots, using only a moderately rich compost. The aim should be to build up plants with firm stems and short joints. Expose to full light.

The Pleasure Grounds.

Walks and drives should be kept clean by means of the hoe and rake. They should be gone over whenever weather permits to check

the seedling weeds which are lying dormant and all but invisible.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Buddleia asiatica should now be propagated by means of cuttings, using half-ripened twiggy shoots for this purpose. The cuttings should be inserted in pots containing sandy soil and plunged in a close case with slight bottom heat at command. This plant is sometimes troublesome to propagate from cuttings, but little trouble should be experienced if slender, twiggy growths are selected. They should make good plants in 6 in. pots the first season, and these are useful for furnishing the stages in the conservatory. After flowering the plants should be pruned back and grown on into 8 in. and 10 in. pots, in which they should in their second year make fine specimens 6 ft. to 8 ft. high. During the summer they should be plunged outdoors in an ash bed, as this helps to ripen the wood and ensures free flowering during the winter. This is a very elegant plant, and produces its long, slender sprays of fragrant white flowers very freely. If only for its delicious perfume this plant should be more generally grown, for although introduced in 1874, it is by no means a common plant in gardens. It grows freely when planted out, and is very fine for clothing pillars in a large cool house.

Buddleia officinalis is a later introduction from China and has dull lilac-coloured flowers with a yellow eye. It is a stiff-growing shrub, easily propagated from cuttings and, like *B. asiatica*, flowers during the winter months. Although it does not possess the grace and charm of *B. asiatica*, its strong honey-scented flowers appeal to some people. This plant succeeds quite well under the cultural conditions indicated for *B. asiatica*.

Asclepias curassavica.—This is a useful and showy plant for conservatory decoration, as it lasts in flower for a very long time. If seed is sown in a warm house at this time, the resultant plants will flower during late summer and autumn. As it is a slender-growing plant, the best results are obtained by potting off four seedlings into a small sixty-sized pot, afterwards potting them into 5 in. pots, in which they should flower. They should be allowed to grow straight on without stopping. These plants only require an ordinary greenhouse temperature, and will grow quite well in any ordinary potting compost. This is a free-rooting plant, and when the pots are well filled with roots frequent applications of diluted liquid manure should be given. If desired, the plants can be grown on for the second year.

Cannas in 6 in. or 7 in. pots are very useful and showy plants for furnishing the stages in the conservatory during summer and autumn. Strong rhizomes should now be selected and trimmed to a suitable size to go into 48-sized pots, using a light rich compost for them. They should be stood in a warm house with a temperature of 60° to 65°, and should be given very little water until they start into growth and have made a quantity of roots. This is very important, for if overwatered at this stage they are very apt to decay. When growing freely and the pots are well filled with roots, they should have a shift into 7 in. pots, using a very rich compost, as they are gross feeders. As these pots become well filled with roots plenty of diluted liquid manure and soot water should be applied. Cannas grown in this way should have growth restricted to a single shoot. By growing successional batches a display of bloom may be had until well into autumn. Large specimen Cannas are very useful for standing on beds in the conservatory. Where such are required they should be made up early next month, putting several strong rhizomes into 10 in. or 12 in. pots, leaving room to give a good top-dressing. Given generous treatment such plants keep up a good display until Chrysanthemums come in.

Sollya heterophylla.—This twining Australian plant with its beautiful blue flowers, which are produced in wonderful profusion over a long period, is one of the most charming of our cool greenhouse plants, as also is the smaller *Sollya parviflora*. They make pretty pot plants with the growths neatly tied to slender stakes; but are seen at their best when they can be planted out in the conservatory and trained over a trellis or up a pillar. They can be propagated from cuttings, but the plants usually ripen plenty of good seed, which affords a ready means of increase. They grow well in a light loam with a little fibrous peat added.

Royal Botanic Gardens, Kew.

J. COUTTS.

The Pearl Bush (*Exochorda grandiflora*) is a fine shrub which is not accorded the attention it deserves. The majority of amateur gardeners who grow its near relations, the shrubby *Spiræas*, seldom seem to include it in their planting lists, yet it is in its own way a more strikingly handsome shrub than any of its allies. *E. grandiflora* (syn. *Spiræa grandiflora*) is a hardy, deciduous shrub which forms a large bush, some 8 ft. to 10 ft. in height, of slender branches which droop over in a most elegant manner. The foliage is of a delightful shade of emerald green, the comparatively large leaves being of a soft and delicate texture. Soon after these have appeared the ends of the pendulous branches become adorned with long sprays of pure white, fragrant blossoms, each of the latter being about 1½ in. in diameter, so that a well grown bush of *E. grandiflora* is most attractive. Almost any soil that is not too dry will suit this plant, but it enjoys a warm, generous loam and a sheltered situation with full sun. This splendid shrub can be obtained quite cheaply and, once planted, it will carry on for years without any attention whatsoever.

A Charming Alpine.—There are some plants which, no matter how well known, are able to hold their own against any rivals, and one of these is *Hutchinsia alpina*. For a cool spot in the rock garden, the shady side of steps or other place of the kind, this little plant is admirable, perfectly easy to grow and never demanding any attention. From its spreading mat of fern-like foliage *H. alpina* sends up in May a large number of 2 in. to 3 in. stems, each of which terminates in a loose cluster of milk-white flowers, which will remain fresh and cheerful right on to full summer. Though a good many of our smaller Cruciferous plants in white are apt to be unsatisfactory, if not a little mean, *H. alpina* more than escapes that opprobrium the colour and character of its foliage, no less than the purity and density of its whiteness, together with its cheerful nature, doubtless raising it above the commonplace. In some gardens a patch of *H. alpina* is made to serve as a carpeting for the lesser *Narcissi* and other little bulbous plants with good effect.

An Alpine Daphne. The lovely *Daphne Blagayana* opens its ivory-white, lily-scented flowers in the early part of the year and is usually still in bloom to greet the spring. *D. Blagayana* is a true alpine and quite hardy, a creeping plant of lowly stature which delights in a rocky bed of rather cool, vegetable soil mixed with grit. Though many fail to grow it satisfactorily it is not really difficult. It generally succeeds best in a half-shady aspect, but some excellent specimens have been grown with full exposure. Having planted *D. Blagayana* in such a bed as described above it is advisable to place pieces of rock or stone about the size of half a brick on the surface between the prostrate branches. As the latter develop they may be top-dressed occasionally with leaf-mould, grit and loam, the largest being layered by placing a stone just behind the terminal leaf-tuft. More stones and compost are added from time to time so that the plant will ultimately be established in a sort of low cairn.

United Horticultural Provident Society. Mr. Thomas Winton, who for the past ten years has been Treasurer of the United Horticultural Benefit and Provident Society, having tendered his resignation owing to very serious illness, Mr. Arthur Bedford of Gammersbury House Gardens, Acton, has been duly elected Treasurer, pro. tem., at a special meeting held on February 7, 1923.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

EDGING AND OTHER PLANTS FOR FLOWER BEDS (J. G.).—As an edging to the Antirrhinums, *Viola Snowflake* would be suitable. For the other bed we think *Clarkias*, pink and white, or white and red, would look better than the three colours together. The *Schizanthus* Dr. Badger's hybrids, with an edging of *Silene Empress of India*, would look well, but a *Viola* would last longer in bloom than the *Silene*. The golden-leaved *Thyme*, *Thymus citriodorus aureus*, makes a charming edging. The *Iberis*, to which our correspondent refers, is probably the perennial *Candytuft*, *Iberis coraeifolia*, pure white, compact, bearing flowers in profusion.

IPOMÆA RUBRO-CERULEA AND ADONIS (R. C.).—The *Ipomœa rubro-cerulea* should be treated as a half-hardy annual. There should not be any difficulty in raising the seedlings if treated similarly to *Asters*, for instance. Warm positions are best. The plants flower profusely in pots in a cold greenhouse. Some should be so grown till they are in 6 in. pots, then transferred to 8 in. and the pots plunged to the rims in the outside border in May. Use only a medium rich compost. It is quite possible that the seeds were not properly matured or were in some way damaged in the case of the *Adonis*. If more are sown, place the pan in a cold frame and use a good compost in which some pounded brick and coarse sand has been mixed. Water by immersing the pan; shade from the sun's rays. Cover the pan with glass.

WATER LILIES UNSATISFACTORY (W. M. G.).—Our correspondent did the right thing in planting the Lilies in baskets, but the latter should rest on mounds of loam at the bottom of the concreted pond. It is not necessary to cover the whole of the bottom, a space about 2 ft. 6 in. square for each basket being sufficient. Lumpy, fibrous loam in which the grass roots are dead is best; add a small quantity of decayed cow manure and half-rotted leaf-mould respectively to a depth of 6 in. or so. *Nymphaeas* like the sun and succeed best in rather still water, but some fresh should trickle in frequently, if not daily. The best months for planting are April, May and June.

TREES AND SHRUBS.

PRUNING SHRUBS ON WALL (A. M. Kent).—All three shrubs named should be pruned as soon as flowering is finished. This would mean about March in the case of *Lonicera fragrantissima*, April for the *Forcythia* and May with *Pyrus japonica*.

THE WILD BROOM ("Summer").—The Wild Broom (*Cytisus scoparius*) is not an easy shrub to transplant. Nurserymen usually cultivate plants in pots for sale so that planting could be done at almost any time. It is readily raised from seeds. An alternative shrub we suggest is *Cistus cyprius*. This is evergreen, thrives in most soils (except wet clay), and produces quantities of white blossoms in summer. *C. cyprius* is also cultivated in pots, not being easy to transplant.

SINGLE LILAC (A. J. B.).—The variety *Princess Marie* has very pleasing lilac-pink blossoms and is fragrant. This may be the variety noted by our correspondent, but the named sorts are now very numerous. Perhaps it was the variety *Mme. Francisque Morel*, which has very large thyrses, but we should describe the colour as violet-pink rather than lilac-pink.

THE GREENHOUSE.

THE NAME OF A SMALL-FLOWERED NICOTIANA (M. C. M.).—The small white-flowered *Nicotiana* referred to by our correspondent is, undoubtedly, *Sutton's Miniature White*, which grows to a height of 18 in. and forms a lovely pot plant for the greenhouse. It is very sweet-scented.

FORCED RHUBARB UNSATISFACTORY (W. E. T. Sussex).—There is no fungus or other obvious cause of disease in the Rhubarb stalks sent for examination. There may, however, be disease, as our correspondent suggests, in the stools, but that we cannot ascertain without careful examination of them. Possibly the conditions are too dry for the work of forcing the plants.

ROSE CULTURE UNDER GLASS (W. R. Y.).—"The unheated span-roof greenhouse, 30 ft. by 10 ft. by 8 ft., to the roof-ridge, open sunny position, ample ventilation," will be quite suitable for Roses. Overcrowding must be avoided and the better plan would be to have some plants in pots, reserving a place for these. The border plants will flower several weeks earlier than those outside so that the retarded pot plants will prolong the supply of blossom considerably. If a few plants of *Hadley*, *Emerson*, *Molly Sharman*, *Crawford*, *Mrs. H. Stevens* and *Mme. Abel Chateaux* be included in the collection, it will be possible to have some Rose blooms seven or eight months out of the year if the flowers are cut regularly with fairly long stems. Green aphids will be troublesome; the use of Antioch-red will clear the plants of these and "Abol" will be beneficial in the case of mildew. If necessary, we should not hesitate to use these for the purposes named.

CÆLOGYNE CRISTATA (H. E. S.).—This plant usually produces its flowers from February to April, and immediately after blooming the plants make their season's growth. The pseudobulbs of *C. cristata* often present a slightly shrivelled appearance, which is not detrimental unless it is caused by loss of roots. This *Cælogyne* does not like repotting, and after being disturbed it takes two years for the plants thoroughly to recover. Our correspondent's plants are evidently starved, and we should feel inclined to cut away a few of the old pseudobulbs and then pack pieces of peat or osmunda fibre

between the bulbs without taking the plant out of its pan. During the growing period a warm greenhouse is essential, one where the temperature does not fall below 55° Fahr., the plants being shaded from all strong sunlight. Water should be given liberally while the plants are growing, but directly the new pseudobulbs approach maturity a less quantity will suffice. A short rest should be allowed, the soil being kept just moist, and this treatment continued until the plants have flowered. The flower-spikes are produced simultaneously with the new growth, so care must be taken to prevent water resting in the young shoot, or the scape will perish. This is sometimes the cause for the non-appearance of blooms.

DENDROBIUM NOBILE (H. E. S., Ramsey).—This Orchid under ordinary conditions should flower from January to March. When the flowers are over the new growth will soon form roots at the base, and when these are seen any repotting or top-dressing may be done. When repotting ordinary flower pots or pans should be filled one-half of their depth with drainage material, and the rooting medium should consist of peat or osmunda fibre and just a sprinkling of sphagnum moss with the last layer of fibre. Do not overpot, but make the soil fairly firm, while the pseudobulbs will probably need a thin stake to hold them in position. The plants ought now to be placed in a warm moist house where the temperature does not fall below 60° Fahr. A cucumber-house, stove orinery is suitable. Afford water in moderation until the roots have taken possession of the soil, then a liberal quantity can be given until the pseudobulbs are fully matured. Shade the plants from hot sunshine and keep them fairly near the roof glass. When the season's growth is completed less water is needed, and a vinery from which the fruit has been gathered will be an excellent place for them to ripen their pseudobulbs. Now follows the resting period in a temperature of 50°, where the atmosphere is dry and only enough water is given to maintain the pseudobulbs in a plump and rigid condition. Annual repotting is not needed, and provided the plants are treated correctly in regard to watering, once in three years will be ample.

FRUIT GARDEN.

APPLES SHRIVELLED (E. H. J. Putney).—The Apples are past their season, and are not only shrivelled but beginning to decay. They should be allowed to hang until they part easily from the tree, and they might then be kept well wrapped in paper.

VARIETIES OF NUTS TO GROW (G. A. S.).—Our correspondent cannot do better than grow the Spanish Chestnut, the nuts are sound, when matured and very sweet. The *Kentish Cob* is always reliable and very generally grown. If large trees are desired, the Common Walnut is the best. A variety named *Fertilis* is very dwarf-growing in comparison and fruits when the trees are quite young, and this is worth growing also. There would be room for both varieties, the last named, though the nuts are smaller, is very prolific.

MISCELLANEOUS.

ABOUT STORING APPLES (B. M. B.).—The early varieties of Apples if allowed to become ripe and fall off the branches easily, do lose much flavour and get quite mealy. Late sorts should be well ripened when gathered then they retain their freshness for a long time, not shrivelling if not wiped with a cloth. Our correspondent seems to have treated the fruits correctly in the store. Very choice specimens merit the trouble entailed in wrapping each one in grease paper. If the Apples are peeled, sliced and placed in cold water for twelve hours they will plump up and be improved for cooking. Many early and mid-season sorts failed to keep satisfactorily in autumn and early winter. They lacked sunshine!

TO DESTROY WORMS ON LAWNS (E. M. S.).—Preparations for this purpose are sold by seedsmen and horticultural sundriesmen, who also supply directions for use. A cheap and fairly effective remedy may be made at home by placing a bushel of lime in a tub containing sufficient water to make a thin solution when stirred. Allow the time to settle down, then use the clear liquid, adding to it an equal quantity of clear water. Apply freely through a rose watering-can. The worms will come to the surface.

NAMES OF PLANTS.—J. S., Dumbartonshire.—1. *Ilex Aquifolium* var. *flavescens*; 2. *Osmanthus Aquifolium*; 3. *Quercus glabra*; 4. *Ruscus Hypoglossum*; 5. *Pulmonaria rubra*.—A. T., E. Yorks.—*Cotoneaster frigida*.—H. P., *Ligustrum japonicum*, "Japanese Privet."

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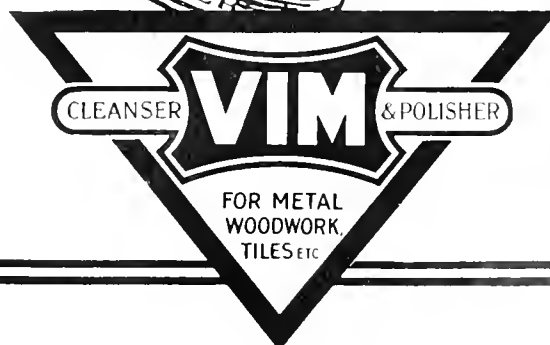
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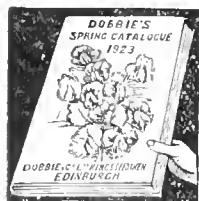
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No. 2675.—VOL. LXXXVII.]

[FEBRUARY 24, 1923.]

FLOWERING EVERGREEN SHRUBS

THERE is no need to point out to a practical gardener the importance of evergreens in the garden scheme. There is, indeed, a regrettable tendency in some quarters to use them in unsuitable places. There was a time—not so very long ago—when it was considered proper to clothe the table legs. This attitude we very properly deride, yet, even to-day, one often sees the butts of fine forest trees obscured by meaningless evergreen planting. Such planting effectively destroys the balance and grace which, with the appearance of strength and solidity, constitute the charm of a well grown tree.

We digress. The value of evergreen shrubs admitted, there seems no reason why a much greater proportion of those used should not be flowering shrubs than is at present the case. There are very few positions where the fact that a shrub at some period of the year bears attractive flowers (or handsome fruits) is a disadvantage.

Yew and Holly, each in its particular way, are, of course, admirable hedge plants. They also have decorative value as trees. Laurel has none of these advantages. It is an unsatisfactory permanent hedge and, as usually seen, cumbered ground which might be occupied by more beautiful, as well as more interesting shrubs.

If a substitute be sought with something of the same leaf character, there is a multitude of hybrid Rhododendrons to choose from, to say nothing of the ever-swelling legion of large-leaved species. The so-called American Wood-Laurel, *Kalmia latifolia*, is also charming when in flower and valuable as flowering when the bulk of Rhododendrons are over, though the Rhododendron season, with new introductions, grows steadily longer. A fascinating topic! but one we must not on this occasion pursue, for this is not an article on Rhododendrons. On soils with an appreciable lime content these Rhododendrons will not grow, but large-leaved flowering evergreens are still to be found. We have the so-called Strawberry Trees, for example, *Arbutus Unedo* and its varieties, *A. Andrachne* and the hybrid between the two species, *A. hybrida*, none of which objects to lime. *Cistus laurifolius* is also worthy of

mention, since it forms a good solid background when out of flower though, of course, its leaves resemble the Laurel only in shape—not in size. It is a most attractive shrub when in flower.

The same may be said of the large-leaved Escallonias which, on well drained soils, are much more hardy than many people suppose. The two hardest large-leaved species are *EE. macrantha* and *rubra*. Of these two *E. rubra* is usually considered the hardier, but, in the writer's opinion, this is exceedingly doubtful. *E. punctata* is handsomer than *E. rubra*, but scarcely so hardy, yet it is an invaluable species for the southern edge of woodland, or for sheltered sites generally, in

any but the coldest districts. *E. Ingrami* might be described as a smaller form (in leaf and flower) of *E. macrantha*. *E. illinita* is a white-flowered species not often seen in gardens, and comparatively hardy. It is noteworthy mainly for the odour which the leaves give off and which is unusual, but not specially pleasing. It has, indeed, been compared to that of a pigsty! Two other large-leaved, white-flowered species are worthy of mention, but, unless on a wall, they are only hardy near our seaboards. These are *EE. floribunda* and *montevidensis*. The *Laurustinus*, *Viburnum Tinus*, is not everybody's shrub, but it is certainly preferable to any of the true Laurels (*Prunus Laurocerasus* and varieties). It has, moreover, the very great merit of flowering in winter.

For association with these shrubs of comparatively large and distinctly glossy foliage, we have a considerable choice of species with entirely different but characteristic leafage. We have a number of very beautiful Barberries, for example. There is *Berberis Darwinii*, with glowing orange lanterns in spring and blue-black fruits in early autumn, or its hybrid, *B. stenophylla*, rather less telling in colour, but more graceful in mien. Then again, we have *Berberis buxifolia* (*dulcis*), less gorgeous no doubt, but displaying its beautifully-shaped golden lanterns to great advantage. Very distinct, again, is Hooker's Barberry, *B. Hookeri*, which, in gardens, is generally known as *B. Jamesoni* or *B. Wallichiana*. This has relatively large foliage—up to 3 ins. long—in tufts, black green above, glaucous white beneath. The flowers are relatively large, but not very showy, sulphur yellow in colour and the blue-black berries long and cylindrical. There is a taller, larger growing form of this known botanically as var. *latifolia*, but in gardens as *Berberis Knightii*. Seedlings raised from seeds of the type species not uncommonly come without the whitish under-surface, resembling to that extent the variety *latifolia*, which has foliage green beneath. The green-leaved variety of the typical plant is known as var. *viridis*.

Then we have the broad-leaved Barberries which to most of us are still "Mahonia." There is the old favourite Oregon Grape itself, *Mahonia*



PRACTICALLY AN EVERGREEN MOCK ORANGE, *CARPENTERIA CALIFORNICA*.

Apocynum, invaluable for underplanting and now largely used for game coverts. Then there is *Berberis japonica* and its several varieties including the one generally listed as *B. Bealei*, *B. nepalensis* and *B. nervosa*.

There are several useful evergreen *Cotoneasters*—such, if of small value as flowering shrubs, are admirable when in fruit. These include *C. Francheti*, *pamosa*, *luxifolia*, *salicifolia* (and varieties), and *tubinata*. Of prostrate sorts *C. microphylla* and *Danienii* are reliable and beautiful fruiting shrubs. All the *Pyracanthas* are also delightful fruiting evergreens.

There are several beautiful small-leaved *Escallomas*, most of them of hybrid origin. Specially worthy of mention are *langleyensis* (*macrantha* Philippiana), *Donard* Seedling and *edmonsi*.

Of evergreen *Ceanothuses* the only one likely to succeed in the open inland without considerable protection is *Ceanothus thyrsiflorus*, the so-called Californian *Blue*, which in time reaches the stature of a small tree. The flower trusses, which are of fair size, are pale blue. The variety *griseus* is almost as hardy. It has much larger foliage, is a quicker grower and the blossoms are pale lilac. Moderately hardy, too, is *C. Lobbianus*, now considered to be a natural hybrid between *C. thyrsiflorus* and *C. dentatus*. This is a bright blue flowered kind, often seen in gardens as *C. dentatus*. This muddled nomenclature leads to much confusion as to the hardiness of various families of plants which are not, in general, entirely hardy.

The Mexican Orange, *Choisya ternata*, is unquestionably far harder than most people consider it. Given shelter from wind & frost it will withstand very low temperatures unharmed. Its beauty none will deny. The *Raphiolepis* has the same highly glazed foliage as the *Choisya*, but in general appearance these shrubs remind one more of the *Escallomas* than anything else. The two hardiest species are *R. japonica* and *Delacouri*, the former with white and the latter with pink flowers.

That beautiful and fragrant relative of the Mock Orange, *Carpentaria californica*, requires a wall in most districts, though it makes a beautiful shrub in the open on our western seaboard. It flowers about mid-summer, a time when shrub-flower is welcome. The same may, with equal truth, be said of *Garrya elliptica*, though it certainly resembles the *Carpentaria* not at all. The handsome catkins in this case are at their best in the depth of winter.

Rosemary and Lavender used once to be in every garden. Alas! they are so no longer, yet both are admirable evergreen (or rather ever-grey!) shrubs, and the latter is really beautiful, as well as fragrant, when in flower. There is now much variety obtainable in Lavenders, the true Lavender, *Lavandula vera* being obtainable in pale and dark forms, as well as in forms of varying degrees of compactness.

There are, of course, many beautiful American plants still unmentioned, notably those of the *Andromeda* clan—such as *Pieris japonica* and *P. floribunda*—and *Leucothoe Catesbei*, besides the Heaths. Tall varieties of the latter which are very effective include *Erica australis* and *E. arborea* (and variety *alpina*), *lusitanica*, *mediterranea*, *Veitchii* and *stricta*.

Shrubby *Veronicas* are numerous, but many of them are too tender for any except favoured gardens. *V. Traversii* is probably the hardest, but though a useful, it is not a particularly interesting shrub. The smaller, *V. luxifolia*, is choicer looking though less free to flower. *V. anomala* is free-flowering and quaint though it tends to get lanky and leggy with age. *V. salicifolia* is one of the hardest as it is one of the handsomest of *Veronicas*. In the best and hardiest form the flowers are practically snow white, but there are purplish forms.



FOR SUN OR SHADE, BERBERIS STENOPHYLLA



BLOSSOM OF ARBUTUS ANDRACHNE.



THE LAVENDER WALK AT WARLEY PLACE.

A SELECTION OF TRAILING PLANTS

WITHOUT putting too fine a definition on the term, one may indicate a goodly number of trailing plants of easy culture whose lowly stature and habit of quickly draping bank or boulder commend them to a wide variety of uses. Among these the genus *Vinca* (Periwinkle) must take a foremost place, a place that some members of the family might claim by right of precedence on the grounds that they can always be relied upon to bloom during the first few weeks of the year. With the exception of *V. major*, which is too rampant for anywhere but the wilder parts of the garden and shady spots where few other things would exist, all these are useful and delightful little plants. One of the most charming is the old form of *V. minor* with round, creamy-white flowers and gold or silver variegated foliage, this being a most profuse blossomer through spring and the early part of summer. The deep purple, varying to rose, is also attractive and hardly less free, and there is a clear white variety with very starred flowers and deep green foliage which is admirable on a shady woodland bank. These white forms sometimes produce curious reversions to the type, the flowers being marked with triangular patches of blue-lavender. In the latter colour there is a pretty double, a strong and vigorous grower, first-rate for shrubbery and woodland; another single one, a deep blue known as "Bowles' Variety," is distinct and good. After these, in order of flowering, comes *V. herbacea*, which completely vanishes, leaf and branch, in autumn, to re-appear in spring and send its long, thin stems creeping over rock or soil. Though a most useful and desirable species, *V. herbacea* must be grown in a considerable mass before one can realise Mr. Farrer's enthusiastic description of its blue, starry flowers. Here, at any rate, it seems to fail just before the moment of triumph, so to speak. Possibly it may need lime, or crave for some other essential which our soil does not provide.

The *Lithospermums* include some admirable trailers, both *L. prostratum* and its variety "Heavenly Blue" covering large areas with their deep green foliage and charming flowers. Where it succeeds, *L. purpureo-ceruleum*, a native species, is also first-rate and one that will adorn its arching runners with sprays of sapphire in places too shady for most things. Earlier with us, but not so with all, is that other sprawling member of the genus, *L. Zollingeri*, whose flowers in pale blue are not less beautiful than those of our Welsh representative just alluded to.

Helichrysum trinerve is sometimes described as a large edition of *H. bellidioides*, but it is more truly a trailer than that well known carpeter. *H. trinerve* is an evergreen perennial whose wine-coloured branches will crawl 18 ins. or more, while it turns up at intervals one of its willow-like leaves as if to shew the white downiness of its underparts. This is such a hearty grower that a root of it looks like holding its own with two other excellent trailing plants, viz., *Arenaria montana* and the Creeping Jenny, *Lysimachia Nummularia*, both of which possess a "grandiflora" form which is incomparably better than the type.

The clan *Veronica*, of course, affords us a wide assortment of plants and lowly shrubs which might come within my scope here, but I must be content to mention a few of our first favourites. *V. chathamica* is a very delightful little shrub, with pea-green leaves and wiry stems, which will, like Ivy, veil the face of a rock. It adorns itself towards the latter end of summer with pretty lavender flowers. Both the rose and the blue forms of

V. pectinata are very appealing, and they will cover a bit of poor, stony ground with thick mats of downy foliage as prettily as most things. The best forms of *V. rupestris* (*V. Teucrium* var. *dubia*) are excellent in colour and robust, the golden-leaved, blue-flowered variety listed as "Trebane" being one of the most noteworthy. *V. rupestris* in white and the even more uncommon rosy-pink variety are both admirable. *V. cinerea*, with trailing cushions, grey-green and downy, and lively pink spikes towards the summer's end, must also be mentioned here.

Muehlenbeckia complexa is a sturdy evergreen trailing plant which can be useful in large rock-gardens or even among shrubs. Its ebony branches, however, are apt to appear stiff and woody as soon as they get off the flat, which they seem to prefer, and for this reason many would rather have the much more amenable variety "nana." Still more attractive in some respects is *M. varians*, with

habit, and *C. schipkaensis* is another of this class which is very distinctive, since it carries its creamy-white flowers in circular heads. *Genista* gives us among its best *G. humifusa*, apparently a choice form of *tinctoria*, very lowly and hairy and richly golden in flower. Nor is a spreading carpet of *G. tinctoria* fl. pl. in full bloom likely to be forgotten by those who possess this ninepenny beauty. There are many more, including *G. sagittalis*, which is, perhaps, the one member of its glorious race I could do without.

Fuchsia procumbens, on the other hand, is the one representative of its tribe which I should part with most regretfully. It is far from being gorgeous and it may not even be pretty; but there is a quaintness about its glistening flowers, with their spots of chocolate and daubs of arsenical green on tubes of honey-coloured wax, which is peculiarly fascinating. This little trailer has, moreover, a cheerful disposition. It is always the



THE BEAUTIFUL TRAILING BROOM, CYTISUS KEWENSIS.

much larger, fiddle-shaped leaves and an accommodating habit of trailing in a semi-scandent manner for several yards in any direction one may desire.

Another little shrub that must not be passed over is *Spiraea decumbens*, sometimes, I believe, sent out as *S. Haequetii*. This might be described as a minute *S. arguta* and is most delightful for any cool, stony bit of ground over and through which it can be permitted to wander at will. The slender, wiry stems of this shrublet rise to about 8 ins., they are furnished with delicate-looking emerald leaves, which are deciduous, and the white flowers, borne in large, loose heads, are remarkably attractive in the mass.

An ideal trailing shrub for a warm place and one which "needs no bush," is the prostrate Rosemary. This is one of those once-grown, always-grown plants, so dear to the happy gardener, and in the same category must be placed the lesser, prostrate *Cotoneasters* and especially *C. humifusa* (Dauмери), which is perhaps more strictly a true trailer than any other. *Cytisus decumbens* is one of the best of its race for the purpose in view, but *C. kewensis* is more elegant by reason of its freer

first of its tardy race to respond to the call of spring, and the fresh, delicate green of its prostrate branches is itself a pleasant thing to meet in the height of summer. *F. procumbens* appears to be quite as robust as any of the *Fuschias* usually considered hardy and does with similar treatment.

The Knotweeds comprise a few trailing species of high merit, *Polygonum Brunonis* (affine) being one of them. This is a Himalayan alpine of much refinement and vigour, making a broad carpet of fresh, evergreen leaves above which it produces a long succession of rose-pink spikes. *P. capitatum* is of much the same habit, but is less pleasing in flower and more prone to shabbiness. Perhaps the best of this class of Knotweed is still *P. vacciniifolium* which, though common enough, will always maintain its position among the choicest of trailing rock plants. It is hardy, a good doer where it has plenty of sun and a cool root-run, and the neat little leaves (said to be evergreen in some districts), which clothe its cushions of wiry stem-assume rich autumn tints.

Coronilla iberica (cappadocica) will make a fine, spreading mass of elegant sea-green foliage which

is surmounted by golden yellow coronets in early summer, and *C. minima* looks as if it were a dwarf form of the same thing. Smaller still, and in some respects even more taking, is our own Hoarshoe Vetch, *Hippocrepis comosa* of the limestone. There is a charm and a daintiness about this little creeper that will attract attention even in mid winter. When, in due season, the fresh, blue-green foliage which drapes the rock face with such a well dressed effect, breaks out into numerous ringlets of rich yellow, one feels a justifiable pride in our native weed. Nor has *H. comosa* any faults. Here, at any rate, it is always well behaved, which cannot be said of some of its kindred, of which the Lotus (*L. corniculatus*) is one. *Lathyrus tuberosus*, another of this numerous clan, can be used with

good effect for sweeping over bold rocks or banks and there are not many species of its kind which can give us clusters of pea-flowers of such large size in so pure and rich a pink. These blossoms are, moreover, sweetly scented and they are freely borne throughout summer and autumn. *L. tuberosus* needs no support when intended for such purposes as the above, for it is perfectly happy in forming a tangled mass firmly knit together with tendrils. This Pea, however, it is well to observe, is liable to become a pest in many soils.

Trailing plants of the very highest order and in the widest choice, I need hardly say will be found among the Alpine Phloxes, Aubrietias and *Helianthemums*. As, however, one of these families alone might occupy several pages, one

must be content to leave it at that. Some allusion must, too, be made to the claims which many of the *Acanthaceae* might put in for notice. Nor can one omit to mention the lovely *Arabis aubrietoides* and the bolder and pinker *A. Sundermannii*, not forgetting *Convolvulus mauritanicus* for trailing over and about any of the above-mentioned, to flower when their season is over. And for use in a similar way what can be more satisfying than the trailing *Oenotheras*; such superb species as *macrocarpa* and *marginata*, with their long, sinuous stems and magnificent goblets of yellow or spotless white being indispensable to any rock garden, not only on account of their intrinsic loveliness, but also because of their late blooming.

NORTH WALES.

ROCK GARDEN CONSTRUCTION—II

ADMITTING that there is still a great deal to be written about the "strategy" as distinct from the "tactics" of rock garden construction, we will in this instalment consider some of the more important points to be borne in mind in the actual laying of the stones. This digression is not made to give variety to the topic; simply because some of the larger questions of general arrangement are governed to great extent by this detail work and can be more intelligibly explained if the detail is discussed first.

Almost all rock gardens are laid out in imitation of stratified outcrops in nature. Such strata were, of course, originally level, but owing to varying causes, natural strata may be found at every conceivable angle. Some strata, indeed, may be found as nearly as possible on end.

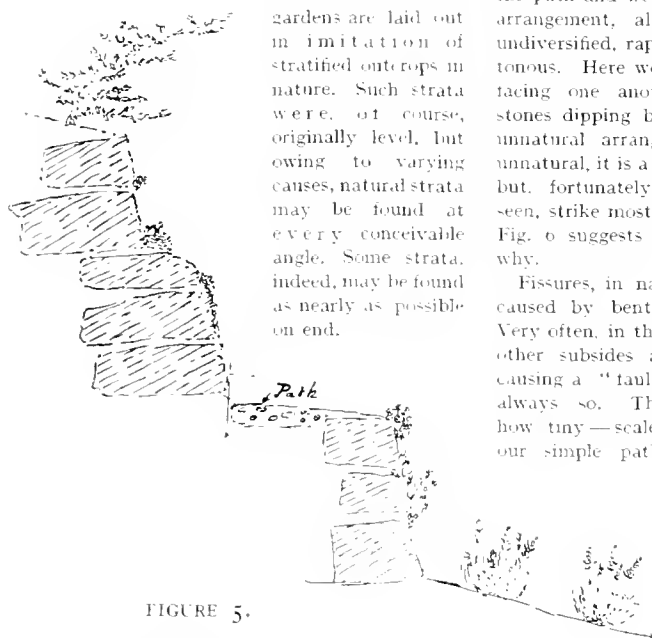


FIGURE 5.

If the sole object of a rock garden were to imitate natural phenomena, such an arrangement might perhaps be reproduced. The principal object of a rock garden, however, is to provide a home for

suitable plants. This object can only be achieved if we select very carefully the natural outcrops upon which we model our garden. The "lines" of stratification—so that we may call them so—

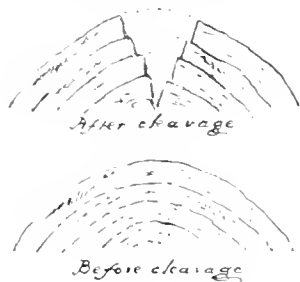


FIGURE 6.

must, for instance, be approximately level as they are seen across the outcrop, though a tilt of 10° in either direction is quite feasible and one of 15° may, with care, be arranged.

In order to carry the water to the roots of the plants as well as to ensure the stability of the rock-work, the stones must slope downward and backward from the face into the ground behind. This slope is plainly seen in Fig. 5, which shews a section through a rock garden cliff carrying a path pass-fashion. Take the part above path level and balance it by a similar rocky slope on the right of the path and we have a very typical rock garden arrangement, albeit one which, if undiversified, rapidly becomes monotonous. Here we have two outcrops facing one another, each with the stones dipping backwards—surely an unnatural arrangement! Natural or unnatural, it is a very necessary one; but, fortunately, it does not, when seen, strike most people as unnatural. Fig. 6 suggests the probable reason why.

Fissures, in nature, are frequently caused by bent strata giving way. Very often, in the result, one side or other subsides after the cleavage—causing a "fault"—but that is not always so. This cleavage, on a tiny—oh! how tiny—scale, the opening through which our simple path or tiny trickle of water finds its way, mimics.

If it is decided to tilt appreciably the "strata" as seen at the outcrop, care will have to be taken in the arrangement of the paths and the direction of the tilt, otherwise the work may go on "swimmingly" until, at some corner, "strata" come cheek by jowl which are set at entirely different angles and cannot by any stratagem be reconciled. The point is mentioned here, but the matter is rather an intricate one and will be better dealt with in

detail in another place. Fig. 7 illustrates the disposition of "stratified" rock to form a garden picture. A path, largely formed of stones following the lie of the strata and so arranged as to resemble natural shelves, traverses a wide valley in the rock garden. Between the path and the further cliffs lies a moraine or "pierrier" for choice plants. Those who have visited the Alps will appreciate the difference between the two, though as constructed in English gardens there is little to choose between them as far as external appearances go.

A moraine represents the detritus brought down

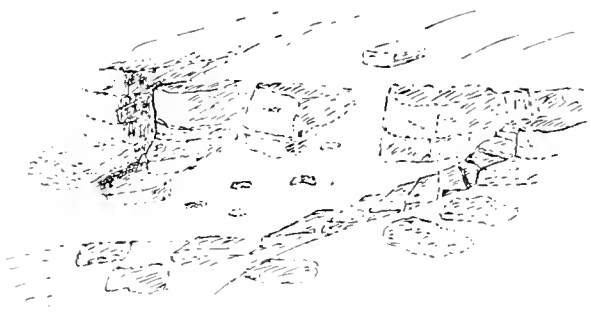


FIGURE 7.

by a glacier and is made up, almost entirely, of pieces of stone of various sizes, watered constantly from below. A "pierrier" consists of detritus which accumulates at the foot of a cliff. Though, naturally, varying with the rock of which the cliff is composed, a "pierrier" contains, as a rule, more soil and humus than a true moraine and has not the stream of ice-cold water beneath it. In the rock garden our "stone heap" may be moraine or "pierrier," or even a peat bed (*tourbière*) dressed with stone as best may suit the plants we want to grow or it may be a combination of all three.

The structure of the moraine was detailed a few months ago (April 8, 1922, page 163) and it is not proposed to go into its construction in the present notes. In case, however, a "pierrier" or peat bed is wanted, a few words upon their construction may be apposite. For either, the soil should be taken out to a depth of 2ft. to 2½ft.—the greater depth is the better—and may

be used for banking up the "highlands" of the garden. A "pierrier" may be constructed of about twenty parts of

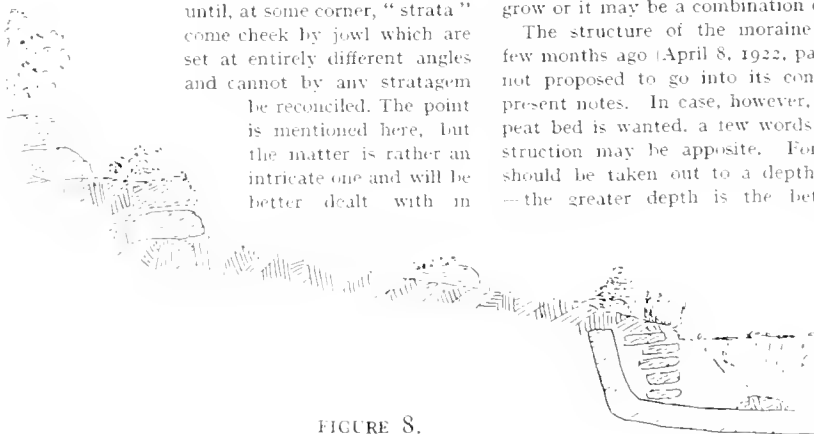


FIGURE 8.

granite chippings mixed with one part each of turfy loam, peat and decayed leaf-soil. If limestone or sandstone is employed a rather larger proportion of stone will be desirable, as such stones disintegrate to some extent in use. The peat bed will consist of fibrous peat and maiden loam—two parts of peat and one part of loam—preferably mixed with fair sized pieces of stone and faced with stone to retain the moisture. As a supply of water underground is very desirable for the peat bed, it may with advantage be made part and parcel of the moraine.

The material for the paths is always a source of controversy in rock garden construction. In so far as these can be constructed of apparently natural ledges of rock the effect is admirable, but it is not feasible to form the whole of the paths in this way. Probably the best material for the remainder is gravel. With most stones an ordinary yellow gravel suits well enough, but if hard paths are wanted through weather-worn limestone rock-work, limestone chips are best.

For many sites and situations greensward is impracticable in the rock garden, but there are places where a rock garden in a green setting is not only possible, but eminently desirable. Fig. 8 shews a section through one side of such a garden which contains at the dip a small sheet of water. This last is, however, by no means a necessary accessory, though water is always a picturesque feature of such a garden. It will be seen that the arrangement of the stone conforms to that in the all-stone garden (Fig. 5), but as a general rule contours in a rock garden on a grass foundation should be far more gentle (and more subtle) than in the older and more ordinary type.

THE BORDER CARNATION

IN some districts Border Carnations may be grown very successfully with but little trouble, in others extra care is needed to accomplish a limited measure of success. The magnificent Perpetual-flowering section has not weaned thousands of amateur cultivators from their love of the Border beauties. Indeed, there are thousands who find, rightly enough, that there is room for both in their gardens.

It is found in some localities that rooted layers do not winter well in the open border and that it is advisable to transfer them direct from the parent plants to a cold frame and, in due course, to plant them in their flowering quarters the following spring. Personally, I have been obliged to follow this plan while living in a South Coast district not far from the borders of Sussex. There was no difficulty with that grand old variety Raby Castle and several others, but in the case of many of the newer sorts it was quite different.

The heavier soils need very careful treatment. The planting may be done about the middle of March in bad weather; a little earlier in good. End of February planting is practicable, even desirable, where the soil is light.

In no case should the cultivator tread upon the border after planting. Where organic manures are needed, well rotted dung should be used, buried so as to be just below the roots when the Carnations are planted. It is not conducive to healthy growth to mix the manure with the surface soil and so bring it into direct contact with the roots at that stage. When the plants have become established and their roots begin to permeate the soil, the resultant growth will be much benefited through the presence of suitable manure within reach. Those who have not given this plan a trial should do so this spring. G. G.

SOME EARLY-FLOWERING PLANTS

ALTHOUGH severe winters are, fortunately, uncommon in this district (West Porlock, Somerset), it is seldom that January passes with but two nights on which the thermometer dropped to below freezing point, as has been the case this year. Heavy rain and a few hailstorms occurred during

variety has flowered at least as freely as it did last season. *Iris histrioides* opened its first bud on January 4, and a small patch was the glory of the rock garden for over a fortnight. *I. reticulata* followed on at the end of the month; there is something quite amazing about the rapidity with which its buds develop and burst into bloom.



THE CHARMING EARLY-FLOWERING SAXIFRAGA ELIZABETHÆ.

the first week of the New Year, and there was very little sunshine throughout the month; but in spite of the mildness of the winter, plant life on the whole is not unduly forward. It is interesting to compare the effect of the wet, dull summer of 1922 on various plants with that of the dry, baking season of 1921. In some instances the results are only what one would have expected, but in other cases they are surprising. In the case of the two Winter Honeysuckles, for instance, *Lonicera Standishii* has been a sheet of bloom since Christmas, but *L. fragrantissima* has grudgingly produced only a few flowers half hidden among its evergreen leaves. Perhaps it is as well that nurserymen so frequently send out *L. Standishii* under the name of *fragrantissima*! It is certainly a much more satisfactory shrub, though the individual flowers of *L. fragrantissima* are slightly larger and gain by having the association of the young foliage. They are both deliciously scented, most especially so in the evening, like the early *Daphnes* which cater for night-flying moths.

As usual, the Winter Aconites in the grass under an Apple tree were in flower on New Year's Day, and this year won their annual race with *Crocus Imperati* and the first of the Snowdrops. Whenever there was a gleam of sunshine *Crocus Imperati* and *C. Sieberi* opened out wide in response, but in dull weather when no fertilising bees were on the wing they wisely remained closed and thus protected their pollen. *Iris unguicularis* has plainly shewn its disapproval of last summer's sunless days—as, indeed, one knew it would. Clumps which bore over 1,500 flowers last winter only produced 400 by the end of January this year. It is worth noting, however, that the white

Slugs seem to have a special passion for defiling the flowers and gnaw them through halfway up the stem. Another cheerful bit of colour was provided by a small clump of *Cyclamen Coum* nestling in the shelter of the slender leafless twigs of *Corylopsis pauciflora* from which the pale lemon cowslip-like flowers already dangled. The gayest shrubs in the garden were the bushes of *Cytisus racemosus*, 6ft. high and as much in diameter, literally smothered from top to bottom with the delicious golden racemes. Seldom are they able to flower quite so lavishly in the open in mid-winter, though they are scarcely ever entirely out of bloom at any season. Where it will succeed outdoors this favourite greenhouse plant develops a beauty never realised when confined to a pot. *Coronilla valentina* is useful also for winter flowering, and never fails to produce masses of its rather shrill yellow flowers, strongly scented, too, but in no way comparable to the *Cytisus*. Though the *Coronilla* is probably harder than the *Cytisus*, it does not seem to be a long-lived shrub, but as it obligingly sows itself and grows very rapidly, the loss of an old plant can easily be remedied.

The Winter-Sweet, *Chimonanthus fragrans*, seems to have been flowering well in most gardens this winter, which is rather surprising when one thought it required a thorough ripening of the wood. Is it possible that some of the stored-up energy from the heat of 1921 is finding expression this winter? On the other hand, both the winter-flowering Clematises (*C. calycina* and *C. cirrhosa*), which were covered with bloom last year, have hardly flowered at all this winter. It is strange also to see *Cianthus puniceus albus* with flower-buds hanging from every shoot in the greatest

profusion, a few precocious flowers being open early in the New Year. Needless to say, the dwarf Heaths (*Erica carnea* and *E. darleyensis*) greatly preferred the cool of the past summer to the scorching of the previous one; both were in flower at the beginning of the month and will continue in beauty for many weeks. *Erica Veitchii* is one of the most valuable shrubs for winter flowering that has ever been raised. From the middle of January the buds begin to open till the entire plant is wreathed in tiny white bells, sweet with the real heather scent. It does not take the bees long to find their way to a bush of *E. Veitchii* in bloom! *Grevillea rosmarinifolia* is another satisfactory shrub which rarely fails to give a good account of itself; its quaint-shaped pink flowers shew up well against the warm dark green foliage.

Visitors from cold districts are always surprised to see the vigour with which the *Acacias* (*Mimosa*) flourish in the open in the south-west. They dislike exposure to bitter winds far more than severe frosts, but in a reasonably sheltered situation they go ahead very rapidly. A seedling *Acacia falcata* only three years old is now about 8ft. high in spite of having had its main shoot broken by snow last April. It began to flower early in January, but this species appears to take several years as a rule before it flowers really profusely. Fortunately, the absence of frost encouraged *Lithospermum rosmarinifolium* to bedeck itself with a rich crop of glorious blue flowers. It began to flower in November, and apparently means to carry on till the spring.

Daffodils were represented in January by the ever-welcome Hoop Petticoat varieties, and these were accompanied in the last few days of the month by *Narcissus minimus*, a most perfect little flower. The Scilly White Polyanthus *Narcissi* missed their usual summer's baking, and consequently came up very late and with poor promise of bloom. They grow alongside the clumps of *Iris unguicularis* under a warm wall, and have hitherto revelled in the position. Golden Spur Daffodils were shewing colour in the open border by the end of January, and most other varieties were coming on rapidly. The Riviera variety of that pestilential weed, the Lesser Celandine, is quite a good plant which does not wander unduly, and opened the first of its very large golden flowers in January. Though very distinct for gardening purposes, it is probably only a large variety of our tannish *Ranunculus Ficaria*.

Saxifraga Elizabethae was the first of its race to greet the New Year, but by the end of the month it was joined by the crimson-purple *S. oppositifolia*, one of the best of British natives grown in rock gardens. It is an extremely variable plant, as one might expect from its very extensive range, which includes the High Alps and sea-level at Spitzbergen. Some forms seem much more amenable to cultivation than others. The first flowers of the handsome *S. Megasea ligulata* conceal themselves among the large leathery leaves, but before January had passed others were peeping out well above the sheltering foliage. That cheerful little annual *Diopsidium acaule* has flowered without ceasing all winter and brightens up the soil in front of a colony of the stately green-flowered Corsican Hellebore. The rosy-hued *Helleborus olympicus* and the white-purple-spotted *H. zuttatus* rushed into full bloom by the third week of January, before the true Christmas Roses were over. Divided plants of these Hellebores always take some time to re-establish themselves, but seedlings are very easily raised (self-sown plants often appear), and in two or three years make fine healthy tree-flowering plants. Moreover, there is always the chance

of some good variation occurring among the seedlings. Some of the larger Spurges look well planted among Hellebores, whose poisonous properties they also possess. A beautiful glaucous species, which is probably *Euphorbia Characias*, flowered throughout the month, and its tall stems of quaintly formed green and brown flowers were very decorative. All these evergreen Spurges are far too seldom seen outside botanic gardens, for though not showy, they all possess considerable beauty of form.

There were not many berries left in the garden by the New Year, but *Pyracantha angustifolia* remained one of the gayest features of the month with its branches wreathed in masses of orange berries. The large branching inflorescence of *Cordyline australis* also was full of interest, with its profuse crop of tiny white berries containing the glossy black seeds. As birds had begun to take them, the inflorescence was cut and the berries saved for sowing.

West Porlock.

N. G. HADDEN

A BIG SHOW AT WESTMINSTER

THERE was a great increase as regards bulk in the exhibits at the R.H.S. Hall, Vincent Square, on February 13 last and a quite corresponding increase in the attendance. During the early part of the afternoon the attendance was so great that difficulty was experienced in viewing the exhibits. While there were more flowers than might have been expected at a mid-February meeting, it must be confessed that there was a deal of repetition and not all exhibits were of first-class quality. That the Floral Committee shared this opinion was evident from the comparatively few awards they recommended. The greatest increase was in alpinines and it is a moot point whether or not it is wise to force these little plants into premature flowering as is so often done nowadays.

The outstanding floral exhibit was the magnificent collection of greenhouse *Cyclamens* arranged by Messrs. Sutton and Sons, and it is no exaggeration

to say that it was the finest display of these plants seen at the R.H.S. meetings. We should not like to say definitely how many plants this monster collection contained, but the quality was so high that there was not one second-rate plant among the several hundreds. The massed plants of such as the glowing Salmon Scarlet, the giant Silver-leaved Salmon, the deep crimson Vulcan and Giant White, to name only a few of the many distinct varieties, made a memorable display, while the crested flowers of Mrs. Buckston intrigued many visitors. On a table space near, by Messrs. Sutton and Sons set out a smaller exhibit of *Primula sinensis* and *stellata* varieties and these shewed again similar high-class strains and expert cultivation. The R.H.S. gold medal has never been more worthily awarded than on the present occasion.

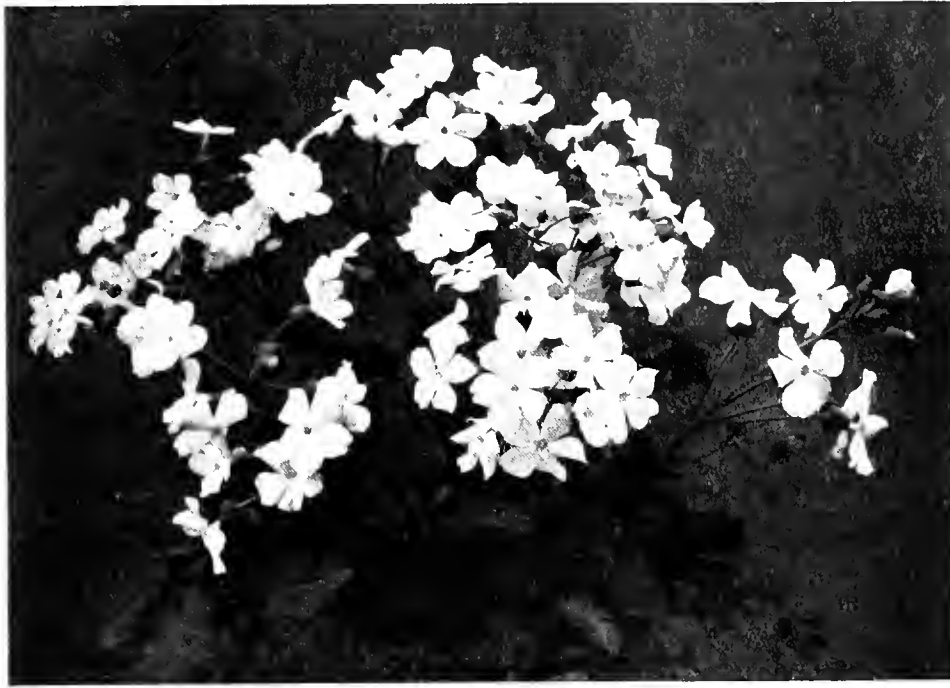
A meritorious collection of greenhouse *Cyclamens* was sent from the gardens of Mr. E. Wormald, Sheepwell House, Potters Bar, and at any other time these would have excited even greater envy and admiration than they received.

Azaleas, both the evergreen indica and the deciduous varieties were shewn as excellent plants by various exhibitors, but it was the warm, glowing colours of the mollis-sinensis varieties shewn by Messrs. R. and G. Cuthbert that excited most attention. Among their Azaleas Messrs. L. R. Russell, Limited, had numerous forced hardy shrubs, particularly *Prunus triloba*. Other useful forced shrubs at the show were the many plants of the fragrant *Viburnum Carlesii*, in a collection from Messrs. Wallace and Co., who also had well flowered examples of *Prunus triloba* and again shewed pans of interesting and beautiful *Crocus* species.

A goodly bush of the slow-growing but long-flowering *Andromeda floribunda* was noted in an exhibit by Messrs. J. Cneal and Sons. The first flowers on the erect panicles of this American shrub will often be open at Christmas and it will be the end of March before



VIVID ORANGE AND SCARLET TRUSSES OF THE GREENHOUSE RHODODENDRON NE PLUS ULTRA.



THE SOFT MAUVE PRIMULA CALCIPHILA.

the last have discoloured and fallen. The flowers last well and will open in a cut state. Bright shrub colour was to be seen in the berries of the dwarf plants of *Skimmia japonica* shown by Mr. G. G. Whitelegg, who also had some beautiful silvery rosettes of *Saxifraga longifolia*.

Lady Aberconway sent from her North Wales garden trusses of early *Rhododendrons*. In the centre there was a stand of *R. Nobleanum* showing interesting variation from the type. Silberhad's Early Pink is somewhat like a smaller, more waved *Gloria Mundi*, while the larger trusses of *R. sutchinense* were a delicately beautiful pale pink.

As flowering plants the best alpiners were the pots and pans staged by Mr. Mark Fenwick. There were a great many pans of *Saxifraga Burseriana* and several admirably flowered ones of the dainty pink *S. Irvingii*. In the annex Messrs. R. Tucker and Sons had a great variety of alpiners in small pots. *Primula juliae* bore flowers of intense colouring. Blue Primroses of great merit were shown by Messrs. Blackmore and Langdon. *Soldanella alpina* was included by Messrs. Maxwell and Beale in their collection, which also contained some plants in flower of the *Mesembryanthemum turbinatum* roseum and album, which one sees growing so luxuriantly in such places as the seashores of Cornwall and the Isle of Wight. The dainty little *Bellis sylvestris* was included in several collections of alpiners, and the crimson flowers made bright patches of colour.

The Narcissus Committee met for the first time this year but did not have any novelty of merit before it. Messrs. R. H. Bath, Limited, exhibited a very creditable collection of Tulips and Daffodils growing in bowls of fibre. As a background to their alpiners Messrs. Barr and Sons arranged some very good pots of Narcissi and Hyacinths and Messrs. Carter and Co., Limited, had one of their artistic displays of similar bulbs, with Primulas.

A large exhibit of Citruses, growing on bushes in pots and as gathered fruits, was somewhat an unusual feature and these were brought by Messrs. T. Rivers and Son. The bush of Citron of Paradise, which bore twenty large fruits, was said to be the best ever seen at a show.

A small but particularly good collection of Potato tubers was made by Messrs. Dobbie,

and in this the purple eyes of Katie Glover and Di Vernon seemed to fascinate many visitors.

NEW AND RARE PLANTS.

Primula calciphila.—This is a daintily beautiful greenhouse plant from the cliffs of Ichang, West China. In general appearance it is a flattish, very free-flowering species of *P. stellata* type, with smallish, pale green leaves somewhat similar to those of the old double white *Primula*. The fact, however, that it consistently refuses to hybridise with any of the *Primula sinensis* types, although when selfed it seeds freely, disposes of the suggestion that this is the true *Primula sinensis*. The flowers are stellate with well rounded petals and rather more than an inch across. They are of delicate pale mauve in colour and have a small pale lemon

eye. Award of merit to the Director, Royal Botanic Gardens, Kew.

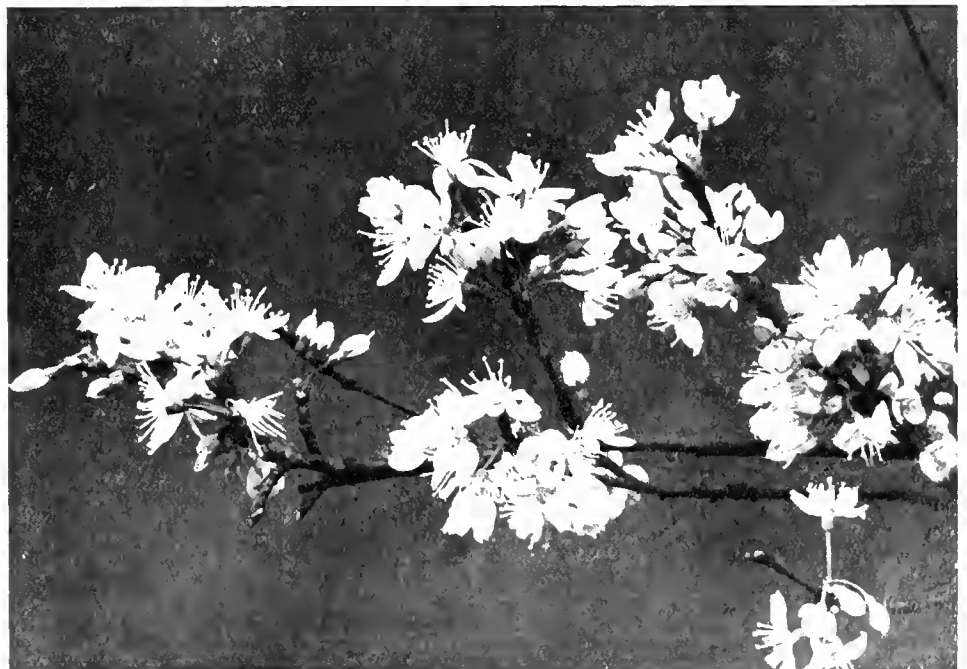
Prunus Conradinæ.—In general characteristics the flowering branches of this small tree suggest a more graceful and larger flowered *Prunus Bissardi*, but it is one of Wilson's introductions from Western China. Like the *P. cerasifera* varieties the young leaves of this tree are purplish and become reddish-purple in the autumn. The specimen now flowering in the *Prunus* collection at Kew is very beautiful with the graceful branches wreathed with the palest blush flowers. So far as is known the tree has not fruited in cultivation. Award of merit to the Director, Royal Botanic Gardens, Kew.

Rhododendron Ne Plus Ultra.—The magnificent plant of this hybrid greenhouse *Rhododendron* was decidedly the feature of the Show and we doubt whether finer trusses of this type have ever before been seen at any exhibition. On the entry card it was stated to be a cross between *R. javanicum* and *R. jasminiflorum*, but its appearance gives no suggestion of the latter parentage, and in his book on "Rhododendrons and Azaleas," "Present Day Gardening Series," W. Watson, writing with an authoritative knowledge of his subject, states that *R. Ne Plus Ultra* is a cross between *R. javanicum* and *R. Duchess of Edinburgh*, the latter being a hybrid between *R. Lobbii* and *R. Brookeanum*. The vivid, glowing, rich orange-scarlet flowers, seemed to vibrate with glorious colour. First-class certificate to Lieutenant-Colonel Sir George Holford.

Dendrobium Gatton Monarch var. F. J. Hanbury.—This beautiful Dendrobe may be termed a glorified *D. nobile*, which has a definite white band around its rich, velvety, purple throat. First-class certificate to Mr. F. J. Hanbury.

Odontioda Baroness Schroder.—A magnificent variety bearing large perfectly formed crimson-claret flowers, lightly edged with white. The lip is elegantly waved, well margined with white and lightly spangled with gold on the crest. First-class certificate to Messrs. Charlesworth and Co.

Odontoglossum Purple Queen.—This is a very uncommon flower. The general colour impression is blue-violet tinting on a brownish ground and the flowers have narrow white edges, while the base of the lip is wholly white. Award of merit to Mr. J. J. Bolton.



AN ADMIRABLE BLUSH-COLOURED ORNAMENTAL PLUM, PRUNUS CONRADINÆ.

WINTER-FLOWERING BEGONIAS

The Gloire de Lorraine Group.

SOME years ago *Gloire de Lorraine* was the winter-flowering Begonia; to-day it is only a type—one of many—and it is quite possible to have as rich and varied a display of colour during winter as the tuberous varieties provide in summer. Nor are we confined to singles; superb double flowers in scarlet, crimson, salmon, rose, orange, apricot, etc., are all plentiful. Many of these produce individual flowers zins. to zins. across, but always with the Lorraine habit, building themselves up into perfect pyramids of loveliness that must be seen to be appreciated or even imagined.

This brings us to a consideration of the methods of propagation and the cultural treatment of the plants so obtained. After flowering, a period of rest is imperative and to this end the plants should be cut back somewhat and kept only just moist at the roots. Take care that they are kept in a good light in a temperature between 60° and 70° and a large number of short, sturdy little basal shoots will soon begin to develop. These should be in the best possible condition for our purpose early in April and, from then onwards right up to August, a succession of cuttings will be obtainable that will give a continuity of flowering plants right through winter and early spring.

The early-rooted cuttings will, naturally, give the strongest, finest and largest plants, those struck later, however, being especially useful for smaller specimens. Such are very suitable for indoor decoration. Never attempt to keep them within doors too long, however, or this will result in the buds dropping and the early ruination of the plants. Having prepared your plants and obtained a good supply of short-jointed, stocky shoots about zins. in length, these should be taken off from the base of the plants, severing each with a very sharp knife just beneath a joint. The tissue is very succulent and the sharp knife is very important or the stem is readily bruised and then decay sets in. Crock the pots or pans carefully in which the cuttings are to be inserted so that there is no question as to efficient drainage, and cover the crocks with a layer of moss before any soil is put in; this prevents the finer particles of earth from washing down into the drainage and choking it when watering. A fine soil is best, one composed of two parts sifted loam to one each of leaf-mould and silver sand being excellent. Mix this well and allow half a dozen cuttings to each 5-inch pot. The lower leaves should be removed and the soil made quite firm round each, each pot being afterwards lightly watered and plunged in a propagating frame with gentle bottom heat. Keep rather close for a time, taking care to water moderately and constantly remove all leaves that show signs of decay. As roots form, a little air should be given and, as they become accustomed to this, the pots should be withdrawn from the propagator and stood in a cooler temperature of 55° to 65°. Dew them constantly overhead and shade from bright sunshine.

These winter-flowering Begonias are specially addicted to premature flowering and the only way to avoid this is by selecting strong basal shoots from which to form the cuttings, and to grow them in a moist atmosphere so as to promote steady and continuous growth. Dew them overhead through a fine rose with tepid water several times a day and, as soon as strong enough, pot off singly. For this potting, the soil need not be so fine, while a considerable reduction in the quantity of sand

may be made. Let the soil be fairly firm, but not hard, maintain a temperature of 55° to 60° at night, with a rise of 5° to 10° by day, and continue light shading and syringing as before. Never allow the young plants to stand still and, directly the first pots are filled with roots, transfer them to a larger size and repeat this as they become filled with roots.

For the second and all subsequent pottings, the following compost should be employed. Fibrous loam two parts, peat one part, with half a part each of coarse silver sand, leaf-mould and dry cow manure, with a generous dusting of bonfire ashes. Turn these together again and again, so that everything is really well mixed and, after potting, place a neat green stake at the centre of each pot so that the growths can be lightly looped up to this as they

advance. If the plants fail to branch freely enough stop the points once or twice so as to encourage side growths and, as these in turn become long enough, loop them up to the central support. Do not shade too heavily during summer; this is only necessary when the sun is bright and the more light the plants receive the shorter and sturdier the growth will be. Air must be admitted freely, though anything like draught should be strictly avoided. Watch the atmosphere; this must never become too dry, and keep the temperature steady at 55° by night rising to about 65° by day.

Once the flowering pots are well filled with roots and buds are commencing to form, do not omit to feed regularly and generously with weak liquid manures; this makes all the difference to both size and depth of colouring in the blooms. **TROPICA.**

NOTES OF THE WEEK

NEXT week's issue of *THE GARDEN* will be a special Spring Planting Number, which it is hoped will prove of more than usual interest. Bulbs for spring planting—Lilies and Gladioli—will receive special attention; but shrubs and herbaceous plants will also come under review.

The Royal Horticultural Society.—The Annual General Meeting of the Royal Horticultural Society has come and gone. As expected, the criticisms

of the condition of the Wisley Gardens and of the Council's policy as regards Wisley have borne fruit. An improvement is promised, and Fellows must possess their souls in patience awhile and hope that expectations will be realised. Is it too much to hope that the Council will reconsider its attitude with regard to the Wisley trials? We are perfectly aware that they have made no promise in this direction, but now that Wisley is under discussion it would be a good opportunity to do

so. It is very easy for the management of a big society such as this to get out of touch with the feeling of the rank and file, whose opportunity for expounding their views at the annual meeting is small. Not all Fellows, we imagine, are in the habit of addressing public meetings, and Lord Lambourne is perhaps too capable a Chairman in this respect, for, if courteous, he is certainly not helpful to those who wish to lay their views before him and the meeting. The financial results for the past year, as disclosed in the Annual Report, are certainly excellent, and everyone concerned, from the President and Treasurer downwards is to be congratulated upon the extraordinarily strong financial position of the Society.

The Hardest African Lily.—

The picture shews a clump of *Agapanthus umbellatus* var. *Mooreanus* at Gravetye. This plant is largely cultivated there and is exceedingly effective when massed, though a black and white picture of the plant growing in quantity is not an interesting one. The plant is very much hardier than the type species; indeed, it would probably prove hardy in almost every district and is very distinct in every way. The blossoms are similar in colour, but the flower stems are more slender and graceful and the foliage is much shorter and less imposing. This, naturally, detracts from it as a foliage plant, but it gives added character and dignity to the flowers. Unlike the type plant, the variety *Mooreanus* is deciduous. This is a good time to transplant it.



AGAPANTHUS MOOREANUS, HARDEST OF "AFRICAN LILIES," AT GRAVETYE.

CORRESPONDENCE

OUTDOOR WINTER GARDENS.

AS the winter is longer than the summer, so, in some respects, is the winter garden more important than the summer garden. One does so enjoy flowers at this time of the year and it will probably be two months before the spring garden will be enjoyable. I certainly get great pleasure sitting in my winter garden, which, after all, is only about 35ft. square, so that there is nothing very costly in cultivating such a little piece of ground. There are so many plants which flower in the winter that there is no trouble in furnishing a winter garden. I counted over thirty different kinds of flowers on February 4. On the walls *Cornus mascula*, *Garrya elliptica*, Winter Jasmine and *Laurustinus* are all in full bloom. Then there are two beds of *Rhododendron præcox*, with *Erica carnea* below. Other beds have Lent Lilies, Blue-eyed Mary and *Violas*, yellow, white and lavender *Crocuses*, *Snowdrops* and lots of *Iris reticulata* in two colours to help to make the garden bright; but what troubles me is why do people so seldom indulge in a winter garden.—THACKERAY TURNER, *Westbrook, Godalming*.

IRIS RETICULATA.

TWELVE bulbs of *Iris reticulata* planted in fibre in a bowl in November and grown in a cold greenhouse are now coming into flower. Another bulb in the open border left from last year is in full flower to-day (Feb. 9) and rather taller than those in the house.—L. D., *Wells, Somerset*.

SOME EARLY SPRING FLOWERS.

ON page 60 in THE GARDEN of February 3 I notice that Mr. Chapman mentions having *Iris reticulata* in bloom under glass on January 16. My first blooms out of doors opened on January 24, and the plants were soon in full bloom. *Narcissus minimus* was out on January 29. It is on a rather dry little mound at the base of an Oak tree. *Narcissus cyclamineus* opened on January 31. Both varieties were also in bloom in a cool house, but only a few days ahead of the outdoor bulbs. The mild weather accounts for this, I suppose. I do not know when these two varieties are supposed to bloom. The extraordinary warmth and bright sun on February 3, 4 and 5 has brought everything on far too quickly, but they have had a check. Here *Prunus Mume* is opening its first flowers, *Prunus Pissardi* breaking into flower and foliage, *Leptospermum Boscaweni* in bloom and many other shrubs are all shewing buds far too forward. I only hope they will be kept back until they can break and bloom safely.—G. H. DALRYMPLE, *Bartley, Hants*.

PRIMULA WINTERI OUTDOORS.

HAVING read with much interest the note on *Primula Winteri* in the issue of THE GARDEN of February 10, I think that some of your readers might like to know that I have grown it out of doors for the last nine or ten years here, and have now some thirteen plants either in bloom or with buds just opening. I find they are very hardy as regards cold, and passed unhurt through the terrible spring of 1917, when the mercury fell to 4° on March 9. Also they seem to enjoy a moist root-run at all seasons and as much rain as they can get between May and October. Indeed the plants suffered much from the dry summers of 1919 and 1921 and had fewer blooms in the following springs. But from the time the white winter leaves begin to shew—generally about October 1—they must be kept as dry as possible overhead,

and I have tried to solve this problem by planting them with a large stone at their backs, so to speak, against which I place convex pieces of glass (I find broken cloches or crystal fruit dishes the



SOFT LAVENDER BLOSSOMS OF PRIMULA WINTERI.

most useful). This may somewhat disfigure the rock garden; but, after all, it is easy to remove the glasses on fine dry days or when one expects a visitor to be taken round the rock garden! My plants are mostly on a northern slope with high *Rhododendrons* behind them, so they get very little sunshine but seem to thrive without it.—H. M. B., *Berwickshire*.

EARLY GROWTH.

I THOUGHT you would be interested to hear of the following plants, etc., which are a fortnight to a month early even for this garden, on the borders of Devon and Somerset: Three varieties of *Eremuri*, and *Lilium Henryi*, *testaceum*, *tigrinum* F. *giganteum* are 3ins. to 4ins. above ground. Crown Imperials, *Ribes*, *Solanum crispum* and many *Daffodils* are in bud or just out, together with, of course, *Prunus Pissardi*; also scarlet *Anemone* and the other ordinary sorts, and *Rhododendron præcox*. My newly planted Chinese shrubs, such as *Staphylea colehica* and *Halesia tetraptera* have burst their buds! One wonders if they will ever survive the late frosts as they will be so far on.—F. L. P. BAKER, *Creekerne, Somerset*.

STRAWBERRIES AND ASPARAGUS.

MR. ENGLEHEART (page 47) is a difficult man to convince that his own views and opinions are not the best—he is satisfied that they are and nothing further, therefore, remains to be said or written. My personal experience reaches the half century and I hold staunchly to what I wrote, the substance of which was that runners of equal excellence and earliness can be secured from one year old fruiting plants as from maidens. Mr. Engleheart would, perhaps, differentiate between one year old plants and maidens, but there is no difference in age—the essential difference is that

my runners shall come from one year old plants which have fruited and his from one year old plants which have not fruited. Runners from the last named will run a little bigger, but they will not give superior results. I, too, will ask readers to try both systems and report results. If Mr. Engleheart used turves he would not find the necessity to

move the plants to hard ground; they would remain *in situ* until the actual moment for planting. The sound objection to small pots lies in the fact that, under forced delay in planting out, the roots mat hard round the porous sides and do not take immediately to the new soil as they do when moved at the crucial moment or from turves, since there is no matting in the latter case. I did not doubt the ease or the necessity of lifting *Daffodil* bulbs, but simply stated that it was no more "natural" than lifting *Asparagus* roots and obviously that is a fact since Nature would lift only by earthquakes—by lifting and planting we improve upon Nature. It is a fallacy to suppose that *Asparagus* is difficult to move. It presents no more difficulties in the process than most other plants, provided that its fleshy roots are not allowed to become dry and shrivelled by exposure to the air. Unless there is imperative need for haste I always advise sowing for *Asparagus* and my sole reason is that it is cheaper.—W. H. LODGE,

PLANTS FOR ABROAD.

YOU recently printed a letter from M. Corveon about the difficulty of importing plants from England, and the same difficulty exists in Italy, due to a misapprehension on the part of the British P.O. authorities. They ask for an Italian permit for importation before posting plants, and the Italian Ministry of Agriculture will not give this permit because it is not required! I have twice had *Roses* from Mr. Easlea and *Carnations* from Mr. Douglas by parcel post with no trouble (perhaps their post offices were in blessed ignorance of this ruling), but Messrs. Allwood could send me nothing because their local P.O. would not allow the parcel to leave without the Italian permit. It would seem in the interest of British growers to clear up this difficulty with their General P.O., and I hope your paper can help.—A ROMAN SUBSCRIBER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—If an early autumn supply is needed, a small sowing of a white variety should be made at once. Sow the seeds thinly in pans of light soil, place them in a warm, moist house, and when germination is apparent keep the young plants near the roof glass to prevent them being drawn. When the seedlings are large enough, prick them off in boxes of good soil, and when they are well established gradually harden them off.

Turnips.—On a warm border a few lines of Turnip seed may be sown, selecting a white variety, such as Snowball. The drills should be 1 ft. apart, and the thinning of the seedlings ought to be done as early as possible. This is just a chance crop, larger sowings being made a few weeks later.

Cauliflowers.—Early Cauliflowers are often in demand, so it will be advisable to make a small sowing of First Crop or Magnum Bonum directly the ground is suitable. Sow the seeds thinly and transfer the young plants to their permanent quarters when they have made three or four leaves. Cauliflowers enjoy a generous soil, and it should be well dug and liberally manured a few weeks before it is needed. Protect the seed-beds from birds if necessary. An occasional sprinkling of soot will hold slugs in check until the plants become too large for these marauders.

Globe Artichokes.—If these plants have been protected with leaves or straw litter, the material should now be removed or dug in between the rows. New beds can be made from side shoots or suckers, planting them in lines 5 ft. apart and half that distance between the plants.

The Flower Garden.

Delphiniums.—These delightful perennial plants are readily raised from seeds, and I can recommend this method of propagation. A large percentage of seedlings will produce flowers quite up to or above the average. Seeds should now be sown in the open ground in drills 1 ft. apart, just covering the seeds with fine soil. Slugs are often the cause of failure with these plants, so it is advisable to give the seed-bed a generous sprinkling of soot. When the young plants are large enough, transfer to an open piece of ground where it is intended for them to bloom. Named varieties may be increased by cuttings directly the new shoots are large enough for removal from the parent plant. They will form roots if placed in a cold frame. A number of "annual" varieties are in commerce, and they ought to be borne in mind, because they bloom freely towards the end of summer.

Fruit Under Glass.

Figs are often grown under glass, and the trees can be planted out in a border or grown in pots or tubs, the latter method being often adopted, as the Fig thrives best in a somewhat restricted root-run. The growths of trees planted out should be trained over the trellis, which ought to be about 2 ft. from the roof glass, and in tying in the shoots, overcrowding must be avoided. Figs will bear at least two crops during the year, the most important being the one that is produced on the current year's growth. Pot trees may be placed outside until there is space in the orchard-house, and any trees brought in during March or April will produce a later crop. The repotting should have been done, so when growth is well started the roots may be fed with liquid manure, and after being brought inside they must not suffer from the lack of moisture at the base. Seldom is a house devoted solely to Figs, but success can be attained by growing them with other fruits and affording them similar treatment. When the new growths are 5 ins. or 6 ins. in length, pinch out the centres to assist in the formation of fruits.

The Hardy Fruit Garden.

Protection of Blossom. Some material should be in readiness for protecting the bloom of such trees as Peaches, Nectarines and Apricots on frosty nights. Light shading material or canvas is excellent, but care must be taken to prevent it flapping against the flowers during the night, and if poles are placed at intervals in front of the trees less injury is likely to accrue. Fish netting of double thickness can also be recommended, but whatever is employed it ought to be removed directly the temperature rises above freezing point.

T. W. BRISCOE

(Gardener to W. R. Lyaght, Esq.),
Castleford, Cheshire, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Shallots are very useful, especially in gardens which are much troubled with the onion fly. They should be planted as soon as the state of the ground will permit. The ground having been dug, or torked over, it should be raked smooth, the line should then be stretched and the Shallots planted along the line 4 ins. apart, the bulbs being pressed into the soil half their depth. A foot should be allowed between the lines.

Horseradish.—If not already attended to, a fresh plantation should be made. Well enriched and deeply wrought soil is necessary for the production of strong thongs. Plant pieces 1 ft. apart and 1 ft. between the lines.

Lettuces.—Where an early sowing was made in gentle heat, the seedlings should be pricked off into boxes of moderately rich soil as soon as they are large enough to handle. Prick out at about 4 ins. apart as they should be allowed fully to develop in the boxes.

Sea Kale.—Lift the remainder of the crop and select the strongest crowns for forcing. Sufficient secondary crowns should then be planted when weather permits for next season's supply. Plant in rows 2 ft. apart, allowing 18 ins. between the plants in the row. Sea Kale requires a rich soil with a little salt in it.

Mustard and Cress.—It will still be necessary to make weekly sowings indoors as the plants do little good in the open before April and in any case are always more tender and succulent when grown quickly in a little heat.

The Hardy Fruit Garden.

Strawberries.—Dig between the lines of old plantations and then apply a top-dressing of half-decayed farmyard manure. The latter supplies nutriment to the plants and conserves moisture during the summer.

Fruit Under Glass.

Vines.—Both in the early and later houses the temperature should be gradually raised, 1° a week being sufficient. Attend carefully to ventilation, avoiding cold draughts however. Utilise solar heat as far as possible. Damp the pathways in the morning, and in the afternoon when shutting up the houses. It is a mistake to use the syringe too freely, especially during wet or dull weather. If air roots appear it is a sure sign that too much moisture is being applied.

The Orchard House.—As the more precocious trees come into flower they should be assisted in the matter of pollination by being sharply tapped sometime during the forenoon. Damp the pathways twice a day in bright clear weather, but in dull or wet weather the afternoon damping will be sufficient; the aim should be to maintain a buoyant atmosphere without admitting cold draughts.

Late Tomatoes.—A sowing should now be made for cultivation in frames or other cool structures. In order to ensure vigorous plants from the start the seeds should be sown singly, at a distance of about an inch apart. A temperature ranging from 55° to 60° will be suitable for them.

The Flower Garden.

Early Chrysanthemums.—Cuttings of these will now be plentiful, so sufficient should be taken and inserted for next season's display. There are two methods of preparing the stock, the first is to insert the cuttings rather thickly in pots, 5 ins. pots being a suitable size. When rooted the cuttings are potted off singly in 3-in. pots and are gradually hardened off preparatory to planting. The second method, which entails less labour and produces quite satisfactory results, is as follows. Prepare a sufficient number of propagating boxes by placing a good layer of fibrous loam in the bottom and filling them up firmly with a rather sandy compost. Then, having prepared the cuttings, insert them at 2 ins. or 2½ ins. apart, and when rooted harden them off gradually and plant out direct from the boxes.

Geraniums. The hey-day of their popularity is past, but Paul Crampel and even Henry Jacoby still have their admirers. They should now be potted from the propagating boxes into 3½ in. pots and accommodated in ainery that has been started.

CLAS. COMFORT.

Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mans, Middlethian.

GREENHOUSE AND CONSERVATORY.

Luculia gratissima is a beautiful plant for the greenhouse or conservatory, especially if it can be planted out in a well drained hed or border. In fact, this plant is never long happy under pot cultivation. It produces its large trusses of fragrant pink flowers during the autumn and winter months. During February it should be pruned back hard and kept rather dry at the root until it breaks into fresh growth, which it will soon do if the plants are sprayed several times each day during bright weather. This plant is very subject to attacks of begonia mite, which, however, can be prevented by the use of a sulphur vaporiser. This has always, and not without reason, been considered a difficult plant to propagate. Cuttings should be made from the young growth when it is some 3 ins. to 4 ins. in length, and will root either from nodal or internodal cuttings. They should be inserted singly in thumb pots in light sandy soil, plunging the pots in a close propagating case with slight bottom heat at command. One of the chief factors of success is never to allow the cuttings to flag. *L. pinciana*, the only other species, has white flowers, but it is not so generally cultivated as *L. gratissima*.

Daphne odora (more generally known as *D. indica*), on account of its delicious fragrance is always a great favourite, but is by no means an easy plant to cultivate successfully, especially in pots, and is generally seen at its best when planted out in a well drained border in the conservatory. The trade growers usually graft this plant on stocks of a stronger-growing species. The plant, however, is quite easily propagated by means of cuttings taken from healthy plants, using medium-sized shoots about 3 ins. in length. They are best inserted singly in small pots in a compost of sandy loam and peat, plunging the pots in a close case with slight bottom heat. This plant requires free drainage and careful watering at all times.

Maurandias.—There are several species of *Maurandias* which are very useful as climbing plants for furnishing wires and rafters in the greenhouse during the summer months. They are all easily raised from seed sown at this time, and as they will flower the same season it is just as well to treat them as annuals. Their cultivation presents no difficulty as they grow quite well in any ordinary potting compost, and they may be grown in pots or planted out in beds or borders in the conservatory. The principal species are *M. atrosanguinea*, *M. Barclayana*, *M. crubescens*, *M. scandens* (syn. *Lophospermum scandens*) and *M. semperflorens*. *M. Purpurea* has a perennial root stock which may be stored dry during the winter. This species is not a climber like the others, but makes slender shoots about 2 ft. in length, which require to be supported by neat stakes.

Ipomœa rubro-cœrulea is another annual climber which should be more generally grown for the summer decoration of the greenhouse, as its wonderful blue flowers attract much attention. It is easily raised from seed sown at this time and again later on in the season to give a succession of plants. This plant requires rather careful cultivation, care in watering being essential; it is also subject to attacks of red spider, which should be prevented or kept in check by the use of the syringe. The plants should flower well in 6 in. pots and may be neatly trained round supports or allowed to run up strings or wires under the roof glass. They will also do well if they can be planted out in well drained beds or borders where they can get plenty of light. In the south this plant sometimes thrives when planted outdoors in warm, light soil against a south wall.

Royal Botanic Gardens, Kew.

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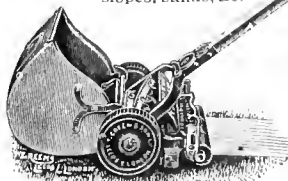
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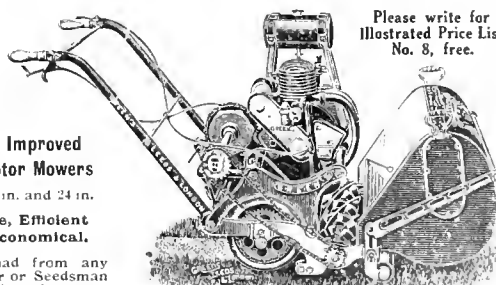
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The Twin Flower.—The Twin Flower of northern forests, *Linnaea borealis*, is the delight of all who can please its capricious nature and the despair of all to whom it will offer no response. Yet it is not as difficult a plant as many alpine. What it chiefly needs is a cool root-hold in a sweet old vegetable mould and, if possible, a half-buried and mossy decayed stump over which it can send its prostrate trailing growths which, root as they proceed. A half-shaded or quite-sunless spot appears to suit this plant best, although when established it will often do well in full sun. Frequent sprayings during the first summer, with shelter from parching winds, are undoubtedly helpful. The two flowers, which are borne on short, erect stems at intervals along the creeping branches, are a delicate rose pink and indescribably dainty. *L. americana* (*canadensis*) has rather larger blossoms of a slightly deeper colour. This form which, by the way, is more amenable to cultivation, flourishes all through the more westerly woods of the Canadian Rockies and extends right down to the sea in British Columbia making any moist and mossy place its home.

Potentilla rupestris.—Though rare as a native, being found only on one or two limestone elevations in Western Britain, this *Potentilla* has been brought to our rock gardens from the Alps and won a foremost place among the best of its race. From a short, woody stock it produces a bold tuft of fresh green leafage, from the centre of which the 12 in. to 18 in. flower-stems rise in the later summer. These bear at the tips of their many branches large, pure white, golden-centred flowers which at first glance recall those of the Grass of Parnassus. Once established in a warm and sunny, freely drained "pocket," with a lump or two of old mortar at the root, *P. rupestris* will carry on for many years without any attention whatsoever. *P. pygmaea* of catalogues appears to be none other than a miniature form of the above and a very dainty little plant it is.

An Elegant Woodland Plant.—For a cool soil, or bog, with or without shade, *Gillemia trifoliata* is a plant whose grace of form will win it a place among the choicest *Spiraeas*, to which it bears some affinity. This is a herbaceous perennial, quite hardy, growing up to about 2 ft., and making a bold mass of its three-lobed leaves and many-branched stems which terminate in the flower sprays. These latter are not showy, nor are they produced in any great abundance, but the little white stars are very refined and delicately beautiful.

Potentilla nepalensis Willmottiae.—It is only on account of its long blooming season this *Potentilla* would rank high among rock plants, for it is the first to come into flower in early spring, and carries on until nearly Christmas. It has, however, other claims to attention, among which is the lovely cherry red of its wide-open flowers with their eyes of jet set off by anthers which sparkle with gold dust. *P. Willmottiae* is, moreover, very easy to please, asking no more than a sunny spot in any free soil, and there it will prove quite hardy and permanent. It is as neat and orderly in shape as it is beautiful, and seldom exceeds about 6 ins. in height.

A Good Yellow Foxglove. There is much to be said for the yellow Foxglove, *Digitalis ambigua*, as a plant for the sunny or shady border, or for naturalising in the woodland garden or shrubbery. Though much lower in stature than the common native species, *D. ambigua* is very rigid and erect, not given to being blown over, nor does it look shabby when the bells begin to fall. The prettily tapered spikes (about 10 ins. rise from a tufty rosette of long, pointed leaves of a rich green, and smaller leaflets of the same narrow form grow upon the lower parts of the flowering stem. This

species has, moreover, a perennial nature to recommend it, and it will, as has been suggested, produce self-sown seedlings in any suitable situation. The flowers are a good size and much superior in colour to those of *DD. lutea* or *leucophylla*.

United Horticultural Provident Society.

The Monthly Meeting of the United Horticultural Benefit and Provident Society was held in the Royal Horticultural Society's Hall on Monday, February 12th, Mr. Charles H. Curtis presiding. The Chairman reported the death of the Treasurer, Mr. Thomas Winter, and votes of sympathy to the widow and daughter were passed in silence. Mr. Arthur Bedford, being appointed Treasurer,

resigned his position as committeeman and Vice-Chairman, Mr. W. H. Divers being elected Vice-Chairman *pro tem*. Final arrangements were made for the Annual Meeting on March 12th, at which Mr. Charles H. Curtis will preside; members are urged to attend that evening.

FORTHCOMING EVENTS.

February 27.—Royal Horticultural Society's Fortnightly Meeting.—Lecture at the University College, Gower Street, London, W.C.1, at 5 p.m., by Dr. W. B. Brierley, on "Soil Fungi."

March 1.—Lecture at the University College, W.C.1, at 5 p.m., by Dr. W. B. Brierley, on "Soil Fungi."

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Achillea ptarmica, double white, 3/-. **Aconitum**, large tall blue, 6/-. **Agrostemma Flos-jovis**, crimson, 3/-. **Alyssum**, Gold Dust, 3/-. **Alpine Pinks**, brilliant colours, 3/-. **Alpine Pinks**, white or bright pink, creeping, 4/-. **Anchusa italica**, tall, deep amethyst blue, 4/6. **Anchusa** Drooping, large blue, 6/-. **Anchusa myosotidiflora**, masses of deep gentian blue, white eye, lovely for rockery, 6/-. **Achillea**, Perry's Double White, 6/-. **Achillea** Kelwayi, fine crimson, and Cerise Queen, 6/-. **Alpine Wallflowers**, yellow or orange, 1/4; bright mauve, 2/-. **Alyssum montanum**, rare Alpine, fragrant, bright yellow, summer flowering, 6/-. **Antirrhinum**s, new large-flowering, in all the new art colours, separate or mixed, strong bushy, autumn sown and transplanted, 2/5. **Antirrhinum**s, strong autumn sown, best mixed (not transplanted), 1/6. **Anthemis** Kelwayi, fine golden yellow, 4/5. **Anthemis styriaca**, for rockery, silvery foliage, white flowers, 6/-. **Aquilegia**, best long spurred, one year plants, 4/5; Kelway's double and single, mixed, 3/5. **Aubrietia**, rich purple, 2/5. **Aubrietia**, new large-flowering hybrids, 4/5. **Auricula alpinus**, lovely varieties, 4/6. **Balm**, fragrant, 1/4. **Brompton Stocks**, one year old plants, Scarlet Giant and mixed, 3/5. **Brompton Stocks**, strong autumn sown (not transplanted), 1/6. **Campanulas**, dwarf rockery, etc., blue or white, 6/5; tall, 4/5; pyramidalis, two year old, 6/5. **Canterbury Bells**, year old, single, white, blue or mixed hybrids, 1/6; double pink, white, blue, and single pink, also cup and saucer, mixed colours, 3/5. **Candytuft** (perennial), masses of lilac or white, charming for rockery, 6/5. **Carnation**, good border, 3/5. **Carnation** Grenadi, splendid brilliant scarlet, double border variety, grand plants, 3/6. **Centaurea montana** (perennial Cornflower), large fringed blooms, blue, white, 3/5; mauve and new pink, 4/6. **Cheiranthus** (Siberian Wallflower), 1/4. **Chelone barbata** (holster flower), 4/5. **Chrysanthemums**, strong rooted cuttings, early, mid or late, best varieties, 2/6. **Chrysanthemum** maximum (Ox-eye Daisies), enormous bloom, in flower for months, California, Mrs. Lothian Bell, Robinson, etc., 3/5. **Chinese Pinks**, lovely colours, 3/5. **Cistus** (Rock Rose), charming for rockery, bright flowers, in trails, 3/5. **Corydalis grandiflora**, 3/5. **Cornflowers**, Kelway's, blue, 1/6. **Daisies**, new bedding, enormous blooms, intensely double, pink or white, 1/6; crimson quilled, 1/9. **Delphinium**, beautiful hybrids, one year plants, 6/5. **Delphinium**, best named, large two year old roots, 9/5. **Deutzia** Lemoinei, lovely pink and white hybrids for pots or border, sprays of lovely bloom, 9/5. **Dianthus**, new large-flowering bedding varieties, double or single, all colours, 1/9; very dwarf, compact and creeping for rockeries, 3/5. **Evening Primrose** Aterfallow, lovely new perennial variety, large yellow, 4/5; macrocarpa, very new dwarf variety, 6/5. **Erica**, bright flowery evergreen, alpine heath, lovely for rockery, pots, etc., large plants, full of bud, 9/5. **Erigeron stenactis** superba, mauve, 4/5. **Erysimum** Golden Gem, charming for rockery, old walls, etc., 1/4. **Forget-me-nots**, *Myosotis alpestris* vitrea, large-flowering, dwarf, blue, 1/6; fine deep Indigo or royal blue, 1/6. **Foxgloves**, new glorioxia-flowered, yellow or white, 2/8; ivory, spotted or purplea, 1/6. **French Honeysuckle** (not a climber), trusses, rich red flowers, 4/5. **Fuchsia**, hardy crimson bush, 6/5. **Funkia** (Portul Lily), lovely pure white, scented, 8/5. **Gaillardia grandiflora**, beautiful new hybrids, 3/5. **Galega** (Goat's Rue), mauve or white, excellent for cut bloom, 3/5. **Geum** Mrs. Bradshaw, large double scarlet, large two year old, 9/5; three year old, 12/5; Glory, very fine double scarlet, 6/5; coccineum, semi-double, bright scarlet, 4/5. **Gladiolus**, best large-flowering hybrids, many lovely new sorts, 1/9. **Gypsophila paniculata**, well known gauze flower, 4/5; glabrata, dwarf, for rockery, etc., 1/9. **Harpalium** (perennial Sundew), best sorts, 3/5. **Heuchera sanguinea** splendens, 6/5. **Helianthemum** (Sun Roses), bright colours, for rockery, 4/5. **Hesperia** (Dane's Violet), fine spikes, fragrant, purple or white, 3/5. **Hollyhock**, doubles, 6/5; single and semi-double, 4/5. **Hypericum** (St. John's Wort) large yellow flowers, evergreen foliage, creeping, 4/5. **Iceland Poppies**, Excelsior strain, 3/5. **Indian Pinks**, 2/5. **Iris**, large Flax, separate colours, white, mauve, yellow, blue, purple, 6/5; mixed, 4/6; puntia, for rockery, 4/5; hispanica (Poor Man's Orchid), lovely for cutting, 3/5. **Isatis** (Wood), rare handsome border plant, 4/5. **Kniphophia** (Forch Lily), 6/5. **Lavender**, fragrant, Old English, sturdy, bushy, two year old, 6/5. **Lily of the Valley**, strong flowering crowns, 3/5. **Linum**, lovely blue Flax, 3/5. **Linaria** dalmatica, spikes yellow, blotched orange, 3/5. **Lobelia cardinalis**, tall spikes, rich scarlet, 4/5. **Lupin**, Tree, yellow or white, 6/5; polyphyllus, pink, 4/5; blue or white, 2/8. **Lychnis**, new Salmon Queen, 6/5. **Lychnis coronaria**, silvery foliage, crimson flowers, 3/5. **Malva moschata**, musk scented, large, pink or white, 4/5. **Monarda** (Bergamot), Cambridge Scarlet, 6/5. **Myrtle**, fragrant bush, white flowers, 9/5. **Onopordon**, handsome Thistle, 6/5. **Panacea**, best large-flowering Burnout, Bismarck, Masterpiece, etc., also separate colours for bedding, purple, white, light and dark blue, Golden Queen, red, yellow, 1/6. **Pansy**, Coquette de Poissy, lovely bedding, mauve, 1/10. **Pulmonaria** (Jerusalem blue Cowslip), very rare, large two year old roots, 12/5. **Papaver** Oriental Queen, extremely handsome, 6/5. **Pentstemon**, lovely large-flowering and scarlet, 4/5; gentianoides, blue shades, 3/5. **Pewee**, large blue, evergreen, 4/5. **Pea**, Everlasting, white, pink, red, 6/5. **Pinks**, coloured, 1/9. **Potentilla**, double crimson, 4/5. **Primulas**, lovely hardy varieties, assorted, for rockeries, bogs, borders, etc., 5/5. **Paeonies**, 9/5. **Phlox**, separate colours, 6/5. **Polyanthus**, one year old, choice mixed, 2/6. **Papaver pinnatifidum**, showy orange-red, 3/5. **Pyrethrum**, Kelway's hybrids, 4/5. **Rose Campion**, deep crimson, 3/5. **Sweet Rocket**, 3/5. **Rudbeckia** Newmanii superba, 6/5. **Rudbeckia** Golden Ball, double, 6/5. **Saponaria** acymoides, dwarf trailing, 3/5. **Saxifraga**, mossy, crimson or pink flowering, 6/5; white, 4/5. **Sweet Scabiosa**, enormous blooms, dwarf or tall, fragrant, 2/6. **Scabiosa caucasica**, large exquisite mauve flowers, large two year old plants, 12/5. **Shasta Daisy**, 3/5. **Sedum hybridum** rubrum, 4/5. **Silene compacta**, pink, 1/4. **Solidago** Golden Wings, 6/5. **Solomon's Seal**, 3/5. **Stachys** (Lamb's Wool), 3/5. **Star of Bethlehem**, 1/6. **Sweet William**, choice hybrids, double and single, 1/6; new Scarlet Beauty, Pink Beauty, Crimson Beauty and Double White, 3/5. **Thrift**, compact pink flowering 2/5. **Tritoma** (Red-hot Poker), 6/5. **Tussilago** (Winter Heliotrope), very fragrant, 6/5. **Tunica Saxifraga**, edging or rockery, 3/5. **Verbascum**, large tall golden yellow, 6/5. **Valerian**, crimson, 3/5. **Veronica** gentianoides, dwarf, and spicata, tall blue, 4/5. **Violas**, Bath's bedding, from seed, yellow, blue, purple, white, mauve and good mixed, 1/9. **Wallflowers**, not transplanted, blood red, ruby, pink, golden yellow and new large-flowering hybrids, 3/6 100. **Siberian and Alpine Wallflowers**, for rockeries, edging old walls, etc., in flower for months, very bright and pretty, 4/5 100.

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" sanguinea -	5 -	-
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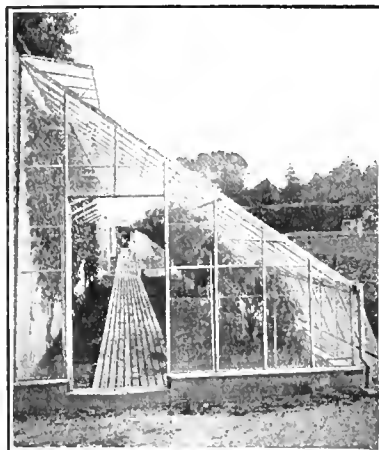
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THE GREENHOUSE.

ARUM LILIES UNSATISFACTORY (T. S. C. Hunt).—

The source of the trouble with the Arum probably lies much lower down than the foliage, and is no doubt to be found in the rotting of the corn through the attack of a soft rot bacterium which also attacks various widely grown crops like Turnips. The organism is often distributed in water used in watering plants, and attention to securing a pure water supply is very important. The corns should be examined and all parts showing signs of rotting should be cut away and burnt, while washing in a weak disinfectant might be an advantage. They should be repotted in fresh soil and in sterilised pots with sterilised crocks. Sterilisation of pots and crocks could be effected by boiling in water.

FRUIT GARDEN.

GOOSEBERRY BUSHES DISEASED (M. of M.).—

The Gooseberries were heavily infected with American gooseberry mildew, and should not have been sent out from the nursery. The distribution of such bushes rightly comes under the ban of the Diseases and Pests regulations, and the nurseryman should be called to account for sending them out. The introduction of them to the garden is a menace to the health of other Gooseberries there. The bushes should be cut back severely and all prunings burnt.

HOW TO TRAIN A NEWLY PLANTED CHERRY TREE (Curious).—As the tree was planted just before Christmas, the roots and soil will have settled down, and the branches may be fastened to the wires or nailed to the wall. The Morello Cherry bears its fruit on the young shoots—those grown during the past year—so these must be retained and tied in. Simply cut out any surplus shoots that would cause overcrowding.

KITCHEN GARDEN.

GROWING CARROTS IN A FRAME (A. L. M.).—We

presume that our correspondent sowed seeds of an early variety—one suitable for frame culture. A gentle heat from a bed is the chief inducement to rapid growth. A little air must be admitted at all times, except when frost occurs. If the glass lights are kept closed too much top growth will be made at the expense of the roots. The early varieties rarely possess large leaves and, at the stage when the first young leaves form, the growth of the plants seems to be very slow. As the days lengthen and the sun gains power the Carrots will grow more satisfactorily.

MISCELLANEOUS.

DAFFODIL BULBS ATTACKED (S. L.).—The bulbs

sent for examination are attacked by eelworm. They should not be planted out, as they are likely to infect the soil, but would be better burnt.

SEEDS FOR EXAMINATION (Mrs. W. Cheshire).—

The sample sent for name and stated to be the seeds of the New Zealand Palm consists of a mixture of fruits and seeds. The latter, which are black, are almost certainly those of a species of *Cordyline*, probably *C. australis*, known also as *Dracaena australis*, which is a palm-like species belonging to the Liliaceae group of plants. The small fruit has not been recognised.

PLANT FOR IDENTIFICATION (W. F.).—The plant

sent for identification is *Billbergia nutans*. It is a native of Brazil, but will do well in a warm greenhouse or room. The most suitable soil is a mixture of peat, leaf-soil and loam in equal parts, to which has been added some sharp sand. Free and perfect drainage is necessary for these plants, and a layer of moss should be placed over the crocks in the bottom of the pots to prevent the soil from working down among them. Little water is necessary, just sufficient to keep the soil moist.

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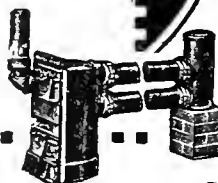
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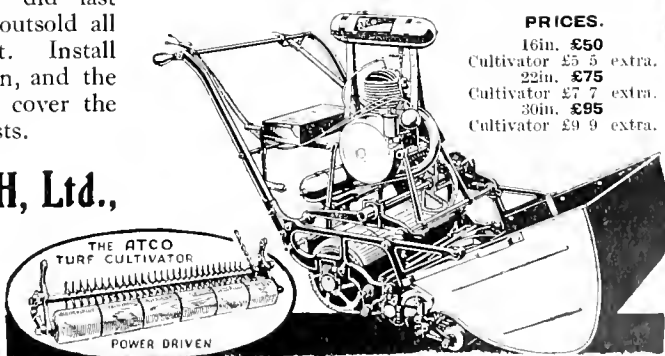
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No. 2676.—VOL. LXXXVII.]

[MARCH 3, 1923.]

LILY PICTURES IN THE GARDEN

THERE are some garden pictures that one never forgets! It is years ago now that I left a grey old West Country house and crossed the smooth, closely mown lawns sloping gently to the banks of a gurgling brook, that gave the limit to the garden and the beginning to the wild. It was spanned by a bridge, if an affair of rough planks can be dignified by a name that conveys an idea of something so much more elaborate. Beyond it a brown track wended its way through odorous stretches of wild Mint towards an opening in the thin woodland that skirted the banks of the stream, offering a note of invitation to the unknown beyond. It was late in the day, and the boles of the trees rose dark against the western sky, aglow with the warm colour of an early autumn sunset.

Stretching westwards from this opening was a long glade that had evidently been cleared by some garden-lover endowed with that prophetic vision that is essential to success in all garden developments. It was not too early in the year for a few leaves to rustle slowly earthwards, and stray patches of bracken had already begun to take on that golden tint that precedes the ruddy brown of later days. Here and there throughout the clearing broad masses of Azaleas had been planted, and their foliage was now ripening to its fall. In early summer their wealth of colour had taken sole possession of the scene, but now, even that enchantment was rivalled by a climax of colour that seemed to glow in sympathy with the glory of the sunset.

Other vegetation there was, the dying purple of heather, the brown-red tints of Andromedas, the dropping fire of Maples, scattered masses of Loosestrife and Willow Herb along the woodland fringes, with a few purple flowers still straying among the warm browns of the ripened foliage, and somewhere in the shadows glowed radiantly some berried plant. Spindle Wood, perhaps. But the glory of the picture was not all in the riot of autumn-tinted foliage, nor in the deepening shadows of the woodland, that enclosed the scene on two sides, nor in the ever-changing wonder of the

western sky, but in all these, and the gorgeous masses of Tiger Lilies that lifted their orange splendour at irregular intervals throughout the picture. On through the glade the vision swept, and because the land beyond it fell away from sight, it seemed that the sombre track led on through the crimson, orange, auburn, sepia, purple and brown straight towards the iridescent sunset glow. As I looked the light passed slowly from the earth, the purples in the woodland deepened to darkness, and where but a short while ago all was rich colour and radiant light, now the scene was

one of shadowy indefinite forms. And it was well, for in that moment this garden effort had achieved its climax. In that moment Nature and garden art had united in one grand triumph, and never has mind of man reached a higher and truer conception of garden beauty than in that Orange Lily garden.

This is but one of many lily pictures, and with them all there is an indefinable charm that appertains to no other flower in the garden. For there is in the Lily itself a sort of regal atmosphere of enchantment that separates it from all other

flowers, whether it be the white purity of the Madonna, the orange splendour of the Tiger, the bloody wonder of the Scarlet Turncap, or the pearly delicacy of the Regal Lilies; all breathe a sweet freshness into the garden that they adorn that lifts them to an altitude far above their fellows.

"Lilies, the daughters of the dawn,
Folded in hoods of silver lawn
And shod with dim leaves green and grey;"

Why, all through the ages it would seem that there has been a custom to call any flower that possessed attractions out of the common, "Lily," until the common names of many flowers without the slightest claim of relation to the genus, are known as something-or-other Lily, as though in this genus floral evolution has reached its limit of progress, and sets the standard for the world of flowers.

The pictures that can be created in the garden with Lilies are many, and the positions in which they can be grown successfully as numerous. But of all these none offers the charm of association that is obtained by growing them in a setting of foliage of shrubs or trees, in those parts of the garden that form the link between the imperative formality of the garden near the house, and the wilder beauty of nature beyond the garden boundaries. Woodland walks, where in the half shade many varieties love to grow, and where the falling leaves have from year to year enriched the soil and rendered it light and open, is an ideal place for them. Planted among Azaleas and Rhododendrons they are particularly happy because the soil that suits the one is



THE SPLENDID ROYAL LILY, *LILIUM REGALE*, AND
L. WILLMOTTIÆ.

exactly what the other loves. Nothing could provide a more thrillingly beautiful picture than a mass of the easily grown *Lilium regale* planted in such a position. Flowering in July it fills in a gap after the earlier *Rhododendrons* are over, and indeed there are few that are planted in the average garden that are not over long before this period. Year by year the bulbs are getting more plentiful, and it is highly probable that if there had been no Great War, this would have been one of the best known, and most frequently cultivated Lilies in the garden by this time. For one thing it is easily raised from seed, and often flowers in the second year, and certainly in the third year from sowing. Perhaps the greatest charm of the flower lies in the pearly texture and the beautiful pink tint that creeps through the white, owing to its being externally coloured with a gradually diminishing shade of red-brown, which shows through its translucent segments.

Another Lily that is essentially for woodland planting is the towering Himalayan Lily, *L. giganteum*. The great mistake in planting this Lily, that is made annually by the impatient, is the using of very large bulbs, and it makes some enormous ones, too. Large bulbs make growth freely enough in the earlier stages, but do not make a corresponding quantity of root wherewith to sustain such luxuriant growth, and in consequence, unless conditions are exceptionally favourable, one finds them reaching a height of several feet in a very short space of time, and then ceasing to grow, finally collapsing in ignominious failure to sustain their early promise. Planted, however, in moderate or even small-sized bulbs, among shrub-berries, or on the fringes of woodland, where the soil is well drained, but not dry, they possess no

attributes that make them difficult of cultivation, but many that make them highly desirable.

It is a far cry from the giant just mentioned, with its 12 ft. to 14 ft. of majestic stature and numerous flowers, to the delicate little pink *rubellum*. Delicate in colour only by the way, as it is one of those that naturalise well under reasonably favourable conditions, and its fragrant rose-pink flowers seen rising from the young fronds of ferns, in their soft green tints during May are indeed a revelation of pure beauty. Ferns and Lilies! is there any combination that offers so subtle a suggestion of garden delight? I wish I could say that the beautiful *L. Krameri* was as persistent as *rubellum*. They resemble each other, although *Krameri* is much the better flower of the two, but it cannot be regarded as so permanent a planting. Plenty of sand in the soil appears to be the secret of growing it well, and I remember a box of bulbs that had been bedded in pure sand to keep them firm for late planting, and was overlooked. The result was a box full of really fine blooms.

As I am writing solely of Lilies for the outdoor garden, it is not necessary to notice such sorts as *sulphureum*, *nepalense*, *neilgherrense*, and other varieties that are not for the garden picture maker, but in at least one case the influence on outdoor Lilies has been felt. *Sulphureum* crossed with *regale* has produced some really remarkable results. The yellow interior of *regale* has been intensified, the long flower of *sulphureum* has been introduced into *regale*, height has been increased, and all the charm of *regale* remains emphasised and intensified in a race that flowers several weeks later, and has a remarkably robust constitution. Of the remaining Lilies suitable for woodland

planting, some in the more open portions, others in the more shady, are the *auratum*s, of which *L. auratum platyphyllum* is by far the noblest, the most robust and in every way the best. Given a fair chance in an open peaty root-run, where its roots are partially shaded by overhanging vegetation, it will produce magnificent stems that carry enormous flowers. Like all the *auratum*s its pungent, overpowering odour renders it a little too voluptuous for the small room indoors, but breathing its redolent perfume on the atmosphere of an August evening is a pure sensual delight. I have already mentioned the wonders of the Tiger Lilies in such conditions, and the best of them is, of course, *L. Fortunei giganteum*. It is in every way the tallest and most imposing of the group, and I have known it succeed for periods that have seen the disappearance of the *speciosum* group under the same conditions. It must not, however, be inferred from this that the *speciosum*s are difficult to grow in the average garden. Far from it! they are, indeed, among the most successful. Of the coloured forms *melpomene* and *magnificum* are the best, although the ordinary form, *roseum*, can be relied upon to produce some wonderful flowers. Of the whites, *speciosum album Kratzeri* is the best all-round variety for garden purposes.

Space forbids dwelling on the Martagon group although the English garden without its Martagon Lilies is an incomplete thing, and they succeed almost anywhere. The white form is beautiful indeed, but by no means plentiful. One of the most startling achievements of recent years is the result obtained at Sutton Court by the crossing of Martagon and Hansonii. The resulting race shows an almost inconceivable variation and among them are many that appear to be more



THE BEAUTIFUL FALL ORANGE LILIAM HENRYI.



THE SHADE-LOVING YELLOW AND CHOCOLATE LILIAM PARRYI.

vigorous than either parent, and with many new and delightful colour developments that will ensure for them an important place in the Lily world.

Among Lilies for the border, none are more attractive than *L. Henryi*. It is, perhaps, a little too tall to look comfortable, but there is a unique value in its rich apricot-yellow flowers and a grace of form in its curving reflexed segments that places it in a class entirely its own.

Of many other garden Lilies I cannot speak now, but there are a few by their constitution fitted for the moister places in the garden, by the stream side, in damp depressions along the woodland margin, and they have therefore a value all their own. *L. pardalinum* is one of them, a Californian species of which there are one or two varieties, and it will spread itself freely under satisfactory conditions, which are not in any way exacting. Its orange, crimson-spotted flowers are a joy in the July bog garden. *L. Parryi* is another moisture-loving species which is not always easy to obtain, but when it can be grown it produces a flower of a wonderful shade of yellow spotted with warm brown. *L. canadense*, the Canadian bog Lily is another that desires similar conditions and thrives well under them, and its brilliant orange-red colour is unlike any other. Of many of the very old Lilies I can say nothing now. Such are the *Madonna* (*candidum*), *croceum* and the *Yellow and Scarlet Turk's Caps*. Nor can I mention many of the new varieties, but I am writing for the ordinary garden and the ordinary purse, so it is as well that there is a limit to my space.

In all this world can there be one who, loving the beautiful things around, does not love Lilies? I believe not! but if there is, then for that one

there remains a greater joy than has hitherto fallen to his or her lot. For such coldness can only be due to lack of acquaintance with them, and with knowledge will come a full appreciation of their grace and beauty. I have only touched the fringe of all that this wonderful flower world contains, and have only indicated a fraction of the garden pictures of which they are capable of producing. Do you as an artist want inspiration for the interpretation of pure grace and elegance of form? as a poet, a symbol for all that this world holds of the true and good? as a humble worshipper at Nature's altar, the supreme satisfaction that comes from the love of her finest and noblest achievements? as a preacher or teacher, lessons for use in everyday life?—you can find them all in the Lily. Nor can you be in any way original in this, for poet, painter, sculptor, teacher, throughout the ages have been before you. Throughout all time, it is the flower that most consistently have noble men laid at the feet of beautiful women.

GEORGE DILLISTONE.

THE INVALUABLE GLADIOLUS

PLANTING-TIME has come round again for the late-flowering Gladioli. The early-flowering *Colvillei* and *Ackermannii* varieties are, of course, best planted about November and given protection in severe weather. It is therefore of the late-flowering varieties I purpose to write to-day. The Gladiolus, at any rate in its best types, has a beauty of form and of colouring second only to that of the Lily. Its value in the garden scheme is thus at once apparent, but it has the advantage of being available for situations where no Lily would succeed. Since the corms only remain in the ground for a few months, there is no need to worry as to what may happen to the bed or border in winter-time. Neither flood nor vermin outdoors will disturb the Gladiolus, then safely stored away in a cool but frost-free place.

The Gladiolus likes a rich soil, but dislikes rank, unrotted manure. The land should be deeply worked, and if rather on the stiff side so much the better. It must be in good working condition at planting-time—it is better to wait a few weeks than to plant in soddened or lumpy ground. It is certainly wise to surround the corms with coarse sharp sand—very coarse silver sand is good. Mulching in dry weather and, when the spikes are developing, soakings of fairly weak liquid manure are beneficial.

The large-flowered *Childsii* hybrids are cheap to buy and excellent for massing in the herbaceous border. The same may be said of the brilliant scarlet *G. brenchleyensis*, which may also be used effectively in the wild garden. This is very effective when planted so that its spikes contrast with the greenish ivory bells of *Galtonia candicans*. A selection of cheap large-flowered sorts would include Halley, ruddy orange, blotched yellow;

Mrs. Frances King, bright salmon pink; Panama, deep rose, very large; Peace, a fine white; Princeps, scarlet, rather early; Baron J. Hulot, violet; America, soft lilac rose; Niagara, nankeen yellow, striped soft lilac; Glory of Holland, pure white; and Empress of India, darkest maroon.

Effective as such varieties are when massed, some of the beauty of the individual spikes must necessarily be lost where more than half a dozen or so are grown together. The choicer and more elegant varieties certainly look best when grown in groups small enough for the carriage of the individual plants to be observed. This particularly applies to the graceful *primulinus* hybrids. In this (*primulinus*) section are to be found the most beautiful Gladioli yet in existence—exquisite in form, glorious in colouring, coyly gracious—altogether charming. Numbers of beautiful varieties have been described in *THE GARDEN* during the last twelve months and it is difficult to select a best dozen, but, taking price into consideration, the following twelve would be hard to beat. *Unsurpassable* is a tall variety with large wide-petalled flowers not inaptly described as of Caroline Testout colouring, *i.e.*, bright pink, shaded silvery white, but the colour is cleaner than in the well known *Rose*. *Alice Tiplady* is "everyone's favourite." The blossoms and spikes are shapely and the colouring is orange-saffron. The best yellow to date is probably *Butter Boy*, but until it becomes cheaper, either *Anita* or *Canopus* will give pleasure; both are delightful. We cannot omit *Linton*, with

charmingly ruffled petals; the upper segments are salmon pink deepening to the edge and the lower ones golden yellow veined rose. The brilliant orange *Niebe* must not be left out nor the exquisite *Nydia*. The latter is an idealised apple blossom pink—no apple blossom ever had quite so much



GLADIOLUS UNSURPASSABLE, OF CAROLINE TESTOUT COLOURING.

salmon shading—and of beautiful form. For its dazzling colour *Scarletta* must be included; the flowers are scarlet outside and fiery cinnabar within, a brilliant and remarkable variety. *Woodcote*, one of the fine varieties raised by Major Churcher, is perhaps the best *primulinus* hybrid raised in Britain; it compares very favourably, in fact, with any in commerce. The colour is coral scarlet with a soft yellow blotch on the lower segments, and the shape of the flowers and their arrangement on the spike is all but ideal. At 2s. per corm or less most of us may aspire to grow this gem. *Orange Brilliant* is a small-flowered orange variety, very graceful and admirable for cut flower and quite cheap. Another variety by the same raiser (*Grullemans*) and also cheap shall have the tenth place. This is the soft pink *Maiden's Blush*. The deep yellow and orange *Enon* would have had earlier mention, but is slow to increase and consequently still dear. Perhaps the salmon buff *Cassandra* is eligible for the twelfth place in the writer's estimation, but it must be admitted that someone else might select a dozen and not include more than three or four of those mentioned, so wide is the selection available.

AMATEUR.

SOME MARSH-LOVING PRIMULAS-I

Primula sibirica and its Allies.

IN this extensive and popular family there are several groups of species which are readily distinguished from each other by their characteristic appearance, as well as by the various conditions under which certain species are found growing. In the alpine group the majority are rock-loving plants, growing in the stony crevices and on the rocky ledges of the mountains. Others are woodland plants, which delight in shady or half-shady situations, growing in rich soil composed mostly of humus. Then we have a very large group, to which *P. sibirica* belongs, the members of which grow in marshy ground or where there is always plenty of moisture. They are mostly of easy cultivation when given these conditions and are readily raised from seeds, which need to be fresh, otherwise they take a long time to germinate.

During the last few years many new *Primulas* have been introduced from Western China and the borders of Tibet. Among these are some which are closely allied to the older and better-known Siberian *Primula*, and which will flourish under the same conditions. Some of these are mentioned below. There are others which are not closely allied to *P. sibirica*, but which enjoy similar conditions under cultivation. These will be dealt with later.

P. sibirica has a very wide distribution in its various forms, occurring on all the Himalayan range from Western Tibet to China, and through North and Central Asia from Europe to North

and Arctic America. It is a slender-growing plant with a tuft of long stalked leaves from which the flower-stalk is produced. This varies in height according to conditions from a few inches to 1ft., and bears, usually, an umbel of rosy pink flowers in May. The type comes from Siberia, and has been in cultivation since the beginning of last century.

P. WARDII, here illustrated, is a later introduction from the marshes of Western Szechuan and the Tibetan frontier, being found by Wilson in Fa-chien-lu in 1903 at an elevation of from 9,000ft. to 13,000ft. It was exhibited at the Temple Show of the Royal Horticultural Society in 1907 as *P. sibirica* var. *chinensis*. More recently found and sent home by Forrest and Ward, it has turned out to be a most desirable plant. It differs chiefly from *P. sibirica* in its larger, more or rosy pink flowers and in the larger involucre bracts at the base of the umbel. Of robust habit, it grows from 6ins. to 1ft. high, and is very free-flowering, producing its blossoms in May.

P. CONSPERSA is also a recent introduction from Western Kansu, where it grows at an elevation of 5,000ft. to 9,000ft., and was found by Farrer and Purdon in 1915. It is a rather weaker-growing plant than the above, producing quite a mat of its tufted green leaves, from which slender stems arise to the height of 1ft. or more. The rich lilac flowers are borne in whorls, two or more on the same flower-stalk, according to the strength of the plant. In this country it flowers in April.

P. TIBETICA, also illustrated, is a native of the Himalayas on the borders of Tibet. It was originally found by Sir J. Hooker on the Sikkim frontier of Tibet some seventy years ago. Its introduction we owe to Mr. A. K. Bulley, whose collector, Mr. Cooper, found it in Bhutan in the Eastern Himalayas and sent seeds home in 1915. It is a high alpine species, growing at an elevation of 10,000ft. to 17,000ft. Closely allied to *P. sibirica*, it differs in having a shorter scape, while the pedicels bearing the individual flowers are very long. It is a charming little plant with its rose-coloured flowers having a yellow eye.

P. LOOZII is another little plant from Kansu. It is more closely allied to *P. farinosa*, and is characterised by having runners which produce offsets like a Strawberry. The leaves are covered with meal as in *P. farinosa*, while the flowers are of a pale lilac colour, borne in umbels on a stalk a few inches high.

P. INVOLUCRATA.—This is a well-known Himalayan plant which has been in cultivation for nearly eighty years. It is a good perennial, which increases freely when planted in a moist situation where water is within reach of the roots. In early spring the flowers are produced on slender stems 6ins. to 8ins. high. These flowers vary in colour from creamy white to pale blue, although the latter shade is rarer than the white. This species is readily increased by division in early spring or late autumn. One of the synonyms by which this plant is known is *P. Munro*. W. L. J.



LIKE A VERY FINE *P. SIBIRICA*, PRIMULA WARDII.



THE ROSE-COLOURED *P. TIBETICA*.

THE HERBACEOUS LUPIN

THE plants about which these notes will be written are listed in nurserymen's catalogues under *Lupinus polyphyllus*, but is perhaps safer simply to call them herbaceous Lupins, for many of them have, we know, "blood" of *L. arboreus*, and

embracing shades almost as vivid as the "electric" blues which a few years ago were fashionable for feminine wear.

The original rosy pink tones will probably be familiar to all readers. They are very pleasing when the blossoms first expand, but as the flowers go over the spike takes on a very unpleasing bluish tone. In some of the newer varieties this tainting has been largely overcome: so much progress has, indeed, been made as to warrant hope that this disagreeable fading colour may be entirely eliminated. Much deeper pinks have recently been produced; indeed, the variety *Downer's Delight* is much more strawberry red than pink, a colour, in fact, which would be useful in some places but is not an easy colour to combine with others. Besides these deep pinks there is now a new series, of which the colouring is a combination of pink and buff or pink and yellow.

Pure white varieties are now plentiful, so that in a long herbaceous "colour border" it is possible to use Lupins to provide early summer colour in every section. Individual tastes, too, can easily be suited. For those who like pastel shades they are there in plenty, while lovers of really robust colouring will find little lack.

Messrs. Clarence Elliott showed last year at the Royal Horticultural Society's Hall a very

beautiful strain with a great variety of colouring which was noticeably fragrant. Fragrance is a

very desirable attribute of any flower, and this strain well deserved the award of merit bestowed upon it. Messrs. Kelway and Son of Langport were one of the pioneer firms with this useful and beautiful flower, and some of their named varieties are exceedingly attractive. Mr. Geo. Downer of Chichester has a strain which every season seems to produce new and distinct varieties. Messrs. Harkness and Sons of Bedale also have their special strains. Their great speciality is in the yellow-pink and buff forms, to which reference has been made. In addition to the firms mentioned a number of Continental nurserymen are, and have been, working upon this flower, so that further great advances may be confidently expected.

The Lupin, though thong-rooted, is fairly easy to propagate by division. It is, of course, of the easiest culture from seeds, but there is with some of the newer shades small likelihood of the plants coming true to colour. Any decent garden soil suits these accommodating plants, which seem equally at home in herbaceous border or in the wild. They flower at the same time as the tall June-flowering Bearded Irises, and with their present range of colouring are exceedingly useful for associating with these gorgeous and very fashionable flowers.

There is, however, no particular reason why the Lupin should always "play second fiddle" to the Iris. The plant is not wanting in dignity. It is not very tall certainly, but it holds itself erect. The self-coloured forms when massed give a solid effect of colour which few Bearded Irises could approach. (Not all Bearded Irises flower like *Caterina*, for example, or a different tale might be told.) The value of *Lupinus* in the semi-wild garden was demonstrated by the pictures published last year in *THE GARDEN* (July 1, page 315) of semi-wild gardening at Cator Court, Devon. There they are associated very effectively with the single white form of the Rocket (*Hesperis-matronalis*).

Especially if restricted to one colour, or one colour and white, the Lupin is admirable for massing on the edge of woodland. It looks almost as "at home" and natural there as the Broom or wild Mallow. Some of the very pleasing soft lavender shades are perhaps best for such groupings, but the pink strains are unexceptionable also.

When all is said, the list of hardy June-flowering plants is not a long one, and no garden to-day can afford to be without these herbaceous Lupins.

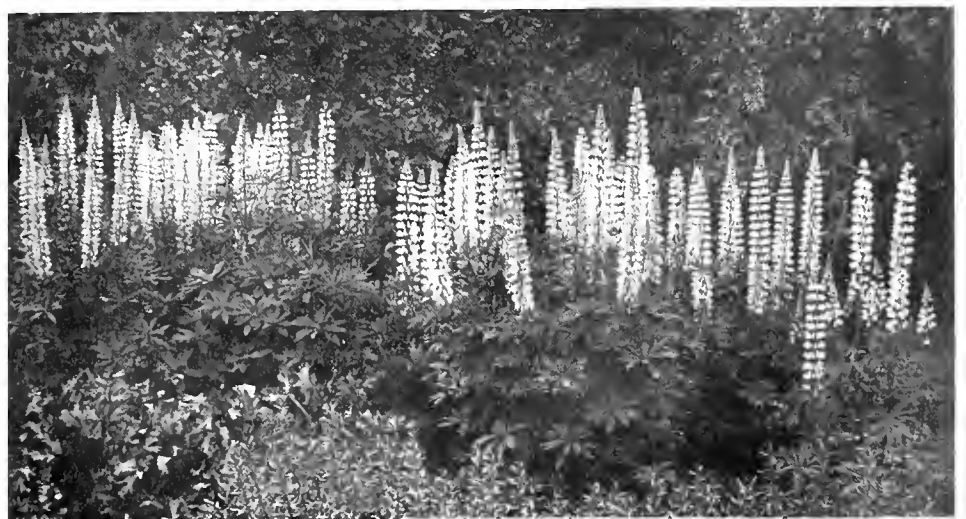


THREE TYPICAL HERBACEOUS LUPINS.

there is every reason to suppose that other species have been pressed into service to produce the wide range of colouring which now exists. Indeed, we have heard it said—but perhaps it is better to let such parentage problems rest. As there are no patent rights in plant production, the raiser's only resource is to "keep his mouth shut."

Not so many years ago the Lupin was a rather neglected herbaceous plant; indeed, it was worse than neglected—for, owing to changing fashion, extremely worthy plants become neglected it was despised. The colourings then commonly seen were a dismal purplish blue and an even more dismal dirty white. True, even in those days a rich deep blue almost devoid of purple was in existence and a moderately pure white, but they were rarely seen. Then, from more than one source, pink varieties made their appearance and created something of a sensation. The break in colour aroused interest in the plant, and to-day we are on the threshold of a Lupin "boom," if, indeed, it has not set in.

From a delicate creamy mauve to the strongest and richest blue-purple and from an equally faint blue to a deep rich "navy" practically devoid of red runs the colour range in blue tones,



LUPINS IN THE BORDER.

PERPETUAL-FLOWERING PINKS

ONE of the great achievements of the modern hybridist is to extend the flowering season of a number of the most popular flowers. A decade ago the Rose was practically a summer-flowering garden plant. Now its blossoming period extends to a time when winter puts an end to all outdoor flowering.

The average person is apt to regard the Pink as a summer flower with a very limited blooming period. The white variety Mrs. Sinkins is very familiar, but apart from its fragrance, its splendid habit and the decorative value of its fine, glaucous foliage in winter, it has little else to recommend it. It is a ragged-looking flower and nearly always

Since then many new and more beautiful varieties have been evolved. There are many new colours already in commerce, several of them now at a popular price. All are of easy culture, and they are readily propagated by means of layers or cuttings.

A SELECTION.

The following are likely to become the most popular:

Model has flowers faultless in form, the edges being as if dressed. It is a soft rosy pink with a deep red base, and apart from its exquisite shape it is very free-flowering.

Queen Mary is another rosy pink of different form. The edges of the petals are not quite as

cleanly cut as those of Model, but they are not far from the ideal. A deep crimson colour is at the base of the petals, and this gives the flower a rich and telling appearance. The calyx is very strong and, what is also important from a decorative point of view, the blooms can be cut with stems from 15 ins. to 18 ins. in length.

Mrs. G. Walker is a bright pink with a dark rosy red base. It has a splendid constitution, and it is remarkable for its floriferous character. It is very highly perfumed.

Victory is a deep ruby crimson quite unique in colour. It is also very free flowering, has the clove fragrance very pronounced and is a good doer. These four varieties have all received an award of merit.

Three other kinds that have been much admired at the shows during the past year are Sweet Nell, a soft rose with a deep red centre; Gertrude, a finely formed rosy mauve with a purple base; and The Imp, a dark crimson self.

The remaining standard varieties include Dickie Felton, salmon pink; Comedy, rose mauve; May Queen, bright pink; Simplicity, cherry red; Imperial, a brilliant crimson-scarlet of dwarf habit; and Ruby, of the same character and a colour described in the name.

SOME NOVELTIES.

Notable new creations include Bridesmaid, a magnificent flower of salmon blush colouring with a deeper centre; Lord Lambourne, a distinct shade of deep rose; and Red Indian, another unique colour, a pretty shade of old rose. All these received the award of merit at the Chelsea Show of 1922.

A sensational colour break has occurred in the newer varieties in the form of an orange scarlet self of vivid hue. It has been named Fire King, and promises to be one of the finest Pinks that

has so far been produced. Every up-to-date flower-lover should try some of these splendidly free and continuously blooming fragrant hardy flowers.
NORMAN LAURET.

SMALL-GROWING SHRUBS

IT is a very common mistake to plant trees and shrubs in gardens without due consideration being given to the character of the shrubs when they become fully grown and the general effect they will have then. In my youth I saw old experienced gardeners making this mistake. It had been a failing with their forebears, too, and it is still in evidence. To digress just a little. How many otherwise charming carriage drives and main pleasure paths are spoiled through the too-close planting of trees and shrubs to them? Thousands of finely grown trees—mainly evergreen—have been spoiled through being cut back indiscriminately to prevent the closing-up of the passage between them.

I have recently inspected a number of villa gardens in and near to a beautiful town. Quite 90 per cent. of those gardens contained shrubs too large for them. Many shrubs had been hacked about to enable the owners and their visitors to pass by them. Their general appearance had become unsightly, many were quite out of character and others were dying.

In large gardens it is absolutely necessary to "fill in" with temporary shrubs and trees; in small ones it may be advisable to plant, temporarily, certain shrubs. But those specimens intended to remain permanently should always be planted with due consideration as to their ultimate size, so that there may be full development consistent with the space available, and that the natural beauty of each may be seen to the best advantage.

If there is only room for a dozen shrubs, why plant two dozen, unless it is intended that the surplus ones shall be removed in due course? Unfortunately, there is much reluctance to part with them and they are left until they cause damage to the choice specimens.

SOME DECIDUOUS FLOWERING SHRUBS.—The following are suitable for small gardens where they may grow to full size without undue mutilation. *Cydonia Maulei superba*, *Daphne Mezereum*, *Escallonia Philippiana*, *Forsythia suspensa*, *Hydrangea paniculata grandiflora*, *Magnolia stellata*, *Philadelphus Lemoinei*, *Prunus japonica flore albo pleno*, *Ribes sanguineum atropurpureum*, *Robinia hispida inermis*, *Spiraea Menziesii triumphans*, *Sophora viciifolia*, *Lilacs*, *Viburnum tomentosum plicatum*.

DECIDUOUS FLOWERING TREES.—*Æsculus carnea* Briotii, *Amelanchier canadensis*, *Catalpa bignonioides*, *Double-flowered Thorns* (white, rose and scarlet), *Laburnum alpinum*, *Magnolia conspicua*, *Prunus Amygdalus* (Almond), *P. Avium flore pleno* (double-flowered white Cherry), *Pyrus Aria majestica*, *P. floribunda atrosanguinea*, and *P. spectabilis flore pleno*.

SOME EVERGREEN FLOWERING SHRUBS.—*Berberis stenophylla*, *Chiosya ternata* (for sheltered borders), *Kalmia latifolia*, *Olearia Haastii* (does well in dry borders), *Rhododendrons*, *Veronica Traversii*, *Viburnum Tinus* (*Laurustinus*), *Yucca glottosa* and *Y. recurvifolia*.

SOME SHRUBS AND TREES BEARING FRUITS.—*Arbutus Unedo*, *Barberries*, *Thorns* in variety, *Euonymus europæus*, *Hollies* in variety, *Pernettias* in variety, *Pyrus* in variety, *Sambucus racemosa*, *Skimmias* and *Viburnum Opulus* (wild Guelder Rose). *Fuchsias* should be more freely planted in small gardens, especially *FF. Riccartoni*, *globosa* and *macrostemma*.
GEORGE GARNER.



DIANTHUS HERBERTII MAY QUEEN.

bursts its calyx when opening. It has a very short blossoming period. This latter failing is the chief drawback of the Laced and Self Border Pinks. They are for such a long period flowerless plants.

Some years ago Mr. C. H. Herbert succeeded in raising a new type with an extended blooming period. By crossing two of the Laced Pinks, Arthur Brown and Robert Haulgrave, the former with purple lacing and the latter with red, he produced a variety which he aptly named Progress.

THE PIONEER OF THE NEW RACE

This new variety was of lovely rosy mauve colouring. It was a flower of perfect form and had a non-splitting calyx. The plant had a vigorous constitution and the flowers were carried on strong stems so that no staking was necessary;

THE SMALL-LEAVED RHODODENDRONS

Among the very many new Rhododendrons introduced from China during the last twenty-five years no section is more distinct and valuable than that comprising the dwarf alpine species.

IN every rock garden of any extent at all dwarf shrubs can be used most effectively. If these shrubs are attractive when in flower so much the better. Quite a considerable number of the newer dwarf-growing Rhododendrons are, therefore, admirable for the rock garden. Another important consideration is that some of the Rhododendrons bloom rather early, and the sheltered nooks available in most rock gardens are ideal places for them.

With the diminished possibilities as regards expenditure, largely increased attention is being given to the outdoor garden and particularly to the choice shrubbery. In such a shrubbery, if the soil is lime-free, Rhododendrons of comparatively dwarf growth fittingly find a place.

Though the liberal heating of so many green-houses is being abandoned, their use as cold houses for the protection of early-flowering Rhododendrons is deserving of attention. The taller-growing bushes can be planted out in borders and rockeries formed for the dwarf species, while some may also be cultivated in pots on the stages and moved outside in summer from, say, June until September or October.

R. BRACHYANTHUM is a Yunnan species introduced by Mr. George Forrest in 1906. He describes it as a shrub 2ft. to 5ft. high growing on the Tali Range, West Yunnan, at 10,000ft. to 11,000ft. elevation. The oblong-lanceolate leaves are 1½ins. to 2½ins. long and up to 1in. wide. The sulphur

yellow flowers are bell shaped, up to ¾in. long and the largest blooms 1in. across. The flowers are borne in terminal clusters of three to six or eight blooms, each with a large pale green calyx suggestive of *R. glaucum*. The flowering season is June. This is a charming plant and evidently quite hardy.

R. FLAVIDUM is a very dainty shrub for sheltered positions in borders and the rock garden, as the flowers open during March and early April. It is a native of Western Szechuan, discovered by Soulié and named by Franchet, but for its introduction to our gardens we are indebted to Mr. E. H. Wilson. He collected seeds in 1904 and again in 1908, describing it as common in the alpine regions around Ta-chien-lu at an altitude



THE SPLENDID WHITE FORM OF RHODODENDRON MOUPINENSE.



RHODODENDRON INTRICATUM.

of 10,000ft. to 12,000ft. When first exhibited by Messrs. James Veitch and Sons, Mr. Wilson's plant was named by Dr. Hemsley, *R. prinulinum*, but it was subsequently identified as the species collected by Soulié and named *R. flavidum*. Mr. Wilson found wild plants up to 6ft. high, but its present rate of growth with us suggests that these must be very old specimens. Bushy plants 1ft. to 2ft. in height with small scaly leaves and primrose yellow blossoms 1in. across being the average.

R. HIPPOPHAEOIDES is one of the best half-dozen small-flowered and small-leaved evergreen Rhododendrons of recent introduction. It is a much-branched, rather upright-growing twiggy shrub 3ft.

to 4ft. or 5ft. high. There is considerable variation among the seedlings in the colour of the 1in. wide flowers, which are mauve, lavender or purple blue, bluish rose or rosy pink. These are borne in clusters of five to seven or eight at the ends of the shoots. This species seeds freely in gardens, and is also readily propagated by cuttings. In 1913-14 Mr. Forrest collected seeds in five districts of Yunnan at altitudes ranging from 10,000ft. to 14,000ft. Mr. Kingdon Ward also collected this species in 1913 in the Chung River Valley, Yunnan. It is a useful companion plant to *R. racemosum*.

R. IMPEDITUM is the correct name of the dainty purple-flowered alpine Rhododendron first introduced from Western China by Mr. George Forrest in 1911, when it was named and distributed as *R. fastigiatum*. It resembles *R. intricatum*, which, however, has the stamens within the corolla tube, while those of *R. impeditum* are distinctly protruding. *R. fastigiatum* is more open in habit, seeds freely and flowers about three weeks later than *R. intricatum*. Seedlings flower when two years old; in fact, when first introduced, several eighteen months old plants opened flowers in the autumn of 1912.

R. INTRICATUM.—This was the first of the purple-flowered dwarf alpine Rhododendrons introduced from China to flower in our gardens. Collected by Mr. Wilson in Szechuan at 11,000ft. to 15,000ft., it is perfectly hardy, but, flowering in April, should be planted in sheltered positions. Averaging 6ins. to 9ins. in height, the tufts increase in size, and if liberally mulched with leaf-mould, root freely into it and can be readily propagated by division. *R. intricatum* does not produce seeds with us, but cuttings on plants grown under

glass root readily in a propagating frame, for which purpose it is easy to lift a plant or two with good balls of soil.

R. MICRANTHUM. This is one of the most distinct of the small-leaved species. With its many-flowered racemes of small white blossoms the plant is not infrequently mistaken for a *Sedum*. It forms a bushy evergreen at present 2 ft. to 3 ft. high, but will no doubt grow taller. The two outstanding characters are that it flowers in June and is very hardy, being one of the strictly limited number of evergreen Chinese *Rhododendrons* hardy in the Arnold Arboretum, U.S.A. It is of wide distribution, being found in North and Central China and Manchuria. Our plants were raised from seeds collected by Mr. Wilson in Western Hupeh.

R. MOUPINENSE is this year flowering in February. No doubt because of the mild weather it is several weeks earlier than usual. There are pink and white flowered forms, the latter being the more common and perhaps the more beautiful. In habit, foliage and flowers (about 2 ins. across) *R. moupinense* suggests the Indian *Zinias*, so popular in our greenhouse. Being early and free-flowering I throw out the suggestion that it is worthy of cultivation for cool and unheated greenhouses. Outside, this *Rhododendron* should be planted in very sheltered positions. It is a native of Western China and Tibet.

R. NERIFLORUM is another charming and distinct addition to our cultivated *Rhododendrons*. In a wild state it must be a variable plant, being described as 2 ft. to 8 ft. high, the colour ranging from deep rose to deep crimson and flowering from April to June or July. One of the plants we had flowering at Kew was as rich in colour as *Thomsoni*. The bell-shaped flowers, eight to twelve or more in number, are borne in a terminal cluster. It was introduced from Yunnan by Mr. Forrest in 1906. Growing at 9,000 ft. to 12,000 ft. elevation, it should be hardy in most gardens.

R. OLEIFOLIUM. This species in some respects resembles (and for that reason is much confused with) the beautiful *R. racemosum*. The important distinction is that in addition to having larger leaves and flowers, the blossoms of *R. oleifolium* are borne singly or sometimes in pairs in the leaf-axils, whereas with *R. racemosum* there is usually quite a crowd of blossoms in each axil. Nevertheless, when raising seedlings the two vary so much it is sometimes difficult to say where one begins and the other ends, though typical plants of both are easy to distinguish. The flowers are white with a rose tint.

R. RACEMOSUM is one of the best known and most useful Chinese *Rhododendrons*. For massing in borders and for lawn beds it is a valuable evergreen shrub covered in April and May with quantities of small pink-tinted white blossoms. Produced in terminal and axillary racemes, vigorous plants may carry growth wreathed with 1 ft. to 2 ft. lengths of blossoms which are delightful to cut for decoration indoors. The first seedlings were raised in the Jardin des Plantes, Paris, in 1889 from seeds collected by Pere Delavay. Later introductions shew considerable variation in the rose and pink tints of the blossoms, particularly in the bud state, and there is also a white variety occasionally among the seedlings. One thing which troubles growers of numbers of plants is that they produce seeds very freely, which, if left to mature, considerably weaken the new growths. If the plants are to give of their best the removal of the seed pods is imperative.

R. SARGENTIANUM is another dwarf alpine species producing in May small terminal clusters of six to twelve pale yellow blossoms. It is a gem for the rock garden or the narrow border of choice shrubs.

R. SCINTILLANS is a very distinct species of the "fastigiatum" group. Its notable characters are a twiggy growth 2 ft. to 3 ft. or more in height, rich purple blossoms in April, and charmingly prominent golden brown anthers. Introduced by Mr. Forrest in 1913 from Yunnan, this promises to be a charming and valuable introduction.

R. SOULIERI in flower is one of the most captivating and distinct, with its glaucous leathery foliage and open saucer-shaped blossoms. One form has delicate rose pink flowers, the other waxy white flowers. Mr. Wilson, who introduced it first in 1905, describes *R. Soulieri* as a common evergreen shrub in Western China near Tachien-lu. Under cultivation, plants are not proving easy to manage, but as it is such a distinct and fascinating

Rhododendron we must keep trying plants under varying conditions until they grow with native luxuriance. Two plants grew and flowered well and produced seeds in shady woodland until the dry summer of 1921, but the liberal watering then necessary on our dry soil, despite a heavy mulch of leaves, was apparently unsuitable and both have since died.

R. WILLIAMSIANUM is of spreading prostrate habit in the early stages of its growth, though said eventually to reach a height of 4 ft. to 5 ft. in Western Szechuan, where Mr. Wilson collected seeds in 1905. The bell-shaped pale rose blossoms seem almost too large and heavy for this delightful plant to carry. Mulched liberally with leaf-mould the growths spread and root freely in it. A. O.

NOTES OF THE WEEK

READERS are reminded that if they have not already sent their mowing machines for repair and overhaul, they should do so without delay. It is a great mistake to let the grass grow unduly long in spring before putting the machine on it, a bigger one still to "carry on" with a machine "out of tune." Another word of warning may not be out of place. It has reference to the abuse of the roller. Nothing so delights the soul of the handyman or jobbing gardener as to roll the lawn when the roller makes a "good" impression—otherwise when the sward is wet. The roller should only be used on turf when the surface of the soil is almost dry or what gardeners would call (in a border), in good working condition. Some readers will, no doubt, be contemplating the purchase of a new machine or new roller. In the case of the latter, a fairly light one should be selected. A heavy roller has no place on a lawn, although it may be useful for paths. That is where a ballast-roller comes in! With regard to lawn-mowers there is no excuse at present for anyone to buy a foreign machine. The cheapest effective machines on the market are British made, while if a *model de luxe* is wanted (to quote the motor

trade) British machines are far in front of the foreign ones.

The Toothwort *Lathræa clandestina*, is a parasite growing on the roots of the Willow, Poplar, Hazel and *Rhododendron*. It prefers moist, shady situations, where it spreads quickly, making large drifts or patches, where its lilac or bluish purple flowers provide a very pleasing note of colour in April. Mr. R. A. Malby writes, "At Warley place in Essex I have seen the very fine rich-coloured form here portrayed growing in thickly clustering masses down to the water's edge in association with *Iris*es and *Primulas*, and the contrast of its rich *Crocus vernus*-like colouring with outlying drifts of the naturalised *Narcissi* there so much in evidence, providing a peculiarly attractive colour combination. The flowering period usually lasts from mid-April to the end of June, while the growth appears in February in the form of a mass of white scales, amid which the flowers develop in dense clusters. This curious plant ripens seed plentifully, and upon the capsules attaining maturity they violently burst, throwing out the relatively large seed to a distance of 3 ft. Not infrequently the plant dies out only to come up again with vigour several yards distant."



LATHRÆA CLANDESTINA.

CORRESPONDENCE

PRIMULA WINTERI.

IT may be of interest to your readers to hear that since the last week in November I have had a constant succession of perfect blooms on one plant of *Primula Winteri* in my back garden on the north side of Edinburgh. The simple requirements of this exquisite Himalayan treasure seem to be a north-east aspect, a liberal supply of leaf mould and stones about its roots, and a small square of glass over its head during the winter months. At any rate, this treatment has with me resulted in a wealth of beautiful sea-green leaves covered with farina and a display of from four to twelve delicately scented, luminous, rosy lavender flowers at a time, over a period which will certainly extend to three months, if one may judge from the buds still unopened. I bought the plant last April and could wish no garden lover a more delightful experience than it has afforded. Later I hope to divide it and so increase the joy it has given me and others.—ANNE CHURCH, *Edinburgh*.

THE TENERIFFE BROOM.

AFTER the "Mimosa" there is no tree-like shrub more commonly seen in the Riviera battles of flowers, and flower fêtes generally, than the Tenerife Broom, *Genista monosperma*. Its feathery white sprays of blossom are so elegant and contrast so admirably with the Carnations and Anemones that make the bulk of decorations that it is quite an indispensable adjunct, and is therefore much grown for market purposes. Many folk probably, like myself, have heard the remark made first by one and then another that its scent is overpowering and yet again that it has no scent at all! Such an apparent anomaly needs a little explanation, I think, as *both statements are true!* Botanists can tell us whether this Broom is really dioecious or not, but any gardener can tell you there are two forms, one of which is very strongly scented and bears seed. The other has no scent and is quite barren. The barren or "male" form has smaller flowers, neater growths and *no scent*, so as it is earlier in flower than the fertile or "female" form, it is the most commonly grown for market. But for the garden the larger-flowered and strongly scented plant is decidedly the more ornamental and desirable, though its lanky growths require a little judicious pruning after the flowering season. It would be interesting to know if its habitat on the volcanic cinders of Mt. Tenerife has anything to do with this rather unusual peculiarity of habit or variation. There must be something unusual in a climate when the drought-loving Broom and the moisture-loving *Cineraria* grow so close together. Of course the *Cineraria* is only an annual, and therefore does not survive the summer heats, while the Broom is a long-lived shrub of very tough constitution on a well drained soil, only succumbing to the wet blanket of an English winter. As far as resistance to frost is concerned I have no doubt it would stand more than 10° of frost on a dry volcanic soil.—E. H. W., *Nice*.

THALICTRUM ADIANTIFOLIUM AND ITS HARDINESS.

IN your issue for January 27 you have a letter *re* protecting *Thalictrum minus adiantifolium* in the winter, and ask for other people's experience. It will interest you to know that at my old home we had a plant planted by my grandfather about fifty years ago. This was never protected in any way, and still survived the moist, foggy weather so prevalent at Oxford, and during that period must have experienced several very severe winters.

I have the same plant up here, within a few miles of the mouth of the Tees, and in spite of the position being extremely wet (almost waterlogged) and shaded from all sun except for about an hour in the height of summer, it survived last winter (1921-22), which was particularly trying, and is at present shewing signs of renewed activity. — M. ODLING, *Marton, Yorks*.

THE MYROBALAN PLUM.

I NOTICE so many remarks on the earliness of the present season that I send a photograph which I took of a Myrobalan Plum tree growing in a yard here on February 11, 1913, when it was in full bloom. At the time of writing the buds are well advanced, but none has opened nor is likely to do so for many days, even if the weather continues mild. The value of this beautiful early-flowering Plum seems to be overlooked by planters. Large specimens in hedgerows or outskirts of shrubberies are very fine in early spring, and in a favourable season will bear freely and the fruits are much esteemed for bottling. We have several trees here near to public roads, and they are always much admired in early spring.—H. C. WOOD, *Lingfield*.

CHIRYSANTHEMUM TOKIO.

I AM extremely sorry to have caused Mr. Harman Payne such perturbation and hasten to apologise. I thought quite innocently that he might have misread a label or made a slip of memory. In a longish life I have more than once made a mistake and have comforted myself with two proverbial sayings, one, "*humanum est errare*" the other, "the man who never made a mistake never made anything." But I see, of course, that Mr. Harman Payne would not make a mistake. —G. H. ENGLEHEART.

[This correspondence is now finished.—ED.]

PRIMULA CHIONANTHA.

I WAS greatly interested in the splendid illustration of *P. chionantha* in the issue of THE GARDEN of February 3, and note that seed of this beautiful species is being offered by Messrs. Barr and Sons, Covent Garden. This handsome species hails from Yunnan, where it was collected about ten years ago by G. Forrest. It is still rare in gardens, but deserves to be more widely cultivated. *P. chionantha* belongs to the *nivalis* section. The foliage is somewhat fleshy and coated with golden farina. The flower-stem rises to a height of 15 ins. or more and is crowned with many whorls of pure white flowers about 1 in. in diameter, which are sweetly scented. Its cultivation is not so easy as some people would

imagine and, like the majority of the *nivalis* group, it has the unfortunate habit of rotting off at the collar during the winter months. We must bear in mind that *P. chionantha* in its own native habitat is completely covered with dry



THE MYROBALAN PLUM ON FEBRUARY 11, 1913.

snow for about six months of the year, hence the reason why in this country it is difficult to keep this beautiful *Primula* in a healthy state during the winter when planted out of doors. This evil may be overcome to a certain extent by thorough drainage, planting on gently sloping ground and working in plenty of gritty soil at the time of planting; this will help considerably to ward off some of the excessive moisture during the dark, wet days of winter. In some parts it may even require to be protected overhead with glass. Unfortunately, *P. chionantha* appears to be monocarpic, but sets seeds freely, which should be sown immediately they are ripe.—W. SCOT.

THE SEASON.

THIS winter, so far, is the mildest I can remember. Throughout December and January we have had a large vase of Roses in the house, renewed every two or three days, and there are still a number in the garden. Roses of all sorts are still flowering, not only the Hybrid Perpetuals which often linger through December, but also *Wichuraiana* Dorothy Perkins and single Roses, such as Irish Elegance. The following list of flowers was made on the last day of 1922, and on January 31, practically all still remained in bloom, with the addition of Snowdrops, and what should be Crocuses, but, unfortunately, the sparrows are destroying them as soon as they shew colour. The scarlet-berried Elder was flowering; *Prunus pissardi*, in a sheltered place, shewed leaf with flower-buds on the point of

opened, and I had cut some branches of Japanese Willow (*Salix matubilis*) with catkins rim-long. The New Year's list:—*Veronica rupestris*, *Escallonia*, Double Daisy, *Polygala buxifolia*, *Hypericum* (small species and also Rose of Sharon), Miniature Marigold (*Calendula arvensis*), *Saxifraga Burseriana*, White Thrift, *Violas* (various), Common Primrose and also Double White, San Remo market Anemone, *Daphne Mezereum*, *Astrantia major*, Silver-striped Lamium, *Sisyrinchium striatum*, *Linaria Cymbalaria*, *Specularia Speculum*, Pink Mesembryanthemum, Alpine Strawberry, *Pulmonaria* (from Como), white Centaurea, yellow Wallflowers, Arbutus, Burnet, Periwinkles (*Vinca major* and *V. media*), Alyssum, Chamomile, blue Cornflowers (from the Somme battlefields), *Helianthemum*, *Schizostylis coccinea* (Kafir Lily), *Veronica salicifolia*, Zonal Geraniums (*Pelargoniums*), *Cyclamen* (from Como), *Aconites*, *Laurustinus*, Winter Jessamine, Pink Carnation, Red Hot Poker, blue Hepatica, Christmas Roses, Violets—and the following plants from Hyères: *Genista* species, *Bellis sylvestris*, *Dianthus* species, *Spiranthes*, *Allium triquetrum*—Roses of many sorts and a wild flower which happened to catch my eye, the common Buttercup, not a winter flowerer as a rule. There are far more flowers in our Yorkshire garden now than could be found at the same date last year at Hyères on the French Riviera, but three which might reasonably be expected are missing. There is not a flower (so far) on the Winter Honeysuckle, *Chimonanthus* or *Iris stylosa*. The latter, which did so well here last year, has doubtless suffered from the lack of sun in the summer, but it is curious that the summer which failed to ripen the roots for flowering should have served to ripen seed, which is already sprouting, sown in a pot in the open. A number of Orchises brought from Hyères last year are shewing flower-buds in the rock garden. —RUTH BICKERSTETH, *Coltingham*.

"SPOTTINESS" IN PLANTING.

"A PAINTER'S" note in THE GARDEN of February 10 in criticism of the illustration, "Admirably planned and planted," which appeared in the issue of January 27, will no doubt interest those of your readers who, like myself, are glad to know how a garden picture appears to a maker of pictures. "Spottiness" is certainly an undesirable feature in a garden, though it is a fault somewhat difficult to avoid where the space is small and a desire for variety clashes with a love of breadth and mass.

As regards the little picture in question, I cannot say that I find "A Painter's" remarks, though interesting, altogether convincing. It is a very cool and refreshing little scene and, very possibly, was "admirably planned and planted"; though, to me, it recommends itself as having been neither planned nor planted, but as having come into existence at the haphazard prompting of Nature. If it was "planned and planted," the aim of the planner and planter was, I should say, to conceal his art and plagiarise from Nature; and, judging from the illustration, though things are not always what the camera would have us believe, the planner and planter has been fairly successful. One has seen dozens of such woodland vignettes—a runlet of water, a few boulders, half a rood or so of turf more or less irregularly disposed and pied with Daisies, a clump or two of *Lastrea* and *Polypody*, a fringe of grasses at the brook-edge, a little bog of sedge, a pool with a few plants of Water Docks or *Alisma* and, hemming all in from the rest of the noisy universe, a boundary wall of foliage, Holly, it might be, or Alder. That seems to me to have been the rough pattern which the planner and planter had present to his mind when he made his little

Eden, bettering his instruction, no doubt, by introducing Funkias, Irises, Spruces and other fine plants which Nature does not introduce into her woodland scenes in this country, but which she uses lavishly enough elsewhere. Where I seem to join issue with "A Painter" is in the exception taken to individual plants in a garden picture of this kind as "unrelated" to their environment, that is, as having no business there. I quite agree that it is unpleasant to feel that a plant has no right to be where it is; but that it happens to be a single plant, say, of Funkia or Burdock, growing near other things on the bank of a stream does not necessarily mean that it spoils the picture. It may be the very thing wanted to emphasise something else, as, with deference, I venture to think the Funkia is in this picture. Isolated plants, as well as broad masses, have surely their picture value. It is often true with plants as with other things, that the part is greater than the whole. The characteristic beauty of a plant is often lost in the mass, as the beauty of an animal is lost in the pack or herd. To my thinking the Funkia in the picture has a finer effect than if the whole bank had been one mass of the plant. I quite recognise that "A Painter" is less concerned with the beauty of individual plants than with the part they play in the landscape. I would only say that, even as a feature of landscape, breadth and mass, though much, are not everything. Also I venture to think that, all regard being had to the value of mass, the illustration in question seems to present a scene too small in scale to admit of much massing. —SOMERS.

FOREIGN-GROWN PLANTS.

AS we hear that certain undesirable Dutch firms are again flooding this country with their gaily-got-up catalogues, we think the following letter which we received last summer from a customer may interest your readers: "I should like to thank you for the way in which you executed my small orders for rock plants last autumn. My garden is now full of colour, and I am more than satisfied. The plants came so well packed and grown that I do not think I have lost one.

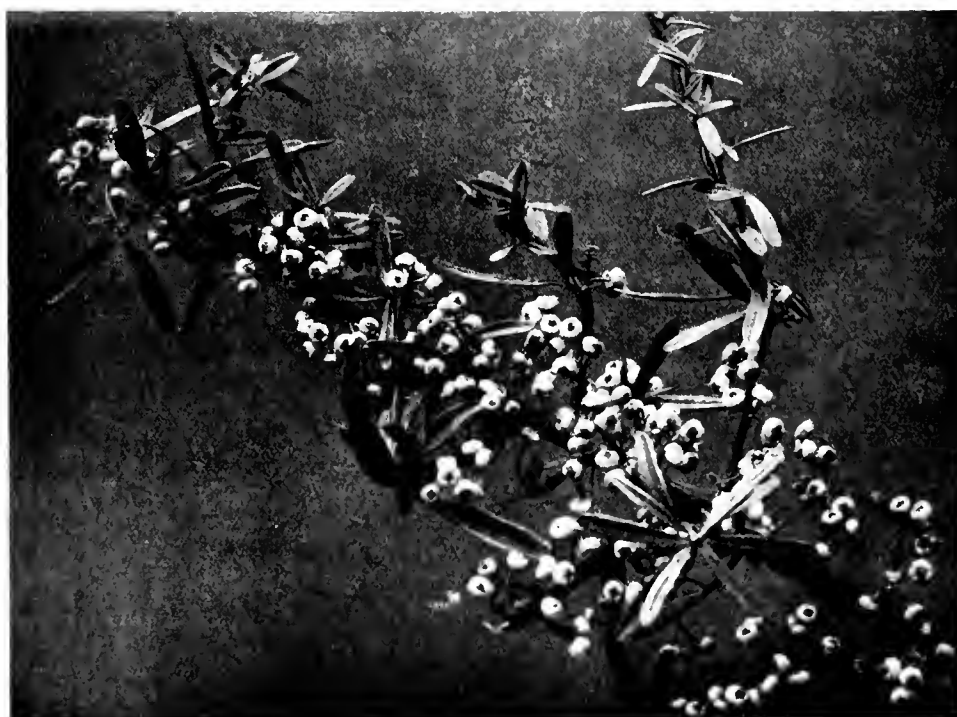
I had some of the same kinds of plants at the same time from a Dutch firm, and though yours were certainly about double the price, they are ten times the value." The opinion expressed by our customer is by no means exceptional, and it is really where the Britisher scores every time over the Dutchman by giving his customers a better article and better service than he ever gets from Holland. For obvious reasons we should prefer that you do not publish our name, as we have no desire for a gratuitous advertisement. —LONDON SEEDSMAN.

[The foregoing letter might be so construed as to cast a slur on the general commercial morality of our industrious and patient friends the Dutch. We are sure such is not intended. There are, of course, Dutch nursery firms of repute, but it is not these who make such tempting offers to the unwary. The difficulty of reclaiming comparatively small sums of money once sent into a foreign country makes it easy for unscrupulous tricksters to exploit a not unnatural desire to buy in the cheapest market. —ED.]

A FINE PYRACANTH.

I AM sending you a spray of a remarkable Cotoneaster I obtained some few years ago as *C. angustifolia*. I never see it included in your otherwise interesting articles on Cotoneasters and am wondering why. Although it was some years before it blossomed or fruited with me, when once it "made up its mind" to fruit, it did it to some purpose. It is one of the most beautiful plants imaginable for the winter garden, as the fruits do not reach maturity until the end of the year. The berries are a very effective yellowish orange. Some of the sappy growth has been cut by frost on one or two occasions, but it stands out in the open here in Warwickshire. —C. L.

The plant in question is a Pyracanth, not a Cotoneaster. *Pyracantha angustifolia* has often been described in THE GARDEN. It is certainly valuable for its late-fruiting. Its berries often retain their beauty until March, but it is not, as a rule, very free to fruit. It was originally sent out as a Cotoneaster and is still listed as one in some nursery catalogues. —ED.]



A FRUITING SPRAY OF PYRACANTHA ANGUSTIFOLIA.

HERBACEOUS PHLOXES

WHETHER we use these gorgeous plants as "clumps" among other flowers or segregate them into a border that is "all their own," working this up from purest white at one end to the most intense hues at the centre, and paling off again at the most distant point to the softest of rose and heliotrope, it is certain we shall possess a rich store of colourful material from June to October.

They are, in short, among the best and most gorgeous of hardy border flowers and will grow

make superb specimens. In any case, it is a mistake to allow old plants to remain too long, for as they grow older they become harder and more woody at the centre year by year, with the stronger growths at the outside, until eventually the plant perishes. Big clumps, such as are seen in large gardens or in public parks, are not the result of old-established plants that have spread to a large size, but are composed of several small pieces put in close together. Every year, after growth has well started, a good mulch of leaf-mould or well rotted manure should be spread over the soil to a depth of 2 ins.



A BORDER OF PHLOXES.

grandly in practically any soil if a little trouble is taken with them. There are people who "cannot grow Phlox," and indeed their plants are a testimony to this, but I venture to be sure that is not the fault of the Phlox or the soil, but due solely to omission of that "little trouble" which makes all the difference between success and failure.

Deep trenching and liberal manuring are the first steps in every case and, whatever the nature of the soil, this must be regarded as absolutely essential. The kind of manure used must also be considered, in connexion with the quality of the soil. Upon a light and porous one, nothing is better than that from the cow; while a stiff clay is immensely improved by the addition of plenty of "long" horse manure and wood ashes. Anything, in fact, that tends to improve the texture of your particular soil should be employed, leaf-mould and shoddy being especially valuable. Happy is the man upon whom beneficent Nature has bestowed a rich greasy loam; he may grow Phlox to perfection, with "pips" of unparalleled size; for the rest of us it remains to get our soil as nearly to this as possible. Bear in mind that trenching has a splendid effect upon the drainage and mechanical condition of the ground, but also remember that the Phlox is a surface rooter, and manurial substances at a greater depth than 1 ft. to 15 ins. are wasted so far as they are concerned.

For the planting season, early spring is the best possible time and old clumps may then be split up or young plants from cuttings used. If your Phlox have failed to satisfy you I strongly commend a trial of the latter method, for the plants invariably

or gins. This is of great assistance in conserving moisture, a very important point with surface-rooting plants. Cuttings are very readily rooted in spring when a couple of inches of growth have been made, and a large stock of healthy plants can quickly be worked up in this way. Older clumps invariably make too many shoots and these, to secure fine heads, must be thinned. The shoots removed serve as cuttings.

Under a bell glass in a cool greenhouse is an excellent place to root the cuttings. Rooting, in sandy soil, is speedily accomplished. Directly they are ready the young plants should be transferred to single pots in a cold frame. Give them rich soil and grow them sturdily, and within a short time they will be strong enough to plant out in the border. Most of these will produce a head of flower the first autumn, though at a lesser height than they attain in subsequent years and are then good for three years without further propagation, though where a large number of kinds are grown, it is best to propagate a few new plants each season rather than deal with them in a wholesale manner at one operation, for then there will always be a good display in the finest possible condition. Summer watering is an important point and one must never allow the plants to become so dry that the foliage droops, or the best heads cannot be expected. Nor, on the other hand, should watering be done too often, especially if it is put on through a hose from the water main. This is too cold and chills the roots, but, in many cases, it is the only means by which watering can be done. In this case it is best to water only when really required and then in such quantity that the whole of the ground will be

absolutely soaked and so remain moist for several days.

Varieties are so numerous and so much inter-crossing has taken place between *PP. suffruticosa*, *maculata*, *pyramidalis* and *paniculata*, that the original distinctions have almost disappeared and, by consulting a list of a specialist in these grand hardy border flowers, practically any colour and height can be obtained with different varieties flowering from June to October. Some of the newer varieties, however, have lost in size and shape of truss what they have gained in size of pip. For garden decoration the form and size of the truss is, next to the colour, the most important item of all.

H. W. CANNING-WRIGHT.

FRUIT TREE STOCKS

NOT a great many amateur gardeners, even of considerable skill, realise that fruit trees may be fitted into different sized spaces. The size to which fruit trees attain when full grown depends partly upon soil and partly upon position, but mostly upon the kind of stock on which the trees were budded before being sent from the nursery. This fact will be taken advantage of by those who wish to plant a fruit tree in a space of a certain size, or where more than one tree is to be planted in a limited area.

After a careful study of the growing capacity of different stocks—and this capacity gives a wide range of choice—it should be fairly easy to get a tree suitable for almost any position. Naturally, the shape of the tree will also make a difference to its suitability: whether bush, pyramid, standard or half standard; for the purpose of this article we may leave cordons alone.

The shape of the tree, however, also depends upon the stock: it is hopeless to attempt to obtain a standard from a tree grown on some of the weaker stocks, and it is just as hopeless to attempt to confine a tree on strong-growing stock to bush or quarter standard size.

Perhaps a few general hints as to the right stock for large or small-growing trees may not be out of place, but it should be remembered that there are a few kinds of Apples which will not flourish on every kind of stock. The choice, however, is far from limited and plenty of scope is allowed, Apple trees that are required to grow to large size should be on crab stock, while those required to grow only to a comparatively small size would be best on English broad-leaf paradise. In between these there are other kinds of paradise stocks that will serve the purpose.

Pears to grow to large size will need to be on pear stock, but no crop of Pears need be expected on trees on this stock for the first few years after planting. There is still a lot of truth in the old couplet, where pear stock is used—

"He who plants pears,
Plants for his heirs."

Pear trees to grow to smaller size should be on quince stock,

It ought, perhaps, to be mentioned that Apples on paradise stock will begin to bear fruit a few years before Apples on crab stock, but the difference is not nearly as great as in the case of Pears. Another point to be borne in mind before finally deciding as to the choice of stock is to remember that Apples on paradise stock are rather more liable to canker than Apples on crab stock, but in either case, if properly looked after, they will live and flourish for a good many years.

J. W. MORTON.

THE OLD ENGLISH HERBALS

THE Old English Herbals," by Eleanor Sinclair Rohde, is a book which is full of interest to all who include or who wish to include the ancient connexion between plants and diseases in their pharmacopæia of knowledge, doctors especially. To quote from William Clowes' introductory poem in Lyte's Herbal, if the reader will substitute lady for gentleman,

"And sure I am all English hartes that lyke of
Physikes lore

Will also lyke this gentleman: and thanke
hym muche therefore."

Gardeners, too, will like it. The history of plants is ignored by many, but this omission, I venture to think, is only because the past is a sealed book. Our authoress has opened one of the sealed chambers of that past in all she has told us about the manuscript herbals of our distant forefathers, and I am only sorry she does not make it clear that much of her knowledge has been extracted from a somewhat rare work, "Leechdoms, Wort-cunning and Starcraft of early England . . ." collected and edited by Oswald Cockayne in three royal 8vo volumes, 1864-66. It is an official publication of the Record Office, and from its size it is needless to say that Miss Rohde—although she has been a wonderfully busy bee—has not extracted all the honey. From manuscript she passes on to printed herbals, stopping short in her quaint extracts with Culpeper, whom one might almost describe as a super-popular quack, and Coles the lawyer exponent of the famous Doctrine of Signatures. It is a pity, for the book is good reading. Macer's Herbal, Turner's Herbal, Gerard's Herbal, Parkinson's Herbal and his Paradise, with many more, are dealt with, and as a sort of Grangerised addition a good many pages are given to "Sixteenth and Seventeenth-century Still-room Books." They are near akin to herbals; they have a good deal in common with books on cookery and just a little with the "vandy" bags of the twentieth century. "Bales for the face" and "Divers excellent sentes for Gloves" come under this category. This last heading is from a similar book by Sir Hugh Platt (c. 1630), which is not mentioned by our authoress, but which breathes the same spirit as Lady Sedley's Receipt book and the Still-room book of Sir Kenelm Digby. Platt's "Epistle" at the commencement of this book, "Delights for Ladies," is very quaint and shews him to have been a lady's man:

"Rosewater is the ink I write with all.

Of sweets, the sweetest I will now commend,

To sweetest creatures that the earth doth beare:

These are the Saints to whom I sacrifice,

Preserves and conserves both of plum and peare."

It is very hard to know where to stop and very hard to know what to put in and what to leave out in writing in the enthusiastic way that Miss Rohde does. But if ever a second edition is called for, might I suggest that more might be said about Dr. Agnes Arber's "Herbals." One book throws light upon the other.

Then in one or two cases references might be given to, or at any rate the name mentioned, of the book that has been used in the text. For example, if I mistake not, in dealing with the Vegetable Lamb (pages 143-5), Miss Rohde has had access to Henry Lee's "The Vegetable Lamb of Tartary," which might be called the chief stone-house of information on this very absorbing subject. There are a few slips in the text, as

for example on page 9, Sunflowers are said to have been grown in Saxon gardens; the date of "A little Herbal" printed by John King (page 200) is given as 1550, when King did not begin to print until 1555; and on page 195 an "e" has changed places with a "t" in describing

the town in which John Lelamour, a schoolmaster of Hertford, lived.

These little matters do not affect the general interest of a book which one feels has been, as the authoress claims in her preface, "a labour of love."

JOSEPH JACOB.

SEMI-NATURAL GARDENING

WE cannot help a feeling of sadness when we see the owners of our grand old establishments trying to keep up appearances with a much reduced income. Only the other day I heard of one of these cases which almost brought tears to my eyes. Not very long ago there was an elaborate, well kept formal flower garden situated close to the mansion in a noble park. The flower-beds are still there, but they are furnished in a different and not an improved style. Now, I think, in many cases where the limited income will not allow such beds to be furnished properly it would be much better to do without them and revert to a more natural style. I have no great love for masses of scarlet Geraniums and yellow Calceolarias anywhere, and when these have to be replaced by ephemeral annuals the effect is still more jarring on one's taste.

A greensward with hardy flowering plants and shrubs placed in suitable positions would certainly not have such a poverty-stricken appearance. There are many beautiful things in this way which will almost take care of themselves and, indeed, excepting in a formal terraced garden, which is partly architectural, I prefer them to formal beds. But they require an artist to arrange them. Pampas Grass, Tritomas, umbrella-trained Rambler Roses, Yuccas, Aralias and Bocconias are among those which occur to me at the moment, and there are many others, but it is well not to have too many. Among shrubs is *Pyrus japonica*, which makes a handsome bush, sometimes 2yds. or 3yds. in diameter. The silver-leaved *Picea Nordmanniana* is handsome as a small tree, and various *Barberies* are suitable; but not stiff-growing Irish Yews or the columnar Cypress. If the lawn is a large one, it may be permissible to have a bed or two of *Kalmias*, *Rhododendrons*, *Mahonias* and the like, planted thinly and carpeted with *Snowdrops*, *Daffodils*, *Crocuses*, etc.

Where there is anything like a shrubbery it may be made attractive by taking out some of the shrubs at irregular intervals and different areas and introducing hardy flowering plants. It is best not to have a long, straight line of turf or gravel, but there must always be a visible excuse for the deviation; something must be in the way to shew why the bend is there. We must not imitate the professional who made serpentine walks among the Cabbages. Where there is a woodland walk, or rather a walk on the outskirts of a wood with an irregular breadth of turf between the two there is scope for much tasteful arrangement. I remember our veteran friend and tutor, Mr. William Robinson, coming across a batch of summer *Snowflake* on the grass backed up by the green leaves of *Rhododendron ponticum*, being so delighted that he went down on one knee to it. I passed this spot daily, and if there was a leaf of the shrub in the way it was picked, but no one could see there had been any manipulation. I believe this was figured in "The Wild Garden," but I have never seen that work. Another patch was the Evening Primrose growing out of the grass and backed by shrubs which the artist Alfred Parsons thought good enough to make a drawing of.

These things happened nearly half a century ago, when I wrote the following, which, I think, is better than I could do it now, but then I was close to Heaven's Gate, the hallowed spot where the saintly Bishop Ken composed the beautiful morning hymn, "Awake my soul." Such associations ought to touch the most barbarian mind.

"One of the most enjoyable places on earth is half wood, half shrubbery, carpeted with low-growing plants, producing a succession of flowers throughout the four seasons, and with a well drained walk, not too trimly kept, but such as can be used in all weathers, where there are gigantic trees to shelter from sun and rain, and rustic seats at intervals on which to rest while listening to the music of the birds and inhaling the odours of the flowers. If ever I make a spring garden in accordance with my own ideas, it will be in such a spot as this. Aye, and my summer, autumn and winter garden shall be there too, for I will have a perpetual succession of flowers from the Winter Aconite to the Christmas Rose, not in ribbon borders and carpet patterns, but in humble imitation of Nature's own sweet ways. . . . The greatest art lies in concealing art. If I am asked concerning a plant or a mass of plants which has only been in position year or two, 'Did you plant that, or was it always there?' I feel it is the greatest compliment I can receive."

But when I try competition with Nature I am frequently second best. Those glorious masses of Grape Hyacinths, Primroses, Foxgloves, etc., stretching away under the boughs of the Hazel and losing themselves in the distance are better by far than my puny attempts at decoration. The Winter Heliotrope growing on a shaded clay bank, where no other flower can exist, filling the air with its fragrance during the shivery season, seems to be thriving in perfect luxury. The larger Periwinkles will overrun most weeds and kill them in time, and the common St. John's Wort has taken possession of a partly shaded bank where, when not shewing its elegant blossoms, it is a mass of emerald green. Honeysuckles and wild Roses have a charm of their own, but some of the Penzance Briars and single Ramblers might be introduced, as well as a Clematis or two, especially montana.

Bulbs, too, would make a pleasant feature and might include *Snowdrops*, *Daffodils*, *Lilies* and *Jonquils*. Where turf is growing between the shrubs and the walk it should not be cut to a line next the shrubs, but should lose itself under them. I have a great objection to trimming shrubs too formally, as is frequently done in our public parks. Some trimming is necessary, but the marks of the workman should not be visible.

If this style of gardening is taken up by ladies and gentlemen who have some leisure and good taste but who cannot afford a more expensive method of decoration, they will soon find it will relieve them of many a tedious half hour, especially if they will condescend to do a little of the work themselves. Garden labourers generally are not adepts in this kind of work. They want to do too much, and they leave their marks behind them.

WM TAYLOR.

NOTES ON FREESIAS

"DUDS."—I fear the flowering season of 1923 has not been quite up to that of 1922, on account of the numerous "duds" that have appeared in many collections. I am told that this lying dormant for a whole year is a characteristic of several South African bulbs. It certainly is of the Freesia, and sad experience now makes me include the white Freesia. Until this year I did think that the whites were immune, but I can at the moment of writing shew anyone a whole pot of "Purity" in which every bulb is a shirker. We live and learn. It would seem that this tendency to remain immovable in the ground is "the fault and corruption of the Nature of every" Freesia that is born into the world, and that it only requires suitable conditions for this tendency to show itself. Those conditions were present in 1922, inasmuch as the summer of that year was cold and sunless, and the early autumn no better. After the almost tropical summer of 1921, I could

here, one with variegated foliage. There seems to be an albino taint in the family, for pure whites often appear in our seed pots, but they have only short butterfly existence and long before the time comes for their green brethren to die down they have disappeared. There was no sign of this variegation in the seed pots, for my gardener and myself keep far too watchful an eye on them to have missed such a novel breakaway. Something must have happened during its first resting period, the result being that there is a healthy normal looking plant with all green foliage replaced by white and green. It is going to flower in quite the usual way. One never knows, my one ewe lamb may not be the uncommon creature that I think it is. Again, what is the experience of others?

OPEN OR CUP-SHAPED?—Apothéose is by many considered to be the high water mark of coloured Freesias. I have grown several potfuls for the first time and I can unhesitatingly say that it is a fine



YELLOW FREESIA CANARY WHICH IN 1919 MR. JACOB DESCRIBED AS FREE FROM "DUDS"

count our "duds" on the fingers of my two hands. Seeing is believing, otherwise I could never have realised the difference a warm and sunny and a cold and sunless ripening season can make. The practical question for those who grow Freesias—more especially the coloured varieties—is "can anything be done to help matters when Nature is unkindly?" I am experimenting. One year's experience suggests that if the bulbs are kept nice and warm *both before and after* they are planted, this trouble will be overcome. Don't you know how uncongenial company and surroundings freeze one up? Pity then the poor Freesia when it is in similar circumstances, and do not blame the dealer who may have sent you more "duds" than you wanted. To the true gardener exchange of experiences is like charity. It blesses both the writer and the reader. Here you have mine—now won't others tell us theirs?

A NEW COMER.—I have grown coloured Freesias for many years. I had my first from Van Tulergen of Haarlem almost as soon as they were put on the market, but never until this year have I had among all the hundreds of seedlings that have been raised

thing. Tall in stature, strong in limb and pleasing in face (flower), but this grand flower lacks one supreme characteristic in my judgment. I do like a bloom where all the segments open out flat and in tulip language, "quarter." They are so much more graceful either considered from the pot plant point of view or from the vase standpoint. I know why this loose type of flower will never become very popular. Market men will be against it. It won't pack. I allow this, but it is no reason why private growers who grow for their own pleasure should not go in for them. They would then have something that could not be bought in the ordinary way in shops.

JOSEPH JACOB.

FORTHCOMING EVENTS.

March 5.—Lecture at the University College, Gower Street, London, W.C.1, at 5 p.m., by Dr. A. D. Imms, on "The Invertebrate Fauna of the Soil (other than Protozoa)."

March 6.—Royal Caledonian Horticultural Society's Meeting.

March 7.—Lewes Horticultural Society's Meeting.

Lecture at the University College, W.C.1, at 5 p.m., by Sir John Russell, F.R.S., on "The Chemical Activities of the Soil Population and Their Relation to the Growing Plant."

EARLY VEGETABLE BORDER

IF the weather is favourable and the soil in good condition for working a sowing of the following vegetables may be made forthwith. A well drained sheltered site (preferably a south border) should be selected for this purpose. Large sowings are not advisable at this early date.

Peas.—Early dwarf varieties should be sown in broad drills 2 inches deep. A sprinkling of soot over the seed before the latter is covered with soil is beneficial. On very heavy land the seed should be covered with old potting soil, or a special mixture of leaf-mould and loam. Narrow borders can be sown without the necessity of much treading upon the soil. The seed should be sown fairly thick for these early crops. Allowance must be made for rot or destruction by pests below or above ground. As soon as the young plants are visible, protect them by drawing up a little soil on each side of the rows and place pea-guards over them.

Spinach.—A small sowing of this excellent vegetable will provide a supply at a time when it is much appreciated. Seed should be sown in shallow drills 1 foot apart. Cover lightly and dust the surface of the bed with soot. Sparrows will quickly destroy the young crop unless precautions are taken to keep them off by the use of nets, pea-guards, or strands of black thread.

Carrot.—Early Short Horn Carrots delight in a warm, light soil. A slight covering of wood-ash may be raked into the bed before preparing the drills.

Turnip.—A very quick-growing Turnip, such as Early Milan, is very useful. As these are liable to "bolt," only a small sowing should be made. Protect the bed from birds.

Cauliflower and Cabbage.—Sow thinly seed of an early variety of Cauliflower. Prick out the seedlings as soon as they can be handled, finally planting out on rich firm land. Early Cabbage raised now will form a succession to the autumn-sown crop.

Broad Beans.—In many gardens this is the first crop sown in the open ground. For the early border Beck's Dwarf Broad Bean can be highly recommended.

Lettuce.—An early Cabbage Lettuce, such as Commodore Nutt, which only requires a space of from 4 inches to 6 inches from plant to plant, is very hardy, of good flavour, and is always appreciated.

Radish.—Sow one of the small-topped varieties, such as Early Rose. Radish crops often fail owing to the seed being sown much too thickly and neglect of thinning the young plants.

Parsley.—Plants raised from this sowing will provide a good supply during the summer. Parsley seedlings should be planted out from 9 inches to 12 inches apart according to the variety grown.

Potatoes.—In very sheltered gardens in the Southern Counties a few early Potatoes can be planted, especially where adequate means are at hand for the protection of the crop when the haulm appears above ground. Potatoes can be planted in a ridge of light soil at the foot of a south wall. In this position they obtain the full benefit from the sun during the day, and can easily be protected at night. COLIN ROSE.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions. Autumn-sown Onions may be transplanted about a foot apart, but their keeping qualities only warrant the planting of a few lines just to supply the kitchen until the spring sown crop is ready. Seeds for the main crop should be sown at the earliest opportunity, because to get really fine bulbs a long season of growth is essential. Make the ground firm by treading or rolling, and after raking the soil to obtain a fine tilth, shallow drills should be drawn 10 ins. apart. Sow the seeds thinly, and when the drills have been filled in with the foot, rake the bed, thus giving the whole a neat appearance. On light soils the roller may be employed again after the seed is sown. Good kinds of Onion include Ailsa Craig, Cranston's Excelsior and James' Long Keeping.

Potatoes.—Tubers that were set up in boxes as advised some time ago, have formed strong short-jointed shoots and should now be planted on a warm border. Deep drills should be drawn or chopped out with a spade about 2 ft. apart and the tubers placed at intervals of 18 ins. Care is necessary when covering the tubers to prevent injury to the growths. A sprinkling of ashes from the rubbish fire may be given. The seed tubers for the main crop should be examined at intervals and placed thinly in a cool shed where the shoots will remain dwarf.

Lettuce.—Plants raised in boxes will soon be large enough for pricking off. A few boxes may be used for this purpose, setting out the seedlings a few inches apart and growing them on in a warm greenhouse. The remainder of the plants can be transferred to a cold frame, dusting the soil with soot to keep off slugs.

The Flower Garden.

Pruning.—*Buddleia variabilis* and its several varieties should now be pruned, cutting the growths back that flowered last year to two or three eyes. A few weeks hence the new shoots may be thinned, removing any weak ones and leaving the strong, which will produce fine sprays of flowers in due season. *Hydrangea paniculata* may be cut down near to ground level, and the same remark applies to *Panownia imperialis*. Ivy growing on walls may be clipped close to the stems, and if such work is carried out now the plants will only be bare for a short time. *Ceanothus* of the Gloire de Versailles type ought also to be cut back, but *C. dentatus* must not be pruned at this season.

Lawns should be rolled occasionally to keep down worm-casts, thereby preparing the lawn for the mower in the near future. If not already done, the mowing machines should be put in order at once. A dressing of sulphate of ammonia will destroy any moss that may be present on the lawns and at the same time strengthen the grass. One pound to a pole or perch will suffice and, unlike several other artificial, it discourages the growth of clovers and encourages the finer Grasses.

Gladioli. The many beautiful forms of Gladioli constitute a wonderful race of late summer and autumn flowering plants, and they deserve to be planted in quantity. A border should be devoted to them, but clumps in other parts of the garden will also prove effective.

Sweet Peas. Seed may be sown in lines 6 ft. apart or in clumps in the borders. A rich soil is essential, and this is usually prepared in the autumn.

Fruit Under Glass.

Melons. Seeds ought now to be sown for the general or main crop. The earlier sown plants will need tying to the wires and will soon be approaching the flowering stage. When four or five female flowers are open at one time they should be fertilised with pollen from the male blooms. At this stage the atmosphere should be on the dry side, but the roots must be kept well supplied with moisture. Four or five fruits are enough for one plant, and it is necessary for them to be set at the same time, because if one fruit is allowed to swell it is a difficult matter to get other fruits to form. A top-dressing of fibrous loam should be given, and the lateral growths will need pinching at the third leaf, the object being to maintain sufficient shoots to cover the trellis-work or wires and to encourage the flow of sap. Overcrowding must be guarded against, and to this end it may be necessary to remove a few laterals later on. When the fruits are set the atmosphere should be kept moist,

and air admitted in the forenoon when the weather is favourable. Maintain a night temperature of 65° and net the fruits when they are about the size of a hen's egg.

F. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.,
Castleford, Clepton, Gloucestershire.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas. Taking it for granted that a sowing of a first early variety was made about a fortnight ago, a sowing of a second early variety, such as Senator or Royal Salute, should now be made. At this early season it is still advisable to damp the seeds and roll them in dry red lead to ward off the attacks of rats and mice.

Broad Beans.—Make a good sowing of a long-pod variety, Bunyard's Exhibition and Seville Longpod are both good. Sow in rows 2 ft. apart and allow 6 ins. between the seeds in the row. Red-lead the seeds previous to sowing.

Spinach.—Make a sowing between the rows of the first and second sowings of Peas. Run the Dutch hoe through between the lines of the autumn-sown batch. Make a sowing in heat of the New Zealand Spinach. This crop if planted on a warm border at the beginning of June comes in handy when the ordinary Spinach runs hopelessly to seed.

Onions.—Spring sowing in the open is not much to be recommended, as the condition of the resultant plants just suits the taste of the Onion fly. Those who mean to follow this system for any reason should get the seed in without delay. The ground having been recently dug or forked over, should be raked smooth and trodden firm. Shallow drills should then be drawn at 18 ins. apart, and the seed having been sown thinly, should be covered by means of the rake. It is, of course, understood that the operation cannot be undertaken if the soil is in a wet, pasty condition. James' Long Keeping and Strasburg are two suitable varieties for sowing at the present time.

Parsley.—As the seed takes six weeks to germinate, the sooner a good sowing is made the better. In gardens where the "fly" is troublesome success can generally be achieved by sowing alongside Box edging at about a distance of a foot from it. Extra Triple-curved, if true to name, is hard to beat.

Celery.—Sow for the main crop in shallow boxes filled with light, rich soil in a temperature of about 60°. Wright's Grove Pink and Grove White are excellent varieties.

The Flower Garden.

Sweet Peas.—Where seed was sown in a cool greenhouse about a month ago the resultant seedlings should now be transferred to a cold frame, keeping the latter rather close for the first week. Those who had no accommodation for sowing under glass should sow now where the plants are to flower. Roll the seeds after damping them in dry red lead. Sow in shallow drills, placing the seeds about 2 ins. apart.

Dahlias.—Pot up cuttings into 3 in. pots and retain in a warm house until April.

Half-Hardy Annuals.—It is a trifle early to sow the bulk of these, but Sweet Scabious and Asters should be sown now in moderate heat.

Cuttings of Heliotrope, Lobelia, etc., should be pricked off or potted as they become rooted. Insert more cuttings if necessary.

CHARLES COMFORT
(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Erythrina Crista-galli. Large specimens of this handsome plant are very useful for conservatory decoration. Where they have been stored away dry for the winter they may now be removed to a greenhouse and given a good soaking of water at the roots. An inch or 2 ins. of the old soil should be removed from the surface of the pots or tubs, replacing it with a good rich compost. If it is desired to increase the stock of plants, it can easily be done by means of cuttings when the young shoots are about 3 ins. in length. These root readily in a case with slight bottom-heat. This plant is also easily propagated by means of

seed. Until they make a woody root-stock the young plants should not be dried off too much for several winters. This plant only requires cool greenhouse treatment during all stages of its cultivation.

Begonia Gloire de Lorraine and its varieties should be propagated according to requirements and as suitable cuttings are available. Young shoots springing from the base of the old plants should be selected for cuttings, and are best inserted singly in thumb pots, afterwards plunging them in a warm propagating case. A late-rooted batch of plants grown in sixty-sized pots is very useful for table-decoration. The American variety Mrs. Petersen has dark-coloured foliage which shows up well under artificial light. It is much slower growing than the ordinary type, and the plants are really at their best in their second year. All the Lorraine type of Begonia enjoy a light rich compost.

Begonia semperflorens gigantea rosea.—It is surprising that this fine Begonia is not more generally grown for furnishing the greenhouse and conservatory, for by growing successional batches it may be had in flower more or less all the year round. It is easily propagated by means of cuttings, grows freely in an intermediate temperature of 50° to 55°, and, when in flower, stands for a long time in an ordinary greenhouse.

Abutilon insigne is an ideal plant for planting out in a conservatory and training on a rafter under the roof. If it never flowered it would still be worth growing for its large, dark green leaves. During winter and spring it produces its red, dark-veined flowers in wonderful profusion on long, slender, cord-like shoots. It is easily propagated by means of cuttings, and when planted out grows very quickly. After flowering it should be thinned out, retaining the young shoots for growing on. Abutilons generally are not much grown at present. Still, some of them, such as Golden Fleece, Boule de Neige and Firefly, are excellent for planting out in large conservatories, especially for covering walls. They are somewhat dense for the roof, and require to be kept well thinned out. Abutilon vexillarium and its variegated form are slender-growing plants well adapted for furnishing wires or rafters, as also is A. Milleri, a hybrid of the above species. They are all easily propagated by means of cuttings.

Achimenes in many varieties are very useful and beautiful for furnishing the greenhouse during the summer months. The scaly rhizomes which have been stored dry all winter should now be started in a warm house, laying them in leaf-soil and sand in shallow boxes. When they have made growth some 3 ins. in length they should be transferred to pots or pans. Fine specimens may be grown in large, shallow pans, especially such strong-growing species as A. longiflora and its varieties. Some of the smaller-growing sorts will do well in 48-sized pots, while some of the more slender-growing varieties are excellent for baskets. These plants enjoy a well drained, light, rich compost, and should be grown in a temperature of 55° to 60°, giving them cooler treatment as they come into flower. They are very subject to attack by the Begonia mite, which, however, is easily prevented by the occasional use of the sulphur vaporiser. In recent years they have suffered very much from attacks of white fly. Fumigating with sodium cyanide is the best cure and preventive, but as great care is required in the use of this extremely poisonous substance, many cultivators prefer to use one of the proprietary articles offered for the purpose.

Royal Botanic Gardens, Kew. J. COULTS.

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SPIRÆA PALMATA AND OTHERS

IF I were doomed to grow but one herbaceous Spiræa, my choice would lean towards that superb species named above, and few would question the assertion that this is one of the finest plants ever introduced to British gardens.

S. palmata varies very widely in stature and the colour of the flowers, but the typical form is some 3ft. in height, the broad-leaved foliage, drooping from the many-branched growths, being not less handsome than that of *gigantea*, to which it bears a close resemblance. Above this elegant mass of green, rise the flower-heads, these consisting of large, somewhat flat plumes of a vivid rosy red in which there is just enough chalkiness to soften the hue without dulling its brilliance.

From plants in this colour one may see *S. palmata* in a variety of intermediate shades, to white, but the real *S. palmata alba* is no half-hearted affair. It is one of the whitest of its race, without a hint of blush or any other colour to mar its spotless purity. Though all forms of this species are suitable for semi-shade, I do not think *S. p. alba* ever looks so well as it does under trees, especially where it can be associated with Ferns and other native herbage of moist woods. A grouping of this variety in such a situation appeals to one as the very acme of quality and good taste.

Nurserymen now list several forms of *S. palmata*, other than the above, and few of these are unworthy. The typical plant, however, looks best alone, in company with the pure white, or worked in with some other species which will not detract from its peculiar loveliness. On the other hand, there are forms of *S. palmata* which, since they differ only from the typical species in stature, may be accorded similar treatment and not less respect. Some of these being no more than 18ins. in height, yet bearing flower-heads as large and as richly coloured as full-sized specimens, are very useful where space is a consideration.

From these intermediate forms we descend to the diminutive *S. digitata*, which appears to be none other than a very dwarfed counterpart of *S. palmata*, with all the latter's brilliance of colour and an added touch of ruddy bronze in the foliage. What, exactly, *S. digitata* is perhaps no one knows, but most authorities believe it to be as stated. One thing, however, it certainly is not. I refer to the half-sized *palmatas* already mentioned and which sometimes bear the name of *digitata*. The true *S. digitata* is no more than 4ins. to 5ins. in height when growing in average soil, but it will aspire to rather greater dimensions where the living is especially to its liking. In any event it is a most charming little thing, easily pleased in any cool site and quite permanent and hardy.

S. lobata (*venusta*) is also not infrequently sent out labelled *digitata*, but the former is some 18ins. to 24ins. in height. Its flowers are even brighter in colour than those of *palmata*, and to my eye their dazzling carmine contains just that touch of hardness in tone the absence of which seems to afford those of *S. palmata* their peculiar and distinctive loveliness. A. F. J.

A Fragrant Warm House Plant.—That sweetly scented plant, *Mitrostigma ascellare*, is a native of Natal and although not likely to succeed in a cool greenhouse, it is well worth growing by anyone who has a warm greenhouse. It makes neat plants in pots, but perhaps is seen at its best when

planted out in a well drained bed or border. It produces its fragrant white flowers very freely during winter and early spring. It is easily propagated by means of cuttings, which should be placed in a warm propagating case. This plant grows well in a compost of good medium loam, with the addition of a little peat or leaf-soil and sand. In its younger stages it should be grown fairly warm. It will stand in a low temperature when in flower.

Two Valuable Musks for the Greenhouse.—*Mimulus glutinosus* (syn. *Diplacus glutinosus*) is an old garden plant, which is by no means generally cultivated at the present day. The species has rather small yellow flowers and is by no means common, its place being taken by a larger flowered variety known as *Sunbeam*, and the variety *coccineus* or *puniceus*. They are all easily propagated by means of cuttings made from young soft shoots, which root readily in a slightly heated case. They grow quickly in a cool greenhouse and are rather subject to attacks of green fly which, however, are easily prevented by occasional fumigations. *M. Harrisonii* is a large-flowered form of *M. moschatus*, which at one time was very largely grown in pots for the conservatory, as well as for planting outdoors during the summer months. It is, however, seldom seen at the present day, which is a pity, as it is a pretty and useful plant and its cultivation presents no more difficulty than the ordinary Musk. The latter for some unexplained reason has now lost its scent, and if any reader has or knows of a plant (or plants) with the old-time fragrance we should be pleased to hear from them.

A Neat Dwarf Shrub.—*Polygala Chamaebuxus* is an interesting plant suitable for the rock garden, forming a compact evergreen tuft with cream-coloured flowers which are borne in profusion. The variety *purpurea*, however, is a great improvement on the type. It is a neat little shrub some 4ins. or 5ins. high, with dark green box-like leaves and purple flowers with a yellow centre. Owing to the mild and open weather it has been more or less in flower since Christmas, and in mid-February the small plants of the variety *purpurea* were covered with blooms. A native of Central Europe, it should be planted in a cool, well drained position, such as near a large boulder, with peaty soil as a rooting medium. Soil which will grow Heaths or Rhododendrons will suit the *Polygala*. These plants are quite hardy, and they can be increased by division. Young growths are often available at the base of the plants, and if these are removed with a few roots attached they readily form nice little shrubs capable of taking care of themselves on the rock garden. On account of their flowering during the winter months they should be well represented in every garden.

About Hop Manure.—The Editor has lately received several enquiries as to the efficacy of hop manure as a fertiliser. This is an old and proven manure which, years ago, he used by the boatload not only for gardening but for agricultural purposes. It never disappointed, and in dry seasons was invaluable. The proprietary article marketed by Messrs. Wakeley is drier and more pleasant to handle than the crude product from the brewery, also it appears more concentrated. There is no doubt that this is absolutely the best and cheapest substitute for stable manure, which it replaces in every way. If everyone who cannot get stable manure used hop manure there would be a shortage, but obviously they do not!

Fish Manure.—We have received from the Humber Fishing and Fish Manure Company, Limited, of Hull a copy of a very interesting letter recently received from the Principal of the Leyton-

stone Council School setting out details of experiments made by the scholars with the Company's "Eclipse" Compound Fish Manure. Special reference is made to wonderful crops of Potatoes and Onions, and the schoolmaster gives it as his opinion that the boys who are going out into the world to earn their own living will be walking advertisements for this special manure. The Humber Fish Manure Company will be glad to send a copy of this unsolicited testimonial to any reader who is interested, and in addition will send full particulars of the manure referred to. That this is a very good and reasonably priced manure the Editor knows from personal experience. It gives especially good results for root crops and for Chrysanthemums.

ANSWERS TO CORRESPONDENTS

THE GREENHOUSE.

SCHIZANTHUS UNSATISFACTORY (A. Regular Reader).—The *Schizanthus* has been kept rather too warm at some time. Kept in well ventilated conditions, properly watered, and at not too high a temperature for the available light, the plants should recover before long.

TREATMENT OF PALM (A. G. S.).—Palms should not be over-potted and as our correspondent's specimen is of good colour there is not much wrong with it. A weak stimulant occasionally is beneficial. A weak liquid made from cow manure and used in a clear state, applying one dose each month during the summer and a teaspoonful of sulphate of ammonia dissolved in half a gallon of water and applied in June would help the growth of the fronds. The soil must always be maintained in a medium state of moisture, neither too wet nor too dry. Also, the plant should be taken outside once fortnightly and receive a good syringing. There would not be any need, then, to place the Palm in a nursery.

FRUIT GARDEN.

RASPBERRY LLOYD GEORGE (W. B., Hants.).—This variety is claimed to be perpetual-fruiting, that is, throughout the summer and autumn months. The fruit is borne on the young growths and also on the laterals, the latter bear the later or autumn crops. Our correspondent has done quite right in cutting down the old canes planted last autumn.

MISCELLANEOUS.

PLANTS SUITABLE FOR PAVING (E. E. B.).—The following kinds of plants will be suitable in addition to the Saxifrages, Dianthus and Thyme: *Acena microphylla*, *Ajuga reptans*, *Antennaria tomentosa*, *Arabis*, *Aubretia*, *Sedums* and *Sempervivums*. The following are annuals, and should be raised from seeds sown in boxes and duly transplanted: *Leptosiphon androsaceus*, *L. aureus*, *L. roseus*, *Saponaria calabrica*, *S. alba* and *Mesembryanthemum tricolor* in various colours.

NAMES OF PLANTS.—R. H. B., Cornwall.—1, *Azara microphylla*; 2, *Phillyrea decora*; 3, *Prunus lusitanica*; 4, *Buxus sempervirens*; 5, *Olearia Ilastris*; 6, *Berberis Aquifolium*; 7, *Skimmia japonica*; 8, *Taxus baccata*.—"Wimbledon."—*Helleborus corsicus* (*argutifolius*).—M. E. B., Wootton.—*Crassula lycopodioides*. This plant is a native of South Africa, and would not live outside in the rock garden in this country.—S. P. R., Cardiff.—*Crocus Balansea*.

NAME OF FRUIT.—T. A. P.—Apple Newton Wonder.

PUBLICATIONS RECEIVED.

Guide to the University Botanic Garden, Cambridge, by Humphrey Gilbert-Carter, Director of the Garden. Published by the Cambridge University Press, Fetter Lane, London, E.C.4. Price 3s. 6d. net.

Messrs. Sutton and Sons, Reading.—*Farmers' Year Book and Graziers' Manual*.

CATALOGUES RECEIVED.

Messrs. Isaac Poel and Sons, Limited, York.—Seed Potatoes.

Mr. Robert A. Morris, 225, Bristol Street, Birmingham.—Flower and Vegetable Seeds.

Messrs. Allwood, Brothers, Wivelsfield Nurseries, Haywards Heath, Sussex.—Perpetual-flowering Carnations, Perpetual Malmaisons, Perpetual "Borders," Allwoodii and Border Carnations.

Messrs. John Forbes (Hawick), Limited, Hawick, Scotland.—General Plant and Seed List.

Messrs. Stuart and Mein, Kelso, Scotland.—Flower and Vegetable Seeds.

Messrs. Joseph Bentley, Limited, Chemical Works, Barrow-on-Humber, Hull.—Weedkillers, Lawn Sands, Insecticides, Fertilisers, Spraying Tackle and Garden Sundries.

Messrs. Barr and Sons, 11-13, King Street, Covent Garden, London, W.C.2.—Hardy Perennials, Rock Plants, Aquatics and Climbers. With useful lists of plants for sun and shade, for wall garden, wild garden and woodland, also those with grey foliage.

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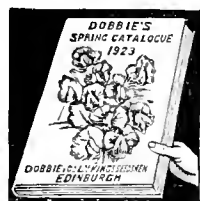
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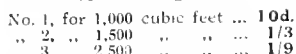
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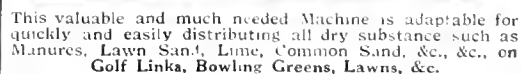
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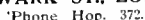
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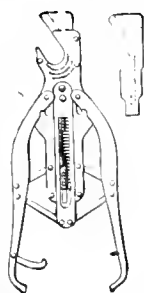
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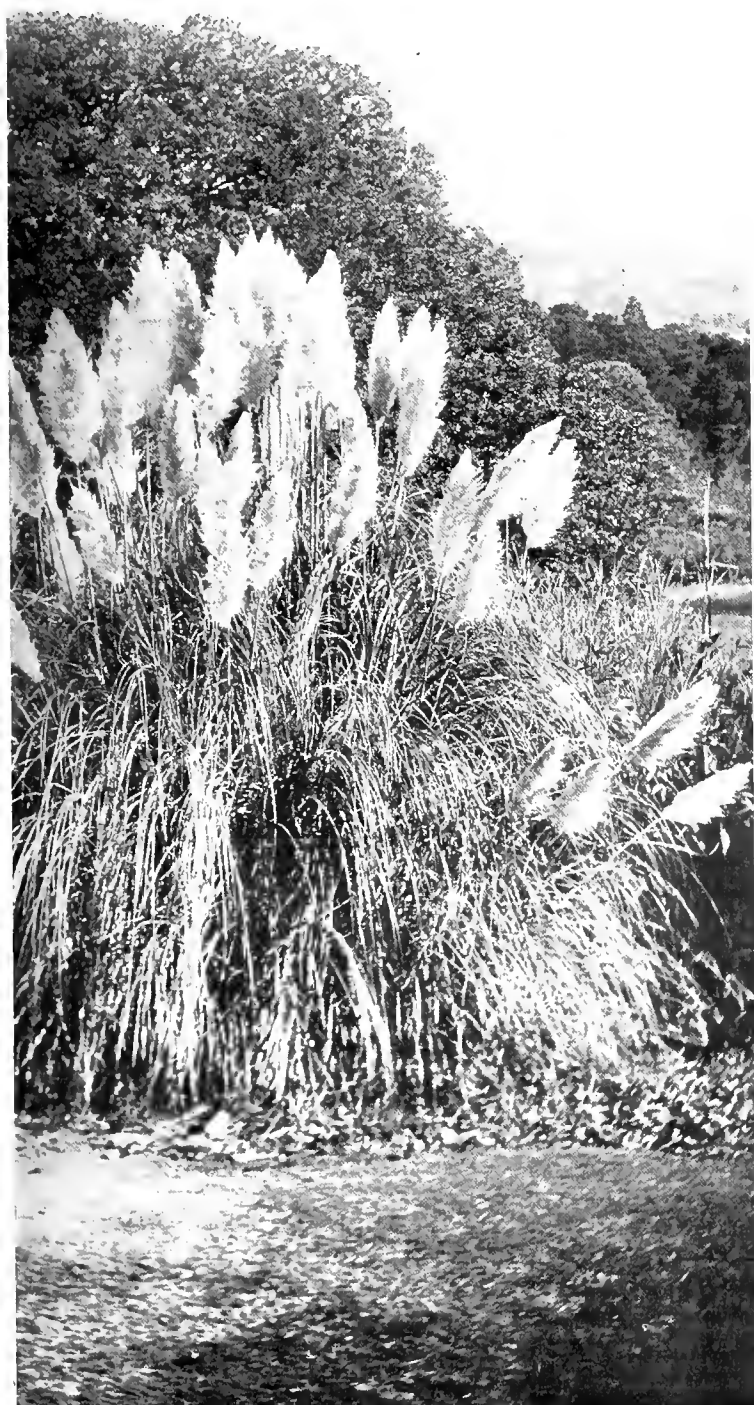
GARDEN

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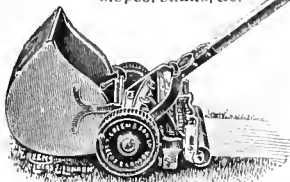
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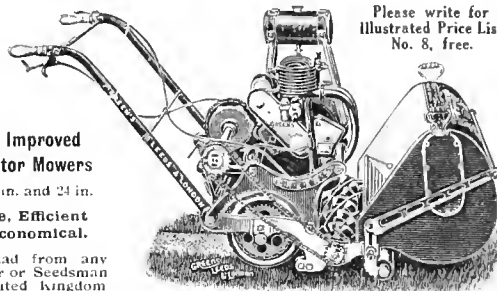
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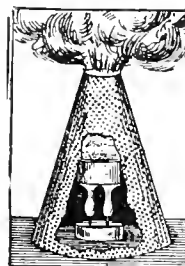
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Mons. C. Leveque—a lovely silvery-blush.
Dainty—rosy-blush, showing golden anthers.
Solfaterre—beautiful primrose-yellow.
Mme. Ducet—soft salmon, with silvery shading.
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Turquoise—pure Cambridge-blue, dark eye.
Rozenlust—light mauve, edged Cambridge-blue.
King of Delphiniums—gentian-blue and plum, white eye.
The Alake—intense dark blue, violet centre.
Zuster Lugten—pure Cambridge blue, silvery shade.
Roselare—corollower-blue, tinted aëratum-blue.
K. T. Caron—gentian-blue, suffused mauve.
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No. 2677.—VOL. LXXXVII.]

[MARCH 10, 1923.]

GRACE IN THE SHRUBBERY

THE most useful of all families of shrubs is that of the Rhododendron, but alas! they are very stolid, so for that matter are most of the so-called American plants. The garden forms of the Common Lilac are not specially graceful, nor are Staphylea, Osmanthus and a host more.

It will be appreciated, then, that shrubs of lighter, less solid outline are important if only for the sake of variety; and from another point of view, shrubs which display their blossoms in graceful sprays have a claim upon our attention. One of the most solid and stolid-looking of flowering shrubs is *Spiræa Bumalda*, yet the shrubby *Spiræas* as a family are not wanting in grace—even in lightness. One of the most graceful shrubs we have when in blossom is *S. prunifolia* fl. pl., and *S. arguta* lags little behind. The grace of *SS. Lindleyana* and *ariaefolia* is undeniable, yet both are eclipsed by the lovely Pearl Bush, *Exochorda grandiflora*, and the somewhat similar *E. Alberti macrantha*.

Common Lilac was mentioned as an example of a heavy-growing shrub, yet some species of *Syringa* are as light and airy in growth as one could wish. Such are, for example, *SS. persica*, *sibirica* and *Wilsoni*. The same contrast is observable in the genus *Escallonia*. *EE. macrantha*, *rubra*, etc., are heavy shrubs very suitable for solid planting, but the deciduous *E. Philippiana* and all its derivatives—*EE. langleyensis*, *Edinensis*, *Donard Seedling*, etc.—are as light and graceful as can be.

All the Mock Oranges are graceful, but the single forms surpass the double ones in this respect, and those with the flowers spaced a little apart are incomparably more gracious than those

of which the blossoms are bunched together. *Coupe d'Argent*, illustrated on the next page, is particularly graceful among the smaller-growing varieties, while *Virginal* is noteworthy among the bigger growers.

The grace of *Berberis stenophylla* needs no emphasising. It is, indeed, its gracefully arching shoots which ensure its popularity, for in colouring it cannot compare with the glorious orange of *Darwinii*. This is the only really graceful Evergreen Barberry, although the pleasing spacing of the "lanterns" on *B. buxifolia* makes it gracious when in blossom.

The arching canes, if such we may call them, of *Prunus triloba* are very graceful, yet they seem stiff alongside any of the hardy Fuchsias of the *myrtifolia* clan. *Fuchsia Riccartoni* is much less graceful.

Gracefulness is not necessarily associated with an arching or weeping habit of growth. Some

of the flowering Cherries prove the contrary, but shrubs or trees which naturally form round, close beads—the Mop-headed *Acacia*, *Robinia Pseudacacia inermis*, or the whole Thorn family, for example—may glow with the most brilliant colouring of flower or foliage, but they will not attract like the forms of *Wistaria multijuga* or the better forms of *Golden Chain*, *Laburnum Parksii*, for instance.

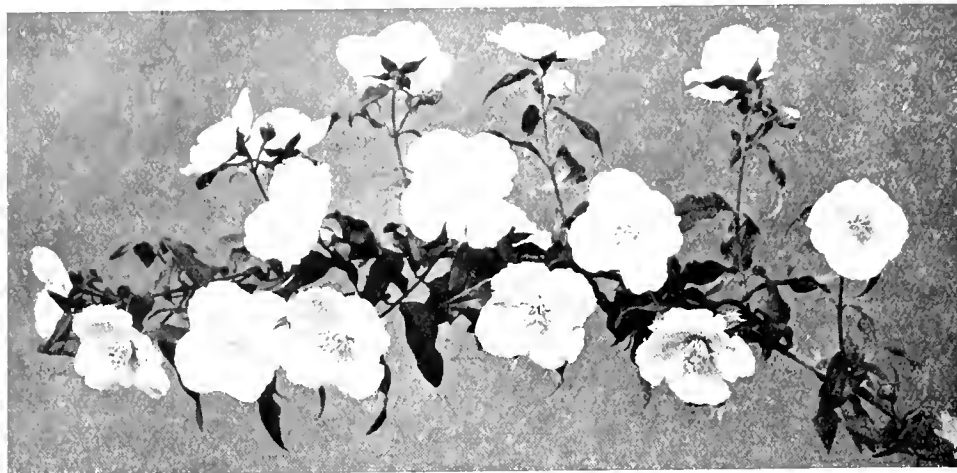
Some plants are graceful or not according as they grow well or ill. The illustration on this page shews *Viburnum tomentosum plicatum* in such form that everyone must admire it, but it does not always grow so. To get the long arching shoots seen in the picture, the shrub must make vigorous, arching canes each season. The *Viburnum* family varies considerably as regards grace. None of the evergreen species is slender or graceful—perhaps *V. rhytidophyllum* is the stolidest and ugliest of all—yet the single Guelder

Rose, *Viburnum Opulus*, is gracious, and even the double Snowball tree has an elegance of its own. Most gardeners now consider *Viburnum tomentosum Mariesii* better than the sterile *plicatum* form we illustrate, but much depends upon soil and situation.

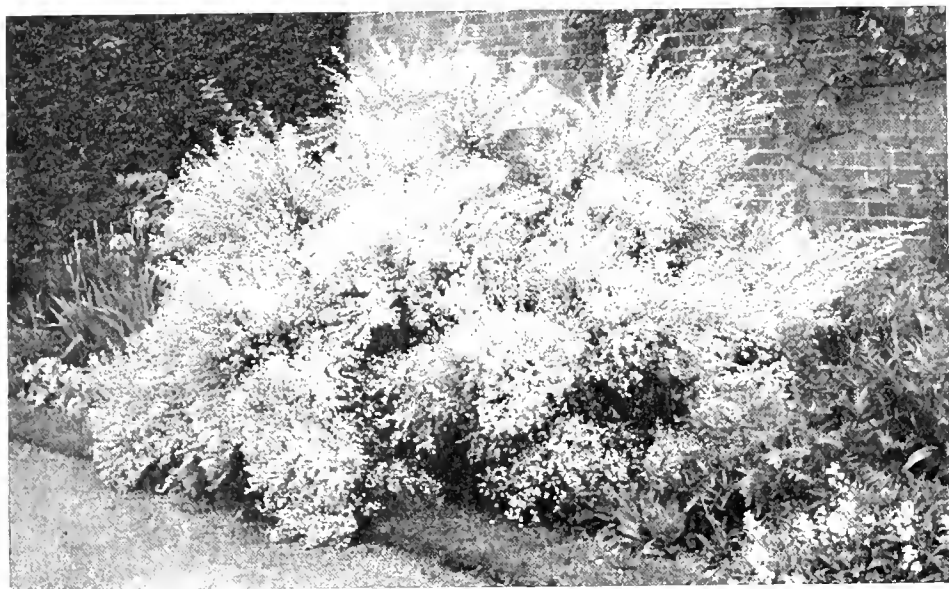
The arching growths of *Hydrangea paniculata* do not suffice to give it a lightening influence when in flower. The heavy panicles in a rather heavy tone of greenish white prove just as "lumpy" as those of the *Hortensias*. Another shrub which is improved by cutting back each year, *Buddleia variabilis*, is, however, graceful enough, and it draws added grace in the sunlight by attracting a multitude of coloured butterflies. There are many forms of the plant in



THE JAPANESE "SNOWBALL TREE," *VIBURNUM TOMENTOSUM PLICATUM*.



ONE OF THE BEST SMALL MOCK ORANGES, PHILADELPHUS COUPE D'ARGENT.



THE BEAUTIFUL AND GRACEFUL CYTISUS PRÆCOX.



A FINE FORM OF BUDDLEIA VARIABILIS.

cultivation, and some are much more worthy than others. The two best, so far as our experience goes, are called *magnifica* and *superba*. Though rather different in appearance, *magnifica* is a shade deeper in colour and longer and narrower in the panicle, both are equally valuable, but *superba* is perhaps a fortnight later to flower. The form *Veitchiana* introduced by Wilson is hardly so fine as either, but it flowers a little earlier than *magnifica*. If a group of the different varieties of this species is planted, the seedlings will vary greatly in colour, season and form of the panicle. *Buddleia variabilis* comes freely from self-sown seeds, and the seedlings are usually quite worthy as far as size of truss and habit of growth goes. Perhaps this peculiarity accounts for the undoubted confusion which exists in nurseries as to the different varieties. The fine form illustrated on this page is called *ampleformis*.

Some Rose species are exceedingly graceful, not only when in flower, but at all seasons. The Dog Rose has, we all know, a graceful habit of growth, so has the white-flowered "Blue-briar," *Rosa arvensis*, but neither is suitable for the shrubbery. The Sweet Briar (*R. rubiginosa*) is more amenable to cultivation and almost equally graceful in habit of growth. Most of the Penzance Hybrid Briars take after it in this respect, but the branches are heavily armed, and if they are used they should form a group of themselves apart from other shrubs, otherwise they render weeding, pruning and other routine work difficult.

Of quite a different and more slender habit of growth are the Roses of the *macrophylla* section—*R. macrophylla*, *Fargesii* and *Moyesii*. All these are handsome both in flower and fruit. The hips, indeed, are the most distinct in the family, for the persistent calyx swells out beyond a narrow neck, giving the fruits a bottle-like appearance. The bright yellow *Rosa Hugonis* is another graceful species. The same may be said of the various forms of the Musk Rose, *R. moschata*, though some support should be afforded these, as they love to clamber and will, indeed, climb a far-sized tree. The hardiest form of this Rose is usually listed as *R. Brunoni*, but the double hybrid called *The Garland* seems perfectly hardy and has most of the characteristics of the parent.

Rosa multiflora is a species which loves to have its roots in shade. It is therefore much at home in shrubberies. The species is white flowered, but the *multiflora* Ramblers, which before the advent of the *Wichuraiana* hybrids were so popular in gardens, all share its love of the shrubbery. The beautiful *Blush Rambler* comes to mind as one of the best and most graceful, but, at the season when it flowers, *Crimson Rambler* can usually have the shrubbery to itself as far as blossom goes, and is then most effective.

Many of the Brooms, particularly those belonging to the genus *Cytisus*, are as light and graceful as shrubs well can be. The Common Broom, *C. scoparius*, is graceful when young, but becomes solid and stodgy with age. The same may be said of its varieties, such as the gold and white *Andreas* and the sulphur-coloured *Moonlight Broom*, *C. scoparius sulphureus*. The White Broom, however, *Cytisus albus*, retains its grace throughout life. It is, besides, a much longer-lived plant than our English Broom. Almost as graceful and even more pleasing in colour is *Cytisus præcox* with sulphur yellow blossoms. Equally graceful in quite a different way is *C. lewisii*, which might be described as a prostrate *C. præcox*. For cascading over ledges or rock or adorning a bank this is an ideal plant. Even for the margin of the level shrubbery it is a fine thing.

WATER AND BOG GARDENING

III.—Plants that Grow in the Water

BYOND all question Water Lilies should occupy by far the largest space of the available water surface; but, good as they are, I would enter a strong plea for reasonable representation of the various other beautiful flowering and foliage plants that do so much to complete the perfect picture. Selection of varieties is very difficult where so much is desirable, but we must excise and narrow down until we have brought the proposals into line with the capacity of our garden. Happily, we are helped somewhat in this direction by the size of our pond and the depth of the water, for we must adapt our plants to these conditions and so—unless the area is very large indeed—certain things rule themselves out as too vigorous

L. liliacea, a large and sweetly perfumed form, a lovely rosy lilac with orange stamens, notable for the length of its flowering—June to November. *L. purpurata*, very fine indeed, a lovely purple that fades into crimson towards the centre. *L. rosea*, perhaps the most attractive of all, for, in addition to the bright carmine rose flowers with orange stamens, there is the beautiful coppery red foliage. Extremely free, very long flowering and prominent for its fragrance. One of the *Marliacea* hybrids is especially useful for shallow water—*M. ignea*. This is the opposite of the *Laydekeri* varieties in that the blooms open their deepest colour and gradually pale from day to day until they fade. Its colour is a deep red with fiery red stamens and, although it grows

in praise of *sanguinea*, a free and continuous bloomer of moderate growth with bright crimson flowers that later become deep blood red with light orange centre. Attractive in both flower and foliage is *Seignoureti*, a fine orange red variety with golden centre, the flowers of which are splendidly erect. The leaves are large, bright green and maculated all over the surface with purple brown. Additions are constantly being made to these delightful plants in the form of new hybrids, and with such a wealth of splendid varieties one wonders sometimes where it will end or if, indeed, there is any finality.

The beautiful *Nymphæa stellata* and the equally lovely *zanzibarensis* forms are readily grown outdoors in summer if some method is adopted of heating the water of the pond. This is often feasible on a house terrace.

Leaving the Water Lilies, we come to the "others," a very varied race indeed. *Alisma natans* is the floating Water Plantain, a rare native plant that is, however, readily obtainable through the usual trade channels. It is of very neat habit of growth, with oval leaves and showy three-petalled white flowers on leafy stems. *Azolla caroliniana* is of microscopic proportions and loves a stagnant place well to the side of the pond, for, when all is said and done, it is little more than a wee moss floating on the surface. During the earlier periods of its growth it is bright pale green, but becomes purple with age. The Water Violet, *Hottonia palustris*, well substantiates its claim to being one of the most beautiful of our native aquatic. The growth is in the form of a submerged fern-like foliage dark bright green in colour, with flower-scapes rising upwards to a height of 1ft. and bearing whorls of pale mauve flowers. The Frog-bit, *Hydrocharis morsus-ranae*, is another small floating plant suited to even the smallest rock pool, with elegant little kidney-shaped brown leaves. It can be relied upon to spread quickly over the surface of the water.

The Water Poppy, *Limnorchis Humboldtii*, makes a most attractive plant of very neat growth, with broad oval leaves resting upon the surface of the water, and flowers, on long stalks shaped like the Poppy and pale sulphur yellow in colour. This is only hardy in favoured places, and a note should be made to take it up in autumn, and winter it in the greenhouse. One of the *Nuphars*, *N. luteum* var. *minor*, is a useful little plant for the small pond, where it soon forms a good patch of its small surface-floating green leaves and a profusion of deep yellow flowers. *Ranunculus circinatus*, the Water Crowfoot, is a small enough grower for the tiny pond and especially useful, as it flowers in spring with a profusion of small white blossoms. *Typha minima* is a miniature in every way of the Lesser Reed Mace, of erect, sturdy habit and splendid for the small pond, where it rises to a height of 1ft. to 18ins. above the water. The common Bladderwort, *Utricularia vulgaris*, an interesting little native plant which should not be overlooked, for its finely divided submerged flowers, furnished with minute air bladders, are most interesting, to say nothing of the pretty scapes of yellow flowers that rise about 6ins. above the water. *Vallisneria spiralis* bears small floating leaves similar to those of the Water Lilies and myriads of yellow flowers like the *Ranunculus*. H. W. C.-W.

(To be continued.)



NYMPHÆA STELLATA IN AN OUTDOOR HEATED TANK.

and spreading. I propose, therefore, to deal with our plants under two headings.

The first of these to consist of plants that are suitable for ponds where from 6ins. to 2ft. of water is available, and the second where there is from 1ft. to 3½ft. *Nymphæas*, of course, come first in both cases, and of those that are suitable for the small pond, tank garden or tub culture the following are all good: *N. Ellisiana*, large-flowering and sweetly scented, producing very freely its brilliant carmine purple blooms; *fulva*, orange tinted with golden yellow, the petals claw-like and—again—very fragrant; *Graziella*, very distinct and free, with medium-sized flowers, orange red in colour with crimson stamens. The *Laydekeri* group are *pygmæa* hybrids, characterised by small foliage and medium-sized flowers, every one invaluable for tub, shallow pool or tank culture. An interesting feature of these is the change that takes place in the colour as the days pass, for when in their youth the colour is always pale, deepening with each day that passes. *Laydekeri fulgens* is distinct and very beautiful, rich amaranth red with orange centre.

well in shallow water, it must have sufficient space, for it spreads widely; while, too, the natural habit is to throw the central leaves above the water.

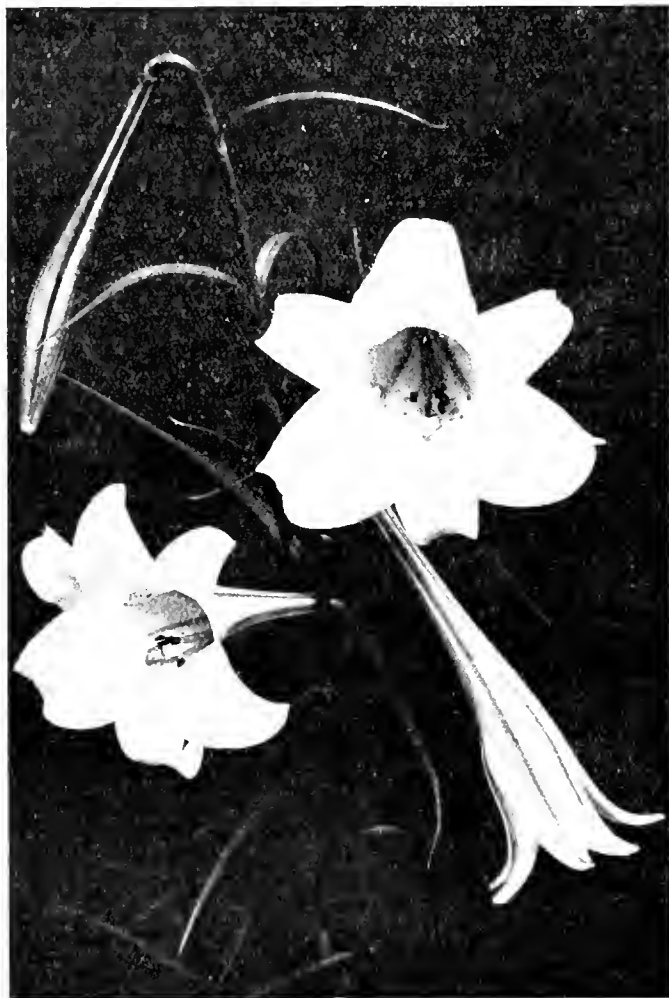
All the *odorata* varieties are valuable, but must have sunny and sheltered spots to do well. The flowers are extremely shapely, with incurving petals, though it must be confessed that it is a pity that they close so early in the afternoon. Varieties are quite numerous, and among these a note should be made of *o. exquisita*, bright rose with yellow stamens, of moderate growth; *o. luciana*, medium sized, carmine rose; *o. maxima*, large white, tinged with flesh pink; *o. sulphurea*, sulphur yellow, powerfully fragrant, with wonderfully marbled leaves. *Pygmæa* is the smallest of the family, with leaves that do not exceed 2ins. or 3ins. in width and pure white flowers very freely produced. *P. helvola* is a form of this, with very fragrant pale primrose flowers and dark green leaves that are prettily spotted with reddish brown. Both of these are superb for growing in the basins of fountains, and in this connexion, too, a word must be said

LILIES OF A DECADE: 1912-1922

IN 1912 *Lilium regale* received the award of merit. I remember thinking at that time that it was one of those flowers that look too delicate for the garden out of doors. To-day it has become well known for its hardy constitution and the freedom with which it flowers and seeds. Moreover, it has revealed

horizontally or slightly drooping. The stems are about 1½ ft. to 4 ft. high, and are densely covered with long, narrow leaves. From year to year it is becoming better known and more common, and there is little doubt that it will ultimately vie with the older *Madonna Lily* for first place in the garden. In America it is grown largely

feet to 7 ft. high stems, bearing from six to fifteen flowers that appear to be something between *sulphureum* and *Brownii*, but with the length of the tube in one, blended with the breadth of the other, and perhaps larger than either. It is white, flushed internally with yellow in the narrow end of the trumpet, and externally each petal is shaded



CHARMING AND EASY—*LILIIUM PHILIPPINENSE FORMOSANUM*, PRICE'S VARIETY.



THE SPLENDID MANY-BLOSSOMED *LILIIUM CENTIFOLIUM*, MAINLY WHITE IN COLOURING.

to many people who would never have thought of sowing seeds how easily it and other members of its large family can be raised from seed. It has been so often described since those days that detailed analysis of its charms is no longer necessary. It is one of those lilies that are generally described as funnel shaped, but at certain angles appears to go some way towards the trumpet shape. The ground colour is white, but it does not give an impression of pure white. This is due to the fact that the interior is faintly tinted in a varying degree with very pale yellow, and the exterior is shaded with a brownish red tint that extends throughout the length of the petals, but gradually pales to pink near the lower portion. The petals being translucent, this colour shows through them and gives the portion of the interior that is not yellow a faint pink tint. The texture of the flower is silky, and the result is that the interior suggests pearls that are faintly flushed with pink. It rarely produces more than four flowers on each stem, and these are borne almost

for florists' work, and in this country it is not unknown to the best florists, but the supply is not sufficiently plentiful to make it popular. Out of doors or as a pot plant it is equally successful. Its flowering period, July, can be anticipated by several months by gentle forcing, and if there were enough of it there should be no difficulty in retarding it for winter use. It was collected by Wilson in China, and the award of merit was subsequently raised to a first-class certificate in 1915.

Another Lily that came into the public eye in the same year was *warleyense*, which was also given a first-class certificate, but its name has since been determined as *Willmottii*. Though it may never be as plentiful as *regale*, it has a really good constitution, and won its way to the hearts of all garden lovers by its light, slender habit and the graceful carriage of its brilliant orange red flowers, which is enhanced by the slenderness of its foliage.

Perhaps the most startling introduction of the last ten years is the wonderful *centifolium*. Six

deep crimson brown down the length of its centre, which shades quickly away towards the edges to a pale brownish red mingled with white. Lilies as a genus have no particular love for chalky soils, but this has been known to do well in such conditions and grow 6 ft. high, bearing as many as fifteen flowers. It received a first-class certificate under the description Farrer's No. 316. It was found by the late Mr. Reginald Farrer in a cottage garden in China during his first expedition. It is still scarce in commerce, although there are a few private gardens with quite a nice little colony of it.

Of quite different characteristics is the much smaller-habited *L. philippinense formosanum*, Price's variety. Found at an altitude of some 8,000 ft. in Formosa, the authorities have expressed certain doubts as to its correct name, and the result is that it has to be labelled with a cognomen that contains many more letters than the plant has inches in stature. In some respects it is, unlike any other Lily. None has the great length

of tube in proportion to the size of flower. No other has the dainty grassy foliage of a brilliant luscious green. None flowers quite so quickly from seed, not even regale. The length of the tube of its trumpet-shaped flower is very remarkable, and the purity of the white internally is beautifully contrasted to the deep ruddy brown that marks the central midrib on each petal externally. It received the award of merit in 1921, although it had been known in gardens for some time previously.

Two new Lilies that were shewn for the first time in 1921 that have some points of resemblance, although they are in many ways distinct, are hybrids obtained by crossing Martagon and Hansoni, the latter being, of course, a "Martagon" in type itself. Only two have so far been exhibited, although there is a wonderful variety in the remainder. Both are giants, 5ft. to 6ft. high, and bearing anything up to about thirty flowers on a stem. Mrs. R. O. Backhouse is orange yellow with pronounced purple spots, and its companion, Sutton Court, has the same yellow groundwork, which it, of course, gets from Hansoni, but in this case the yellow is flushed with pink, and the spots almost amount to blotches of deep purple brown. The constitution appears to be as good as that of either of the parents, which is saying a great deal, as the Martagon (the Turk s-cap Lily of the old English garden) is perhaps the most persistent of the genus in the garden of to-day.

Another hybrid, or almost a race of hybrids, seeing how variable it appears to be, is sulphureum, obtained by crossing the July-flowering short-flowered regale with the late September-flowering sulphureum, a very long trumpet-shaped flower. This was an ideal cross, and had the results been more carefully preserved its popularity would not have been so tardy. But it is unfortunately the case that most of the bulbs in commerce are seedlings from the original hybrids, and there has been a certain amount of reversion to type among them. Some are little removed from regale, but where the selection has been careful and the truly intermediate type is obtained, it is indeed a wonderful plant. Both parents having yellow in the interior, this, of course, remains in the children, but the most noticeable effect has been to lengthen the flower-bud until it approaches that of sulphureum. Stature has been added to regale, the flowering period of regale has been retarded for several weeks, the size of the flower increased, and the colouring is so exactly balanced between the two that one hardly knows whether to call it a late regale or an early sulphureum. On the whole, however, the balance is in favour of calling it a later, much improved and larger regale.

The first of the last two that I shall notice among Lilies of ten years is Farreri, which Mr. Farrer himself called the "Marble Martagon." It is a slender-stemmed Martagon about 3½ ft. high with several white flowers that are internally spotted with purple. Perhaps it is rather for the specialist than the ordinary gardener, although its constitution is quite good. It, however, lacks that highly decorative quality that goes to make flowers popular except with the understanding few.

Lilium pseudo-tigrinum is a garden Lily of the first order. Its tall, slender stems, with numerous orange reflexed flowers (5ft. high and carrying twenty flowers is a common experience) is altogether the finest thing in its class of recent introduction. Found by Mr. Forrest during one of his earlier expeditions, it has become a well known garden plant, and is likely to become more popular still. Its wonderful orange red flowers, an orange that deepens to crimson in well defined points over a

portion of the interior of the flower, are quite sufficient in themselves to attract attention to its merits, but its exceeding grace of carriage and dainty narrow foliage ensure for it a place in the hearts and gardens of all flower-lovers.

Other Lilies there have been during the last ten years, but not many of them are for the average gardener. Beautiful they are or were, for Lilies come and Lilies go, but not all go on for ever. There was that wonderful cross between auratum

and speciosum made by Mr. Hayward. In itself it was a glorious plant, but it has apparently disappeared from mortal ken. For years certain species cease to be obtainable, and then some fortunate circumstance brings them back to the knowledge of mankind. Many beautiful hybrids have seen the light of publicity for a short year or two and then gone to a bourne from which they never return, leaving nothing but the fragrance of a memory. These were not for the great world of garden-lovers but for the select few. G. D.

THE BORDER CARNATION

THOSE who have not procured and put out plants of any new varieties of Border Carnations they may want for the border should do so without delay. Ground in thoroughly good heart should be reserved for these plants in an open, sunny position. That it should be free from wireworms and other insect pests goes without saying. The Carnation abhors hollow ground, so that planting should be done when the ground is in nice planting condition and be made firm around the plants. As a rule, soil which really suits Roses and Strawberries will suit Carnations also. Fresh manure should never be applied to the Carnation-bed, for the Carnation is anything but a gross feeder, but the addition of some old mortar-rubble is advisable. Attention has lately (and very wisely) been focussed upon the new race of hardy clove-scented Carnations, or, as they are more familiarly called, "Border Cloves." This appreciation of the Clove must not, however, cause us to overlook the very real advance that has been made of late years with the ordinary Border Carnation. That this advance is not appreciated by everyone is obvious when one sees the numbers of gardens in which the Border Carnation finds no place. Were the absolute hardness, floriferousness and dwarf habit of the newer varieties thoroughly understood, the popularity of the flower would increase by leaps and bounds.

Lists of standard varieties have often appeared in THE GARDEN. We will on this occasion content ourselves with mentioning a few of the best novelties. King of Cloves is probably the best Clove-scented Carnation so far produced. It is a deep glowing ruby crimson shade of fine shape and good size. The plant is an exceptionally strong grower, the stems are as stiff as could be wished, and the calyx does not split. Scarlet Clove is a fine flower, a good grower, and has also a perfect calyx, but its colour

is hardly scarlet except, perhaps, as it opens. The expanded flowers are coral red. This is a good and showy variety. Other noteworthy novelties (not Cloves) include Kelso, a wonderful fancy variety, the colour being reddish apricot striped with greyish purple; Viceroy, a splendid flower, has deep carmine-crimson streaks and edges on a rich yellow ground; Maréchal Niel is a huge and handsome soft yellow self; Lomond Hills, primrose yellow edged and marked greyish heliotrope—a fine border plant and unique in colour. The above are a selection of Mr. Douglas' novelties. Messrs. Lowe and Gibson are sending out Jessie Murray, which is milk white flecked



BORDER CARNATION VICEROY, CARMINE AND YELLOW.

with lavender and fragrant. This rather reminds one of the new and happily named Perpetual variety Chintz. Jessie Murray is free to flower and of excellent habit.

SPRING FLOWERS AT VINCENT SQUARE

ON each succeeding occasion the Royal Horticultural Society's meetings become more spring-like in character, and this, with the bleak weather of February 27 last, was very grateful. Messrs. Carter and Co. had a very artistic display of spring bulbs, and their many Tulips made a splendid show. The shallow basket of Tulip Prince of Austria was especially striking.

Messrs. R. H. Bath, Limited, had a rare lot of bulbs in fibre, including excellent Hyacinths, Tulips, Daffodils and Snakesheads.

From the true Daffodil-lover the superb collection of Messrs. Barr and Sons demanded most attention. It is safe to say that never before have so many excellent seedlings been on view. Their seedling Trumpet varieties were superb in the quality of the floral segments and the richness of their colours. Besides these there were two blooms of Incomparabilis seedlings of great size and possessing large coronas of intense fiery orange colours. Of their named Trumpet varieties the very best were Anyata, Alicia and Yorick. Adjoining the Narcissi were branches of Cydonia

cardinals and C. Simonii, bearing crimson flowers, and the blush pink Aurora. A splendid collection of pot Hyacinths was set up by Messrs. R. and G. Cuthbert. The King of the Blues were very fine, as also were the spikes of the paler blue Enchantress, Jacques and King of the Reds.

Rhododendrons were very effective, even though most of the trusses came from Cornwall. Messrs. R. Gill and Son had many trusses of the vivid crimson Cornubia, with the blush Florence Gill and the white bell-shaped argenteum. In a collection of mixed flowers and plants Mr. G. Reuthe had Rhododendron arboreum seedlings and a good pale pink named R. prævernum.

Saxifrages were plentifully shewn by the exhibitors of alpine, and among these it was those with pink flowers that attracted most admiration. Saxifraga Irvingii in the collection of Messrs. Bunyard and Co. was larger, though paler in colour than usual. Deep pink colour was present in the flowers of S. Wetterhorn, shewn by Messrs. Maxwell and Beale, and also in S. oppositifolia splendens, in the collection of Messrs. R. Tucker and Sons; while Mr. W. Wells, jun., shewed the variety Latina, which bears plenty of flowers of pleasing rosy mauve colour. Rich colour was also present on the bracts of S. Grisebachii Wisley variety, which was shewn in quantity by Mr. Clarence Elliott. Goodly batches of S. Elizabethæ and S. apiculata in the same exhibit were masses of soft yellow colour.

Hepaticas, which are much rarer in gardens than a quarter of a century and more ago, were to be seen in several collections of hardy flowers, and Mr. F. G. Wood also had desirable clumps of the old-fashioned double mauve Primrose. He also shewed little bushes of Daphne Mezereum with stems circled with flowers. At one end of his exhibit Mr. Wood had a few of his exceedingly useful optical squares by which right angles may easily be set out when laying out fresh features in the garden.

Polyanthuses of great merit were staged by Mr. G. W. Miller, and the Chalk Hill Nursery Company, Reading, had several pans of Primrose True Blue, of uncommon sky blue colouring, and they also had pans of Cyclamen Coum rubrum of rich deep colour. Deep blue colour was seen in the flowers of Pulmonaria azurea in the little spring garden of Messrs. J. Cheal and Sons.

A large number of gently forced bushes of the fragrant Viburnum Carlesii, together with Osmanthus Delavayi, Pyrus floribunda and various Brooms were well shewn by Messrs. Wallace and Co., and the Azaleas of Messrs. L. R. Russell, Limited, were very effective. At one corner they had a small pot plant of Orange Otaheite unusually well flowered.

A large collection of splendid Cinerarias was set up by Messrs. Sutton and Sons with all their usual taste and skill. The large stands of pink shades were very effective, and the Forget-me-not Blue variety was most appropriately named. Rich glowing colour was provided by the velvety blooms of Superb Scarlet and the graceful stellata varieties were also well represented.

The first Roses of the season were shewn by Mr. Ulisha Hicks, and among them was a vase of Gruss an Aachen, a sweetly fragrant Rose somewhat reminiscent of Gloire de Dijon, but quite distinct in foliage. Carnations, as ever, were largely shewn.

Mr. R. A. Malby had a very specially fine collection of photographs of flowering shrubs, and also beautiful coloured transparencies of many different plants and of garden scenes. The transparency of the glowing Rhododendron Ne Plus Ultra exhibited at the previous meeting



SUTTON'S CINERARIA FORGET-ME-NOT BLUE.



HUGE PALE BLUSH BLOSSOMS OF RHODODENDRON CILIICALYX.

attracted much attention. One could fancy one was looking at the flower itself. The whole exhibit was almost as interesting as the collection

Narcissus Golden Herald.—The award was primarily in recognition of its merits as a garden Daffodil, but it should also prove to be a large trumpet variety eminently suitable for market purposes. It is much earlier than King Alfred, to which it bears a little resemblance. It is of rich yellow colour, of large size and substantial texture. Award of merit to Messrs. Barr and Sons.

Rhododendron cili calyx.—This tender species is closely allied to *R. formosum* and *R. Veitchianum* and, like them, is pleasantly though not so strongly fragrant. It was introduced from China in 1900, and differs from the above named chiefly in having a more robust habit, larger flowers and hairs on the calyx. The trusses of white flowers, which have lemon-yellow throats, are very beautiful. Award of merit to the Curator, Royal Botanic Gardens, Oxford.

Rhododendron strigil-losum.—In brief this might be termed a narrow-leaved deep crimson *Rhododendron arboreum*, and it appears to be as hardy as that well known species, but, like it, is liable to injury from severe frosts. The variety is quite distinct in its densely hairy stems and the golden brown tomentum along the undersides of the mid-rib of the leaves. Award of merit to Lady Aberconway.

Saxifraga R. V. Prichard.—At a first glance this would seem to be a less milky white than *S. Burseriana*, but it differs in having a green base to the petals and a small crimson band around the filaments, giving the appearance of a crimson eye. This struck us as scarcely worthy of award. Award of merit to Mr. M. Prichard.

Cymbidium Alexanderi Rosalind.—This is a chaste and beautiful Orchid. The venation of the waxy sepals is lightly flushed with rosy purple and there is a slight sheen of similar flushing on the young flowers. The lip is stained with rosy carmine. First-class certificate to Sir George Holford.

Cymbidium Auriga.—This also is an uncommonly beautiful variety. The general colour is a glowing golden buff, occasionally very lightly flushed with rosy purple. The lip is narrowly margined with white, and next comes a narrow line of stippled rose pink. First-class certificate to Messrs. A. and J. McBean.

Cypripedium Senator.—This is an immense Lady's Slipper Orchid which may be termed a much glorified *Cypripedium insigne*. The large white standard has a distinct pale green base and has prominent chocolate spotting. It is a green-leaved variety. Award of merit to Messrs. Flory and Black.

Odontioda Coligne Rosmary.—A magnificent spike of well formed flowers of gorgeous deep

crimson colour, paler at the edges. There is a golden crest and the segments are lightly blotched with white. Award of merit to Mr. J. J. Bolton.

Odontioda Rufus Wickham Beauty.—A short, erect spike of three large blooms of cloudy, deep crimson colouring which pales considerably towards the margins of the flowers, becoming an apple-blossom pink. Award of merit to Mr. J. W. Bird.

"QUEENS' GARDENS"

THE "old" annexe at Olympia is again given up to gardens designed by Royalty for the Ideal Home Exhibition. The construction of these gardens has been carried out by English nurserymen. Princess Mary Viscountess Lascelles has chosen an undulating woodland scene, and rockwork has been introduced (Sussex sandstone). To complete the picture a rock pool has been added, together with a powerful waterfall of the usual "exhibition" type, which, again as usual, destroys the repose and proportioning of the garden. Messrs. Pulham and Son are responsible for this.

A more restful spring garden, to the design of Her Majesty Queen Alexandra, has been constructed by Messrs. James Carter and Co. Here are to be found drifts of yellow and white Daffodils and a rock pool with a gentle waterfall. The weather-worn rock with Ferns growing by helps to make a pleasing picture. Other flowers in this spring garden are Tulips, Polyanthus in various colours, Snowdrops, a drift of *Erica carnea* and *Prunus triloba*. The whole is backed with conifers, while Bamboos are also in evidence.

A blue garden is apparently favoured by H.R.H. Princess Alice. This takes the form of a raised formal garden with a sunken circular fountain, and has been carried out by Messrs. R. Neal and Sons. The flowers employed are blue Cinerarias and blue Hyacinths—not an ideal combination for this climate!

A Spanish fountain garden of Moorish design is the choice of H.M. the Queen of Spain. The garden is, naturally, exotic in appearance, and the mollis Azaleas are somewhat startling in colour, ranging as they do from pale yellow to salmon. However, the garden in a congenial environment would no doubt be very beautiful. It is paved with red tiles, and is entered by a fine Italian wrought-iron gate supported by quite inadequate piers. Mr. G. G. Whitelegg, who has carried out the construction, is fortunate enough to have in his possession two very fine old stone seats, and these he has admirably placed just inside the garden. This garden is surrounded by a rough white Moorish wall. A garden house, also in roughcast, with wooden beams across the top terminates this quaint garden. Apart from this garden Mr. Whitelegg has made a small rock garden, which is skillfully planted with such plants as Saxifrages, including *S. Elizabethæ*, *Iris bucharica* and *I. orchoides*. Dwarf conifers have also been introduced. Constructed of Yorkshire stone this garden is attracting much attention. It should make special appeal to those whose gardens are somewhat limited in area.

Messrs. W. H. Gaze and Son have made for H.M. the Queen of the Belgians a formal garden surrounded by a Yew hedge. A long, narrow sunken pool runs down the centre of the garden, and is edged with *Iris tingitana* and white Arums (*Richardia*) are employed in the water. A fine old stone seat is at one end of the garden. An Italian wrought-iron gate at the side gives entrance to this garden, which is very restful and pleasing.

Further particulars of the gardening side of the Ideal Home Exhibition will appear in our next issue



LIKE AN EARLY KING ALFRED, NARCISSUS GOLDEN HERALD.

of cone pictures, which a month ago received a well deserved silver-gilt Grenfell medal.

NEW AND RARE PLANTS.

Arctostaphylos Manzanita.—This name will be strange to many lovers of hardy trees and shrubs, although they will be thoroughly acquainted with its near ally, *Arbutus Unedo*. In general appearance when in flower this small tree or large shrub might be described as being an *Arbutus* with the foliage of a *Eucalyptus*, but it differs from both in its brownish red, smooth fruits, though it has not been known to fruit in this country. It was introduced from California in 1897, and the specific name *Manzanita* is the old Spanish-Californian name for the Bearberries generally. A splendid vase of flowering branches was shown, and this, with the large panicles of white Lily of the Valley-like flowers slightly flushed with rosy purple, the stiff, heart-shaped, grey-green leaves and purple stems was strikingly beautiful. First-class certificate to the Director, Royal Gardens, Kew.

Primula Juliae Hector Goode.—This is the largest-flowered of the *P. Juliae* varieties, and the massed plants bearing plenty of rich purple flowers, which have velvety crimson zones and a distinct pale golden eye, were particularly effective. Shewn by Mrs. J. J. Goode.

WHAT IS A MORAINE?

IN an English gardening sense the "moraine" is a quantity of stones, watered from below, devoted to the choicest and most delicate alpine plants. The Rev. Wolley Dod thirty years ago wrote me once of an experiment he was making at Edge Hall for the culture of such things as *Eritrichium nanum*, *Ranunculus glacialis*, etc. He explained to me that he was taught by nature, having seen in the Alps how rich were the moraines in such delicate plants. This is all right and I know his results were excellent. Miss Willmott made something of the sort at Warley, where I saw our best high alpine flowering perfectly on such a construction. Later on, however, I saw so-called "moraines" made of a peat bed covered with stones. This is quite another system of growing difficult alpine—a system I have adopted here for many years. I call such an erection a "tourbière." The turf grounds and peat bogs are, indeed, the best refuges for such plants as cannot tolerate our dry and Continental climate for they are watered from below and continually give off water in the form of vapour, and the stronger the sun the greater the amount of moisture given off. Hence the "tourbière garden" system we introduced at Floraire. We built a long cemented bed 4ft. broad and 3ft. deep. At the bottom we placed, 1ft. deep, rolled stones upon which we placed a bed of moss. Over it we made a good bed of loam and peat. The bottom end has a small opening formed to allow the water, which is supplied to the bed by a little spring and runs underground, to escape. In such a bed the plants never have to be watered, and in such conditions we can grow here in our Continental climate the things you in England may grow under better conditions than we can, as your atmosphere is charged with more water than ours.

But the real "moraine," the one of the Rev. Wolley Dod, is another thing. Take for guidance as to what is a moraine the beautiful work of Professor Tyndall, "The Glaciers of the Alps," and study the matter there! It will be seen that a moraine is a mass of stones, gravel and dirt that the glacier bears on its surface and deposits at its edges and its base. These masses of *débris* which frosts and tempests throw down from the high cliffs are of different natures according to the formation of the rocks (granitic or limestone). Hence the difference of the vegetation on the different moraines.

These moraines are only sand and stones. In time the aspect of them changes, thanks to vegetation. In their lower parts they get the seeds of forest trees, and after centuries have passed timber comes to adorn and vivify them. Swiss Pines (*Pinus Cembra*), Larch and Spruce are the main species. In the higher parts the moraine adorns itself with the choicest of saxatile plants: *Linaria alpina*, *Campanula pusilla* and *CC. cenisia*, *Albionii* and *excisa*, *Androsace glacialis*, *Artemisia spicata* and *A. Mutellina*, *Achillea atrata* and *AA. moschata*, *Herba-rota* and *nana*, *Gemm reptans*, Alpine Poppies, *Edelweiss*, *Antennaria*, *Draba*, *Gentiana alpina* and *GG. Clusii*, *Kochiana*, *verna* and *brachyphylla*, *Crepises*, *Erigeron alpinus* and *E. uniflorus*, *Gypsophila repens*, *Saponaria ocyimoides* and *S. lutea*, *Helianthemum*, *Globularia cordifolia*, *Herniarias*, *Paronychias*, *Jasione*, sometime, but rarely, *Eritrichium nanum*, *Phyteuma hemisphaericum* and *P. paniculatum*, *Arabis cærulea* and *A. alpina*, *Petasites*, *Epilobium Dodonai*, *Oxytropis*, *Potentilla aurea* and *P. grandiflora*, *Primula viscosa*, *Ranunculus glacialis* and *R. alpestris*, dwarf *Salix*, *Saussurea*, *Saxifraga aizoon* and *SS. aizoides*, *muscoïdes*, *aphylla*,

cæsia, *oppositifolia*, *biflora*, *retusa*, *bryoides*, *aspera*, etc.

As will be seen, these plants are frugal species which do not like soil rich in humus. Rather

do they appreciate sandy, gritty soil. They are what we call first "colonisatrices" of the ground and like light and hungry soil.

Floraire, Geneva.

HENRY CORREYON.

A NEW EVERGREEN FLOWERING SHRUB

THAT Californian shrub or small tree, *Arctostaphylos Manzanita*, is one of the most distinct and attractive evergreens in the outdoor garden early in the year. This year and several mild winters of recent years the bushes have been very gay with blossoms during February, but in

Meehan and Sons, Germanstown, Philadelphia, U.S.A., early in 1897. The *Arctostaphylos* belongs to the Natural Order Ericaceæ, and is allied to the *Arbutus*, thriving under similar cultural conditions. In the lime-free and well drained sandy loam at Kew peat and leaf-mould are added previous to planting. Unsatisfactory results obtained in germinating imported seeds suggest that exposure to frost, steeping in boiling water for a few seconds, or subjecting the seeds to fire-heat are desirable to penetrate the hard seed-coat formed through ripening in hot, dry regions. Failing seeds, I see no reason, why grafting should not be a successful means of propagation, using *Arbutus Unedo* as the stock. The hard and smooth nature of the wood does not lend itself to increase by cuttings or layering, at least we have so far failed in these respects, but it is a field for further experiment both as to the season for such work and the nature of growth selected. Transplanting is not an easy matter, and we find it best to grow the plants in pots until large enough or the position is ready for the permanent planting.

When exhibited by the Director of the Royal Botanic Gardens, Kew, at the R.H.S. meeting



THE SPLENDID BEARBERRY, *ARCTOSTAPHYLOS MANZANITA*.

normal winters of frost and snow, March and April is the usual season of flowering. As, however, the flower-buds are formed by the autumn, there is always a certain amount of interest during the winter in watching the progress of their gradual development.

The common or popular name of *Manzanita* is used for all the members of the genus in California, but it is used in particular for the subject of this note, which is undoubtedly the most beautiful member of the family.

Travellers describe the native bushes as sprawling shrubs, varying considerably in height from 1ft. or 2ft. at high elevations to 20ft. to 25ft. in good soil at lower altitudes, with a trunk 10ft. or 12ft. in girth, and a spreading head of considerable dimensions. Under cultivation it forms a wide spreading shrub up to 10ft. in height at Kew and as much in diameter. The largest plants were raised from seeds obtained from Messrs. Thomas

on February 27 this fine evergreen shrub received a first-class certificate.

The thick, leathery leaves vary in shape from ovate to oval, 1½ins. to 3ins. long and 1in. to 2½ins. wide, entire and grey-green in colour. The flowers are freely produced in short terminal panicles, the individual blossoms pitcher-shaped, about ½in. long. Seen at a distance the colour, as seen in the hall, appeared to be white; but on the bushes the flowers are flushed with pink. No doubt in pure country air the flushing would be more prominent than at Kew. Other notable features of the bushes are the shining dark red younger branches and leaf-stalks, and the red bark of the stems, which flakes off in spring.

Had the flowers been removed from the cut sprays seen in the hall the stems and leaves might very easily have been mistaken for those of some *Eucalyptus*.

A. O.

TOWN GARDENS

GARDENS in the country are not so very wonderful, although one may sometimes be surprised at the wasted opportunities to be seen in them; but gardens in towns, big, sprawling, smoke-enveloped cities, are another thing altogether.

Nearly everyone loves flowers, although probably most of us would think a lot more of them if we understood only a small part of their wonderful complexity of form and the way in which their every part is essential to the rest of the plant and has its definite work to do. It is human nature to value most that which costs us the most in time and trouble, and it is more than likely that as much pleasure will be derived from the small town garden as from the more easily made country one.

Yet even if the town garden is small and enclosed and smoky, it may be made surprisingly beautiful, and often in a way that even the size of a country garden might make impossible.

To begin with, a small garden must have definite form. Its enclosing walls, the borders and paving all must be in harmony with and proportional to the size of the house. Walls and boundaries are generally existing, and one has to cover them with climbing or other plants; but the ground, probably an uninteresting combination of dank-looking borders and dirty gravel paths, will almost certainly call for treatment. After the borders are marked out and replenished with fresh loamy soil the rest of the space should be paved with York stone or red brick or whatever is most in character with the architecture of the house.

Paving must be carefully fitted and laid, and except for a slight fall to the most suitable spot, it must be level. It is an erroneous idea that in order to be beautiful, walls and pillars must look as if they are falling down, and paving be uneven and offer traps and pitfalls for the unwary.

Having seen to the walls, the next thing is the paving (never use cement or concrete for this). Although paving costs a certain amount to start with, it is really economical in the long run, and it has many advantages. It is dry even quite soon after a shower, and its colour, especially just after rain, can be very beautiful; besides, it is there for always, and one can make a home for some plant in every crack and crevice in a way impossible with a gravel walk, for one could not possibly cover the gravel walks with *Thymus* or dwarf *Campanulas*, or the gardeners, if there were any, would probably give notice in a body.

In a town garden, once it is made and planted, it might not matter so very much if the gardener or gardeners did go, for in a small, properly made garden there is really very little work, and that little very much a pleasure to do. It is always advisable to have the garden properly designed, made and planted to start with, and afterwards there will probably be little trouble.

But a garden, even in London, must, if it is a garden at all, have plants, and it should be filled with them, the walls should be covered, borders filled, and boxes, tubs and vases all be made to add to the beauty of the scene. There are numbers of climbing plants for the walls. Vines do well in London, and the ornamental ones, *V. Thunbergii*, *V. Coccinea* and *V. armata*, all have large, handsome foliage, colouring well in autumn; while *V. purpurea*, although not so large, is purple all through the summer.

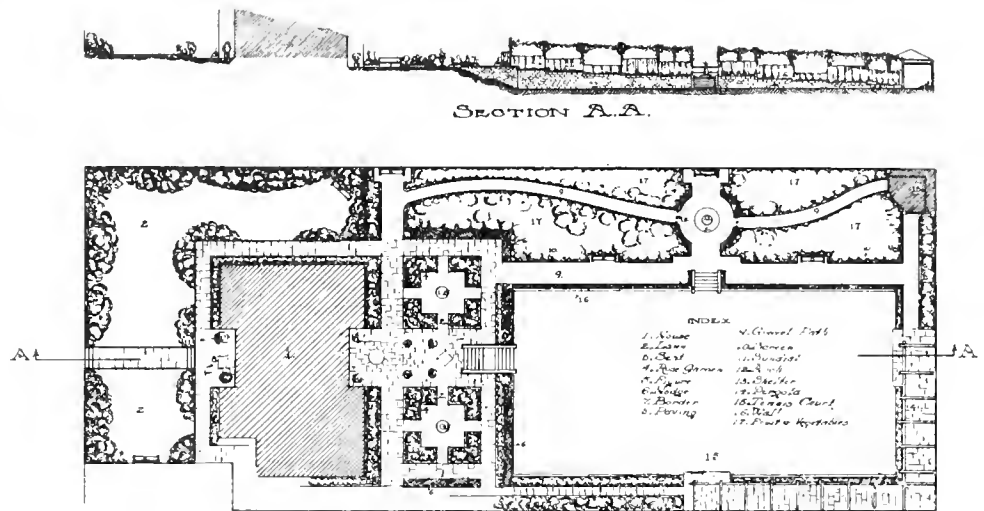
To begin to make a London garden is something like starting on a voyage of discovery. One is never quite sure what plants are going to thrive and what will gradually wither and die. There are unexpected pleasures, and, as well, there are

disappointments. The pleasures, nevertheless, far outweigh the disappointments, and if one is artist enough to use or to appreciate the use of all materials—bricks, stone, timber, plants—as they should be used, everything subservient to and helping to make the finished whole, then one may have tremendous and mending pleasure from the results of one's thought and work.

Proportion is the essential factor in all good design, and this applies equally to planting as to the actual constructional work of the garden. The plants must be to scale, and very strong-

most suitable Roses, such as Dorothy Perkins, Lady Grey, etc., and treat them as ordinary climbing Roses, that is, to grow them to the top of the walls and treillage, etc., and then let them hang down as they like. They will probably grow and flower more freely for being higher up, and it is at the top of the walls they will be most effective.

As regards backgrounds, the colour value of some dirty old walls is wonderful. They can, it one likes, be covered with treillage, and the treillage can be an essential part of the design of the garden, or the climbing plants may be nailed to the walls. Treillage can, however, be a very effective part of the treatment of a town garden. It can be used



A NEAT TOWN GARDEN PLAN.

growing ones must be kept out of a tiny garden. Fortunately, the number and variety of plants from which to choose is so great that one can have what one likes for small or larger gardens.

Unless the garden is very enclosed, there are many plants that will stand permanently even the London atmosphere, although I do not think as a rule it is so much the atmosphere as want of sunlight and air that are the greatest enemies to plant life in large towns. Nearly all bulbs are safe for a season, and some for longer. The hardier Ferns will most of them do well, and among them in a shady border may be planted the varieties of *Lilium tigrinum*, the glowing orange scarlets of which are very effective against the dark green Fern fronds.

Lupins do well almost anywhere, especially the blue and white herbaceous ones, and the rose-coloured ones will succeed under fairly favourable conditions. Delphiniums, again, are valuable as permanent residents, but only the well known older sorts of proved constitution should be planted. The stately spikes and beautiful colours of these handsome plants will give tone to any border.

To return for a moment to what I will call the constructional work of the garden, if possible have some little dwarf walls in it somewhere; they can generally be arranged across an end of the garden or, perhaps in a corner. They should be coped with York stone and built just high enough to sit on. They will make handy seats, but one must have cushions or something else to put on them. They are also excellent for standing bowls and pots upon, in which may be grown some especially valued plants.

Roses, Clematises and other flowering plants should be planted to grow over and among the Vines and Ivies that clothe the walls, for the sake of the colours of their flowers. It is a good idea to plant weeping standards of some of the

to block out unsightly corners, and it is easier to train growing plants to it than to nail them on to walls; also the effects of light and shade are much richer because of the extra depth of shadow.

It is well to have good clumps of the permanent residents in the garden, and to fill in annually with groups of plants that may be relied upon to give plenty of colour through the summer and to stand the London atmosphere. Other plants that will stand the confined town conditions are Hollyhocks, some of the stronger-growing Chinese *Pæonies*, *Antirrhinums*, the invaluable Catmint (*Nepeta Mussini*), the different varieties of *Chrysanthemum maximum*, *Alkanet* (*Anchusa*) and most of the perennial *Asters* (*Michaelmas Daisies*).

In a small town garden it is an easy and a comparatively inexpensive matter to keep the borders full of plants and colour for eight or nine months of the year, from early spring until the first severe frosts spoil the later blooms of Dahlias and outdoor *Chrysanthemums*.

For the summer, after the early bulbs and other spring-flowering plants have been cleared away, the spaces left should be filled with *Begonias*, *Geraniums* (the Ivy-leaf sorts stand shade better than Henry Jacoby and Paul Crampel), *Marguerites*, of which the double one is the nicest; *Heliotropes*, which, like *Begonias*, rather like a certain amount of shade; and in some places *Verbenas*. *Fuchsias* are most accommodating, and can be grown on in pots from year to year into quite large plants, as they need little attention during the winter beyond being stored in some frost-proof shed or outbuilding and an occasional watering.

Young plants of hardy annuals, such as *Giant Comet* and *Ostrich Plume Asters*, may be planted in sunny spots; but, for London, plants such as *Zonal* and *Ivy-leaved Pelargoniums*, that may be planted just as they are beginning to flower, will generally give far better results than those

that have to grow and flower later. Pentstemons do not do well in enclosed places; they grow too high and do not flower freely, but Pansies and the different strains of Violas may all be planted freely.

No opportunity should be lost in London of carrying one's garden as far up the walls as possible. Walls, balconies, window-boxes should all be covered or filled with growth, and flowers of plants and creepers, Pentstemons and Ivy-leaf Geraniums can hang their graceful sprays from window-box and hanging basket so that the eye is carried upward by the continuity of colour, and pottery and vases also filled with one's favourite flowers can stand about on walls and paving, giving, if they are well chosen, just the finishing touch to the garden.

Do not forget that in a town garden the paving itself is a garden, and every joint and crevice can be planted with some dwarf plant. See that the paving is in rather big pieces, so that there is plenty of room to walk about without treading on the plants, and Thymes, Alyssum, Aubrietia, Thrifts, Menthas and Arenaria can fill every line and joint and add greatly to the beauty of the garden.

There is very much of both health and pleasure to be derived from the making and care of a town garden, and for those who are kept much in town it will add greatly to the pleasure of life to have even a small garden wherein, even in the heart of a great city, they can be amid the flowers.

PERCY S. CANE.

CORRESPONDENCE

THE HARDEST SCHIZANTHUS.

HAVE fellow gardeners in England found out how much harder the dwarf *Schizanthus wisetonensis* is than the typical *S. papilionaceus*? After several years of trial I have never known it suffer materially from the worst frost or bad weather on this coast, and I feel pretty sure it would succeed in the South of England if grown in cold frames that were never closed down tight at night or shut up at all, save in the worst weather. Its charmingly cut green foliage and stocky growth would make a very useful contrast to the flowering bulbs and Polyanthus of English gardens. Here it begins to flower in January, but the end of March would be early enough for England, while its dainty pink or white flowers continue for two

it he says that the ample material sent him last autumn agrees with the only English specimen he had previously seen, and confirms his belief that "the *C. eriophorum* that occurs in England is certainly different from the forms found on the Continent; a good race and easily distinguishable by the structure of the scales of the involucre and the size and shape of the flower-heads." Dr. Petrak's Monograph on the genus *Cirsium* is not yet published, it having been delayed by the war.—H. S. THOMPSON.

A BEAUTIFUL CODONOPSIS.

I HAVE often wondered why that beautiful Bell-flower, *Codonopsis ovata*, is not more grown in gardens. Its flowers are interesting as well

belonging to the main genus. *Codonopsis ovata* is certainly a beautiful plant—it is illustrated herewith—and so far as we are aware it is of the easiest culture. It is certainly so on light soils. Perhaps other readers will give us their impressions of the plant's needs and the reason for its comparative unpopularity.—ED.]

TWO CAPITATA PRIMULAS.

HAVING cultivated that lovely species *Primula sphærocephala* for a few years, I was very pleased indeed to see it brought to public notice in THE GARDEN on February 3. This charming *Primula* was collected in the Kari Pass, Yunnan, by G. Forrest and introduced to cultivation by Bees, Limited, in 1908. It is still rare in gardens. Why I do not know, for it is easily procured and not difficult to cultivate; in fact, it will flourish in ordinary soil, but prefers a good loamy soil with leaf-mould and sand added. It requires a fair amount of moisture and moderate shade to get it to perfection. I consider *P. sphærocephala* one of the most beautiful of the smaller Chinese species yet introduced. Moreover, it is quite perennial, although, to keep up vigorous plants, seed must be sown every other year. The flowers are of a purple-blue shade sprinkled with silver meal. Some writer aptly described it as resembling a bunch of violets that has been dipped in the flour bag. *P. sphærocephala* is closely related to the Indian species *P. capitata*, but the difference is readily noticed when they are seen growing side by side. *P. pseudocapitata* is another fine Chinese *Primula* of the same group. We owe its introduction also to Bees, Limited, and to Kingdon Ward, who collected the seed in North-West Yunnan in 1911. *P. pseudocapitata* is quite hardy and a grand companion to *P. sphærocephala*. It makes a grand show when planted out in large groups and enjoys the same soil and position as recommended for the already mentioned species. The flower-heads are rather flat and quite distinct from the other species. Several of my friends seeing *P. pseudocapitata* for the first time have remarked, "Is this a new *Scabious*?" The flowers are purple but smaller than any of the other *Primulas* of the same section. These charming Chinese *Primulas* and many others are admirably grown by Messrs. Oliver and Hunter, nurserymen, of Moniaive, Dumfriesshire, where, towards the end of last summer, I had the pleasure of seeing two lovely forms selected, one from each species under notice. The plants are more robust in every way, the flowers larger and of a darker shade than the types. If these improved forms come true from seed, they ought to prove a welcome addition to our gardens.—WANDERING SCOT.

FRAGRANT FOLIAGE.

AMONG old-fashioned plants in country gardens one still comes across on rare occasions collections that are valued, not so much for the blossoms they bear, but for the pungency of their leaves. One has but to mention Rosemary and Lavender, Myrtles and Sweet Briars, bushes of which are allowed to go from year to year until they assume large proportions, and in not a few instances appear to have become, like the trim Box edgings skirting the paths, part and parcel of the homestead. I venture to say that there are readers of this note who have a recollection of the time when scented-leaved plants like Bergamot and Baln of Gilead (*Cedronella*) and Old Man (*Artemisia Abrotanum*) occupied places in certain gardens years ago. Who to-day considers them fit for planting in a border much less holds them suitable for cutting for a bouquet? Yet our grandfathers did! In the greenhouse too, in former days the Lemon-scented Verbena (*Aloysia citrodora*) had its allotted space, and



A NEAR RELATIVE OF THE CAMPANULAS, CODONOPSIS OVATA.

months or more. It is a most useful and enduring annual.—E. H. W., *Nuc.*

AN ENGLISH THISTLE.

IN my illustrated note on that handsome Thistle, *Cirsium eriophorum* (October 28, 1922), it was briefly stated that Dr. Petrak of Czecho-Slovakia calls the English form sub-sp. *anglicum*. A second letter from him has at last arrived. In

as beautiful, and its bluish-mauve colouring is attractive. On my light, warm, sandy loam I have never found any difficulty with it, either in full sun or in semi-shade. It is a good perennial also, yet it seems little grown. Can someone tell me why?—S. S. Warwickshire.

We might hazard a guess that there are so many fine Campanulas that gardeners usually overlook other Campanulaceous plants not

the highly perfumed Stag's Horn Pelargonium was grown as a matter of course. In my youth I remember a greenhouse where a number of "scented-leaved Geraniums" was grown, including an almond perfumed sort known as Pretty Polly. It is the exception to meet with such plants in these days, and, like some of the fancy-leaved sorts, such as Mrs. Pollock, Beauty of Lauderdale, Lady Cullum and Her Majesty, they are fast dying out. We hear numerous complaints as to the lack of scent in Musk, and there is something in the assertions, but certainly the small-leaved variety which at one time had

it comes to perfection outdoors. It is still grown for market.—CLAREMONT.

CROCUS CLOTH OF SILVER.

CROCUS CLOTH OF SILVER, which is a form of *C. biflorus*, is valuable because, like the early-flowering yellow Dutch Crocuses—forms of *Crocus aureus*—it is early flowering. There are, of course, beautiful white forms of *Crocus vernus*, but these usher in the Daffodils. Late flowering may be forgiven to the glorious purple Crocuses, but when the Narcissi bloom there is little scope for other flowers of white or

positions, towards the back of a rockery where a tree gave partial shade but also tended to draw the growths unnecessarily, and on a sloping bank, which position gave to the foliage a somewhat hardened and bronzy look rather than a withered appearance as mentioned in the note referred to. In neither site was winter protection given. Of course, one of the best, perhaps the best, of the Rues is *Thalictrum dipterocarpum* with a violet or purplish inflorescence, the only species, I believe, that has gained the award of merit of the Royal Horticultural Society.—C. T.

I HAVE plants of this passing through their ninth winter here without any protection whatever beyond what is afforded by their own dead foliage. We are 500ft. up, exposed to all winds, with a clay subsoil, the land around here being very damp in winter. From sunrise to noon the plants get every ray of sunlight, after that the shadow of the house is upon them, except in summer, when they enjoy an hour or so of sun down the passage between this house and the next, and that frequently makes their position draughty. Also they get all the east and north-east winds. I therefore consider it perfectly hardy.—ALAN HIBBERT, *High Lane, near Stockport.*

HAVING grown *Thalictrum adiantifolium* for a number of years in a Northumberland garden. I can speak of its hardiness. Several plants were in a border partly shaded by a large *Araucaria imbricata*. These did well each year, although they had no protection during the winter. The soil in which they were growing was well drained and had a good deal of lime-rubble mixed with it, also leaf-mould.—C. L. CAWELL, *Yorks.*

DAPHNE BLAGAYANA.

THE genus *Daphne* provides us with some of the choicest of spring-flowering shrubs. Its delicious perfume appeals to all. *Daphne Mezereum* is one of the best known of the genus, and its leafless stems covered with crimson-purple flowers are very frequently seen in gardens before the snows have disappeared from the hilltops, and its delightful fragrance can easily be felt some distance away. *Daphne Blagayana* is quite a different type of plant. Instead of growing erect like the *Mezereum*, its growth is straggly and evergreen, spreading itself along the surface of the ground. It is seen to advantage in the rockery, where its long, slender shoots wind in and out among the boulders. The flowers, which are produced in terminal clusters on the previous year's shoots, are creamy white and deliciously fragrant. It is a pity this choice little shrub is not more frequently grown; it is quite hardy and not at all difficult to grow. One of the finest plants we have seen is in the interesting rock garden at Ochilview, near Perth.—ALBYN.

A FAIRY CROCUS.

CROCUS *ÆRIUS* has been well called a "fairy Crocus," as it is a gem among the many jewels which constitute the family. It is, unfortunately, not always long-lived, and in northern gardens has not generally proved so satisfactory as many of the race. It is difficult to describe all the lovely tones of blue or lilac it affords us, and these are so delicately shaded and combined that a group of flowers will well repay some study and will afford endless delight when in bloom and open to the sun. The charming featherings immensely increase the pleasure it affords. *C. ærius* is one of the early-blooming Crocuses, and should be represented in all good collections of these fascinating flowers, even deserving the shelter of a frame where it is not so long-lived as we would like.—S. ARNOTT.



A CLUMP OF CROCUS CLOTH OF SILVER.

its place in many a cottage window possessed fragrance both in flowers and foliage.—W. LINDERS LEA.

[It had not occurred to the Editor that Lavender, Rosemary, Sweet Briar or Old Man were going out. He would rather have said that they were being planted to a much greater extent now than they were two decades ago. Quite a collection of *Artemisia* is now grown because of the silvery beauty of the foliage.—ED.]

AN OLD FAVOURITE.

IT is questionable whether there are many Chrysanthemums grown to-day—if any—that were contemporary when *Source d'Or* was introduced in the early 'eighties, and the explanation why this has survived the years when so many beautiful sorts have gone out of existence is to be found in its colour—old gold. It is well known that size of bloom was a great factor (and is, indeed, to-day) in the matter of exhibition blossoms, and whatever other qualification a variety possessed, little regard was paid to it if it fell short of the monstrosity. *Source d'Or*, however, because of its delightful colour, although it has long since been relegated to the decorative section, has never really been superseded, even if it has been improved upon at all, and there are growers of Chrysanthemums for home decoration to-day who hold this sort in much esteem. It is an early mid-season variety, right for blooming in a cool house, needing little or no artificial heat; indeed, in favourable seasons

yellow colouring I was glad to see the article on Crocuses. Few gardeners have any idea of the number of varieties or their charm.—S. D.

"ROCK GARDEN" IN EMBANKMENT GARDENS.

I NOTE that in the Embankment Gardens just on the east side of Charing Cross Station the L.C.C. have recently erected a continuous row of large blocks of apparently manufactured yellow sandstone in two or three tiers and about 80yds. long, facing due east and north, with a row of trees immediately behind (on the west side). It would be interesting to have your views on this arrangement, both from a practical and artistic point of view.—MORGAN WILLIAMS.

[The Editor has visited the site and thinks from a practical point of view the arrangement should answer well enough. There is, unfortunately, nothing artistic about the spot in question. The "rock-work" will add little to its amenities and is, from our point of view, a waste of ratepayers' money. The introduction of supposedly natural features, however well done, into the narrow spaces between lofty town buildings offends present-day taste. It is a Victorian survival.—ED.]

THALICTRUM ADIANTIFOLIUM AND ITS HARDINESS.

RE the note concerning the above subject, page 48, January 27 issue, my experience confirms that of the Editor, that this Rue is quite hardy. In a former garden we grew this plant in two

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Carrots.—A few lines of a stump-rooted variety may be sown, but the intermediate or long kinds are best left for a time, until the ground becomes warm and the weather congenial. The seeds should be just covered with fine soil. Carrots enjoy a deeply dug piece of ground without manure. An occasional sprinkling of soot should be given where the carrot fly is likely to appear.

Cauliflowers.—Plants that have passed the winter in handlights or cold frames should be transferred to their final quarters. The ground must be in good heart, and a liberal dressing of partly rotten manure is essential to produce plants of first-class quality.

Cabbages.—There are excellent varieties available for sowing at this period, and this crop usually comes in very useful. A sowing of Red Cabbage can also be made if pickles are appreciated.

Brussels Sprouts.—Seeds should be sown in drills 1 ft. apart to produce a later supply of sprouts. Broccoli should also be sown for autumn use, and the same remark applies to Cauliflowers of the Autumn Giant type.

Spinach.—Where this is in frequent demand an occasional sowing is necessary, and it is a very good plan to sow a line between two rows of Peas, the Spinach reaching maturity before the latter are too far advanced. The Perpetual or Spinach Beet should also be sown in rows 18 ins. apart as it will be found useful when the summer variety is not available and, moreover, it is productive for a long period.

Celery.—Seeds should be sown for the main crop, choosing both a red and white variety. Sow in boxes of light soil and place them in a warm greenhouse or on a mild hot-bed until germination takes place.

The Flower Garden.

Roses.—During the present month the plants in the rose garden and other parts may be pruned. Secateurs are often used, but wherever possible a sharp knife should be employed. All the spindly and unripe wood must be removed, leaving the strong, healthy shoots of last season to furnish the growth this year. These shoots should be cut back as a rule to one-third of their length, but varieties differ so in habit that the pruner must use his own discretion to a large extent. The weaker-growing varieties may be pruned back to two or three eyes, and standards of almost any kind may also be pruned back. With some of the strong-growing sorts the growths can be pegged down, leaving the shoots nearly to their full extent. Polyantha Roses should be thinned and cut back, but most of the single type, such as Irish Elegance, are best left to grow more or less naturally.

Violas.—Cuttings that were inserted last autumn in frames or in the reserve garden may be transferred to their flowering quarters. They are very effective in almost any position, but especially as an edging to Rose-beds. V. Maggie Mott is excellent for this purpose.

Fruit Under Glass.

Late Vines.—It is time the late vinery was started, and at the commencement, a night temperature of 50° will be ample, with a rise of 10° or so during the day. The border should have a little of the top soil removed, providing it can be done without injury to the roots, and then replaced with a liberal sprinkling of bone-meal and fresh fibrous loam. Where the border is outside it should be covered with partly rotten manure and leaves. Keep the floors and stages damp, and, when growth is apparent, raise the night temperature 10°.

Vines.—In the earlier houses disbudding and tying down will need attention, and the pinching of the shoots two leaves beyond the bunch will be necessary. The number of bunches must be reduced at an early stage so as not to overcrop the Vines. In some houses the thinning of the berries will be in progress, and such work is always best carried out before the bunch becomes tight. Care must be exercised when thinning Grapes. Sharp scissors are essential, and the operator ought not to handle the bunch or rub it with his hand. All unfertilised berries must be removed, and at the final thinning the natural size of the berry must be taken into consideration.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Early Potatoes.—No time should now be lost in getting these planted if the soil be in good working order. A south border is an ideal place for them; 2 ft. between the drills is sufficient for the earliest, with 1 ft. between the tubers in the drill. I prefer a drill formed by means of the draw hoe to any of the other methods of planting. By this method the drills are drawn expeditiously and are of uniform depth, and the covering is done by the feet, leaving the soil in a loose condition.

Parsnips.—Sow seed thinly in shallow drills about 10 ins. apart on ground that has been deeply dug and to which no rank manure has been applied. The Student and Hollow Crown are excellent varieties.

Savoy.—Sow seed of an early variety, such as Early Elm, for autumn supply, and Ormskirk for winter and spring supply. As far as I know, this excellent variety has no rival as a spring Savoy.

Borecole or **Kale** is a very useful winter vegetable, and is less fastidious as to soil and situation than most others. Sow now. Dwarf Green Curled and Dobbie's Exhibition are reliable varieties.

The Hardy Fruit Garden.

Black Currants.—Those who are troubled with the mite should take steps to combat this pest throughout this and next month—the period of migration. Equal parts of quicklime and flowers of sulphur should be applied to the bushes about every ten days, either in the dry state with a dredger or wet with a syringe or sprayer.

Strawberries.—Runners which were taken in autumn and wintered in nursery lines should now be planted in deeply worked soil that has been moderately enriched. Plant in lines from 24 ins. to 30 ins. apart, according to the vigour of the variety. Allow 18 ins. between the plants in the line. Light vegetable crops may be grown between the lines the first season, or Wallflowers and other biennials can be sown in the spaces and be planted in nursery lines in due course.

Fruits Under Glass.

Figs in pots or tubs should be assisted with occasional weak applications of liquid manure. As trees with a more extended root-run begin to make young wood, sufficient of it should be retained, but all superfluous shoots should be cut away at an early stage.

Early Vines as they come into flower should be given a rather drier and more buoyant atmosphere and the temperature slightly raised, a night temperature of 60° for Hamburgs and 65° for Muscats being about right.

Strawberries.—Give bi-weekly applications of weak liquid manure until the fruit begins to colour. Expose to full light.

The Flower Garden.

Antirrhinums.—As soon as the seedlings have developed the first pair of true leaves prick them off into boxes of light soil and keep them in their present quarters till they have again taken root, when they should be hardened off in a cold frame.

East Lothian Stocks.—Prick off into boxes those that were sown in January. Run the Dutch hoe occasionally among those that were planted out in autumn for early summer display.

Half-Hardy Annuals.—Sow in gentle heat Ten week Stocks, Dianthus Heddergii, Nemesis strumosa and compacta, Phlox Drummondii, Salpiglossis and Zinnias.

Auriculas and Polyanthuses.—Make a sowing of these now in gentle heat for flowering next season. Seedlings are superior to stock raised by division. Some firms offer fine classified strains of Auriculas: the yellows and helios are especially attractive. Polyanthus seed can also be had in strains of yellow, white and red.

Gladioli.—If any portion of the stock is wanted to flower early, the corms should be potted singly into 3½ in. pots and started into growth in a vinery or peach-house.

The Pleasure Grounds.

Grass Edgings should be trimmed with the edging iron while they are in a moist condition. Except on narrow verges, the roller should be run along before commencing to pare them. Take off as little as possible consistent with straightening the whole.

CHARLES COMFORT

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Greenhouse Walls.—Many conservatories and greenhouses are built up against walls. Such walls are ideal for training quite a variety of plants on, especially if there is nothing much in front to obstruct light. There must be, of course, facilities for constructing a suitable border at the bottom of the wall. This border need not be wide, 18 ins. to 2 ft. being quite wide enough to grow most plants. The border should be about 2½ ft. deep and well drained. A few good plants for such a wall are Soliva heterophylla, Lathyrus pubescens and L. splendens, Camellias and Oranges, which can be pruned and trained in much the same way as Peach trees. Some of the stronger-growing Abutilons are very suitable for this purpose, also Luculia gratissima, Tibouchina semidecandra (perhaps better known as Pleroma cranthum), Chorizema ilicifolium, Cestrum elegans, C. Newellii and C. aurantium, and Pentapterygium serpens. There are also several strong-growing Begonias which are seen at their best when grown in this way, viz., B. fuchsoides, B. coccinea, B. Luzerna and B. President Carnot. There are, of course, many more plants suitable for this purpose, and the above may be some guide to the intending planter.

Malva capensis and **M. coccinea** are both very neat-growing plants with a stiff bushy habit which are useful for the greenhouse during the summer months, as they remain in flower for quite a long time. They are easily propagated by means of cuttings at any time, but now is the most suitable time to work up a stock of plants for next year. They root readily in a close case with slight bottom-heat and grow quite well in a cool greenhouse.

Malvastrum hypomadarum is similar to the Malvas, but has larger and more showy flowers, is a much laxer-growing plant, and requires frequent stopping to induce a bushy habit. This plant is really seen at its best when it can be planted out and trained up a sunny wall in a cool greenhouse; otherwise it requires the treatment indicated for Malva capensis.

Veronica Hulkeana is, when well grown, a beautiful plant for pot cultivation, although by no means an easy plant to do well. It should be given perfectly cool treatment at all times, or else it grows weak and weedy. It may be propagated at this time by means of cuttings, which should be inserted in a cool case. The young plants should be stopped several times to induce a bushy habit. In their first year they make good plants for furnishing the stages. If grown on for two years they make fine large specimens 3 ft. to 4 ft. high, but such specimens require a good deal of care to bring them to perfection.

Veronica speciosa, of which there are many beautiful varieties, although more or less hardy in the South and West, is very useful for furnishing the cool greenhouse, especially during the autumn. If young plants are rooted at this season, they make nice plants in 48-sized pots by the autumn, and may be grown in cold frames during the summer. Plants grown in this way last year may now be potted on into 6 in. or 7 in. pots, and will make fine large specimens by autumn.

Veronica diosmifolia is a very pretty compact-growing species which flowers with wonderful freedom during the spring. It is easily propagated by means of cuttings, and does not require any stopping as it naturally makes a small compact rounded bush. It requires quite cool greenhouse treatment at all stages of its cultivation.

Chenostoma hispidum.—This South African plant produces its white flowers very freely, and is very useful for furnishing the greenhouse during the autumn. A stock of plants may be raised by means of cuttings. They root quite readily in a close case with slight bottom-heat. The plant is naturally free branching and compact, and does not require pinching. During the summer months it may be grown in a cool house or a cold frame.

Streptosolen Jamesoni.—Plants raised last year, and now in 6 in. pots, should be potted on until they are in 10 in. or 12 in. pots, in which they make fine specimens for the conservatory. To ensure freedom of flowering this plant must have full exposure to the sun, and is seen at its best if it can be planted out and trained on a warm, sunny wall in the greenhouse with full exposure to sun and light. The flowers are orange-scarlet, and a good plant in full flower is very gorgeous. It is easily propagated by means of cuttings during the spring.

Royal Botanic Gardens, Kew.

J. COURTS.

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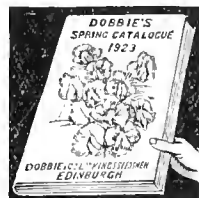
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THE BRITISH EMPIRE EXHIBITION

We have received the following from Mr. Wm. Watson, Secretary of the Horticultural Committee of the above Exhibition:

IT was clearly evident at the two meetings of horticultural traders held recently in London, one at the Board of Trade on January 30, the other at the hall of the Royal Horticultural Society on the 13th ult., that the great purpose of the British Empire Exhibition to be held at Wembley Park in 1924 is not grasped. The Exhibition was "designed to furnish a display of the natural resources of the various countries within the Empire and the activities, industrial and social, of their peoples." At Wembley Park arrangements are being made on a scale which will enable this to be done. The resources of every part will be mutually displayed there. Producers will find markets, markets will find producers. Sufficient progress has been made already to satisfy the management of the Exhibition that the whole Empire, commercially speaking, will be at Wembley. Our Overseas Dominions, Colonies and Dependencies are preparing for a display of their products to an extent that has already exceeded all expectations. There is every prospect that this Exhibition will surpass all others ever held in this country in magnitude and interest, and that it will afford opportunities for trade development that have never before been attempted.

So much for the Exhibition generally. Let us now consider how the project should appeal to horticulturists and to the horticultural trade generally. Preparations are being made on an elaborate scale which will afford exhibitors in every department of the industry a splendid chance of demonstrating how the United Kingdom stands with respect to horticulture. That it occupies an important position among the great industries of the country is abundantly evident. Have we sufficient enterprise to seize the great opportunity which the Exhibition will afford to inform the world what horticulture means to us, what our breeders and growers are in a position to supply? The object of the Exhibition is to enable them to do this on a scale that has never been attempted before. At the great International Exhibition held in Hyde Park in 1851 horticulture was scarcely represented, notwithstanding the fact that Sir Joseph Paxton was on the executive. No such oversight will take place at Wembley in 1924 if the facilities provided there at very considerable outlay by the Exhibition management are made adequate use of.

The Horticultural Committee is composed of sixteen representative men, Mr. William Cuthbertson being chairman, and potential exhibitors may rest assured that the efforts of this Committee are on very commendable lines. A Sub-Committee looks after the interests of sundriesmen, including horticultural builders, machine makers and engineers, and it is intended to appoint a Press Committee for publicity purposes. A hundred leading men, including amateurs, traders and scientific workers in horticulture, have accepted an invitation to form a Horticultural Council, with Lord Lambourne as president.

Although the Royal Horticultural Society does not appear to be willing to hold the May Exhibition in 1924 at Wembley instead of at Chelsea, we are assured that the Society has the interests of the British Empire Exhibition at heart and that the Council intends to take an active part in the efforts being put forward to make horticulture at Wembley a big success. This is as it should be, and we hope that other societies will also co-operate in the same

spirit. The permanent features, such as formal and rock gardens, the beds and borders of shrubs, Roses, hardy herbaceous perennials, etc., will be additional to the special exhibitions which the management desire to hold at Wembley. It is also hoped to provide exhibits of growing fruit trees showing correct method of planting, pruning and training, and plots of vegetables under the control of expert cultivators.

Another unique feature will be provided by India, the Dominions and Dependencies, which intend to have gardens furnished with striking decoration and economic plants representative of their vegetation and their agri-horticultural industries. These gardens will occupy areas adjoining the exhibition halls of the respective Dominions, etc., and should be of considerable attraction and interest. The plants for this are being specially prepared in their overseas homes, and they will be supplemented with others obtained from nurserymen in this country.

The circular letter sent out to exhibitors gives full particulars as to the lay-out of the Horticultural Section at Wembley, which will occupy about 10 acres in a favourable position with respect to accessibility and the grounds generally. Considering the period of the Exhibition, from April to October, the charges for space are not excessive. Special shows would be held in large marquees erected on a site adjoining the Horticultural Section. The profits made by societies when their shows were held elsewhere will be guaranteed by the Exhibition authorities. Some nurserymen have notified their intention to maintain a running display of indoor plants in specially erected greenhouses. In conclusion, I feel certain that if British horticulturists make the best of the opportunities which this great Exhibition will provide, horticulture will be the greatest attraction of the many that will be set up at Wembley.

ABOUT DAMPING OFF

IN the case of young seedlings this is sometimes caused by fungus in the soil, especially if leaf-mould which has not been thoroughly exposed to the air is used. When one has the privilege, as I once had, of getting any desirable quantity ready made from hollow places in the woods, where it had been thoroughly aerated by the action of birds, there is not much danger. Naturally-made leaf-mould like this is very valuable; but that which is collected and remains undisturbed in a heap till wanted is a very different thing. When there is any suspicion of fungus it is well partly to sterilise it by making it too hot to bear one's hands in. If a small quantity only is wanted, it may be placed in an old saucepan over a fire and kept stirred for a short time till it is equally heated throughout. But even after this precaution there is a liability for seedlings to damp off if the atmospheric conditions are not suitable. Great fluctuations of temperature will cause it. One may have a bright, sunny day which will raise the mercury in the thermometer to a considerable height, and a high temperature means a large amount of moisture suspended in the atmosphere.

One closes the house in the afternoon to bottle up the sun-heat, and as the heat declines the surplus moisture is deposited on the coolest surfaces, whether these be stone, metal, soil or the leaves of the plants. Large, vigorous-growing plants may not shew any ill-effects, but supposing the temperature of the house declines 20° or more during the night and the sun comes out brightly in the morning, the dew will have collected on the cold soil just at the base of the little plantlets, and will remain there till the soil becomes warm,

which in winter and early spring may take some hours. During this time I imagine the plants will feel something like I should do with my feet in cold water and the rest of my body in a summer temperature. Like the stronger plants, I might be able to bear the torture for a time, but it would be rather trying for a newly-born babe, and there is every reason to believe that plants are more sensitive than animals.

Plants also have their language, an inaudible but visible one, and only partly understood by a comparatively few devotees. The old-fashioned language of flowers is pretty, but imaginary; the language of plants is real, and gives expression to suffering and want as well as to the opposite condition. Would that I understood it sufficiently to prevent all suffering instead of waiting till the effects are visible. The leaves would not then need to turn yellow to shew they were starving or wrongly fed.

When seedlings are in pots plunged in bottom-heat or placed at a suitable distance from a heated pipe there is not much risk of damping, but if it is otherwise one may succeed in raising some early Lettuces, but Tomatoes or Stocks, if the attendant is caught napping, may give trouble.

Readers should understand that it is not always the amount of moisture in the atmosphere which causes damping. It may occur with a minimum amount of humidity, while plants in a sweet, steaming hot-bed are not likely to suffer, but it is the effect of cold water and cold soil at the base of the plant.

I have sometimes sprinkled seedlings with almost hot water in sufficient quantity to warm the surface of the soil when the morning has been bright after an unexpected frost. This was done when ventilation was given, and had the effect of relieving the plants considerably. Still, such a plan could not be repeated very often with impunity.

Damping off is not confined to seedlings; cuttings also suffer from it. Chrysanthemum cuttings, if not too soft, will live (though they may droop) and ultimately take root in a cool, draughty passage, but place them in a house or frame where they are liable to great atmospheric fluctuations and they may damp off, especially if the structure is not opened when the sun appears.

Chinese Primulas, too, are apt to suffer in the same way, and so are large double flowers, such as Chrysanthemums. It in any way one can prevent the cold water remaining on them and stagnant air surrounding them, one will most likely prevent damping.

We like to see the dewdrops on the leaves of our flowers and vegetables in the open air on a bright spring morning after a comparatively cool night. These do no harm because the air is not confined and the soil just below the surface is frequently, before sunrise, warmer than the atmosphere. But when we see or even suspect these dewdrops in houses containing flowers, fruits or tender seedlings, they should generally be taken as a danger signal.

Since penning the foregoing notes I have visited Messrs. Blackmore and Langdon's nursery and have seen their hundreds of thousands of Begonia seedlings. These are in 6in. pots and as close together as Mustard and Cress, without a shadow of damping. Mr. Langdon told me that pricking out would be started in a week's time. They are too small to handle, and I was told they would be shifted on a small stick. The pots in which the seed was sown had been placed in a propagating frame inside the house, and the most forward now had the lights removed during the day. Here, then, is the same lesson: Avoid great fluctuations of temperature during the early stages.

WM. FAYLOR.

OBITUARY

THE REV. W. WILKS.

It is with deepest regret that we have to record the sudden death of the Rev. W. Wilks. Mr. Wilks became suddenly faint on Friday morning and died almost immediately at his home at Shirley.

As every gardener knows, Mr. Wilks gave us the famous strain of Shirley Poppies; yet, great as was this triumph, his greatest achievement was, unquestionably, the work he did for the Royal Horticultural Society. He can hardly be said to have laid the foundation-stone of the Society, which had been in existence eighty-two years when he joined it; yet, without doubt, he did more to put the Society into the pre-eminent position it now occupies than anyone else.

Writing in *THE GARDEN* for May 26, 1910, this most distinguished gardener and admirable Christian gentleman wrote:

"My earliest recollections are connected with horticulture. I remember when I was only four years old my grandfather's devotion to plants, and particularly the pride which he took in the black and white grapes which he grew on a south wall in his garden at Charing, in Kent. The Rev. Joshua Dix, who was afterwards one of the leading spirits of the Royal Horticultural Society, was at that time Curate-in-charge of the Parish of Charing, and all my early remembrances are mixed up with him and Mrs. Dix (as ardent a gardener as her husband), who were most intimate friends of my family. My father was also himself a keen gardener, his particular fancy being to try all the new Pears which France was at that time pouring into this country. About 1850, Joshua Dix moved up to London, and became officially connected with the Royal Horticultural Society (his portrait now hangs in the Committee room); but his holidays were always spent in the Kent he loved so well; and to our home garden at Ashford he used to bring, or send down, all the new plants and seeds sent out by the Society. Thus from my earliest years I have been immersed in gardens, and in active touch with the inner life of the Royal Horticultural Society.

"My school life served also to intensify my love of Nature, as I was educated under that great scientist and true Christian gentleman, Professor Charles Pritchard, until I proceeded to Pembroke College, Cambridge, in the year 1861. Having taken my degree in 1864, and after a couple of years spent amongst the flowers and the open hill country of Somersetshire, I accepted the curacy of Croydon, and was again fortunate in finding in my Vicar, Canon Hodgson, another enthusiastic and practical gardener.

"Up to the time of Joshua Dix's death I was by his kindness a frequent attendant at the Royal Horticultural Society's meetings, and in 1867 was elected a Fellow, and from that day to this I have never missed any one of the meetings, save from illness or absence from home. In 1870, Archbishop Lut moved me from Croydon to Shirley, where I at once began to cultivate and improve my garden, devoting myself principally to Roses, Pears, Poppies, Peonies, Apples, Plums, Peaches, Nectarines, Dahodils, Strawberries, Rhododendrons, Flag Irises, Philæas, Tulips, Hyacinths, Hardy Ferns, Lilies, Snowdrops, and Herbaceous plants in general. About 1880 I became a member of the Floral Committee; and was elected to a seat on the Council and appointed Honorary Secretary in 1886. The Society at this time was burdened with debt and consisted of only some 1,200 Fellows, many of whom were Life Fellows whose composition money had long before been spent on costly buildings at Kennington. A resolute effort was

made by the President and Council to save the life and continuity of the Society and to bring it back to a genuinely horticultural policy, with the result that probably never before has the position of the Society been so secure as it is at the present, the number of Fellows having steadily increased up to about 4,500 and its financial balance standing at more than £8,000."

Since 1900 the Society has never looked back, and to-day there are about 18,000 Fellows. The sad tidings of the death of the Rev. W. Wilks reached us just as we were going press. In our next issue we shall refer at greater length to the life work of this devoted gardener.

EDITOR'S TABLE

The earliest outdoor Narcissi we received this year came to hand in the third week of February from Mr. W. A. Watts of the Welsh Bulb Fields, St. Asaph. These were of two varieties, Sunrise and Breda. The former is a splendid Barri variety for the garden or for cut flower. The perianth is white, with a primrose bar to each segment, and the fluted crown has a fiery scarlet margin. Breda is a useful incomparabilis with widely expanded cup, sunken and edged with orange-red. The flowers did not travel so well as Sunrise, but the perianth appears to be creamier and the flower is rather starrer in appearance. Its very informality makes it specially useful for indoor decoration.

The Crown Imperial. It cannot be said that the Crown Imperial is very popular to-day and it may be added, that where they are grown, success is not always maintained for long. In many gardens they appear to have been consigned by common consent to the shrubbery border, a position in which, not infrequently, the soil is much impoverished by the roots of trees and shrubs. To see them at their best and they rank among the quickest growing of spring-flowering plants Crown Imperials are never better served than when the bulbs are planted in groups of four or five in a strong deep loam. Even in such positions it is an advantage after a few years to remove them to "pastures new," for, being of strong growth, they soon exhaust the soil. Perhaps no bulbous plants which adorn the garden in spring are so likely to be robbed of room as are these, and it is no unusual thing to see them fighting for existence with strong-growing perennials like Starworts or perennial Sunflowers planted in too close proximity. Planting the bulbs should take place quite early in September, and not, as it sometimes does, in late autumn. This is a point not always appreciated by those growing Crown Imperials for the first time.

A Charming Boragewort. Few will deny to the lovely *Mertensia primuloides* the highest rank among its kin, and the fact that it is not an easily satisfied plant in many gardens perhaps renders it even more attractive. *M. primuloides* makes a little tufty mass of rather hairy oval leaves some 3ms. high, above which are unfurled in the characteristic fashion of its race the lovely blossoms. To describe the colour of these is not easy. They open flat with a golden eye set in a strange mixture of the most delicate lilac and sapphire, which gradually passes into a most sumptuous and velvety rich violet. In a deep, free soil which does not suffer from lack of moisture in summer this pretty thing often does well, but it seems generally to succeed best with moraine treatment. Slugs are especially fond of it, but in spite of this and its uncertain temper it is an alpine that deserves any amount of patience and care.

FORTHCOMING EVENTS.

March 12.—United Benent Horticultural and Provident Society's Annual Meeting. Bath Gardeners' Society's Meeting.

March 13.—Royal Horticultural Society's Fortnightly Meeting (two days). Jersey Gardeners' Society's Meeting.

March 14.—East Anglian Horticultural Society's Meeting.

March 15.—Manchester and North of England Orchard Society's Meeting.

Answers to Correspondents

FLOWER GARDEN.

ROSES AND WATER LILIES (Felted).—Our correspondent should plant Rose Hugh Dickson. It is full, fragrant, free flowering and strong growing. The long shoots which this variety makes may be pegged down. It is a splendid bedding variety, flowering during a long period. The bottom of the lily pond may be covered with soil—good fibrous turves being suitable—but the plants generally succeed best when planted in baskets, the latter being placed on a few turves to keep them fixed till the roots become established. Many hundreds of Water Lilies are grown in ponds with unrestricted room.

PLANTS FOR A SHADY BORDER (H. C. G. N.13).—The following kinds of plants are suitable for the purpose: *Aquilegia japonica*, *A. j. alba*, *Anthriscum*, *Campanula*, *Columbine*, *Delphinium*, *Doronicum*, *Dicentra*, *Galega*, *Gaultheria*, *Hellebores*, *Hemerocallis*, *Hepatica*, many *Jakes*, *Mossy Saxifrages*, *Spiræa*, *Scillas* and *Violas*. Seeds of *Magnolia*, *Matthiola bicornis*, *Virginia Stock*, *Candytuft* and *Clarkia elegans*, all annuals, may be sown in patches near the front of the border to fill up and add to the display of blossom. In the autumn plant *Wallflowers*, double *Daisies* and *Polyanthuses* for spring display.

FRUIT UNDER GLASS.

HOW TO MAKE A NEW VINE BORDER (Hants).—When the ingredients to form the border are collected the border itself may be made. The whole of the base must be drained, using broken bricks or similar material to a depth of 9ins. The bottom should incline a little towards an outlet to ensure sound drainage. The border should be 2ft. 6ins. deep, not more, whole turves, grass side downwards, being placed on the rubble. The first portion of the border should be made 4ft. wide and 2ft. added each year till the allotted space is filled. Use the old fine rubble, but not any single nor sea sand. For every six barrowloads of the loam add 1 bushel of lime rubble, half a bushel of small bones, half a bushel of wood-ashes and 6lb. of bone-meal. The border, if made up before the summer, would settle down firmly and be in good condition for the planting of the Vines next November, the best time for an amateur to plant them. Cover the border during the winter with clean straw 9ins. thick.

MISCELLANEOUS.

BASIC SLAG (C. A.).—We have not heard of any ill-effects to chickens or animals from basic slag applied to grass-land. Basic slag to be effective this year should have been applied last autumn or early in the winter. It is very good for fruit trees and Strawberries, and should be applied to the soil about 6ins. below the surface when the ground is being prepared for the planting of fruit trees. 4oz. per square yard being a suitable quantity to apply. For the benefit of the Sweet Peas we advise the use of superphosphate of lime, now and when the plants are growing—2oz. per square yard now, and 2oz. per yard run of row later. The basic slag if in store should be retained quite dry till next autumn.

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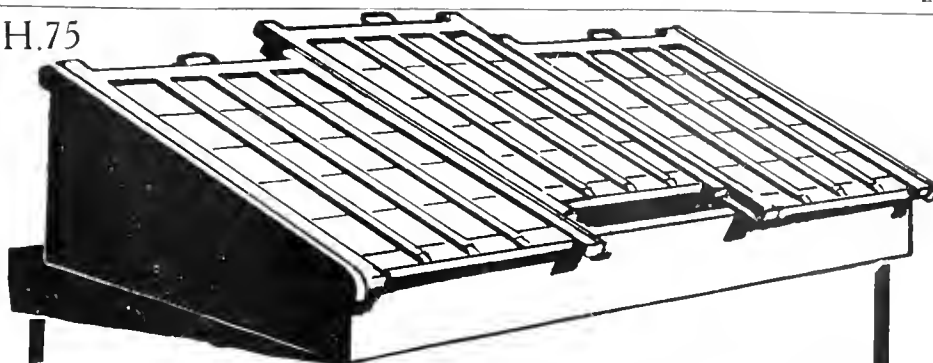
- ANEMONE PULSATILLA, the well-known Pasque flower.
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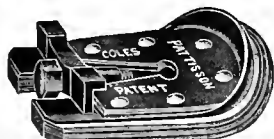


FIG. 1.—For Shod Horses.

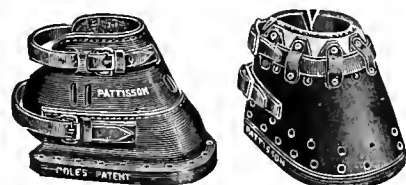


FIG. 2 (Wetted Pattern). FIG. 2 (No Wet Pattern).

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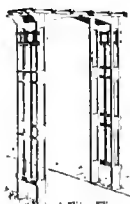
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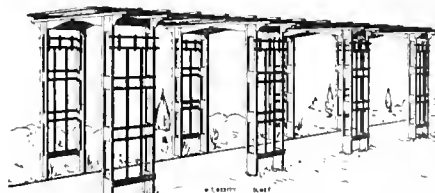
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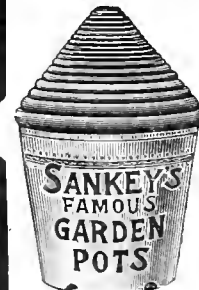
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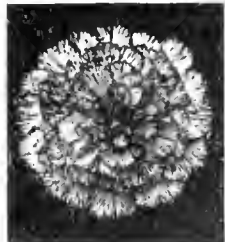
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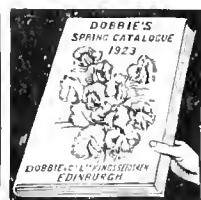
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No. 2678.—VOL. LXXXVII.]

[MARCH 17, 1923.]

THE USE OF THE DAFFODIL

THERE must be many millions of Daffodil bulbs in Great Britain which are naturalised or—what is not quite the same thing—planted in turf. If we asserted that one-quarter of these were so planted as to provide something approximating to the maximum of beauty considering the materials and space at disposal, we should be unjustifiably optimistic.

In many gardens the practice seems to be to plant out each year in grassland the bulbs which have been forced for house decoration. These will almost certainly consist of a number of varieties—a comparatively few bulbs of each—belonging to almost as many different sections. As a rule no attempt is made to arrange the bulbs at planting-time, so that *Poeticus*, *Barrii*, *Incomparabilis* and the long trumpet varieties grow and ultimately flower in muddled clumps. Obviously, that is not the right procedure!

In works which deal with gardening from many aspects one not seldom sees it recommended to sow the bulbs from the hand over the turf-land and proceed to plant them where they fall. Now this is good advice as far as it goes; if carried out, it will prevent the equal spacing of the bulbs which is so irritating in planting which should look natural. It does not, however, go very far, since it gives no clue to the arrangement of the masses of bulbs, and this is the most important and, at the same time, the most difficult problem.

It has been said that an ounce of practice is worth a ton of theory. If we do not apply the proverb too literally, there is much truth in it. Certainly, as far as successful Daffodil planting goes, to see and to study a happy planting is a readier way of gaining information than reading pages of

instructions on the matter. This notwithstanding, the following suggestions may, perhaps, be helpful.

Drifts, that is irregular patches considerably longer in one direction than the other, look better than patches approximating to the circular. If there is one particular line of approach, these drifts should rather cross this line of direction than be parallel to it. Care should be taken to avoid a number of drifts of approximately equal size. It is equally important that the planting in the drifts should be irregular. If of equal density all over, it betrays at once its artificial character. Not only should the drifts be irregular in shape, but it is very necessary here and there to provide a few outliers a little distance away from the main body of the drift. If this is not done, Nature will probably in time remedy the matter by self-sown seedlings, but as the Daffodil seldom flowers under eight years from seed, this is rather a lengthy process!

Where patches of naturalised bulbs are already in existence which are from a pictorial point of view unsatisfactory, this is the season to peg

out improvements and also to mark clearly the stations of such groups as it is determined to lift and replant. This marking is often left until the foliage begins to wither, but it is safer to do it just as the blossoms are passing. Once the foliage begins to wither it very quickly disappears, and should something turn up to prevent the marking being done for a few days, it may be difficult or impossible to do it at all. It is surprising, too, what confusion arises as to the whereabouts of special varieties in grassland once they are out of flower.

A picture made up of not more than two varieties usually looks better than one composed of a greater number, but to the flower-lover with a limited area of ground at disposal this is a hard saying. To such, one can only point out the ideal and trust that they will restrict the number of varieties as much as possible. There is, of course, no possible objection to introducing bold breaks of the old Pheasant's Eye, *Narcissus Poeticus recurvus*, among colonies of early-flowering varieties, since the latter will long since

have been past when the Pheasant's Eyes expand.

In many gardens purple Crocuses—the deepest-coloured forms of *Crocus vernus*—are also associated with the *Narcissi*. *Crocus vernus* is later flowering than the so-called Dutch Crocuses, and makes a very pleasing contrast to the early Daffodils. Where a prolonged season of beauty is desired, however, it would be better to use the early-flowering *Cloth of Gold*. It is scarcely necessary to point out that the drifts of Crocuses, early and mid-season Daffodils and *Poet's Narcissi* need not be coterminous. It is quite feasible, even desirable, to form three separate garden pictures each totally dissimilar in outline. The dwarf-growing



A LITTLE COLONY OF THE DAINTY NARCISSUS TRIMON.



A SEA OF DAFFODILS AT WARLEY.



A SMALLER PICTURE. ALSO AT WARLEY.



STAR NARCISSI AND TRUMPET DAFFODILS INTERMINGLED.

Crocuses look admirable on the swell of a grassy bank, and generally it is well to emphasise with them convexities of surface. The Daffodils and, especially, the tall-growing Pheasant's Eyes look better and do better in the dips.

Tastes, we all know, differ, and it is difficult to select varieties for other people, but the following are all excellent for massing boldly in open grass-land. Narcissus Henry Irving is one of the earliest of the trumpets and very effective; another early and effective trumpet sort is Golden Spur. The old and rather dimmy-looking Princeps is yet splendid when seen in battalions in turf-land; indeed, it looks less stilted and more natural than many newer varieties with more substantial flowers. The writer does not care for the bicolor trumpets naturalised; they all look rather stiff and sophisticated. The creamy Mme. de Graaf, however, is exceedingly pleasing. No doubt the giant King Alfred will be largely used for naturalising when it becomes cheaper; its length of stem and undoubted grace is in its favour. For the present, however, the greatly inferior Emperor will have to deputise for his majesty!

All the Star Narcissi are beautiful when naturalised, but one of the most beautiful of the short-cupped sorts is Barm Conspicuous. This is plentiful and cheap, a good doer, and one of the most beautiful of Narcissi when naturalised. Another splendid sort is the old incomparabilis Sir Watkin; this is really one of the indispensable. On no account must the Feelsin section be left out. For naturalising, Duchess of Westminster or Mrs Langtry suggest themselves as suitable, but the delicate colouring and chaste form of this section is seen to best advantage when the grouping is a comparatively small one in a choice corner quite away from other sorts.

The late-flowering *Poeticus recurvus* will, of course, be included. *Poeticus poetarum* and the early-flowering but less substantial *Poeticus ornatus* will also be included by those who love the fragrant Poet's Narcissi beyond the others.

To naturalise Narcissi it is not necessary to have acres of ground at disposal; one of the most pleasing pictures ever seen by the writer was a simple grouping of the shade-loving white trumpet *moschatus* in a little plantation of Cob Nuts which had been allowed to grow practically wild. The Hazel in all its forms is very beautiful when bare of leaves in winter and early spring, most beautiful no doubt when laden with hoar or snow, but charming at all times. The ivory white of the Daffodils seemed more lovely than usual with the light chequerings of shade from the slender twigs of the Nuts.

Some of the tiny Narcissi that would dwindle away and die elsewhere will settle down and flourish in the rock garden. Such are the Hoop-Petticoat Daffodils, *Narcissus Bulbocodium*. The species has golden yellow flowers with a disproportionately large cup (petticoat), while the corolla segments are pointed and tiny. The White Hoop-Petticoat, *N. B. monophyllus*, is very lovely, but, like most African plants, needs special treatment. Outdoors a sun-baked place at the foot of a rock garden chert should be devoted to it. When growth starts, however, water should be given without stint. The Sulphur Hoop-Petticoat, *N. B. citrinus*, is a pale citron yellow form with larger blossoms than the typical *Bulbocodium*. There is also a large-flowered golden form, *N. B. conspicuus*. All the Hoop-Petticoats, except *monophyllus*, like a cool, moist, sandy soil rich in humus. They grow about 6 ins. to 8 ins. tall, and are very charming in the rock garden. The *Bulbocodiums* have been crossed successfully with *Narcissus triandrus albus*, and *Narcissus trimon*, portrayed on page 129, is the beautiful result of crossing *N. triandrus albus* with *N. Bulbocodium monophyllus*.

ORNAMENTAL FLOWERING WILLOWS

MOST Willows are grown by the gardener for their ornamental habit of growth, foliage or bark. There are, however, several among the two hundred or more species and hybrids with attractive flowers usually represented by the male catkins. This gives them an additional value for planting in wet and boggy ground or by the lakeside, positions where few flowering trees and shrubs are satisfactory.

In most Willows the male and female catkins are borne on distinct trees, those of the male being

leaves and catkins, 11 in. to 2 ins. long. It flowers, too, a month earlier. This year *S. Medemii* was in flower at the end of January, while *S. cinerea* is only now becoming attractive, the first week in March.

S. SMITHIANA.—This hybrid Willow is found wild in Britain, the suggested parents being *S. Caprea* and *S. viminalis*. The male form is a free-growing tree with large rich yellow catkins up to 1½ ins. or 2 ins. long.

S. CAPREA, the Goat Willow or "Palm," is perhaps the best known of all the Willows in country districts, the male catkins being associated with Palm Sunday. It is an attractive occupant of many a hedgerow, coppice and damp spot in woodland. It is, of course, common by the waterside.

S. CINEREA VAR. *PENDULA*, the Kilmarnock Willow, when grafted on a tall standard is a striking object in blossom in early spring with the pendulous branches clothed with male catkins.

S. CINEREA, the Grey Willow, is a large shrub or small tree, the male form gay in March and early April with yellow catkins, not quite so large as those of the Goat Willow, but sometimes used as a substitute on Palm Sunday. With us *S. cinerea* is taller in growth than *S. Caprea*, but with rather smaller leaves.

S. GRACILISTYLA, a native of Japan and Manchuria, forms a low spreading bush some 4 ft. to 6 ft. high. Very beautiful when in flower, it is one of the most distinct of the shrubby Willows.

S. BOCKII is a dwarf Chinese Willow first introduced by Mr. E. H. Wilson from Western Szechuen in 1908-9. For damp positions in the rock garden or for the

bog garden this species is one of the most distinct and valuable additions to dwarf shrubs of recent years. The narrow dark green leaves average ½ in. in length. The catkins of this Willow are produced during October and November before the leaves fall.

S. MAGNIFICA is another Chinese species. This remarkable Willow forms a very striking shrub or small tree up to some 20 ft. in height. It has red twigs and grey-green leaves with purple-tinted stalks, mid-ribs and veins. The largest leaves are up to 8 in. or 10 ins. long and half as wide, but 5 ins. or 6 ins. is a more usual length. The male catkins are 3 ins. to 6 ins. or 7 ins. long, the female ones 2 ins. to 3 ins. longer. Mr. Wilson describes this Willow as common at 7,000 ft. to 10,000 ft. in some parts of Western Szechuen.

A. O. Kew.

[The value of the Willow for decorative effect when in blossom seems to be but little appreciated.

Comparatively few people seem to be able to distinguish between the Sallow, *Salix Caprea*, and the other common native species, *S. cinerea*.—Ed.]

ROCK GARDEN CONSTRUCTION—III

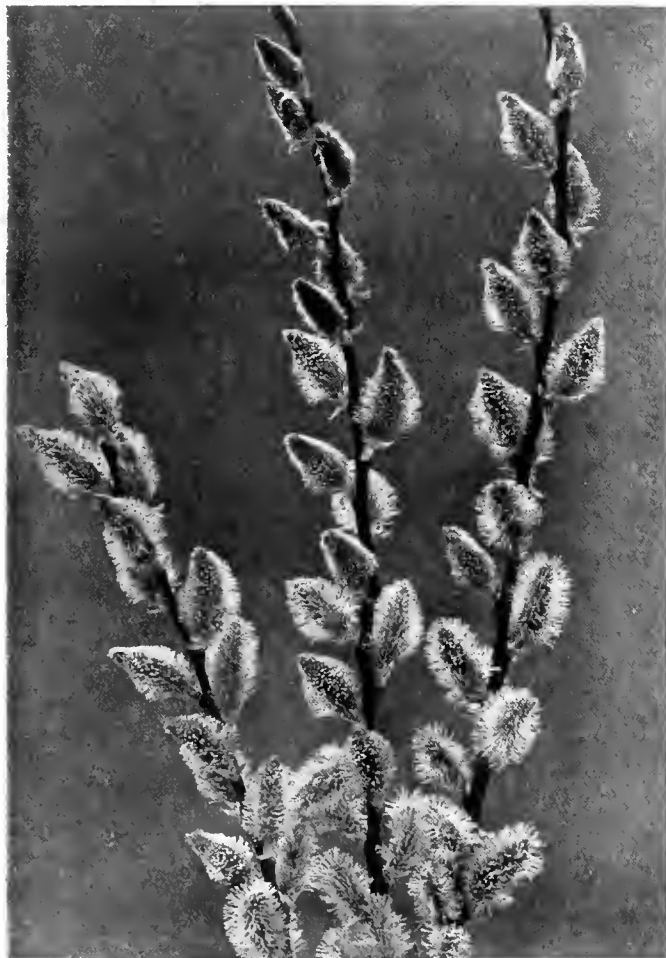
IN the last article (February 24, page 94) we discussed the actual arrangement of the rocks to simulate stratification and to provide favourable conditions for the growth of rock plants. Let us now discuss the treatment of such rockwork in order to make it as effective as possible. Many amateurs have compared their own rock garden more or less favourably with the rock gardens in botanic gardens—those at Kew, Edinburgh, Glasnevin or Edgbaston, for instance, or with the one laid out for the Royal Horticultural Society at Wisley. If an amateur can show plants better grown than in these public gardens, he may legitimately congratulate himself on the fact, though at Kew and Edgbaston, for instance, bad atmospheric conditions have to be taken into account. Construction is, however, another matter. The necessity for providing easy means of access for large numbers of the general public is bound to detract in some degree from the appearance of the garden as a whole. This granted, it must be admitted that the general lay-out of public gardens has become stereotyped, and it is unfortunate that greater efforts are not made to reproduce in our public parks and gardens the features which make a well laid out private garden so satisfying and so restful. In no way could the public taste be more readily improved.

Of the gardens mentioned the most unsatisfactory from a pictorial standpoint is Glasnevin; Kew is little better; Edinburgh and Edgbaston show a distinct improvement; but, unquestionably, the Wisley garden is better designed than any of the others. The greater the pity that it is so very inadequately maintained!

As a general rule the difference in height between the valleys and the hills in our rock gardens is insufficient to produce the effect we have in mind. We therefore proceed to accentuate the difference by planting. For the valleys we use plants of a low and spreading habit of growth; on the hills we employ those of upright habit, or shrubs and trees of comparatively large size. If the lowest feature of our garden is a pool, we shall, naturally, wish to use some of the sword-foliaged semi-aquatics so characteristic of pond-side vegetation. We should, however, employ these rather sparingly, lest a mass of tall Rushes or what-not compete with, and so render ineffective, our cliffs.

It may be argued that the method of planting shrubs—mostly conifers—above our high alpine is unnatural, since, of course, many of these plants in their native rocks grow far above the timber line, some of them, indeed, close up to the permanent snow caps of the mountains. Plants grow in rocks, however, at low elevations as well as at high ones, and we can scarcely hope to portray an alpine mountain-side in our garden; even if we could it would sort ill with other garden features. Readers who visit Chelsea Show will have noticed that even the craftsmen who depict Yorkshire moors so effectively always imagine the highest points to be capped with forests of Fir or Larch!

The type of shrub employed for background will depend very largely upon the size of the garden in question. In large gardens any conifer which has—shall we say?—a crooked disposition (and a few such are to be found in almost every batch of seedlings raised) may be employed



HANDSOME CATKINS OF *SALIX MEDEMI*.

by far the more ornamental. With the majority the catkins appear in early spring in advance of the leaves on the shoots of the previous summer's growth. The most notable exception, as far as these notes are concerned, is *Salix Bockii*, which produces its catkins in the autumn. Male and female are borne on separate plants, but in this species both are pleasingly attractive. The following are worthy of special attention as flowering trees:

S. MEDEMI is not only one of the most attractive Willows in flower, but also particularly interesting, because male and female flowers are borne on the same catkin. In most Willows the male and female catkins are borne on different trees. *S. Medemii* was at one time classed as a variety of the Grey Willow, *Salix cinerea*, but most authorities now accord it specific rank. As a tree for the pleasure ground or waterside it is readily distinguished by its more vigorous habit and larger

effectively. Its crookedness may be maintained and accentuated and its size be held in check by the judicious use of the pruning knife. Atlas Cedars often shew this tendency to deformity, while the glaucous and golden forms of this Cedar are often, in foreign nurseries, grafted on Larch. So worked, they seldom or never make specimens, but they are excellent for the rock garden. Again, grafted Spruce and Fir, if they are to grow into

filifera nana and lycopodioides; and various others.

It is easy to arrange a rock garden to accommodate any plant or race of plants which we may fancy; easy even to rearrange the garden for them when the construction has been completed a number of years. As regards the shrubs which are to give height to the cliffs, the case is, however, different. The specimens need choosing very

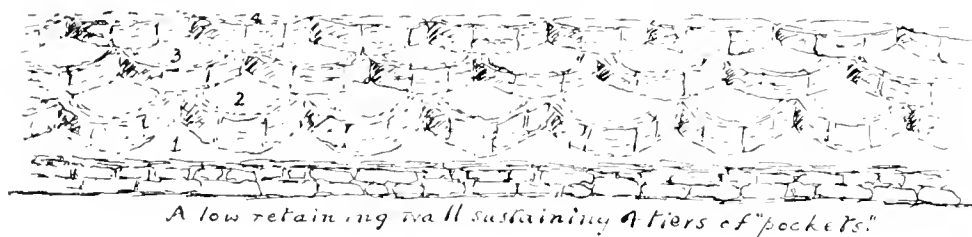


FIGURE 9.

straight, clean specimens, must have the grafts cut from leaders (or prospective leaders), but those grafted from sprays of the branches and which have, in consequence, a tendency to sprawl are admirable for rockwork.

The shrubs so employed should always seem to lean outwards from the cliff, as though a series of violent gales had partly loosened their root-hold on the edge of the precipice. A few conifers which may often be found deformed in nurseries may be useful. Such are *Cedrus atlantica* (all forms), *Picea excelsa* (Spruce), *P. pungens* (particularly the variety *glauca* Kosteri), *P. Pinsapo* (Corkscrew Fir) and variety *glauca*, *Juniperus communis* and *J. virginiana*. Besides these there are a number of recognised dwarf species and varieties which are admirable for rockwork. Such are the Mountain Pine, *P. montana* (syn. *P. Mughus*); the Swiss Pine, *P. Cembra*, slow growing, but attains some size at last; *Cupressus obtusa densa*, very quaint and beautiful; various dwarf forms of the Spruce, *Picea excelsa*—*pygmaea*, *Remonti*, *Clanbrassilliana*, *Maxwelli*, *procumbens*, etc.—and of the *Orientalis* Spruce, *P. orientalis*—*pygmaea*, etc.; at least two Firs, *Abies canadensis* *Sargentii pendula* and *A. balsamea hudsonica*; a great number of Junipers, including five or more dwarf forms of the Chinese Juniper and as many of the Savin, *Juniperus Sabina*, which is, in its typical form, suitable for the large rock garden—*Juniperus S. prostrata* and *J. S. tamariscifolia* are especially useful; several forms of *Cupressus Lawsoniana* (generally listed as *Retinosporas*), such as *tetragona aurea*, *pisifera nana*,

carefully in the first instance; they will first be selected to fill the special sites which call for them and then the arrangement of the rockwork will be so modified as to shew them to best advantage. The trees on the cliff are as essential a part of the rock garden as the stones of the cliff itself, and no pains should be spared to get suitable specimens in the first place or, afterwards, to provide for them the precise setting they require.

Years ago rock gardens were often monotonous

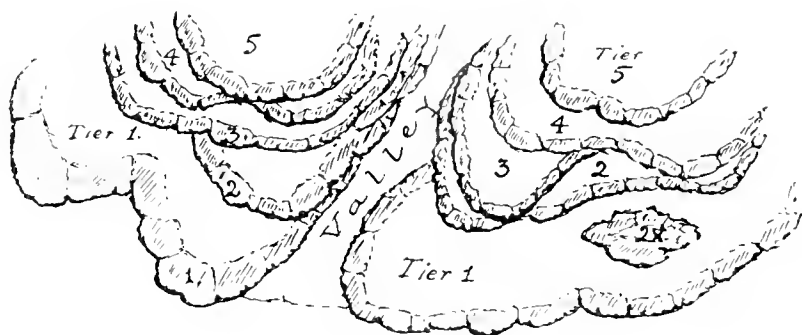


FIGURE 10.

successions of pockets, as in Fig. 9. These pockets were usually cemented up, presumably to prevent runners of any plant employed finding their way to the space (pocket) devoted to another species or variety. Quite a number of rock gardens on this ridiculous system have been built in this,

the twentieth century! This construction is called to mind not from any fear that readers will perpetuate it, but because, when working with stones laid in courses to simulate natural strata, the "pocket" effect becomes, on sloping banks, almost inevitable, and considerable care is needed to prevent the monotonous effect occasioned by pockets of approximately equal size. Fig. 10 suggests how the difficulty may be overcome, but it must be confessed that just as some people when planting for natural effect seem unable to avoid arranging the plants in a monotonous quincunx formation, so, when building a rock bank other folk (or more probably the same ones) seem unable to avoid a deadening uniformity. For the sake of clearness the diagram is merely a plan and the minor projections and "inlets" so natural and beautiful in rockwork have been omitted. The tiers are numbered 1 to 5, 1 being the lowest. Where tier 1 disappears under tier 2 or tier 2 under tier 3 will be practically a perpendicular cliff. Where the tiers run very close together (as on the left-hand side of the valley in the diagram) the rockwork will also be practically precipitous. Valleys such as the one shewn produce a much-needed diversity, and should be used as freely as the site permits. Sometimes it is possible to arrange two which debouch close together, leaving an isolated bit of cliff between them. Even when no valley is planned, it is well occasionally to leave an outlying piece which looks as if it had become detached from the cliff behind. Such a one is shewn marked 2x in the diagram.

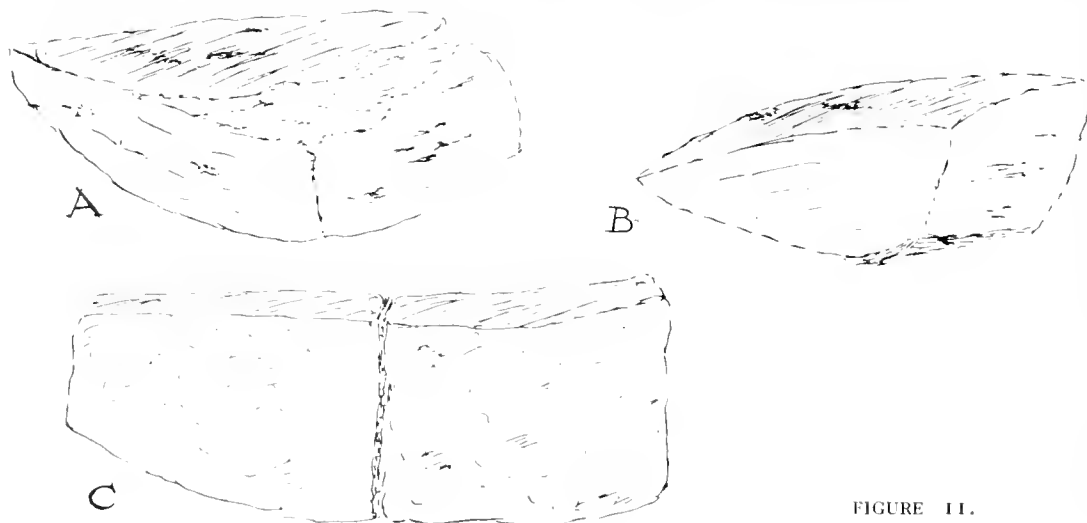


FIGURE 11.

If at the foot of a cliff of some height and themselves of comparatively small size, such stones need not be lying in conformity with the surrounding "strata," for they may be supposed to have fallen from the cliff above.

Now a few words must be written about the arrangement of the individual stones. Almost every stone has its best face and its better bed.

After what has been said it may be superfluous to mention that every stone should be laid according to its natural bed—that is to say, that no shortage of material or desire for economy must tempt us to set stone with the "grain" up hill, as in Fig. 11c. Not only does such an arrangement not appear natural, but the stones thus up-ended are almost certain to split in frost, converting the rock garden into a rubbish-heap.

Quite a number of pieces of rough sandstone for rockwork ("rockery burrs" the quarry owners call them) will be found to bear some resemblance to the piece depicted at A and B in Fig. 11.

As seen at A the bottom is somewhat rounded and the top is level except towards the front. The amateur rock garden builder usually turns the nice level face downwards, thinking to make it solid, and leaves the ugly convex surface upwards as shewn at B. This is, of course, quite wrong; if the top of the stone is to be exposed to view always select one on the hollow side. Any

uncomfortably square corners or edges can be knocked off with a fairly heavy hammer—a quarryman's hammer for choice. Even in removing edges take care not to produce too even an effect. Do not spare an ugly edge just because it is lichened. If the ugly angles are knocked off the lichen will soon reappear.

(To be continued.)

SOME MARSH-LOVING PRIMULAS—II

The Candelabra Section

TO this section belong some of the stateliest members of the whole genus, many of them being of great horticultural value. Their flowers are borne in several successive whorls one above the other on stout stems from 1ft. to 3ft. high. They revel in moist conditions where water is within reach of their roots, but at the same time most of them can be grown in drier situations. A good, deeply worked, loamy soil is essential under the latter conditions, combined with partial shade. They are readily raised from seeds when the latter are fresh. The seedlings should be pricked off into shallow boxes when large enough to handle and grown on in a cold frame till they are fit to plant out. The best time for planting out these Primulas is the early autumn. They then get established before the winter and are ready for pushing up their flowers in due time.

P. BEESIANA.—This is a new and handsome species from North-Western Yunnan, where it was found by Forrest and named in honour of the firm of Bees, Limited. It is a lover of moisture, and Forrest says that it forms huge colonies in its native habitats, often covering many acres. The situations favoured are moist, gravelly meadows along the margins of small mountain streams, where pure spring water percolates through the light soil. Excepting in colour *P. Beesiana* is similar in habit to *P. Bulleyana*, much the same in height and quite as robust. It possesses equally luxuriant foliage, but differs in having a dull red midrib to the leaf. The flowers are borne in from five to seven whorls, with twelve or more in a whorl, and are of a rosy carmine colour with a bright orange eye. Well grown plants attain to a height of 2ft. to 3ft., while the flower-stems are numerous and towards the apex densely coated with a white farina. Although not a perennial species, it is quite hardy, and reproduces itself freely from self-sown seeds.

P. BULLEYANA.—Another of Mr. G. Forrest's finds in Yunnan, where he says it grows in "moist open situations on mountain meadows on the eastern flank of the Lichiang range at an altitude of 10,000ft. to 11,000ft." It was named in honour of Mr. A. K. Bulley, who has done so much in the way of introducing new plants into cultivation. A first-class certificate was awarded to it at the Temple Show of the Royal Horticultural Society in 1909. Like the above species, this plant has a series of whorled flowers in tiers on scapes about 2½ft. high. These are of a buff orange shade when fully open, but in the bud stage almost rival in intensity the colour of *Cockburniana*. The plant is perennial, quite hardy and produces seeds freely. It crosses freely with *P. Beesiana*, and there are numerous hybrids of various shades of colour in cultivation.

P. COCKBURNIANA.—This is one of the plants introduced by Messrs. Veitch from Western China, where it was found by Mr. E. H. Wilson growing in wet alpine meadows at an elevation of over 10,000ft. The bright orange scarlet of the flowers

is unique in the genus, and has been taken advantage of by the hybridist. The small primrose like leaves are produced in a rosette, from which the erect flower-scapes rise to a height of 1ft. or more. These bear three or more whorls of flowers, each about 1in. in diameter. Unfortunately, it is only a biennial, but it produces seeds freely, and they germinate quickly if sown when fresh. This species has been crossed with *P. pulverulenta*, and as the latter plant is more of a perennial, the hybrid, which is called *P. Unique*, is a stronger-growing plant than *P. Cockburniana*. Its flowers are mahogany red, lit with orange.

P. HELODOXA.—This handsome yellow-flowered species is one of Forrest's finds in Western China.

seeds freely and reproduces itself. Growing over 2ft. high, the stems bear several whorls of various shades of colour from deep crimson to pure white. Seeds come up freely when sown as soon as ripe, but if allowed to get dry they take a long time to germinate.

P. LUTIFOLIA.—A handsome plant from the Eastern Caucasus, with bright green leaves and whorled umbels of yellow flowers. Somewhat rare in gardens, it is well worth growing in moist situations.

P. POISSONI.—Comes from the mountains of Yunnan in Southern China, and is quite hardy in ordinary winters when planted in a rather sheltered place. In habit it is something like *P. japonica*, but is easily distinguished by its glaucous leaves. Growing about 1ft. high, the violet-rose coloured flowers are disposed in whorls of eight or more on each. It usually dies after flowering. Closely allied to this is *P. Wilsoni*, also from Western China, of similar habit, but rather more hardy in this country.

P. PULVERULENTA.—This fine plant, which was introduced into cultivation by Messrs. Veitch, and found by Wilson in Western China, was at first considered to be a form of *P. japonica*. It has, however, distinctive characters and deserves to rank as a species. In habit it somewhat resembles the above plant, but differs in having larger, more richly coloured and more elegant flowers, and in the flower-stems and calyces being thickly



PRIMULA UNIQUE (*P. PULVERULENTA* *P. COCKBURNIANA*).

It was first shewn in flower by Messrs. R. Wallace and Co. at the Chelsea Show in May, 1916, and created a very favourable impression. The whorled stems reach a height of over 3ft., and carry seven or eight tiers of soft yellow flowers that bear a striking resemblance in size and colour to those of *Jasminum primulinum*. It has proved to be a good hardy perennial, flowering for several seasons, but, like many other Primulas, it is in some places a short-lived plant. Under good cultivation and in moist situations it attains to a great size, with luxuriant foliage and very stout stems.

P. JAPONICA.—This well known plant is an old inhabitant of our gardens and so well known that it needs no description. It is highly valued for planting in groups by the waterside, where it

coated with a white mealy powder. In strong, moist, loamy soil the stems rise to a height of over 2ft., and bear tiers or whorls of crimson-purple flowers. There is a beautiful variety of this species with whitish pink flowers named Mrs. R. V. Berkeley, and one of deeper salmon-rose colouring of uncertain nomenclature. Many consider *P. pulverulenta* the best of this section.

P. SMITHIANA.—This elegant plant is the Himalayan counterpart of the Chinese *P. helodoxa*. There is some doubt as to whether there is any real difference between the two. Growing in similar situations last summer, they appeared to be identical. Our *P. Smithiana* was raised from seeds received from Calcutta, and no doubt represented the Himalayan species. W. J.

GARDENING AT OLYMPIA

THE "Queens' Gardens" at the Home Exhibition are, on the whole, more spectacular than practical. It is useless to pretend that they are as helpful to those in search of gardening ideas as the model gardens at Chelsea, for instance, yet when the unnecessary striving for effect has been discounted, there are many helpful gardening features at Olympia.

I am by no means certain that Messrs. Child's little garden around Messrs. Oetzmann's bungalow in the new annex is not the most helpful gardening contribution to the Show. Probably the attempt has been made to do a little too much in the space at disposal, which is very small, but, at any rate, one can see here a simple practical method of treating the surround of a small house which might cause envy or provoke imitation, but which would certainly not provoke laughter or pity!

Returning to the "Queens' Gardens" the oftener we return the better for the hospitals, let us examine Mr. Whitelegg's little rock garden. To appreciate this as it should be appreciated we have to take a pillar "out of our eye" and to give it the needful setting of green turf and a fitting background of trees and shrubs. It is then a very pleasing erection for a small garden.

Messrs. Gaze's formal garden, a corner of which is illustrated herewith, grows on one with continued acquaintance. It has the great merit of restfulness, which so many of the exhibits here lack. Even the horrible blue lighting, which has the extraordinary property of making the various tones of mollis Azaleas, in the adjacent Queen of Spain's garden, clash, cannot disturb the quiet of this garden. Mr. Whitelegg is responsible for the garden of the Queen of Spain, and one feels that under natural lighting it would have its points, especially in the sunny Southern Counties. The planting is a little on the thin side, and the line of columns which give weight at one end of the garden would certainly be better joined at the tops by timber.

Messrs. Carters have depicted an informal spring garden and, considering the difficulties of the site, have been successful, albeit I much preferred their more formal construction of last year. The present effort is a little over-planted, and the central section is less interesting than the two wings. The finish also is not quite so good as one generally gets from the Raynes Park firm. A little stream meanders along the centre, with here and there a stony outcrop and ledge of rock, and, in the turf, Narcissi, Tulips and other spring flowers are planted. There would be little to see at any other season.

Messrs. Hodsons have a formal garden, which is quiet enough and well finished, but the watering is too heavy for the size of the plot enclosed, and which therefore seems over-scalded throughout.

Below Windsor, near the station at Egham, is a model garden which shows a simple and effective way of setting out a small garden. Models such as this are of little use to many people who cannot reach a garden, or see a garden from a plan. On the other hand, they do very effectively the treatment of a considerable area which it would be quite impossible to exhibit life-size.

The other exhibits are interesting on a general level, some of them, however, but have little practical value. R. A. G. W.



MR. G. G. WHITELEGG'S LITTLE ROCK GARDEN.



ONE END OF MESSRS. GAZE'S EXHIBIT



A GLIMPSE IN MESSRS. JAMES CARTER'S GARDEN.

THE WOODLAND GARDEN IN SPRING

SOME of the most precious of spring's early greetings come from the Dog's Tooth Violets (*Erythronium*), which seldom seem so happily placed as when they appear among the leaf-drift and wintry herbage of some sunny woodland slope. They bridge the time between the Snowdrops and wild Hyacinths, and are possessed of that tender elegance and grace which one instinctively associates with the spirit of youthful spring. The spontaneity with which they arrive is also in harmony with that impression. The old *E. Dens-canis*, in particular, with its mottled leaves and flowers in various shades of rose and purple, seems to leap out of the ground within a few hours, only to wait with closed flowers should the skies be grey for the sun to open and reflex their pretty rays.

The smaller *E. americanum*, in pale yellow with brown markings, is a shy little plant that can be comforted with a cool, not too shady place, and another good one, if not the best, is *E. revolutum* Watsoni, which usually closely follows the above. The large, ivory white blossoms of this variety, with their ring of gold and beautifully reflexed segments, suggest, in suitable surroundings, the very acme of good taste.

But one must pass over the rest of this charming tribe and come to the little Daffodils of the Welsh hills which, even though they may be deafened by the trumpeting of the bigger and bolder productions of the hybridist, still bear a charm of their own which none can usurp. This diminutive native, if it may be so termed, on a 4in. to 5in. stem, though it spreads freely and swarms in large colonies in all manner of situations, never seems to vary in the minutest degree. The blossoms are all as much alike as the proverbial peas in a pod, the perianth, which lies almost flat on the trumpet, being a shade less golden than the latter.

Another bulbous plant that has had good reason to rejoice in the shortness of its stem during the recent weeks of windy weather is *Leucojum carpaticum*. This is in every way superior to *L. vernum*, of which it is said to be a form, the white bells being rounder and ampler and adorned at the tip of each segment with a blotch of gold. This is as easy as *L. vernum*, which is to say that once it becomes established it will prove not only permanent but progressive. One's stock will shew an increase with each recurring spring. *L. carpaticum* is, of course, a plant for the edges of walks and short herbage or grass. Where *Scilla sibirica*, *Anemone trifoliata*, Grape Hyacinths, Primroses and Cyclamens are colouring the woodland floor without having to contend with things of ranker growth, *L. carpaticum* will be quite happy.

L. æstivum, on the other hand, is grateful for the support of even such tall-growing things as *Erica darleyensis*. Though called the Summer Snowflake, this species is often in bloom here in April, and this year it will be even earlier if one may judge by its tall grass green leaves which are already standing out of the Heaths, among which it has grown for many years.

The Snowdrops, which so thoroughly enjoy life in this woodland garden, also appreciate some support, though it must be admitted that, being practically wild, their carpeting is a matter of accident rather than design. Among the lingering fragments of winter none looks quite so effective as those Snowdrops which have colonised a bank covered with Ivy about 8ins. thick. Here the bells are not only finer, but, owing to the fact that the plants have to grow stems at least 1ft. long before they are sufficiently clear of the Ivy to flower, they are invariably later by some three weeks than those which have no such covering.

The *Megaseas* afford a touch of colour at this season which is uncommon in the woodland garden, yet one that is in no sense out of harmony with the environment. Their fine leafage is alone sufficient to merit them a place. Indeed, if it were not for this it is probable that some of us would never grow them at all, since they are not the most reliable of bloomers. Here they bloom, but if this effort is somewhat niggardly, it is enough—with their foliage—for our purpose. Lime and more exposure, plus a more rocky root-hold, is probably what they really crave for. The finest plants in regard to number and size of flower-heads of *M. cordifolia* I have ever seen were growing in the old mortar on the top of a tall brick wall!

Though one would not like to be without them, the *Pulmonarias* are not an exciting race. Yet they seem to be the "right thing in the right place" when set in some sunless woodland corner, which they will do their best to enliven with the blues and purples which are so dimmed by those of some of their brilliant cousins among the *Anchusas*, *Omphalodes* and *Borages*. The true native Dorset form of *P. saccharata*, said to be the best of the tribe, is still on the "wanted" list in so far as we are concerned, but we make shift with *P. arvernensis*, quite good in the blue and better still in the white form. Then there is the plain green and narrow-leaved *P. angustifolia azurea*, a really fine blue, and Mrs. Moon, biggest and earliest and most spotted of all. If the *Pulmonarias* as a race do not arouse one's enthusiasm, they are brave and ask little, go their own way and never interfere.

Though yellow is a predominant colour at this season, there is no shrub or plant now in blossom which can equal in richness of tone that of *Coronilla glauca*, of which the rounded beads of fragrant blossom are rendered even the more attractive by reason of their backing of pretty, pea-green foliage. The yellow of *Cytisus purgans*, perhaps, comes nearest to that of the above, and this is such an early and prolific little Broom that it deserves to be more widely grown. It often precedes *C. præcox*, which has purgans blood in it, by three weeks or a month, and if the habit is somewhat stiff one easily overlooks this when the 3ft. shrub is a dome of pure gold.

Cytisus racemosus (fragrans), which has been flecked with blossom all winter, now breaks into fuller colour with *Genista monspessulana*, which also has been waiting in a dog's sleep for the first reliable hint of spring. The latter is a perfectly hardy and first-rate shrub for massing. Like *C. racemosus*, it is very leafy, is seldom out of

flower, and becomes a mass of yellow in April. It will go up to 6ft. or more, but young plants are best and they grow from seed like grass.

Among the Barberries the most forward in blossom at the moment is *Berberis pruinosa*, of which the arching wands are hung beneath each rosette of pale green leaves with a cluster of creamy yellow blossoms. These are followed by white berries, which will remain on the bush until the new flower-buds are thrust out. *B. Darwinii*, so early this year, is almost as magnificent in the fiery vermilion and tangerine of its half-open state as when laden with full-blown blossoms, and another which is marking time with the above is the always tidy and well dressed little



ADMIRABLE FOR WOODLAND, *ERYTHRONIUM REVOLUTUM*.

B. dulcis nana. Not so forward, yet so generous with promise that one cannot pass it by, is *B. Sargentiana*. Very striking in the clear March sunshine are the plum red bud clusters, the ruddy bark, handsome leaves and awesome spines of this fine species.

Not less attractive in quite a different way are the wine-coloured stems of *Rosa rubrifolia* and the peculiar tone of bluish red which pervades the young foliage. Though one does not usually expect much in the way of reds at this season, it is odd to see the Hollies still carrying their full Christmas complement of berry. *Cotoneaster pannosa* is also as lovely as it was at the turn of the year, its elegant and evergreen branches being borne down even now with the weight of their crimson-scarlet burden. The *Pernettyas* also are still carrying their old fruits, and will continue to do so for many weeks, despite the fact that their fine, glossy green foliage is already

peppered with a multitude of flower-buds and many fully expanded blossoms.

Erica carnea has almost reached the fulness of its splendour and won fresh laurels for so bravely withstanding the gales and hail and deluges of rain which beat upon it during February's last week. Having done all this and more, the splendour of the Heath bank will pass to *E. mediterranea*, whose tall, erect branches are already well on the way to full flower. This fine Heath is to early spring what *E. carnea* is to winter, a beautiful and robust species of the utmost value for massing or planting singly. Contemporary with it in

blooming is its variety *E. m. hiibernica*, and before these are going off the exquisite white form (*alba*) will open its lovely blossoms. These are already swelling in the bud, as are those of that other noble variety, *E. m. var. superba*, which is bigger and even better in all its parts than the type— which is saying much. This admirable Heath is usually listed as *E. m. hybrida superba*, but I think this must be an error, since it is more akin to the type species in form and colouring. Its foliage is slightly more glaucous than that of the latter, but it flowers at about the same time, that is, from March to May. NORTH WALES.

NOTES FROM THE EDINBURGH ROYAL BOTANIC GARDENS

IF one lives near a great botanic garden, such as the one at Edinburgh, it can be made the source of real practical help to the everyday garden lover. We shall find there innumerable plants from all parts of the world, tested and grown under various conditions, in different soils and situations, till that which suits best the particular needs of each individual is found. Many of us do not realise what a help it would be if we went to study these methods; or, again, to look at many plants that we have hitherto only heard or read of in catalogues, and it would enable us to decide whether they were suitable for our own gardens. Some plants may still be too scarce for general cultivation, others may prove unsuitable for various reasons. But at any time of year a visit will provide a fund of information and a guide as to what plants we may grow and how best to grow them.

Take the month of February, for instance. There are, among Rhododendrons alone, some kinds that will fascinate the most ardent botanist, and others that can be of great use for ordinary garden effect. In the rock garden at Edinburgh there is that remarkable little species, *R. nivale*, found by Hooker in the 'fifties among the Himalaya mountains at a height of 17,000ft. or more. As is to be expected from such an altitude, it is a tiny, low-growing species, its little creeping stems set with minute rounded leaves and small mauve-pink flowers, which opened this year about the middle of the month. This little rarity is not, of course, for everyone to grow. It is there for us to enjoy and wonder at, to remind us of the marvellous diversity of these shrubs, from this humble example to those that grow into noble forest trees, 40ft. or more in height, and again some with foliage a mere rounded dot in size to those bearing broad and leathery leaves like *R. Falconeri* or *R. sino-grande*. There is also out during February a species that is still somewhat rare, but can be now bought from nurserymen. This is *R. moupinense*, which has proved itself to be of easy culture and is so showy and free-blooming and fragrant that everyone should try to grow it. It may be seen at Edinburgh growing both in the rock garden and in a long border set apart for Rhododendrons, while Miss Willmott speaks of it as a very beautiful pot plant, so its uses are evidently manifold. It forms a neat, sturdy little bush some 18ins. high, of which the evergreen leaves are almost completely hidden by masses of comparatively large white flowers, which are of good substance. These may suffer during very severe weather as they open with the first days of the month, but a succession of buds opens continuously till the middle of March, when the little plant settles down to take a well earned rest. I have watched this little Rhododendron now since 1914 and it is by making such visits and notes that

the amateur gardener can learn what are really good plants for his own use. Another Rhododendron that we might well use more widely is *R. præcox*, which is well shown at Edinburgh, both in a large bed and as a long, low hedge some 3ft. or more high. It is a hybrid between *RR. ciliatum* and *danicum*, and for general purposes seems better than either, as it has more showy and larger flowers than the latter and is harder than the former. It is, indeed, a lovely and profuse-blooming kind, of a soft rose-pink, and as it is now cheap, it should be planted in groups or as a low hedge, setting the bushes 2ft. to 2½ft. apart.

Two species called *R. parvifolium* (2½ft.) and *R. capponum* (10ins.) are out in the rock garden, but these are small-flowered and of a somewhat ugly pink colour, combined with straggly habit of growth. Among Primulas, that pernickety species *Winteri* may be seen in full bloom under an overhanging ledge to keep the plants dry and to prevent "damping-off," which is what so often happens to them. *Ribes laurifolium* is grown both as a rock plant and in a bed by itself in another part of the Garden, and in both places it appears a desirable little shrub for its large evergreen leaves and pretty, though inconspicuous, racemes of palest greenish-yellow flowers which unfold at this time of year. A most beautiful little Vetch

called *Lathyrus vernalis* var. *azureus* is beginning to flower in the rock garden, and is an invaluable plant for any purpose, and its blue-shot-lilac colour is both unique and pleasing. It forms a small clump about 15ins. high and can be grown in ordinary beds, while it may be seen most happily naturalised under Pine trees in another part of these Botanic Gardens—a hint that is worth remembering for those who like wild gardening.

A visit to the alpine house at Edinburgh will always have a particular interest from the fact that there the plants are not in pots or pans, but are growing permanently in the fine rockery of red sandstone that has been erected under glass. There are many flowers out now, and one of the most interesting, perhaps, is *Gentiana rhodanthe*, from China, which I saw there first on January 8, 1921, a small, upright plant some 15ins. high, bearing numerous pale pink flowers, tubular in shape, opening widely at the mouth. Here, still, in February, 1923, it is growing well and blooming as freely as ever.

Corydalis thalictrifolia is also an old inhabitant and is producing as freely as ever its long, yellow, tubular flowers. The foliage is pretty and it grows about a foot high. These two plants may be taken as typical sorts for such a cold glasshouse, which, by a suitable choice of herbs, bulbs and small shrubs, may be kept full of bud or bloom or berry all the year round. M. E. STEBBING.

LENTEN ROSES

THE hybrid Hellebores which are commonly in gardens called by the above name are subdued in colouring, but none the less beautiful for that. They like a woodland soil, and are seen to best advantage beneath the shade of trees or bushes and in company with Ferns. The fine hybrids which may now be procured in many shades between pure white and deep purple appear to be of German origin. Some of the best varieties were raised by a well known nursery firm of Erfurt. They are, however, readily obtainable in English nurseries, and should be more extensively planted. For the first season they should be guarded against drought. It is a good plan to mulch the crowns with any light spent manure or, failing this, with Wakeley's Hop Manure.



LENTEN ROSES AT MUNSTEAD WOOD

CORRESPONDENCE

WISLEY GARDENS.

A VISIT to the Royal Horticultural Society's Wisley Gardens in the early part of the summer of 1922 for the special purpose of seeing the rock garden at what should have been a most interesting period proved to be most disappointing. Weeds were too much in evidence, and it was very much overgrown and the plant-labels were, for the most part, either missing or overgrown. The fault does not lie with the gardener in charge, whom I believe to be a most capable man, but is due to this part of the gardens being obviously very much understaffed. There should be a permanent staff sufficiently large (apart from students) to keep the part of the gardens set apart for plants and shrubs of botanical interest in reasonably good condition and to develop it on proper lines so that it may be a resort where one can see what is possible in outside conditions in that part of the country. While it is necessary that the outlines of the garden should be developed on as natural lines as possible, it is possibly more important that the many now interested in rock gardens should be able to see individual plants or groups of plants and the conditions in which they are found to thrive best. Experiments should be made as to soils and aspects for the many plants that, for want of proper understanding, may, although very desirable, be found difficult by many. Take, for example, the Saxifrages, including the innumerable hybrids (Kabschias and others), that have been introduced in recent years; it should be possible to see the growing outside without protection (except for early-flowering species when coming into flower to protect the flowers and lengthen the period), and these should be plainly and correctly named. There are also the various dwarf Gentians, Acantholimonas, Ethionemas and Androsaces, recent introductions from Tibet, etc., and endless others, including the various Crocus and Tulip species and other bulbous plants. An indication should also be given on the labels as to the date when planted, so that information could be obtained as to the permanence of the plant. It is not nearly so interesting to see plants that have been brought on in frames in more or less artificial conditions. What the members (and there must be a large number interested) want to see is the possibilities under natural conditions. This applies not only to alpine but to herbaceous plants and the numberless shrubs, etc., that are, or may be, introduced into this country not only from the intensely interesting expeditions into the wilds of China, Tibet, Burma, etc., but from all parts of the world. Why should it not be possible to have a part of the gardens comparable to the "Mecca" of alpine plant-lovers, the Royal Botanic Gardens at Edinburgh, which in the autumn of 1921, after the very dry summer, was so interesting as to make one loath to leave it.—T. A. L.

PRIMULINUS HYBRID GLADIOLI.

I READ with much interest "Amateur's" article on "The Invaluable Gladiolus" in the issue for March 3, and thinking it would be of interest to many lovers of this unique flower, I take up his suggestion of naming another dozen primulinus hybrids which are exceptionally beautiful. First, however, may I point out that the variety so excellently illustrated is named *Unsurpassable*, and however much we may condemn the prefix, it is Mr. Grulleman's doing, and we must accept it, and not raise confusion by calling it *Unsurpassable*. No dozen would be representative without Alice Tiplady, Woodcote, Orange Brilliant or Maiden's Blush, so I must

borrow these from "Amateur's" twelve and add the following: Altair, a delightful blend of soft salmon saffron, very "smooth" in colour tone and making an extremely beautiful table



PHEASANT'S EYE NARCISSUS GROWING WILD AT LES AVANTS, SWITZERLAND.

decoration. Anamiosa, a large-flowered "Prim." of spreading petal, soft salmon with large golden throat. Buttercup, pretty butter yellow with red lines on lower segments, neat grower. Capella, bright fiery orange red, a tall and handsome plant. Eden.—This variety was repeatedly pointed out by visitors last summer as one of the most beautiful. The upper petals are flesh blushed with pink at the edges, lower segments ivory white edged with pearly pink, canary yellow throat; a tall grower. Fire Queen, brilliant scarlet with greenish yellow throat. Otranto, a very lovely maize yellow with rich red throat markings and beautifully flushed on the outside of the shoulder petals. Sunrise, a prettily crimped or ruffled flower, bright yellow with pink suffusion. All too soon the dozen is completed and another two dozen or more just as beautiful not even mentioned. Will someone else step in with a further consignment?—J. L. G., *Crawley Down*.

ROSE MARECHAL NIEL.

THE most beautiful Maréchal Niel Rose that I know covers the front of this villa. I see that it is grafted high up, about roft, from the ground, on the stem of a Banksia Rose. It must be of great age, for the stem is as thick as my arm, and it is in full vigour. Is the parentage of Maréchal Niel known? Is there any Banksia blood in it?—L. Jounston, *Villa Mer et Monts, Menton A. M., France*

[Except that it is classified as a Noisette, we are not aware of the parentage of Maréchal Niel, but unquestionably it is longer lived under glass on the Banksian stock than on the Briar. Perhaps some reader knows the parentage of this grand old Rose?—Ed.]

THE PHEASANT'S EYE NARCISSUS.

PERHAPS the enclosed picture of Poet's Narcissi growing wild in Switzerland may be of interest. The more boldly they are massed the more effective they are. English gardeners please note!—S. S.

[In this country the Pheasant's Eye Narcissi likes rather damp soil and has no objection to the partial shade afforded by orchard-trees.—Ed.]

ABOUT FREESIAS.

"DUDS" have been more numerous with me this year than I ever remember before. Some of my bulbs are only just now starting, although standing alongside pots which are rapidly passing out of bloom. I am inclined to agree with the Rev. Joseph Jacob that the open flowers are more taking to the eye than the cup-shaped flowers, but at the same time some of the latter varieties are more deeply coloured. May I say that while being disappointed with my Freesias this year, I have been delighted with the flowering of another of the Rev. Joseph Jacob's pets—the *Lachenalia*—Ostend, Riga, Greenland and Boston, to mention just a few, being particularly fine and striking.—G. C.

I WAS very pleased to see Mr. Jacob's notes in *THE GARDEN* of March 3. His Freesias seem very much more forward than mine. Perhaps he gives his more heat than I do. I have as yet very few out. I have never been troubled with "duds" in my own stock. My theory all along has been that this fault is due to insufficient ripening of the corms. Even after the cold, sunless season of 1922 I have less than one per thousand. A thorough roasting in their pots after the foliage has died down and to keep them warm and dry afterwards has been my treatment. If Mr. Jacob will try this, I feel sure he will not complain of "duds." Like Mr. Jacob, I have for the first time found a plant with variegated foliage, the only one out of some five thousand

seedlings. As it has not yet flowered, I cannot say whether it is worth keeping. The album form that Mr. Jacob refers to appears also, but I put it down as a weak, anæmic grower and doomed to an early death, for they do not appear a second season. There is no doubt that the open-shaped flower is far and away the better type. The variety Apogee is to my mind the ideal type—broad, overlapping segments standing at right angles to the tube. Dainty goes further and almost reflexes, and the segments are not broad enough. Apothéose, grand flower that it is, could be improved if it was a bit more open. The ideal flower must be large, have broad, overlapping segments, be of good substance, have good length and strength of stem and good scent. I do not care for the big, loose, narrow-segmented, flimsy flower. Mr. F. Herbert Chapman of Rye has, or had, a very good type of flower as regards shape. His variety Eldorado is one of this type, and though it might have more size, it is well worth growing for its shape and colour. For some reason I find the yellow varieties are the earliest to bloom. Buttercup and Goldfinch are followed by Daffodil and Treasure, with Apogee next. Golden King comes much later. I do not include any of my own raising not yet named or others not in commerce. Of these six varieties I put Daffodil first, followed very closely by Apogee. (I am not sure I shall not bracket them equal.) Daffodil is taller, deeper in colour, but not so open as Apogee. Treasure is early, tall and very large, but just fails in being rather cup-shaped, and its large flowers are apt to get top-heavy. Buttercup is inferior to these in size and shape. Goldfinch is the richest in colour, but is too small. Golden King fails in size and type of flower, but has a very rich colour, strong scent and a good stiff stem, and comes in when most varieties are over. Perhaps I shall find the perfect yellow in my seedlings—an Apogee flower with a Goldfinch colour, a Golden King scent, a Treasure for size, a Buttercup for earliness, and a Daffodil for length of stem!—G. H. DALRYMPLE.

SINGLE ROSES.

READING through the autumn numbers of THE GARDEN, particularly the Rose Number of November 5, I notice in the very interesting article on single Roses by the Rev. J. Jacob he states that singles have no class to themselves in the National Rose Society's Schedule. It is with great pleasure that I draw your contributor's attention to the class for single Roses as a table decoration. No Rose lends itself to the same light and graceful arrangement as these favourite single Roses. Compare their dainty growths and natural sprays of bloom to the walking-stick stems of Ophelia, which even at the summer exhibition of the National Rose Society's Show predominate in so many of the decorative classes. Many Rose lovers and exhibitors regret that there are not more classes for single Roses. What could be more attractive than a basket arranged with the glossy foliage of Mermaid and a glowing mixture of colour of Firelane, Irish Elegance, Mrs. Oakley Fisher, etc.? But the powers that be at the Rose shows say, "No, nothing but bowls and vases," filled for preference with specimen blooms. Why not the more decorative single Roses for the "decorative" classes?—(MRS.) L. COLSTON HALL.

THE SHOW PELARGONIUM.

ANYONE who has had to do with the culture of Show Pelargoniums, either for the purpose of exhibition or for home decoration, must be cognisant of the fact that they are anything but

popular to-day, and that in the schedules of many societies the competition became so small as to justify the elimination of a special class for such plants. The cause of this apparent lack of interest is not, I venture to say, due to any depreciation in the beauty of these old-fashioned flowers, but rather to misconception in some instances, and wrong treatment in others, of the requirements of these one-time favourite greenhouse plants. Unfortunately, so many have, perforce, either to grow Pelargoniums in a house where miscellaneous collections of plants are quartered or leave them out of their purview altogether. In nine cases out of ten they are grown, therefore, in a close overheated atmosphere—quite unnecessary for the plants under notice. This gives rise to trouble in the shape of green fly or red spider, which soon spreads to other plants in the house, and the offenders have to go. It seems to me a matter for regret that these showy flowering plants should have been allowed to drop out in many places mainly because of mistaken ideas as to culture. One may say of Show Pelargoniums that little heat indeed is needed, just enough to keep frost out during winter and dispel damp. Over-excitement produced by haphazard heating of the house and, not infrequently, dryness at the roots and absence of air are direct causes of the presence of the pests, which seem to spring from nowhere in the wake of these admittedly beautiful flowering plants. The keynote of successful culture in regard to them is coolness, and it is the ignoring of this which is responsible for so many failures. Visiting an exhibition on one occasion where prizes had been offered for "six plants for decoration," I noticed a solitary exhibit of Show Pelargoniums. The plants, remarkably clean and robust and full of flowers, indicated quite plainly that cool, rational treatment had been observed, and it was this which had undoubtedly been the means of the exhibit gaining premier honours.—W. LINDERS LEA.

THE LATE REV. W. WILKS, M.A.

THE world of horticulture has indeed sustained a loss by the sudden death of the Rev. W. Wilks. Though he passed away in the fulness of years, yet the end was very sudden, and few who heard him speak at the annual general meeting of the Royal Horticultural Society only a few weeks ago could have suspected that his course was so nearly run. The amount of work he did for the R.H.S. is difficult to measure. Not only did he act for many years as the Society's unpaid secretary, but he was also the unremunerated Editor of its Journal, which he was largely instrumental in raising to its present proud position. It was decided in 1912 that Mr. Wilks' twenty-five years' occupation of the post of secretary to the Society might fittingly be recognised by a presentation from Fellows of the Society who appreciated the work he had done. £611 was quickly subscribed, and Mr. Wilks was presented with a suitably inscribed salver and a cheque. Mr. Wilks, however, retained the secretaryship until the close of 1919, when he wrote: "Reconstruction requires a vigorous initiative, and that is always a weak point with old people. New projects are already presenting themselves—provincial shows, provincial branches, great developments at Wisley and other things are sure to arise before long. . . . It is well, too, that he who will have to carry out these undertakings should also have their initial organisation; and, on the other

hand, it may possibly be not altogether undesirable that the late secretary should, for a time at least, be at hand to explain matters to his successor and give him any help he may reasonably ask for."

This letter shewed the clear-sightedness which had distinguished his occupation of the secretarial chair. When, in 1904, schemes were brought forward to celebrate the centenary of the Society, the secretary set himself quietly to work to obtain the present hall and offices in Vincent Square, and also to find new gardens to replace the existing garden at Chiswick, which was fast becoming unsuitable for plant culture. That his efforts were successful is now a matter of history. The Royal Horticultural Society was all in all to him, and he maintained touch with it to the last. He was at the time of his death a member of the Council and of several Committees, some of which he attended as recently as February 27 last.

In 1893 he underwent a serious operation for throat trouble, and for a long time could only



THE LATE REV. W. WILKS.

speak in a whisper. As Vicar of Shirley for thirty-three years up to 1912 he did much to improve the village. Through his efforts a new organ chamber was added to the church in 1881. New church schools were built in 1885, and a workman's institute in 1886. In addition, he made Shirley famous as the home of the Shirley Poppy, surely as remarkable a result of patient endeavour as could be found anywhere! Few flowers have more claims to popularity. Equally beautiful as growing or when cut, enormously prolific and suitable for every garden—the smallest as the largest—it is indeed everybody's flower. A more lasting and beautiful memorial than this no one could desire. No medal that may be struck bearing his likeness and name can be as lasting a memorial as the flower he evolved with such patient labour. The Shirley strain of Foxgloves was another of his productions.

There are, alas! few men who are prepared to give the amount of disinterested work to any cause that the Rev. Wilks devoted to the Royal Horticultural Society, but his example might well be an inspiration to others.

WATER AND BOG GARDENING—IV

NOW we come to the question of plants for deeper water, where, too, space is generally more ample; and nature here has been even more lavish than in the case of the smaller growers.

In the *Nymphaeas* alone the choice is so wide that one is compelled to omit many exceedingly beautiful forms within the limits of one article. To begin with we have *alba*, the common white form that grows so lavishly in some of our quiet pools and backwaters; but this is not the best for garden purposes, *Mariacea albida*, an immense pure white with bronzy foliage, or *candidissima plenissima*, with large and almost perfectly double white flowers, both being preferable. *Aurora* is very good, with large deep orange flowers becoming more intense in colour every time they open and having to its credit the hall-mark of the first-class certificate of the R.H.S. *Caroliniana* is a robust grower with large coppery leaves and delicate pink flowers, with the added charm of fragrance. *Chrysanthia* is interesting for its handsomely marbled foliage and its pretty yellow flowers that become vivid vermilion as they age. *Colossea* is grand where plenty of room can be given to it, for its gigantic flesh-coloured flowers are borne in an uninterrupted succession, both early and late in the season. *James Brydon* is a variety of note, against which "most distinct" must be written, for the flowers are very large with broad petals of light pink, forming a really admirable flower. In the *Mariacea* section we have—in addition to *albida*, mentioned above—*earnea*, with beautifully mottled leaves and white flowers suffused with pink and *Chromatella*, one of the most beautiful of all hardy *Nymphaeas*, with bold marbled foliage and immense, nearly double canary-coloured blooms very freely produced. *Flammea* is reddish purple shaded with white; while *rubra punctata* is one of the largest—deep purple with bright orange stamens.

For the largest sheets of water, where the water garden becomes a lake of ornamental water, the *tuberosa* varieties are the most vigorous of all *Nymphaeas*, and increase at a speed corresponding to their vigour by means of tuberous offsets that are readily detached from the creeping rootstock. The foliage is coppery green and the flowers in the type are white, the outer petals being tinged with flesh pink. A variety of this, *Richardsoni*, is double

and pure white, the outer petals drooping so that the entire flower forms a perfect globe. Less vigorous than the two former is *tuberosa rosea*, a very beautiful thing which is similar in all respects



THE WATER ARUM, *PELTANDRA VIRGINICA*.

to the above, save that the growth is more restrained and the colour bright rose. *W. Falconer* is a hybrid of immense size, the flowers measuring 6 ins. or 7 ins. across, vivid crimson in colour, strikingly enhanced by the centre of the golden stamens. While young the leaves are reddish, becoming olive green with red veins as they mature; superb for the medium-sized pool.

Leaving the *Nymphaeas* again, we come to other plants that both float upon and grow through the water's surface. For shallow water at the margin the variegated Sweet Flag, *Acorus Calamus variegatus*, is simply splendid and far better than the type, for its beautifully striped pink and green and yellowish white leaves are ornamental through the entire season. *Alisma Plantago*, the Great Water Plantain, grows strongly erect to a height of 2 ft. or 3 ft., with large ribbed leaves and much-branched stems of white flowers.

For deep water *Aponogeton distachyon* is capital, with bright green oblong leaves floating on the water and long stems that end in a double spike of white bracts, with purple brown anthers and a hawthorn perfume. The Flowering Rush bears masses of rushy green foliage and, thrown well above this, strong bright pink flowers borne

on the top of a long stalk which reaches a height of 3 ft. or 4 ft.

For shallow water near the margin the Water Arum, *Calla palustris*, is an excellent counterpart of its common name. The foliage is green and the white flowers, followed by conspicuous seed vessels, are freely produced in early summer. The Bog or Buck Bean, *Menyanthes trifoliata*, is worth a prominent place where its bean-like foliage and attractive flowers, the segments of which are finely frimbriated on the inside, shew to great advantage. *Orontium aquaticum* or Golden Club is a space-filler, very vigorous, with velvety green foliage resting upon the water and club-like spikes of golden yellow flowers that rise 1 ft. above it. The Water Arum, *Peltandra virginica*, is capable of forming a most striking specimen with large arrow-shaped leaves and handsome white arum-like flowers. A big group of this is well worth while, being decorative all through summer. *Pontederia cordata* must not be passed by for margins, for it is a very free-flowering plant with large tufts of heart-shaped, erectly-growing leaves standing well above the water, and spikes of closely set blue flowers.

Where a gigantic foliage plant with upright stems that will grow in shallow water is required, note *Rumex Hydrolapathum*, the Water Dock, for in the mass it is very striking and effective, especially when the foliage turns scarlet in autumn. The Arrowhead exists in quite a number of varieties, among which may be mentioned *Sagittaria sagittifolia*, with white flowers with dark anthers, and *S. variabilis* fl. pl., a big group of which, with its arrowhead-like leaves and stems of double white flowers, is most effective. *Typha latifolia*, the Cat's Tail, a well known native of the riverside and fens, brings all its dignity with it when we import it into the large water garden and gives us splendid clumps of broad foliage and club-like heads on vigorous stems 6 ft. to 8 ft. high.

The lists are even now nothing like complete. One might add considerably if occasion required, but those mentioned should provide sufficient for any except the most extreme needs.

H. W. CANNING-WRIGHT.



WATERSIDE PLANTING, INCLUDING THE EFFECTIVE *ACORUS CALAMUS VARIEGATUS*.

THE NEWER VARIETIES OF ALLWOODII

MUCH progress has been made in the development of these useful, interesting and hardy plants, and the following newer introductions are worthy of consideration.

Alfred.—A pure white self. This novelty will eclipse the popular Harold, for it is a denser white and the blooms are fuller. It has a splendid erect habit and it is very floriferous.

Arthur.—Red maroon with a dark centre. This is a well-shaped flower with plenty of petals and a good calyx. It is of compact habit, short jointed and vigorous. It has the distinct central marking that Mr. Edward Allwood considers one of the most pleasing features of the Allwoodii and a characteristic that they would be sorry to lose.

Barbara.—A rich crimson self. It bears large, full flowers with a fringed edge to the petals. It has a strong habit and soon makes a shapely plant.

Betty.—White, with a red maroon centre. I consider this one of the daintiest of the newer varieties. It has a neat habit and makes an ideal plant for edgings.

Dickon.—Brick red with maroon centre. This is a particularly free-flowering variety and has a short-jointed habit. The flowers are carried in clusters.

Edith.—White with violet centre. A pretty variety with a good habit. The blooms are carried on long stems and stand erect above the foliage.

Eleanor.—White with crimson purple centre. A large double flower with fringed petals. This variety bears, in my opinion, the finest individual blooms of any yet raised. It has a splendid habit and the blossoms are carried on strong, erect stems.

Hugh.—Crimson purple self. Last season was not very favourable for flowers of this shade, as purple is a colour that spots in rain, but in a sunny year it should be grand. The individual blooms are large and well shaped.

Joyce.—Deep salmon pink with pale maroon centre. Lovely colouring is portrayed in this new variety, and it is very effective when used for room decoration. It has a free habit and the blooms are borne on erect stems.

Lottie.—Pale salmon self. A new and pleasing shade that will be in demand for decorative purposes. It is a double flower, rather loosely built and not unlike Jean in character.

Marion.—Another pleasing pink shade, nearly the same colour as Rose Dorothy Perkins. The flowers are of good form and have fringed petals. It has a good habit and the blooms can be cut with plenty of stem. A useful decorative variety.

Matty.—Reddish maroon with maroon eye. It has a short, dwarf habit and bears semi-double flowers with fringed petals.

Maud.—Pale rose pink with salmon flush. One of the most pleasing colours and invaluable for decorative work. It is very pretty in artificial light. The flowers are produced in clusters.

Nell.—Peach pink. A popular and pleasing colour. It is a strong grower and good for the herbaceous border.

Peggy.—Deep violet-maroon. A new self colour, free flowering and of quick growth. Flowers are of good form and fringed.

Rhoda.—Deep rosy mauve with crimson eye. A counterpart of Betty and equally useful for edgings.

Robin.—Brick red self. It has a strong habit and bears double flowers on long, erect stems, chiefly in clusters.

Sybil. Delicate flesh pink. A new colour break. Very beautiful for decorative purposes. Fine habit and flowers of perfect form, generally borne in clusters, on long stems.

Vera.—Blush pink. A little deeper shade than Sybil. The flowers are semi-double and have a smooth edge to the petal. It has a short, compact growth and is very useful for edgings.

NORMAN LAMBERT.

LIME AND ITS USES

DO amateur and professional gardeners, and others who till the soil, realise that lime is a very important, if not the most important, factor in successful cultivation? Like many other essentials to plant growth, science has been able to produce this soil constituent in a form helpful to plant life. Used in the right way and in the proper form, lime is not only an essential soil ingredient, but has considerable value as a fungicide, insecticide and effective dry spray, which is not generally realised. The uses of lime are manifold and the benefits to be derived from its application are really great.

Slaked or hydrated lime is, if pure, owing to its fineness, unquestionably the most valuable form for horticultural purposes, inasmuch as it will more quickly pass into solution. It is easily assimilated by the soil and thus readily stimulates plant life by making it possible for plant foods to be absorbed. Lime acts chemically, physically and bacteriologically in the soil.

It acts CHEMICALLY by hastening decay of organic matter or manures and setting free the elements of plant food they contain, and also by releasing the potash which clay and heavy soils usually contain and by rendering phosphoric acid more readily available for the plants.

It helps PHYSICALLY on a clay or heavy soil by coagulating the particles of soil and making them more granular, so that there is better drainage and greater warmth. It is a proved fact that one gets an earlier and a better tilth on heavy land that has been properly limed than where it has not been so treated. The density of a clay or heavy soil is due to the particles of soil being so fine that they hold moisture and bind together. Slaked or hydrated lime corrects this by making the soil more open and more friable and consequently easier to cultivate.

It is of value BACTERIOLOGICALLY by sweetening the soil and providing a congenial environment for the soil bacteria. The fertility of the soil is due to the action of beneficial bacteria converting the various elements present into such a form that the plant can take them up. In performing these functions the bacteria throw out a minute amount of acid and, unless steps are taken to neutralise this acidity, their surroundings are not healthy, the organisms languish, lose efficiency and eventually die off. Lime corrects this acidity and enables the bacteria to carry on their beneficial work.

As a FUNGICIDE lime in the soil is capable of materially lessening, if not preventing, many diseases, such as "Finger and Toe," "Club-root," etc., but in every case it should be applied to the surface soil so that the rain may wash it in. If applied more than 4 ins. to 6 ins. below the surface it is not so effective. A pure lime, correctly hydrated, used as a dry spray also lessens and prevents in many cases air-carried diseases, such as potato and tomato blight, also some diseases or pests which attack trees and plants, fruits and vegetables, whether under glass or in the open.

Lime, in many cases, is an effective INSECTICIDE. Its efficiency in this direction depends much on its fineness and purity, brought about by correct

hydration, for it is often quite possible to add too much or not enough moisture.

As a DRY SPRAY against caterpillars, through a suitable dry sprayer it chokes up the breathing pores and in most cases is a preventive against the many insect pests which attack vegetables, fruits or flowers, and is generally acknowledged to create healthy foliage and growth. Lime is well known for use against slugs, but it is not generally known that the slug has the power of exuding a slime which enables him to escape from the first powdering his body receives, but a second application within a short space of time is beyond his powers and generally destructive.

It is not only a waste of money to apply fertilisers to land deficient in lime, it is positively harmful, in that the soil is being made more acid. The elements that fertilisers contain are not available as plant food unless there is lime present to set them free and they cannot become free otherwise. Sulphate of ammonia is very destructive to lime in the soil, and where frequently used liming should on no account be neglected; the same destruction obtains where super-phosphate is used. Nitrate of soda is also much more effective where lime is present in the soil. This applies to cultivation outdoors and under glass.

LIME varies as much as coal as regards quality. When one buys ordinary or lump lime one always buys something else besides. This something else may be silica (sand) or alumina (clay), or what is worst of all for horticultural or agricultural purposes, magnesia. This is usually present in most soils in sufficient quantity for all ordinary purposes and is perhaps a more important constituent in soils where Vines are grown. For horticultural purposes lime should, in the opinion of the writer, contain no more than 2 per cent. of magnesia (less than 1 per cent. is preferable) and there are some limes on the market which contain up to 40 per cent.

CHALK, which is frequently used, is slow in its action and does not possess the sterilising action of lime burnt in the kiln. Moreover chalk frequently contains an excessive amount of moisture and is usually dried before it is sent out as a dry powder. If the chalk has contained 20 per cent. to 25 per cent. of moisture before being dried, it will, of course, take up just the same amount of moisture when applied to the soil, and there is the possibility of its becoming pasty, which makes even distribution in the soil impossible. In this state it may cake and thus prevent the proper aeration of the soil.

Buxton is acknowledged to possess the purest deposits of limestone in the world. The burnt stone yields up to 98.40 per cent. pure lime (CaO). This lime possesses the physical property of breaking up into a finer state of division than any lime yet known. This lime may be obtained scientifically hydrated and, in appearance, just like flour. This product is known under the proprietary name of Limbux. Pure lime may cost a little more than an inferior article, but it costs no more to distribute and a smaller quantity may be far more effective in the soil, besides its efficiency for use as a dry spray, as a fungicide and as an insecticide, a safeguard against many diseases and insect pests.

It can be applied to fruit trees, etc., in bloom without scorching or doing any damage, in fact, it appears to assist pollination. Are fruit trees and the soil they grow in sufficiently limed? There is much to favour the use of lime in conjunction with Narcissus or Daffodil growing as a safeguard against Narcissus diseases and, perhaps, eelworm. Most vegetables benefit by lime, so also do Begonias, Carnations, Gladioli, Chrysanthemums, Sweet Peas, Roses, etc. Tennis courts, golf greens and lawns would all produce finer grasses by applications of suitable lime at intervals. Without lime, soils cannot produce good crops, not forgetting that

"Lime and lime without manure will make both land and grower poor." Besides being constantly absorbed in neutralising the acid products of the soil, lime is removed from the soil by the action of rain or drainage in England, Scotland and Wales at the rate of approximately 500lb. per acre

annually, but the amount used by the crop is small in comparison. Unless the wastage is made good from time to time, the soil, however "good in heart," cannot possibly be so productive as it should be.

Eccleshall.

J. L. EDGINGTON.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Vegetable Marrows.—For an early supply a few seeds of one of the small-fruited varieties should be sown in pin pots and placed in a warm greenhouse. A hot-bed and box frame will be necessary when the plants are large enough to put out. A heated brick pit is also suitable. Plants for outside should be raised a few weeks hence.

Winter Greens.—Under this heading the average gardener includes all the green vegetables that are in use during the autumn and winter months, and, collectively, they constitute an important lot. The site for the seed-bed having been dug some weeks previous, will only need raking down, then shallow drills should be drawn 1ft. apart. When the seed is sown it will be advisable to cover the bed with netting to protect the seeds from birds. The turnip fly is often troublesome, and, just as the seedlings are appearing through the soil, it is a good plan to dust the lines with soot, lime or fine grit. Such work ought to be done while the morning dew is still on the plants. In many gardens it is desirable to have Cauliflowers or Broccoli all the year round, and to this end several varieties are grown. Among the Cauliflowers Veitch's Autumn Giant and Early Giant are both reliable; while Broccoli should be represented by Michaelmas White, Early White, Leamington and Model. Savoys Drumhead and New Year; Kales, Scotch and Favourite; Purple and White Sprouting Broccoli, and Cabbage All Heart.

Hoeing.—However well the garden is kept, weeds will appear, and it is always policy to catch these in the seedling stage. Use the hoe freely not only to destroy weeds, but to loosen the surface soil, and thereby benefit the crops.

The Flower Garden.

Annuals.—Among annuals will be found a host of beautiful flowers, all of which are of easy culture, and many should be sown where they are intended to flower. Among the more recent introductions the fine varieties of *Eschscholtzia* should certainly be given a trial. The gentian blue *Phacelia campanularia* is a gem, a dwarf, compact-growing plant which ought to be sown in the open. A few annuals, such as *Phlox Drummondii*, *Mimulus*, *Nicotiana* and *Zinnia*, are best sown in boxes of light soil and raised in a warm greenhouse, pricking off the seedlings in a cold frame or boxes when they are large enough. Such annuals as Stocks, Asters, Clarkias, Larkspurs and Marigolds I sow in a cold frame, and obtain excellent results. The plants are sturdy, and, if the seeds are sown thinly, the pricking off process is dispensed with the seedlings being transplanted to their permanent quarters when the weather is suitable. Anyone who has not yet tried the single-flowered varieties of Aster should include a few this year; they are showy, and first-rate for cutting purposes.

Border Carnations.—If the layers were potted up last autumn, and have been accommodated in a cold frame, they should now be planted out in beds and borders. In these days Border Carnations are so good that they deserve a piece of ground that has been well prepared. Old plants of the perpetual-flowering type will furnish quite a lot of flower if planted out when they are of no further use inside.

Vegetables Under Glass.

Tomatoes.—If seeds were sown as advised in this column in the issue dated January 20, page 38, the plants will be large enough for the pots in which they are to fruit. The roots should be placed rather deep. The soil should consist of fibrous loam three parts and one part from an old mushroom-bed or horse droppings. A sprinkling of bone-meal should be added, and then the whole well mixed. A few inches of space should be left in the pots for top-dressing later on. Where possible the plants should be put out in borders

in the house. A foot depth of soil would be ample; in fact, they can be grown successfully with less soil. Much will depend on the structure, but planting out is the best method; better crops are secured and less labour is needed to keep the roots supplied with water. Unless the plants can be carried on strings to overhead wires or other supports, each one will require a stake, which must be strong, or the weight of the fruit will bend it over. Tomatoes may be grown in pits and deep frames, which will be available in due course. Seeds may now be sown for this purpose and to produce plants for growing outdoors.

The Hardy Fruit Garden.

Grafting.—Where inferior varieties of Apples and Pears exist, they may be replaced by grafting, but unless one has had experience in this operation it is better to employ outside help. This is the time for the work.

Strawberries.—Remove all decayed foliage and weeds, and then give the soil a thorough hoeing. Afford a dressing of soot and a sprinkling of some fruit manure. Afterwards clean straw may be placed between the plants whenever an opportunity occurs.

Insect Pests.—Examine Gooseberries and other bush trees for caterpillars and green fly, and if present, spray with a reliable insecticide. If gooseberry mildew is in the district, spray the trees a few times during the growing period with Bordeaux mixture. It is useful as a preventive.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Autumn-Sown Onions.—Except on light soils where they are apt to be uprooted by frost, autumn-sown Onions give excellent results. It is a good plan to thin them out and transplant as many of the thinnings as are likely to be required, and this should be attended to within the next week or two. Onions delight in a rich soil. Those that are allowed to remain should be given a dressing of some reliable artificial manure, such as nitrate of soda or guano, to set them into active growth. Onions sown under glass during January should now be gradually hardened off preparatory to being planted out.

Asparagus.—The top-dressing the beds received in autumn should now be forked in. A light dressing of salt prior to starting the operation will be of considerable benefit, as Asparagus is a salt-loving plant.

Lettuce.—A sowing of Tom Thumb or other small, quick-maturing variety may now be made on a warm border to succeed those grown under glass.

Peas.—Another sowing should now be made, and for this purpose it is advisable to rely on a second-early variety, such as Senator or Royal Salute. Continue to make sowings of Spinach between the rows.

Vegetables Under Glass.

Cucumbers.—If seed was sown in good time, Cucumbers will now be ready for planting out. Where there is no special house for them a plant or two may, as a makeshift at this early season, be grown at the cooler end of the melon-house. Those who depend upon frame culture should be securing a supply of fermenting materials with a view to planting next month.

Tomatoes.—Where seed was sown during December or early January the plants should now be ready for their fruiting quarters. There are three systems practised, viz., planting on the floor of the house and training the plants to vertical strings, planting in a raised bed and training the plants on a trellis like Melons or Cucumbers, and growing them in pots gins, to 2ins. in diameter. Where only a moderate quantity is grown either of the two last-mentioned

systems is to be recommended. Good fibrous loam with the addition of some bone-meal or bone-flour should be used. Maintain a buoyant atmosphere with a temperature ranging from 55° to 60°.

Fruit Under Glass.

Melons. Seeds for the main crop may now be sown singly in small pots in bottom-heat in a temperature of from 60° to 65°. Among green-flesh varieties Diamond Jubilee can be recommended with confidence, as can Sutton's A 1 among scarlet flesh varieties.

Peaches.—As soon as the fruits attain the size of small marbles the work of thinning should be taken in hand. It is a great mistake to over-crop the trees, as it is bound to militate against their future welfare. A good general rule is to allow 1ft. between the trunks; thin gradually.

The Flower Garden.

Mignonette.—Although perfectly hardy, it is a good plan, where really fine spikes are desired, to sow the seed under glass either in small pots or in boxes, as is done with the ordinary run of half-hardy annuals.

Sweet Violets in frames should now be encouraged to develop a certain number of runners to furnish stock for planting out next month. Ventilate the frames freely back and front, and as evaporation will now become more rapid, care must be taken that the plants do not suffer from lack of water.

Violas.—If the ground is ready for their reception and the state of the weather permits, Violas should be planted out. There is a decided advantage in planting early, as they have then time to get thoroughly established before the heat of summer sets in, when late-planted stock is apt to suffer and even to die off.

The Hardy Fruit Garden.

Protecting Stone Fruits.—As soon as the trees on walls come into flower a watch must be kept for threatened spring frosts, and the trees should be protected by suspending some light protecting material in front of them. Tiffany or even a double fruit net will generally prove quite sufficient for the purpose.

CHARLES COMFORT

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Chinese Primulas are as a rule thrown away after flowering, but they make fine large specimens if grown on for the second year. Where it is desired to grow them on in this way, good healthy plants should be reserved after flowering. They need not be repotted until some time during May, when they should have a shift into 6in. or 7in. pots, taking care to pot them well down, as they will then throw out fresh roots from the stem. Grown on in this way the stellata varieties make very fine specimens, although any of the varieties may be treated in the same way. Another way of producing large plants is to sow the seed during August or September, growing the subsequent plants steadily on for about fifteen months before they are allowed to flower. The old double white *Primula*, which is so useful for cutting and for making up in floral arrangements, has to be increased by cuttings or division. The plants may be shaken out of their pots and divided, putting them into small pots, and, if stood in a propagating case with slight bottom-heat, will soon make fresh roots. Another method of increasing them is to trim off some of the bottom leaves and mound up the stems with leaf-soil and sand to which a little chopped sphagnum may be added. When the plants have made fresh roots into this mixture they may be divided and placed in small pots, keeping them close for a few days until the roots get a hold of the fresh soil, afterwards potting them on as they require it. All *Primulas* of this class are best grown in low pits well up to the roof glass or in cold frames during the summer months.

Impatiens Balsamina.—An early sowing may now be made in an intermediate temperature. The seed should be sown very thinly, as the young seedlings draw very quickly if at all crowded. When they are potted off they should be buried up to the seed leaves, as they root out from the stem. The plants should not be given too much heat or else they will become weak and drawn, and as the season advances they should be grown in a quite cool house.

Impatiens Sultani and I. Holstii.—Seed of these plants may also be sown at this time. These kinds are very useful for furnishing the greenhouse,

as they remain in flower all the summer. Any good colour varieties of *L. Holsti* should be propagated by means of cuttings.

Impatiens Oliveri is very useful for the conservatory, as fine large specimens can be grown in tubs. It may also be planted out in a bed in the conservatory. This beautiful plant should be more generally grown, as it remains in flower more or less all the year round.

Chrysanthemums.—Cuttings for small pots should now be taken either from old stock plants or else taken from the tops of young plants rooted some time ago. This latter method is probably the best, as the young soft wood makes much freer growth. The cuttings should be rooted under quite cool conditions, so as to ensure strong and sturdy plants from the beginning. The plants should not be allowed to suffer from lack of repotting at any time; they should also be pinched frequently to induce a bushy habit. As they are flowered in 6in. or 7in. pots, they require strict attention as regards watering during all stages of their cultivation. The aim should be to retain throughout good foliage right down to the pots. For the purpose in view varieties should be selected that are naturally of a dwarf bushy habit. All the forms of *Caprice du Printemps* type are excellent for this purpose. Some of the smaller-flowered single varieties are also very beautiful and, although by no means new, *Lady-smith* is still one of the best.

Schizostylis coccinea. The Kaffir Lily, although hardy if grown in a warm border in front of a greenhouse in the south and west, is well worth growing for pots, as it produces its flowers during autumn and early winter. For this purpose it is best grown outside in a bed of rich soil during the summer months. They should be divided into single crowns, which may be planted in lines, placing them 6ins. apart in the lines, or six to eight strong crowns may be planted together in a clump. In the autumn such clumps may be lifted intact and placed in 6in. pots. They remain in flower for a long time in a cool greenhouse.

Royal Botanic Gardens, Kew. J. CORTIS.

The Rocky Mountain Columbine.—It would be difficult to name a Columbine which is quite so attractive as *Aquilegia cœrulea*. It also possesses the merit of being distinct, the perfectly upright poise of the flower at the head of the stem being a characteristic almost unique among its kind. This very lovely species is of somewhat slight growth, yet quite rigid and erect. The comparatively scanty, glaucous foliage, small-leaved and delicate, is mainly gathered about the base of the flowering stem, which latter ascends to the height of about 1ft. The long-spurred blossoms are very large, creamy white in the centre, the remainder being a good firm blue with perhaps the slightest hint of cool lavender to complete a most delightful tone. These flowers open early (before most others), and this is a matter of no small moment, since it ensures a crop of true seed, which is a boon to many who have to treat *A. cœrulea* as a biennial. This plant, however, is by no means always difficult. It is often quite permanent in gardens where it can be afforded a gritty, or even stony, soil with some leaf-mould. But while it must not be too sodden in winter, it undoubtedly enjoys a cool root-run, such as a rock garden ledge sloping to the north west might afford. Seed germinates quite freely and the young plants give no trouble.

The Ghent Flower Show.—Mr. John Weathers of Park View, Isleworth (who has been invited for the sixth time to serve on the International Jury in April this year) will be pleased to hear from other British members of the Jury and others, so as to make up a party of twenty-five or more. If communication is made in good time, it may be possible to get all the British members into one hotel, and to arrange for a visit to the various nurseries round Ghent and Bruges, and also, perhaps, to make a flying visit to some of the scenes of the Great War. Mr. Weathers was over this ground two years ago, and knows Belgium

pretty well. Enquiries to the address given above should be accompanied by a stamped directed envelope.

Roses at Wisley in 1923.—The Director of Wisley would like to remind those who intend sending Roses for the R.H.S. Rose trials at Wisley that the last day on which they can be accepted is Saturday, March 31. He will be pleased to send the necessary entry forms on receipt of a postcard addressed to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey.

Trials at Wisley. The Royal Horticultural Society will carry out a trial of Wallflowers and Sweet Williams during the coming season. One packet of each variety for trial should be sent so as to reach the gardens by April 30 and addressed to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (goods via Horsley Station, Southern Railway). The necessary entry forms may be obtained on application to the Director. They will also carry out a trial of summer-flowering outdoor Chrysanthemums during the ensuing season. Three plants of each variety for trial should be sent so as to reach the gardens by April 30 and addressed to The Director at the above address. The necessary entry forms may be obtained on application to the Director.

FORTHCOMING EVENTS.

March 20.—Winchester Horticultural Society's Meeting.

March 21.—Wimbledon Gardeners' Society's Meeting.

March 22.—Royal Botanic Society's Meeting.
—Wargrave and District Gardeners' Society's Meeting.

Answers to Correspondents THE GREENHOUSE.

THE TREATMENT OF GERBERA JAMESONI HYBRIDS (L. B. Berks).—The flowers of the Jamesoni hybrids have varying shades of orange-scarlet. The plants may be wintered in a temperature varying from 40° to 45°. In the summer-time a cool position in an unheated and well-ventilated greenhouse will be suitable. No difficulty need be experienced in growing the plants in a cold frame if the structure is deep enough. Much shade makes the flower-stems still more weakly. A suitable compost is one of good loam two parts, leaf-soil one part and well rotted manure one part, with a free sprinkling of coarse sand.

CAMELLIAS ATTACKED (T. A. P.).—The plants are attacked by the scale insect, *Pinnularia camellicola*. They should be thoroughly cleansed by washing and sponging, removing the insects with a blunt stick and using Gishurst Compound at summer strength or a wash made by kneading flowers of sulphur into a handful of soft soap and dissolving it in 1½ gallons of water. If the insects reappear, spray, as soon as they are seen, with a nicotine soap solution that has often been recommended in these columns.

SOLANUMS (W. W. Weybridge).—Our correspondent does not say what sorts she is growing. If *Solanum capsicastrum*, with orange-scarlet fruit, the plants should be partly pruned back when starting into growth. They should have the balls of soil slightly reduced to allow of them being repotted into the same-sized pots, giving them a shift later on if required. They may be planted out for the summer, when they make fine large plants, which can be lifted and placed in pots during September. Propagation may be carried out by means of seeds or cuttings at any time during the spring, but if good plants are required the same season, they should be propagated during January.

MISCELLANEOUS.

DESTROYING TREE STOOLS (F. H. S. Andover).—A stool can be killed to prevent the production of suckers by boring five or six holes 9ins. to 12ins. deep just inside the bark. Fill these with liquid weed killer and plug the holes with wooden pegs. Salt-petre is often recommended in text-books, but it is uncertain in use and slow at the best. Whenever possible the trees should be grubbed. In felling the butt is then lifted out of the hole. Once out of the ground it can be blown to pieces with gunpowder or rolled to a suitable position and covered with ivy.

NAMES OF PLANTS.—F. E. Kent.—*Billbergia nutans*, "Maui Poppy."—*Lonchocarpus Standishii*.

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				Silene alpestris fl. pl.		1/-	1/-
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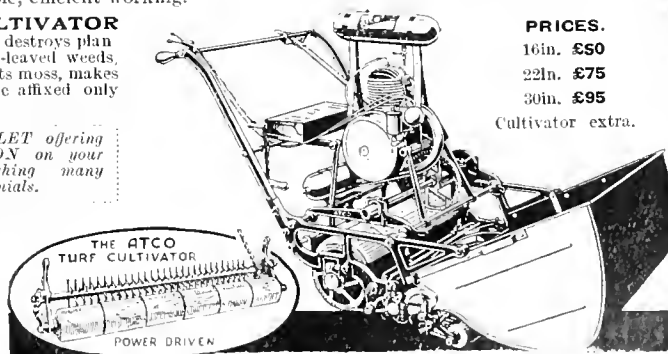
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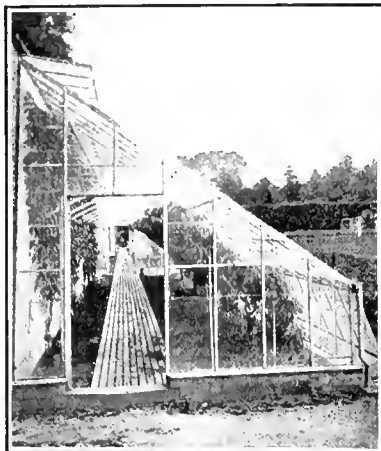


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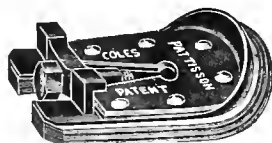


FIG. 1.—For Shod Horses.

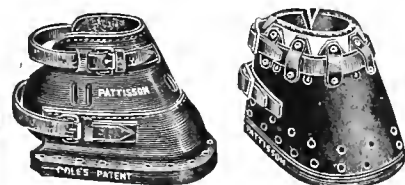


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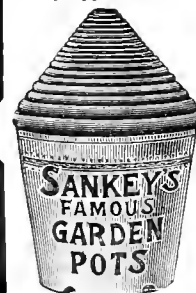
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very dwarf, compact and creeping for rockeries, 3/-. **Dielytra** Bleeding Heart, large roots, 12/-. **Evening Primrose** Afterglow, lovely new perennial variety, large yellow, 4/-. **Erica**, bright flowery evergreen, alpine heath, lovely for rockery, pots, etc., large plants, full or bud, 9/-. **Erigeron steactis** superba, mauve, 4/-. **Erysimum** Golden Gem, charming for rockery, old walls, etc., 1/4. **Forget-me-nots**, Myosotis alpestris vitoria, large-flowering, dwarf, blue, 1/6; fine deep indigo or royal blue, 1/6. **Foxgloves**, new glorioxia-flowered, yellow or white, 2/8; ivory, spotted or purple, 1/6. **French Honeysuckle** (not a climber), trusses, rich red flowers, 4/-. **Fuchsia**, hardy crimson bush, 6/-. **Funkia** (Cortu Lily), lovely pure white, scented, 8/-. **Gaillardia grandiflora**, beautiful new hybrids, 3/-. **Galega** (Goat's Rue), mauve or white, excellent for cut bloom, 3/-. **Geum** Mrs. Bradshaw, large double scarlet, large three year old, 12/-. **Glory**, very fine double scarlet, 6/-. **Coccinea**, semi-double, bright scarlet, 4/-. **Gladiolus**, best large-flowering hybrids, many lovely new sorts, 1/9. **Gypsophila paniculata**, well known gauze flower, 4/-. **glabrata**, dwarf, for rockery, etc., 1/9. **Harpalium** (perennial Snailflowers), best sorts, 3/-. **Hemerocallis**, beautiful hardy lily, large tawny, orange and yellow, 6/-. **Heuchera sanguinea** splendens, 6/-. **Helianthemum** (Sun Roses), bright colours, for rockery, 4/-. **Hesperis** (Dame's Violet), fine spikes, fragrant, purple or white, 3/-. **Hollyhock**, doubles, 6/-. single and semi-double, 4/-. **Hypericum** (St. John's Wort), large yellow flowers, evergreen foliage, creeping, 4/-. **Iceland Poppies**, Excelsior strain, 3/-. **Indian Pinks**, 2/8. **Iris**, large Flax, separate colours, white, mauve, yellow, blue, purple, 6/-. mixed, 4/6. **Iris pinnata**, for rockery, 4/-. **Iris hispanica** (Poor Man's Orchid), lovely for cutting, 3/-. **Isatis** (Woad), rare handsome border plant, 4/-. **Kniphophia** (Forch Lily), 6/-. **Lavender**, fragrant, Old English, sturdy, bushy, two year old, 6/-. **Lily of the Valley**, strong flowering crowns, 3/-. **Linum**, lovely blue Flax, 3/-. **Linaria** dalnatica, spikes yellow, blotched orange, 3/-. **Lobelia cardinalis**, tall spikes, rich scarlet, 4/-. **Lupin**, Tree, yellow or white, 6/-. **Lupin polyphyllus**, pink, 4/-. blue or white, 2/8. **Lychnis**, new Salmon Queen, 6/-. **Lychnis chalcidonica**, scarlet Jerusalem cross, 6/-. **Lychnis coronaria**, silvery foliage, crimson flowers, 3/-. **Malva moschata**, musk-scented, large, pink or white, 4/-. **Montbretias**, lovely new sorts, 1/9. **Monarda** (Bergamot), Cambridge Scarlet, 6/-. **Onopordon**

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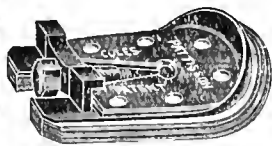


FIG. 1.—For Shed Horses.

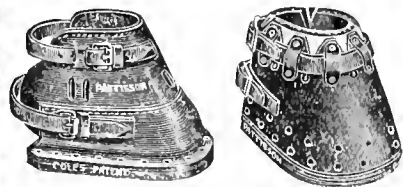


FIG. 2 (Wetted Pattern). FIG. 2 (No Wet Pattern).
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[MARCH 24, 1923.]

MOISTURE-LOVING IRISES

PERHAPS on account of that beautiful wildling, the Yellow Flag, *Iris Pseud-acorus*, which is really an aquatic, the majority of gardeners have, at any rate, a tendency to regard Irises in general as aquatics or, at least, as partial to cool, moist soils. This is, of course, a quite erroneous notion. There are, as a fact, far more Irises which resent wet ground than those which approve of it. Even of those which love moisture there is none other in cultivation in this country which is an aquatic in the sense that *I. Pseud-acorus* is.

Iris sibirica and the nearly related *I. orientalis* will tolerate a good deal of flooding either in winter or summer, but they grow and look healthy in very ordinary border soil, and the mortality of this plant in nurseries owing to the great drought of 1921 was probably lower than that of almost any hardy plant which normally likes "the good things of life." It certainly stood up to the drought in the border when herbaceous Phloxes wilted and died. It will be seen, then, that the Siberian Iris is a very accommodating plant; one has only to add that it is an exceedingly beautiful one to appreciate that it should be found in almost every garden. There is now quite a number of named varieties, many of them obtained by crossing this species with *I. orientalis*, but with one exception—shortly to be referred to—there is none so effective as a good form of the typical plant. With this the flowers are comparatively small but a good number is produced on each stem and the scapes are carried high and gracefully and the colouring is a pleasing rich blue-purple. There are, unfortunately, poorly coloured forms about and some which, while fairly good as regards colour, do not flower as freely as

they should. Fortunately, the best type does not appear to deteriorate at all from seeds, at least if the plant is kept away from mongrel forms. There is a white variety or what passes for one; it is really a dingy cream colour and should be avoided. The bright mid-blue variety called Perry's blue is, however, worthy of all praise. It associates well with the type-plant.

Iris orientalis has been referred to as closely allied to *I. sibirica* and liking similar conditions, but it is in appearance quite dissimilar. The foliage is much broader—that of *I. sibirica* is quite grass-like in appearance, but not in texture—the flower-scapes are flattish and unbranched, the stems are not so tall and the individual blossoms larger. The best coloured form is called sanguinea on account of its crimson bracts. *Iris orientalis* Snow Queen is a beautiful white Iris, however, just as superior to the white form of *I. sibirica* as the typical Siberian Iris is to the typical *I. orientalis*.

Very similar as to their requirements, except that they will not tolerate real drought, are the giant Flag-like species *aurea*, *ochroleuca* and

Monnieri, and the hybrid forms known as *ochro-aurea* and *Mon-aurea*. These are stately plants, valuable for their foliage effect if they never flowered. They are by no means prolific of blossom, yet under proper culture they flower with sufficient freedom to make a beautiful picture. *I. aurea* has, as its name would imply, golden yellow flowers. *I. ochroleuca* has rather more slender foliage and the flowers are creamy white with a conspicuous yellow blotch on the fall. The finest form of this Iris is called *gigantea*; the blossoms are larger, but the plant is no taller than the form we regard as typical. The hybrid *I. ochro-aurea* is almost exactly midway between the two species in colouring, and very pleasing on that account, but it does not seem to flower so freely as either kind. *I. Monnieri* is a beautiful fragrant late-flowering Flag, the blossoms of which are rich yellow, margined white. Though obviously near akin to the other two species, it is quite distinct in foliage and flower.

From two moisture-loving species, *I. levigata* and *setosa*, has been evolved the strain of Flag Irises known in gardens as *Iris Kämpferi*. Neither

parent is in any way comparable for garden decoration with these Japanese Flag Irises, but the plant known as *I. levigata alba* and illustrated on page 144 is exceedingly beautiful. The so-called double varieties have regular six-petalled flowers, and the petals stand out almost horizontally. This characteristic they undoubtedly derive from *Iris setosa*. It is interesting to note that the Bearded Iris *Clematis*, which almost certainly represents a cross between a June-flowering Bearded Iris and a *Kämpferi* form, not only has six petals all in the horizontal plane, but that all the petals bear beards. The *Kämpferi* Flags have flowers in many shades of colour from



IRIS KÄMPFERI BY THE WATERSIDE.

white to deep purplish blue on the one hand and to more or less crimson on the other. The "self" self-coloured forms are preferable to the mottled ones, which in the garden give a rather "added effect." No list of names can be of much service to intending planters, for almost every nurseryman who specialises in these beautiful flowers has his own collection. In addition some of the sorts are listed by different firms under their Japanese names and English ones which may or may not be translations of the Japanese. Many thousands of roots of Kamperi Irises are destroyed each year because, under the impression that they are bog plants, the purchasers plant them in unsuitable places. These Irises assuredly like good soil and an abundance of water in summer-time, but they rapidly go back in shade and will not tolerate a sour, boggy soil. A fairly stiff loam or a rich marl mixed with an equal quantity of sweet-leaf-mould or spent hot-bed manure makes an ideal compost for all the species mentioned. The land should be deeply cultivated as well to provide drainage in winter as to ensure moisture in summer-time. For the Siberian Iris the land should not be over-rich, as this species seems to flower much better in soil of only average fertility.

There is one race of bulbous Irises which appreciates a cool, moist root-run. The English Iris (*I. xiphioides*) has a similar colour range to the Japanese Flags, and enjoys very similar conditions. It will, indeed, tolerate winter flooding and the consequent inevitable souring of the soil better than Iris Kamperi, and though it flowers best

in full sunlight, yet very strong colonies may often be seen in situations where they do not get the midday sun. The flowers of this species are large—almost as large as those of *I. Kamperi*—and the foliage and bulbs resemble those of the Spanish Iris, *I. xiphium*, but both are larger in all parts. As with Iris Kamperi, the self-coloured forms are best, but nowadays these are by no means easy to obtain. There was a time—not so long ago when new varieties were being steadily raised from seed, but presumably the raisers turned their attention to some other section possibly to quite another flower, so that to-day self-coloured varieties are almost unobtainable, which is a great pity. What became of the selfs raised twenty or twenty-five years ago? Well, the English Iris, like the *Freesia* and the *Tulip* and some other bulbous flowers, always "breaks" sooner or later into the blotched or mottled forms, which are never very effective and are often really ugly.

All the moisture-loving Irises are summer-flowering, most of them late summer-flowering, whereas the Bearded Irises flower in spring or early summer. There are numbers of water gardens planted now with Bearded Irises, but it is undoubtedly a mistake. Provided the land in which they are planted is sweet and not over-wet, they will grow and flower all right, but they always look out of place. There is an immense difference between the grassy green foliage of the moisture-loving Flags and the stout glaucous foliage of such Irises as *Fragaria* or *paludosa*. An equal difference is apparent between the grass-like

evergreen of the one section and the rigid-looking stalks of the other. Both sections may, however, be used in the herbaceous border, and since they do not flower together, they cannot quarrel.

To sum up, then, the Yellow Flag, Iris *Pseudacorus*, is the only species for shallow water; *I. silene* and orientals and their varieties will do in really wet ground, though such is not necessary; Iris *Moirieri* must have moisture and *I. aurea* and *ochroleuca* like moisture; Iris Kamperi never looks so well as by the water's edge, but, though it likes moisture, it will not grow in sour, boggy ground. Iris *xiphioides*—the so-called English Iris—likes similar conditions to the Kamperi forms.

The slender grace of many of these moisture-loving Irises makes them especially useful for gardens of limited area, for the small group gains in grace what it loses in massed effect. Iris *silene* is probably the most graceful of all, but one has only to see a solitary clump of some good Kamperi Iris to realise that the plant as growing has a grace which one would hardly expect from the cut flowers. For this reason it is very desirable when planting these Flags on a considerable scale to provide small outlying groups which will display the charm of the individual plant. It is well to plant all these Irises in drifts rather than in "blobby" patches approximating to the circular, nor should we let admiration for their soldier-like carriage tempt us to plant them to the exclusion of other moisture-loving plants of softer and more rounded habit.



IRIS KEMPERI, MORNING MIST, GLISHA AND STARRY HEAVENS.



ONE OF THE PARENTS OF THE KEMPERI IRISES—IRIS XIPHIOIDES ALBA.

SOME PLANTS OF A STREAMSIDE GARDEN

WHEN speaking of a stream garden some explanatory preface is essential, for the obvious reason that streams vary very much in size and character, and further, in the choice of one's plants one has to bear in mind that running water is a very different element to still water to deal with. In our particular instance the stream is not only a lively brooklet, apt to come down in spate after heavy rain and carry away with it anything which is less securely anchored than a Male Fern, but it is for the most part shaded by Alders. These latter are bad companions for most things, since their masses of surface roots often render soil preparation well nigh impossible.

However, in spite of the shade, the flooding and the Alder roots, we have managed to grow a number of plants along the waterside and this without any more interference with the natural beauty than has been found necessary. The most notable groupings, perhaps, are those of the herbaceous Spiræas. These are placed on the flattest levels which the rather too abrupt banks of the stream afford, and as far as the limited space will allow they are arranged in blocks according to size and colour, a "dotting" effect being avoided not less rigidly than overcrowding. Among the best of these are the well known Goat's Beard (*S. Aruncus*), the splendid *S. palmata* and *venusta* in various sizes and colours, *S. gigantea* and the dwarfed *Aruncus*, with the finely cut foliage, known as *S. Kneiffii*. *Astilbe Davidii*, very tall and rather too pucey in its fuzzy plumes, is here also, as well as the more graceful and pleasing *A. grandis* in ivory white.

A gentle slope which gets rather more sun than the above is occupied by *Omphalodes cappadocica*, now a mass of brilliant blue, which has become so happily established that it threatens to overwhelm *O. verna* and her comparatively heavy-eyed sister *nitida*, and even to oust *Tiarella cordifolia* from its fortress among the moss-clad rocks. *O. cappadocica*, however, is too beautiful for restraint.

Another early bird just here is the glorious little *Primula rosea*, which hangs on to life in a tangle of Alder roots and muddy sediment. *Mimulus lutea*, a rather dwarf mountain form, also enjoys the moisture, but not the shade, and I rather think its place would be better occupied by Globe Flowers, especially the very distinct *Trollius patulus*, which does not seem to be so plentiful as it was.

Azalea occidentalis grows among the Cappadocian *Omphalodes*. It is a late summer bloomer and a very fragrant, deciduous shrub, while on the opposite side of a short flight of steps leading to the water are some clumps of *Gentiana asclepiadea*. One of these, an extremely vigorous form, makes wonderful arching sprays up to more than 3 ft. in length, and two others of special merit are the very lovely pure white variety and the pale, luminous azure, Perry's Blue.

Close to the water, its yard-long arms resting on some floating grass, *Caltha polypetala* opens its broad leaves of shining, bronzy-green and fine butter-yellow flowers, and near-by are a double form of our own Marsh Marigold (*C. palustris*), the white-rayed *C. leptosepala*, and among them for later flowering lie the bulbs of *Sagittaria japonica*. This last, however, seems to need more sun than the *Calthas* and more than that fat and well-to-do *Arum*, *Lysichitum cantschaticense*, of which the ebony spike now showing at the water's brink will presently unfold and disclose the very splendid, glaucous-green leaves and equally splendid cowl of buttercup-yellow. This is a hardy, easy and noble Aroid, and one which deserves to be more widely grown.

There is now a stretch of the streamside mainly occupied by some of the lesser *Rhododendrons*, various members of the *Pieris* group, the excellent *Azalea ledifolia* alba, *Kalmias angustifolia* and *rubra*, a group of that fine old Lily, *L. tigrinum* var. *splendens*, with a rambling carpet of *Homocentron chionantha* (banished from more precious company) and winding up with some plants of the beautiful *Arundinaria auricoma*, hardy Ferns and a cheerful throng of self-sown *Borago laxiflora*. *Cardamine pratensis* fl. pl. and *C. trifolia* also appear here with clumps of *Anchusa myosotidiflora* and also the pretty *Ranunculus anemonoides*.

Rodgersia tabularis and *R. podophylla* occupy places on the opposite shore the round pea-green leaves of the one and the deeply cleft, bronzy red foliage of the other affording a good contrast. *Lythrum Salicaria* is also here, but does not thrive, since it craves for more sunlight. Our native Flag Iris does better. Planted almost in the shallow water and secured there until established, this hardy, handsome plant helps to collect sediment and prevent such things as *Calthas* and the dainty Water Forget-me-nots which grow among its roots from being swept away.

A little humpy promontory is taken up entirely by a cushion of *Polygonum vacinifolium* which has had a long fight for supremacy with *Saxifraga cuneifolia*, a delightful and diminutive woodlander which, having been defeated at the promontory, now leads its legions along the waterside path with the obvious intention of swarming over the rightful territory of a *toin*. *Homocallis*, which will probably take no heed of the invasion. Some of those tall old-time *Aquilegias*, with the broad, rather flat blossoms in creamy white and a good, clean blue, also adorn this part of the streamside and the adjacent path. There are many worse *Columbines* than these listed as novelties, the white ones being particularly fine and permanent. Another first-rate one for such a situation is *A. formosa*, lovely in foliage, elegant in form and bearing a long succession of scarlet and yellow flowers. This is a species from British Columbia.

Down nearer the water some shelving ledges have been made for the accommodation of the noble *Saxifraga peltata*, of which the tall, ruby-headed flower stems are already beginning to ascend. *Primula japonica* also flourishes here; there is a colony of *Trollius*, more Water Forget-me-nots and, of course more Ferns. As to these latter, Male Fern and Lady Fern predominate, and these grow so thickly that a judicious thinning out has to be effected at least once during summer.

There are a number of others, including *Osmunda*, *Onoclea sensibilis*, *Blechnum*, *Ceterach olivaceum*, *Scelopendrium* and various *Polypodies*.

Some of the shrubby *Spiræas* now come into view, *S. Bumalda* Anthony Waterer hanging its crimson



A STREAMSIDE GARDEN IN SUMMER.

discs over the water in early summer on one side and the taller, red-stemmed *S. Aitchisoni*, with fern-like foliage and glossy white flowers on the other. *S. Lindleyana*, not unlike the last in foliage, *SS. prunifolia* fl. pl., *confusa* and *opulifolia aurea* are also here, with a colony of the pink-plumed, trespassing *Douglasii* at a safe distance. All about these and among the Ferns there are Daffodils of various kinds, these doing better in the cooler soil of the water-side than anywhere else. There are hardy *Cyclamens*, too, and old-fashioned "Bunch" Primroses, "Butter Yellows" of the same household, one or two blue *Polyanthuses* and a few survivors of a once proud array of *Primulas Beesiana* and *Lissadel* hybrids which do not put up with such conditions here for more than a couple of seasons or so.

Orchis foliosa prospers exceedingly in a fairly moist, half-shady spot which it shares with *Vauconveria hexandra*, more *Cyclamens*, *Anemone Robinsoniana* and *Anthericum Liliago*. Beyond these there is a colony of *Galax aphylla*, whose polished green leaves, turning to crimson in autumn, would earn this plant a place did it never produce its tall and graceful tapered spikes of white. This cheerful thing now swarms over the graves of *Pyrolas* and *Shortias* and *Trilliums* which "died on us" years ago when zeal overran discretion in

matter of planting, and experience was being bought. *Cornus canadensis* is another little plant that loves the wild where autumn leaves are never gathered up, and in such places *Meconopsis cambrica* may be seen at its best without giving trouble. *Gaultheria*, *Shallon*, *prolumbens* and *trichophylla* are also in this company.

Nearest the water and where there is rather more light, the downy-leaved *Aster pyrenaicus*, with shaggy heads of cool lavender blue, makes a delightful

and upright sheaf some 3 ft. high. *Helleborus corsicus - lividus* is a striking object at all seasons, nor can the White Foxgloves be overlooked. These never look quite so handsome as when grouped, or even placed singly, among the native vegetation of cool situations in half-shade but with us they are by no means the easiest things to satisfy. Yet two other useful plants of stately character and for similar conditions are *Lysimachia clethroides* and *Solomon's Seal*. A. T. J.

ABOUT PRUNING ROSE TREES

PROBABLY undue importance is generally attached to the pruning of Rose trees. That is not to say that pruning is unimportant; every exhibitor knows that did he not prune he would never get a flower up to show standard. There are, however, many amateur gardeners who seem obsessed with the notion that they have only to prune the trees properly to obtain first-grade blossoms; they appear to think that pruning in some remarkable way provides the bushes with health and stamina. It cannot too plainly be emphasised, then, that pruning is only an incident of culture, that it will not

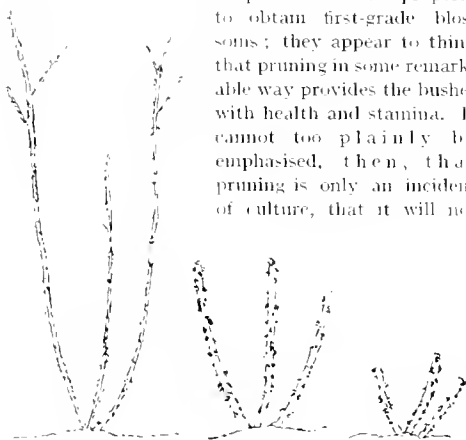


FIGURE 1. FIGURE 2. FIGURE 3.

in itself produce robust trees nor will its neglect necessarily bring the bushes to an untimely end.

If there is one section of the Rose to which pruning is more necessary than another, it is probably the multiflora hybrids (or Climbing Polyanthas as they are often called). Yet, give these varieties the conditions they love let them ramble "to their hearts' content" in the semi-wild shrubbery where their roots can be in shade—and they will go on indefinitely with very little pruning or none at all, getting bigger and more gorgeous year by year. This class of Rose should, properly speaking, be pruned immediately after flowering, but if this has been neglected until now it should be done forthwith. The pruning consists of cutting out all the oldest wood; indeed, for arch or pergola all two year wood should be cut away from vigorous trees, leaving only last year's strong growths from the base. In any event, at least one old shoot should be removed quite to the base to stimulate vigorous young growth from the ground line.

The average gardener, however, is now about to take in hand the pruning of his dwarf Roses. These are classed for the most part as Teas (T.), Hybrid Teas (H.T.), Hybrid Perpetuals (H.P.), Pernetiana (Pernet.) or Polyantha Pompons (Poly. Pom.) Actually, however, the placing of the varieties is somewhat arbitrary. Few of the newer Teas are "full-blooded," many of the H.T.'s have Pernetiana "blood," some of the H.P.'s are more than suspect, and even the Poly. Poms. shade almost imperceptibly but surely, year by year to the Hybrid Teas. Pruning by classes, then, is

likely to be satisfactory only to a limited extent. That is why the National Rose Society issues each year to its members a "Select List of Roses" with instructions for pruning. Readers of these notes who do not already belong to the Society are strongly advised to join, if only to secure this annual publication.

Those who already belong to the Society need not read what follows. They will find the directions given hereunder set out at much greater length in the little book referred to.

PRUNING AFTER PLANTING.

All Roses the first time after planting should be pruned hard; the only exception being those planted from pots, since they receive no damage to their root systems by the removal. Dwarf Roses should be cut down to within from 4 ins. to 6 ins. of the ground. Roses recently planted should have been pruned before planting, but if this was not done they should be severely pruned now.

SORTS WHICH REQUIRE LIGHT PRUNING.

All dead, frosted and unripe wood and all shoots which cross or approach too closely to a better growth should first be cut away. Many of the Roses which should have light pruning may be left as free bushes, in which case the thinning out already described is all the pruning they need. If, however, effect in beds is desired, some pruning (as distinct from thinning) should be practised. The long, strong shoots from the base may be reduced to a foot or so and the offshoots from the two year old wood may undergo a proportionate reduction in order to preserve the shape of the tree. The foregoing directions cover pruning for garden decoration. For exhibition



FIGURE 4.

purposes knife or secateurs must be used more drastically. More wood will be cut clean away and the remainder will be shortened by another third or even half its reduced length. Even so, as soon as the buds can clearly be seen (in May) it will be advisable to thin out a proportion of the young shoots to infuse more vigour into those left. Shoots bearing malformed buds will then be removed first, and afterwards the weakest of the clean buds remaining will be thinned out if necessary. Fig. 1 shows a strong young Rose bush. Fig. 2 shows the same bush pruned for garden purposes, and Fig. 3 for exhibition. A proportionate reduction will be necessary with Roses of less vigour, so that pruning for exhibition will not again be referred to. Hugh Dickson, Fran Karl Druschki, La France, Augustine Guinois-seau, Caroline Testout, Pharisier, Gustav Grunerwald, Lady Waterlow, La Fosca, Mme. Jean Dupuy, Maman Cochet and W. C. Clark are some of the varieties which should be pruned lightly. It will be seen that they are not confined to any one section.

The great bulk of the Roses belonging to the T., H.T., H.P. and Pernetiana sections commonly used for bedding purposes should be pruned moderately. For garden purposes from six to eight eyes should be left on the growth of the preceding year. It is understood, of course, that all dead, frosted, worn-out and crossing wood has been removed before the pruning proper takes place. A list of the varieties which should receive this treatment would be a very long one and a few typical varieties must act as pointers to the rest. That best of Teas, Lady Hillingdon, does best when pruned moderately, so do such H.T.'s as General McArthur, Lady Pirrie, Lady Roberts, Lady Ashtown, Mme. A. Chatenay, Joanna Bridge, K. or K., Liberty and Lient. Chauré and all the best of the Pernetiana sorts from the glorious Mrs. Wemyss Quin to the single Isobel. All but the strongest growing H.P.'s, too, will repay moderate pruning—such as General Jacqueminot, for instance—for the Hybrid Perpetuals as a class tolerate the knife better than do Roses with much Tea "blood."

Many of the Roses which require really hard pruning are naturally weakly growers, and the amateur will be well advised to cultivate as few of them as possible, for such have, generally speaking, little value for garden decoration. The shoots of the previous year's growth should, on such varieties, be reduced to from four to six eyes; indeed, with very weakly growers it is sometimes necessary to prune even closer. Very close pruning is essential if blooms of such varieties are wanted for exhibition. There are, however, some vigorous growers which are better pruned hard. Such are Lady Plymouth, H. V. Machin, Geo. C. Waud, Mrs. Henry Morse and Mrs. Geo. Norwood.

The Poly. Poms. are a class apart, though, as previously mentioned, novelties in this section, as far as growth is concerned, approximate more nearly year by year to the Hybrid Teas. The older varieties really need practically no pruning other than the removal of the old much-branched flower-stems and some of the oldest wood. They are very accommodating, however, and if a dwarf effect is desired, may be cut over quite close to the ground each season. Year by year the merits of this section for bedding purposes is becoming more fully realised. There is probably no hardy plant which will provide so much pure colour over so long a period as these dwarf Polyantha Roses.

China Roses resemble the Polyanthas in this, that they are very easily suited. They should not be pruned too early—it is better to see April in before a start is made, but, beyond this, they may have the dead wood removed and a little

thinning out done, or they may be cut back to near the base and, except that under the latter treatment they flower a little later, give equally good results either way. Noisette Roses which form laterals may be treated as if they were Teas. William Allen Richardson is the best known of this class. Those which, practically speaking, form no laterals, such as *Alister Stella Gray*, *Céline Forestier*, *Ophiré* and *Rêve d'Or*, should be pruned as little as possible. *Maréchal Niel* needs thinning severely, but the best wood of the preceding year should be left as long as possible. Prune the *Bourbon* and *Damask* varieties as if they were strong-growing Hybrid Perpetuals, that is, prune lightly or only thin out. *Provence* and *Moss* Roses should be pruned moderately. Climbing Roses of the Tea, H.T. and H.P. sections should on no account be hard pruned. So treated, they often become dwarfs and refuse to climb at all.

Whatever section the Rose belongs to, always prune to an eye pointing outwards, as in Fig. 4—where a newly made cut is seen at A. Start, if a knife is used, on the inside (*i.e.*, opposite the bud and cut slightly upwards. Do not start the cut below the bud or the latter will not draw the sap as it should do. On the other hand, do not cut midway between two eyes, so leaving an unsightly piece of dead wood. It is fashionable to decry the secateurs for any kind of pruning, but the fact is that, if kept sharp, they answer for Roses as well as the knife, and are more expeditious in use and involve much less risk of tearing the hands with thorns. The *Plucca* pruner, which holds the wood removed instead of dropping it, is exceedingly useful in some places, notably when pruning wall trees and there are brittle Lily stems or other vegetation below.

THREE CHOICE SAXIFRAGES

I THINK I am right in saying that those three rare Saxifrages, *Boydii*, *Faldonside* and *Cherry Trees*, were not only raised by the late Mr. Boyd of Melrose from the same parentage, but actually from the same seed capsule. Anyway, the reputed parentage of the three is *Saxifraga Burseriana* *S. aretioides*. Of



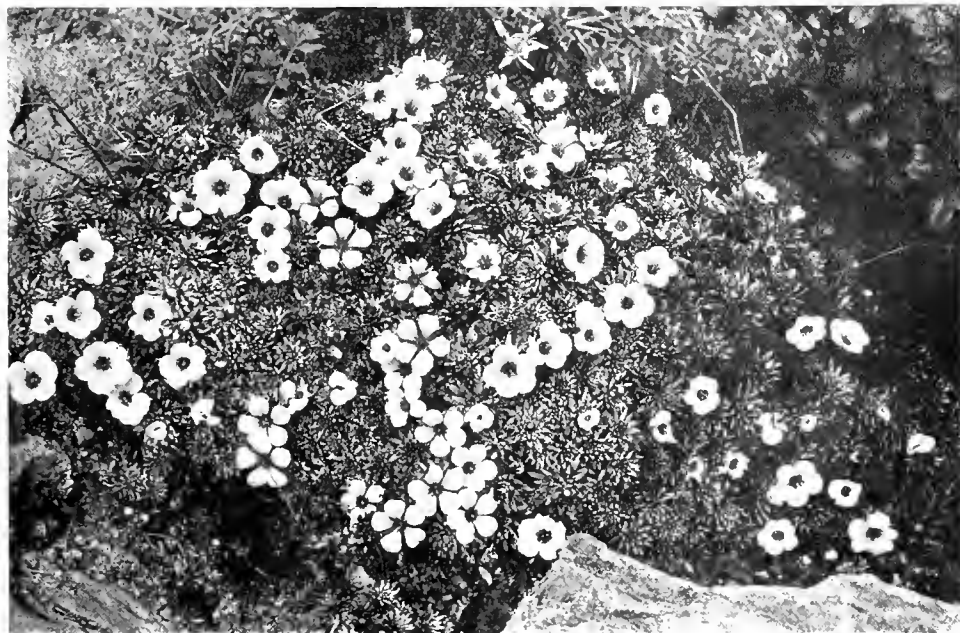
THE CHARMING LITTLE YELLOW SAXIFRAGA BOYDII.

the three, *Faldonside* is undoubtedly the best grower and the most beautiful. It has a neat, compact habit, with closely packed rosettes of narrow pointed leaves and 2 in. flower stems carrying one, two and sometimes even three flowers. These are very large and round and solid, of a glorious soft, clear yellow; the petals overlap one another to form an almost perfect circle and are ever so slightly crimped and crenated, which adds much to their beauty. Without a doubt, *Faldonside* is the most sumptuous and most beautiful yellow hybrid *Kabschia* Saxifrage in cultivation. This, in spite of the great number of hybrids that have been raised since *Faldonside's* introduction, and it must be an old plant as *Kabschia* hybrids go.

S. Boydii is a much rarer plant than *Faldonside*, partly because it is a less vigorous grower and partly, no doubt, because it is less beautiful and has therefore aroused less enthusiasm in the hearts

of propagators, but *Boydii* is, nevertheless, a very distinguished little plant, hard and very slow growing. Folk have given it a name for bad constitution. As a matter of fact, it merely resents bad cultivation more keenly than some of its relations. Mr. Mark Fenwick's wonderful pan specimens of *S. Boydii* at a recent R.H.S. show did not look very ill, or suggest bad constitution. The flower stems of *S. Boydii* are shorter than those of *Faldonside*, the flowers rather smaller, the petals do not overlap with the opulent splendour of *Faldonside*, and the colour is deeper, more of a citron yellow. No matter what hybrids are raised in the future, *Boydii* will always remain a most beautiful little plant, appealing to the true plant lover to exercise his skill in making it happy.

S. Cherry Trees is by far the rarest of the three—the true *Cherry Trees*, that is, for there are two forms in cultivation, and here let me make a confession. Many years ago I bought from the Craven Nursery a *S. Cherry Trees*. It came, a glossy, prosperous plant, strangely vigorous for so great a rarity, looking like a rather rollicking *S. Elizabethæ*. In all good faith I increased it greatly and distributed it widely. In those days I did not know that there were two plants—*Cherry Trees*, and the plant that goes under the name of *Cherry Trees*. I had got hold of the latter. I can only describe “the plant which goes under the name *Cherry Trees*” as being like a *S. Elizabethæ* which never flowers, and when it does forgives the dull! is “no damned good.” Soon after I began to distribute this ridiculous, false *Cherry Trees*, I saw the true *Cherry Trees*, and at once scrapped the false. That must have been ten or more years ago. Mr. Boyd himself shewed, at a flower show in the Caledonian Market at Edinburgh, a splendid specimen pair of *Cherry Trees*, a most distinct plant, practically *Boydii* over again, but with pale lemon-yellow instead of citron-coloured flowers. I have never seen the plant since until a fortnight ago. Then I saw that Mr. Stomouth offers the true *Cherry Trees* in his catalogue. I wrote for a plant at once and a sturdy specimen came, in flower, and sure enough it was the true *Cherry Trees* I had seen so long ago at Edinburgh. The description given by Farrer, in his “English Rock Garden,” refers obviously to the false, non-flowering *Elizabethæ*-like *Cherry Trees*, which goes



SAXIFRAGA BOYDII ALBA WHICH BEARS NO RELATIONSHIP TO *S. BOYDII* ILLUSTRATED ABOVE.

to show what a very rare and little known plant is the real, true Cherry Trees.

S. Boydii alba does not, except in name, come into this picture. It was raised by Mr. Boyd and

was named by him and has white flowers, but it is not a lot like Boydii, let alone a white variety of it. It is a larger, later thing altogether, much nearer S. marginata in general appearance, and,

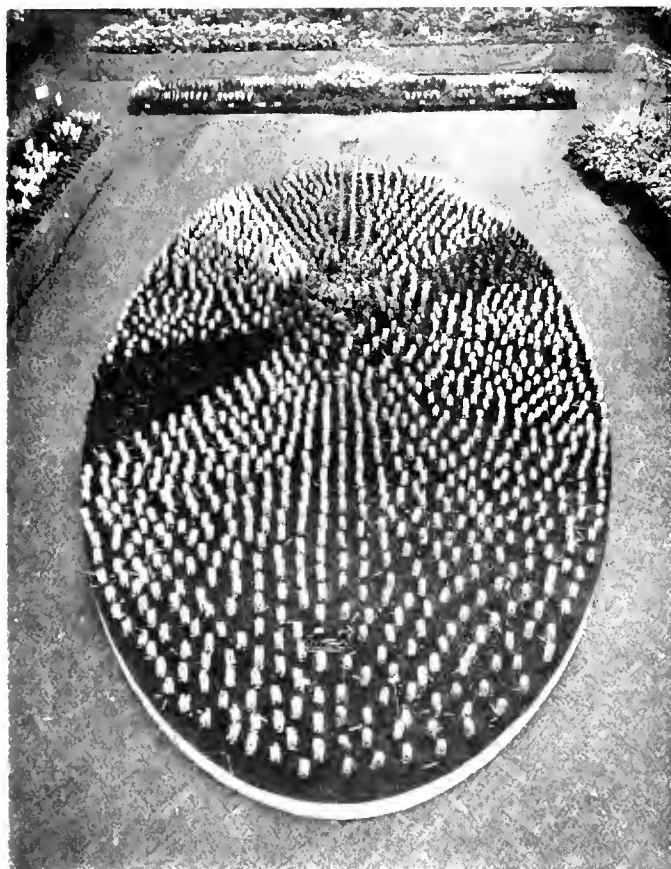
consequently, S. marginata was one of its parents. It is, however, a handsome and desirable hybrid. All these Saxifragas enjoy well drained, sere soil or pot culture in the alpine house. C. ELLIOTT

THE QUEEN AMONG THE FLOWERS

IN spite of the dreary weather H.M. the Queen paid a visit to the R.H.S. Hall on March 17, primarily to see Sir George Holford's gold medal group of magnificent Clivias (Imantophyllum) and apparently found in the brightness of the many exhibits of spring flowers an

P. floribunda. A great many splendid plants were used, and it seemed that of all the varieties the dark blue King of the Blues was the general favourite. Then attention would pass to the still darker spires of

At the end of the hall Messrs. J. R. Pearson and sons set up a fine collection of Narcissi which they stated to be from "home-grown bulbs," and these



MESSRS. SUTTON'S REMARKABLE HYACINTH EXHIBIT.



SOME OF SIR GEORGE HOLFORD'S SPLENDID CLIVIAS.

inducement to make a long stay to only examine all the various collections.

Altogether there were three gold medal groups. Besides Sir George Holford's Clivias, Messrs. Sutton and Sons were awarded a gold medal for a wonderful display of Hyacinths, and Messrs. Sander and Co. won a similar honour with a superb collection of their famous Orchids, in which the new Cyndadumus, many gorgeous Cattleyas and fine plants of Dendrobium noble figured largely.

The Clivias were mostly grand plants of varieties named "We should not," and were the finest that have ever been seen at any show. They were grouped just inside the entrance, and the magnificent spires of gorgeous blooms made a memorable display. Grouped in front of these splendid plants were number of pots of Encheymas, and these, though perhaps somewhat overshadowed by the Clivias, displayed equally high cultivation.

Sutton's Hyacinths were arranged on a large blue space in an oval with blocks of colour radiating from a central grouping of Pyrus spectabilis and

Menech, and back to the paler blue Enchantress and on to the lavender Dr. Lieber, the red La Victoire and the white La Grandesse.

On the other side of the centre line of the hall Messrs. Carter and Co. had many good hyacinths attractively set within Maidenhair Ferns and with an imposing centre of King Alfred Daffodils. Among the Hyacinths the white Coraggio, the yellow City of Haarlem and the light blue Schotel were greatly admired, while the uncommonly coloured Orange Above attracted much attention.

Daffodils were also an important feature of the show, and Messrs. Barr and Sons had more of their wonderfully beautiful seedlings, particularly the large trumpets of rich yellow colouring. Among the named sorts of this type Silhouette, Vivian Gosnell, Gwendolyn, General French and King Harold were superb, while the vividly coloured coronas of Lady Bird, Lucifer and Sunrise compelled attention. Towards the centre of this large collection there was a good vase of Sea Nymph which has a long trumpet of pale shrimp pink colouring.

demonstrated that they are fully equal to the best from across the North Sea. A great many splendid varieties were represented, such as Phantasy, an almost white bicolor Trumpet; Brilliancy, a glorified Barrii Conspicuous; and Florence Pearson, a magnificent Trumpet which opens pure white and becomes creamy later. Mrs. R. Sydenham is also a splendid white Trumpet Daffodil, while Firebrand is a starry flower with a brilliant corona. The cyclamineus hybrid February Gold flowers, which were gathered from the open ground, were richly coloured and very charming.

The chaste Feels types were prominent in the collection of the Donard Nursery Company, who included Quicksilver, Southern Gem and a fine seedling. They also had good examples of other types, particularly of the large Trumpet sorts.

Drum Tulips, splendidly grown in bowls or fibre, were attractively set up by Messrs. R. H. Bath, Limited, and it only the day had been a little brighter they would have made a glorious show. At one end they had masses of the beautiful blue Glory of the Snow.

Rhododendrons were again a great attraction. The Falmouth collection included the rich pink Bernard Gill and Queen of Cornwall, besides many large trusses of *R. argenteum* and many barbatum hybrids. Messrs. Gill and Son also brought many spathes of *Arums* (*Richardia*) from out of doors. In Mr. Reuthe's exhibit there were trusses of several *R. barbatum* varieties, such as *Smithii* and *McLean*. Mr. Lionel de Rothschild sent a superb truss of *R. calophytum*, the white variety, which has a blotch of rosy carmine on the upper petal. It received an award of merit in 1920. He also showed *R. Lord Milner*, a bright crimson of large size. Mr. Michael L. Stevens had trusses of *R. Coverwood* and *Louise Stevens*, two deep crimson varieties.

Chief interest among lovers of flowering shrubs in general was focussed on the collection of *Wistarias*, *Laburnums*, *Pyruses* and *Brooms* which Messrs. R. Wallace and Co. arranged very attractively. The standards of *Cytisus Dallimorei* were very fascinating. They also showed the fragrant *Viburnum Carlesii*. Messrs. Cheal included a large bush of *Andromeda floribunda*. Messrs. Russell of Richmond staged forced *Clematises*. Miss Bateman and Sir Garnet Wolesley—with *Pyruses*, *Jasminum primulinum* and *Azaleas*.

The many flowers on the arch of Fortune's Yellow Rose made many wish this variety would flourish everywhere, and Mr. George Prince also showed long sprays of Yellow Banksian Rose and the new Allan Chandler, a fragrant crimson Rose. The comparatively new Coral Cluster was very beautiful as shown by Mr. E. J. Hicks, who also staged Premier, Columbia and Padre with other sorts. Coral Cluster is evidently

valuable for pot culture as well as for cut flower from under glass. Carnations were shown of the accustomed high quality.

Saxifrages were the most prominent of the alpinas. Mr. Clarence Elliott had the showy *S. Grisebachii* (Wisley Variety), *S. Sundermanni* (of Kew), a good tree-flowering white, was well shown by Messrs. R. Tucker and Son, who also had pretty pots of *Draba Dodeana*. The bright pink *S. oppositifolia* Wetterhorn was to be seen in several collections, and the rich blue *Pulmonarias* gave welcome colour. In Mr. Elliott's collection there was a well marked bush of *Thymus vulgaris argenteus*, which would be effective in the rock garden. Many plants of the greenhouse *Primula obconica* of a really good strain were shown by Messrs. Wm. Artindale and Son.

The only exhibit of vegetables was by Messrs. Sutton and Sons, and this was of high quality. Kales, especially the variegated-leaved sorts, were prominent and among the various Broccoli were Snow White and Eastside. The large roots of Radish Chinese Rose Colom attracted much attention.

NEW AND RARE PLANTS.

Clivia Field Marshal.—A stately spike of very large, perfectly formed, soft orange-scarlet flowers with pale yellow tubes. Award of merit to Sir George Holford, C.V.O.

C. Lady Holford.—This variety is of quite uncommon colouring, which may best be described as being pale apricot, which contrasts well with the clearly defined soft yellow tube. The spike was exceedingly large and the flowers were well

formed. Award of merit to Sir George Holford, C.V.O.

C. Westonbirt Perfection. In size of spike and in the perfection of the large round blooms this variety ranks among the very best in cultivation, and added to this is its vivid, glowing orange-scarlet colour that contains a suggestion of rose-pink which harmonises perfectly with the soft yellow of the tube. Award of merit to Sir George Holford, C.V.O.

Narcissus Golden Empress. This is a rich golden form of the well known bicolor Trumpet Daffodil. The flowers are just as large and well formed as those of Empress, and the award was given as a show variety. Award of merit to Messrs. Barr and Sons.

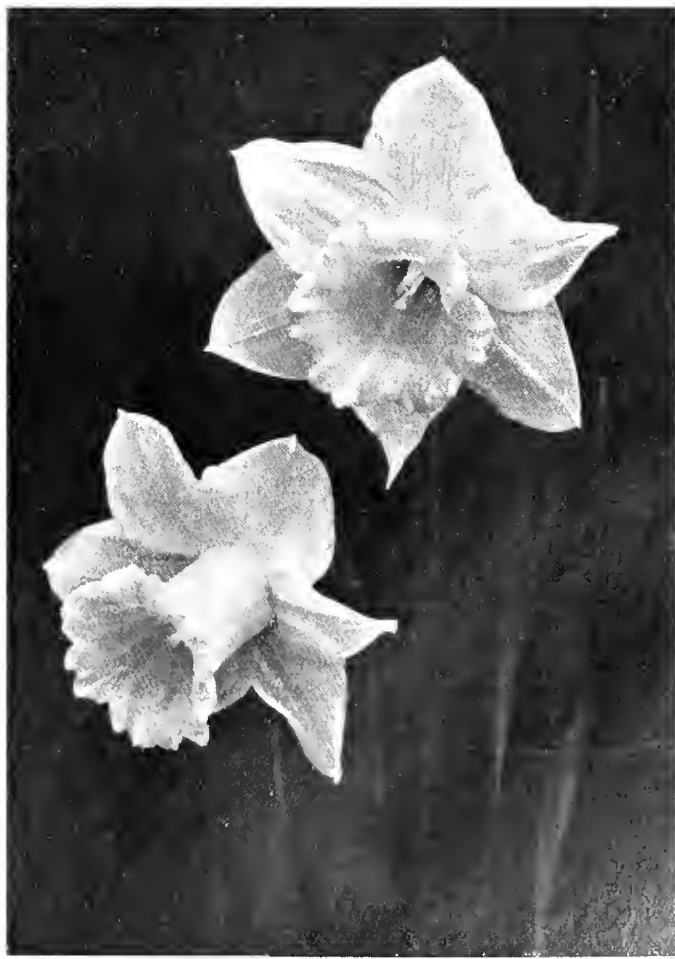
N. Great Dane. This is also a show variety and is a large, rich yellow Trumpet Daffodil with a slightly paler perianth. It has a widely expanded trumpet, and the vase of blooms was distinctly decorative. The variety will be best visualised if we think of it as a giant Emperor. Award of merit to Messrs. Barr and Sons.

Pernettya mucronata Bell's Seedling. Several sturdy bushes of this useful berried shrub were shown, and these carried large quantities of crimson berries, making it a useful plant for the front of the shrubbery. This is a very good type of *Pernettya*, but hardly distinct enough to be worthy of an award. Shown by the Donard Nursery Company.

Saxifraga Valerie Keevil. This is a very beautiful addition to coloured Saxifrages. The plant makes a neat little cushion of silvery leaves from which spring large flowers of deep carmine colour which merges into a bright purplish maroon



LIKE A GIANT EMPEROR, NARCISSUS GREAT DANE.



THE RICH GOLDEN YELLOW NARCISSUS GOLDEN EMPRESS

in the centre of the flower. The colouring and size of the flowers make one think of *Saxifraga oppositifolia*; this is a real advance. Award of merit to Mr. M. Prichard.

Stachyrys chinensis. This is practically a Chinese form of the Japanese species *S. praecox*, which is only moderately common. The slender pendulous racemes of pale yellow flowers are somewhat stiffly set at an acute angle on the stentish, leafless branches, and they were more freely produced than is the case with *S. praecox*. Although the flowers have no individual beauty, the generous vase of sprays was quite attractive, and would be an admirable associate for sprays of *Cydonia* (*Pyrus*) japonica, and its flowers are welcome at this season in the shrubbery. It is generally hardy on fairly light soil. Shewn by the Director, Royal Gardens, Kew.

Cymbidium insigne rhodochilum. The plant bore two long, arched spikes of flowers of the same colouring as those of *C. St. Andre*, but much smaller and not so well formed. It was, however, a graceful

flower of considerable attraction. Award of merit to Messrs. Sander and Co.

C. St. Andre. A tall, erect spike of large rounded blooms. The perianth segments are ivory white and, in direct contrast, the lip is spotted and flushed with rose purple. An uncommon and attractive Orchid. Award of merit to Messrs. Sander and Co.

C. Merlin, Westonbirt Var. The rounded, substantial flowers have milk-white petals which are flushed and lined with old rose pink and have a golden crest. First-class certificate to Sir George Holford, C.V.O.

Odontioda Dora.—A dainty Orchid of uncommon lilac colouring. There is a distinct white margin to the lip. Award of merit to Messrs. Charlesworth and Co.

Odontoglossum Llewellyn. The spike bore two large, perfectly formed blooms of dull chocolate lightly margined with a paler shade of the same colour. The lateral sepals were attractively serrated and the large lip was waved. First-class certificate to Mr. H. E. Pitt.

plants that demand less skill or respond more readily to simple care and what may be termed liberal treatment.

The present-day strains make rhizomatous stems that ramble over the ground, rooting as they go and producing a succession of flowering growths throughout the season. Moreover, they survive an ordinary winter and break into new growth in spring, forming, the second year, a dense carpet of verdant foliage and glorious blossom. The principal cultural demand of *Mimulus* is unstinted supplies of water, and with this requirement satisfied throughout the growing season, the plants will grow in all sorts of soil and in either full sun, or partial or entire shade.

To establish a bed the most satisfactory plan is to plant out of pots about the latter end of April or early in May. A fair amount of well rotted manure may be buried under the plants, and occasionally during the flowering season a soaking of liquid manure may be given. Cut back old stems at intervals to encourage and strengthen young growths. A. J. MACSLE.

THE FLORISTS' MIMULUS

Modern Development of an Old-fashioned Favourite Flower.

THOSE of us who can look back over a good many years of horticultural activity, and who can, moreover, recall the gardens of our grandparents—when those gardens were to us, in those buoyant days of childhood, just glorious places in which we could waste away sunny hours and seek the ruddiest Strawberry and the most juicy Plum—will remember that among grandma's most cherished flowers was the gaily spotted *Mimulus*, which the dear old soul, having no liking for botanical names, persisted in calling her "Monkey Musk." Tall and soft in growth, the Monkey Musk was supported on a dainty made "ladder" of thin strips of wood, and the plants grew and bloomed profusely, although, admittedly, the individual flowers were scarcely the size of a Foxglove.

For some reason the *Mimulus* was numbered with other old-fashioned flowers that seem to have lost their hold on the affections of gardeners, both professional and amateur, and of more recent years one might pass through many villages without catching sight of a single Monkey Musk in the cottage windows.

I have heard it declared that no really well loved flower ever dies out, but, even though Dame Fashion, idle with her favours, may for a while turn her back upon this flower or that, the good things are sure to capture the affections of some alert enthusiast and retrace their steps to the ranks of popular favourites.

The *Mimulus* is, I venture to opine, about to enjoy such a restoration to the public favour, but the modern *Mimulus*, which is already attracting much attention, is a very different flower from the Monkey Musk of our grandmothers' gardens and window ledges. Dwarf, sturdy growth, large deeply veined foliage and great trumpet flowers with wide throats and broad margins take the place of the tall, elongated branches with small flowers at intervals. In colours, too, great improvement has been effected. The prevailing colour of the throat is a rich golden yellow or glowing orange, over which the velvety crimson or bright vermilion bands, blotches and spots shew to infinitely greater advantage than in the old types wherein white throats, plum-coloured blotches or pale yellows and brown spots prevailed.

The modern *Mimulus* is indeed a flower of size, symmetry and gorgeous colouring that cannot

fail to arrest attention. During the summer of 1922 thousands of people were attracted to the flower by beds planted with a particularly fine strain called Chalk Hill Giant in Regent's Park and also in the Royal Botanic Gardens. This year arrangements have been made for a greater display in both these places, and also in the gardens at Buckingham Palace, St. James's Palace and Kensington Gardens. Thus the popularity of the modern *Mimulus* is assured, for there is no surer way of courting fashion's favour in flowers than to give a particular plant prominence in the leading parks of London.

It is essential that any flower that aspires to widespread popularity shall be easily grown to perfection by the average garden owner, and in this respect we surely have no ground for fears in regard to the *Mimulus*, for few indeed are the

A LITTLE WOOD LILY

The Wood Lily illustrated below, *Trillium nivale*, is one of the easiest of the genus to grow and very charming, but it is by no means common in gardens. Like all the members of this family, it likes a deep moist soil, rich in humus, with some shade from the midday sun. It is wise to plant it rather deeply. The general colour of the blossoms is the white, and the spots shewn in the illustration are purple. Though almost as dwarf, this species must not be confused with the tiny snow white *T. nivale*. There are in many gardens spots which seem almost to shout to be planted with Wood Lilies and which only require a little trouble in making up a suitable compost to provide a beautiful spring-time picture. These plants are by no means difficult to grow; indeed, given the proper compost to start with in a place where they will never suffer from drought, they will quite well take care of themselves.



TRILLIUM NIVALE.

CORRESPONDENCE

LILIUM REGALE.

IN one respect I submit that scant justice is done to this Lily in "G. D.'s" notes on page 118. He says that "it rarely produces more than four flowers on each stem." That is contrary to our experience here, where I have counted seventeen blooms on a single 5 ft. stem and fifteen on another of equal height, neither stem being fasciated. It is true that so great an effort exhausts the bulb for a time, reducing the number of flowers in the following two or three years to five or six. Being somewhat prejudiced against florist's hybrids, and, greatly preferring the natural species, I shall not be accounted an impartial critic in saying that no sulphur-gale Lily that I have seen is equal in beauty to either of its parents. Those which I have received and grown have proved far inferior to both. The specimen described by "G. D." as a "much improved and larger regale" must be a truly fine thing, though, personally, I am unable to visualise improvement in *L. regale*. It may be useful to note that, whereas *L. regale* is a lime-lover, its near relation, *L. Sargentiae*, detests lime.—HERBERT MAXWELL, *Monreith*.

PRUNUS BLIREIANA.

WHAT a delightful shrub this is! So superior is it to its parent or congener, *Prunus Pissardi*, that one is at a loss to know how it originated. In the South, *Prunus Mume* in its best forms is still brighter in colour, but it is not so hardy, and as it is still earlier in its season of flower, *Prunus Blireiana* is the better plant for northern gardens, and its large and prettily coloured flowers rival the Cherries of later spring. As a bush it is less exposed to bad weather than when grown as a standard, and deserves the privilege of a sheltered nook where its blossoms may expand, followed as they are speedily by the brown foliage that dies off in autumn in a glow of brilliant colouring. It has the most perfect effect when grouped with *Megasea ligulata*, which flowers at the same time and enjoys the same conditions. No garden should be without these two early-flowering beauties.—E. H. W.

[Both *Prunus Pissardi* and *P. Blireiana* are, botanically, varieties of *Prunus cerasifera*. Actually, one imagines PP. *Blireiana*, *Moseri*, *nigra*, etc., are garden varieties obtained from *P. c. Pissardi*.—ED.]

FRAGRANT FOLIAGE.

I REMEMBER the old-fashioned plants of country gardens, grown for their scent, and mentioned by W. Linders-Lea on page 124, and can add a few more. At the time I write of, there were no more universally cultivated plants in country gardens than Costmary or Alecost (*Balsamita vulgaris*), variegated Balm (*Mentha rotundifolia variegata*), golden variegated Balm (*Melissa officinalis aurea*), common Thyme, Lemon Thyme, Southernwood or Old Man, and Bergamot Mint (*Mentha citrata*). Indeed, I was a cultivator of the above and left the cutting to the women-folk of the household. I still have the first and last of this list, as well as two of the others. The Costmary, *Mentha rotundifolia variegata*, and others were cultivated by John Gerard in his garden at Holborn in 1597, and I guess they have been in the country ever since. To discard them would be unthinkable. Foliage is still wanted for mixing with flowers to tone down their brilliant hues, to add lightness to arrangements, and scent. To the above ought to be added the old, crimson Damask Rose and the fragrant, white *Rosa alba*. Peppermint, Wormwood and Feverfew were grown for making tonic drinks by some of the

oldest inhabitants. *Pelargonium graveolens* was the first scented Geranium I met with, and later found the Peppermint Geranium. A nursery firm's catalogue of this year contains sixteen species and hybrids, including Pretty Polly, and a number of them can be seen in the windows of some Surrey



A FINE WHITE SEEDLING DELPHINIUM.

towns and villages. The most delicately coloured of the silver tricolor Zonals I can remember was Italia Unita.—J. F.

A BEAUTIFUL CODONOPSIS.

AS a Bellflower, *Codonopsis ovata* is certainly distinct and beautiful, as stated by "S. S.," Warwickshire, page 124. In my opinion the interior of the flower is more beautiful than the exterior, but this cannot well be seen without lifting up the flower. One way of growing it is to plant it on the top of a bank of the rockery or even the top of a retaining wall. The dwarfier species lie down on the soil, but some of the taller

ones are twining herbs. I have seen *C. ovata* climbing a little on sticks and on a high bank where one could see into some of the flowers. One reason for the unpopularity of the class is the rather rank smell of the herbage when handled or bruised. I was recently shown a new one introduced from China, and although it had not then flowered the gardener was offended by the smell of the leaves. In a small way this can be detected by bruising the leaves of almost any Bellflower, but in *Codonopsis* it is greatly intensified—in some species more than others. The smell of Garlic, however, in *Allium neapolitanum* did not prevent it becoming popular as a cut flower some years ago.—H.

A WHITE DELPHINIUM.

I AM sending you a photograph of a white Delphinium raised from seed sown in September, 1921. The plant flowered in June of the following year. It was one of a batch of seedlings, the seed of which was saved from the variety known as Commandant Chapuis. Seed from this particular variety, I find, gives excellent results, most of the seedlings being of exceptional merit.—W. C. BLAKEWAY, *Hampton Lovell, Droilwich*.

AN OLD FAVOURITE.

THE beauty of *Chrysanthemum Source d'Or* is all that "Claremont" says of it on page 125. There are two sports from it, namely, Lizzie Adcock (deep yellow) and *Crimson Source d'Or*. Sorcerer has similar but larger flowers. All add to the reputation of the original. *Source d'Or* begins flowering in many gardens in October, and if the weather is favourable it looks very handsome. I saw it flowering in gardens at Skegness, Lincolnshire, at the end of last December, so it has a fair reputation for being hardy. In its own colour it has not been superseded. There are some older varieties in cultivation, however, and listed in some of the leading catalogues. Mrs. G. Rundle (pure white), Mr. G. Glenney (a primrose sport from it) and Mrs. Dixon (a bright yellow sport from the latter) are three small incurved varieties that were grown for cut flowers in the seventies of last century.—HORTULANUS.

A DWARF CINQUEFOIL.

POTENTILLA TONGUEI appears to be one of the survivors of a large and interesting class of hybrids raised in the forties of last century, most of which, unfortunately, have been lost. I believe that I am correct in including it among these. It has held its own well by reason of its distinctness and value for the rock garden. I have been acquainted with it for forty years or so, when I first came across it in the collection of a keen alpine grower, long since departed, whose treasures comprised the best and choicest of rock plants to be procured at that time. *P. Tonguei* was a cherished plant of his and he guarded zealously the secret of where it could be procured. This is not a spirit to be commended, of course, and those of us who desired also to possess *P. Tonguei* were not long in discovering where it could be purchased. It is a low grower, rather trailing, with typical Cinquefoil leaves and good single flowers of a fine orange yellow with crimson spots. Its height is about 4 ins. in an ordinary rock garden compost of loam, leaf-soil and sand. It grows quite well in sun or shade and is propagated by division or by cuttings. It has been well called by one of our ablest and most impartial critics a "treasure of the garden." Such it is, and it deserves to increase in favour among those who seek good reliable plants of real beauty.—S. ARNOTT.

A BRILLIANT TRAILER.

DURING the hot, dry summer of 1921 *Verbena chamaedrifolia* was one of the finest sights on the rock garden, and another spot where it was quite at home was on a narrow border facing south at the base of a dwelling-house. Last year it was not so fine, but still there were enough flowers to make it attractive. It has a creeping habit and the large, showy flowers are a brilliant scarlet which in a mass are most effective. In Gloucestershire it will live in the open throughout the year, but no doubt a severe winter would kill it. Nevertheless, it is worth a little trouble, and the stock could be kept up if a few specimens were potted up and placed in a cool greenhouse. Ample cuttings would be available in the early spring. *V. chamaedrifolia* should be given a sunny position on the rock garden where it is not too wet, in a rooting medium of loam and leaf-mould. It is of Brazilian origin, and was introduced into Britain in 1827. As a pot plant for the cool greenhouse this *Verbena* can be recommended. I have grown it as a trailing plant, and with the growths neatly staked in an upright position. Both ways were successful; but, indoors, white and green fly are troublesome and must be held in check by fumigation or spraying, otherwise the plants will soon become unsightly.—B.

FOR DRAPING STONES.

IN some rock gardens there will be found a number of large boulders which need draping with plants, and if such boulders are numerous it is difficult to do this without a good deal of repetition. One does not like to employ *Arabis* and *Ambrieta* too freely, and as a change I would suggest *Verbena radicans*.

Here, in the Chepstow district, it grows freely, the procumbent stems making considerable growth in one season, while the fragrant lilac flowers are fairly numerous during the summer months. The foliage is pleasing at all times, and it will cover a large stone in a couple of seasons. It will succeed in almost any position (dense shade excepted) and is, moreover, not particular as to soil.

The stems form roots at intervals, so the plant can readily be increased. It will also root freely from cuttings in August if placed in sandy soil in a cold frame. Whether *V. radicans* would be hardy in all districts I cannot say. According to Nicholson, it came from the Andes in 1832, and it is referred to as a greenhouse sub-shrub. In any case it would be advisable to keep a few plants in a cool greenhouse during the winter months to replace any that were killed by hard frosts.—T. W. B.

ON THE NAMING OF NOVELTIES

IN these days when so many garden lovers, both amateur and professional, are engaging in the fascinating pastime or business, as the case may be, of raising novelties, a few notes on the naming of such seedlings may be of interest. This subject was mentioned very briefly by Rev. J. Jacob in writing on Dutch Irises (*THE GARDEN*, September 9, 1922, page 451), and I am certainly in agreement with his sentiments as there expressed.

I have often wondered that so many of the most prominent of present day raisers have exhibited so very little ingenuity in naming many of their novelties. In the following notes I propose to express some of my own opinions on the subject, and briefly to discuss the naming of such well known and popular plants as the Rose, Daffodil, Gladiolus and Bearded Iris.

It may be asked, What are the essential points in naming a seedling well? I reply that the name should be (1) distinctive, (2) euphonious, (3) short and (4) in some cases it may well be descriptive or partly so. To elaborate slightly on these points. The reason for (1) is obvious, to avoid the confusion of using names too much alike, which ought not to be tolerated under any conditions. As to (2) it is equally obvious that many flowers have ugly-sounding names, which might easily have been avoided by the raisers. In the case of (3) perhaps I should have said "not long" instead of "short," by which I mean that names should, for the sake of brevity and convenience, never consist of more than two words or (say) five syllables in all. Or (4), when it is intended that the name be descriptive of the flower, care should be taken that such description is correct and accurate; any tendency to exaggeration or misdescription should be studiously avoided. Plenty of examples of badly named plants under points (1), (2) and (4) will at once occur to most readers, while as sinning most thoroughly against (3) need I quote more atrocious examples than the Roses Suzanne Marie Rodocanachi and Marie Adelaide Grand Duchesse of Luxembourg?

The habit of naming novelties after the friends or acquaintances of the raiser has, I think, been carried much too far, and, while it may be very nice and flattering to the persons immediately

concerned, is apt to be most tiresome and annoying to the general horticultural public, especially when a batch of initials is added to the name. It will be universally agreed that it is altogether too bad to find some lovely flower blessed ("cursed," did I hear someone murmur?), with such an *equivocal* name as, say, Mrs. N. Q. de Jones-Smyth, which, though not an actual name, is an example of a type which is only too frequently met with. In one catalogue I have before me, names beginning with "Mrs." occupy nearly six pages! See also *THE GARDEN* for 1922, pages 505-6 and 546-7, where the great majority of names fall under this head. I do not wish readers to think that I am condemning this method of naming altogether, I say, however, that it is done much too frequently, probably because raisers are too lazy to think out a better name! And I will say that I commend the naming of some flowers after well known horticulturists and raisers, for what monument could better perpetuate the memory of those who have worked untiringly and well for the improvement of one or more species of plants!

Again, novelties should not be too often named by a colour in conjunction with some other word; it tends to monotony and is also inclined to be misleading. Look at any copy of the classified list of Daffodil names of the R.H.S. here I find in one (of not very recent date, too), that fifty-two names begin with the word "red," and no fewer than eighty-four with "gold" or "golden"! And not infrequently the implied description contained in the adjective is none too accurate.

As to names intended to be partly or wholly descriptive of a flower or of a prominent feature of it, many mistakes and misrepresentations can be found: for instance, flowers are called "star" or "starry," when not even remotely so in any way; or, perhaps "butterfly" (which implies lightness and daintiness) is given to a very solid looking flower, or even in some cases "dream," where it might more correctly have been called a nightmare! It might be as well to add here that such ludicrous names as Incontenable, Unsurpassable, etc., may well be avoided for untruth.

To specialise a little, the Rose, queen of the garden, has suffered much in the naming, probably

more than most flowers, and I think that a glance at any catalogue will show that at least 75 per cent. have been named after persons either real or fictitious; this aspect I have already dealt with. Of the remaining 25 per cent. it is a great pity that such excellent and commendable names as Brilliant, Cheerful, Modesty, Prince Charming and Sunburst are not much more numerous than they are. No one will deny that names such as these are infinitely more suitable and decidedly preferable to the type above mentioned.

Mistress Daffodil has fared better, though the naming by colours already referred to has been carried too far, otherwise the Daffodil has been named rather well. For instance, what could be better or more suitable than such names as Alpine Snow, Angel's Tears, Circlet, Icicle and Phantasy, to quote a very few. But here are some mistakes, or, if you will, errors in good taste, in naming. Lord Kitchener, which should be a big, coloured flower worthily to represent that famous soldier, we have as a rather small flower in white and lemon, most unsuitable; while Mrs. H. J. Veitch, in defiance of the fact that grace and daintiness are attributes of the fair sex, is a deep yellow flower, bold and very massive, a comparison which seems scarcely complimentary to the lady after whom it was named. Again, to quote an error in a descriptive name, one example will suffice, others are not infrequent; that lovely flower Lemon Star cannot by the wildest exaggeration be called a "starry" flower and there is very little lemon in it at all, it is more a creamy primrose which fades to almost white.

The Gladiolus is, on the whole, well named, though several colour names are very misleading, and why, oh why! must catalogues continue to describe as "blue," colours which are indisputably shades of purple? Lavender, lilac and slaty purple shades there certainly are, but true blue, either light or dark, I have yet to see in any Gladiolus. As this is at present, at any rate in this locality, the flower which is booming above all others, it is to be hoped that raisers will exercise discretion in naming and keep the type of name at least up to the present standard.

The Bearded Iris is, I think, certainly the most happily named of the four flowers I have specially mentioned. To quote just a few examples of excellent naming, Afterglow, Caprice, Dimity, Storm Cloud, Quaker Lady and Sunshine. Here, also, too much care in differentiating between shades of blue, purple and near pink cannot possibly be exercised, as it is often difficult to decide what some of the wonderfully delicate shades of colour really are.

Perhaps after this someone will say, "But all the best names are already taken—what are we to do?" And this, I grant, will appear to be rather true, for instance, after a perusal of the R.H.S. list of classified Daffodil names. Please note I only say "appear" to be true; for, in reality, there are plenty (and I emphasise that word!), plenty of excellent names as yet unappropriated, if only one will think and look round for them, and I simply refuse to believe that many present day raisers are as lacking in ingenuity and originality as some naming would imply. Therefore, you raisers of novelties, for the sake of the beautiful flowers which your enthusiasm and enterprise has called into being, and for the sake of the horticultural public which grows them and loves them, think well before you decide, give your imagination free play and with them let originality and good taste combine to give a name which will be worthy of the flower on which it is bestowed and which will go on, not as an evil necessity to be only tolerated, but as a happy designation to be loved and remembered through the years.—"AUSTRAL," Geelong, Australia.

THE ANT IN THE GARDEN

How to Make the "Eggs" of Use.

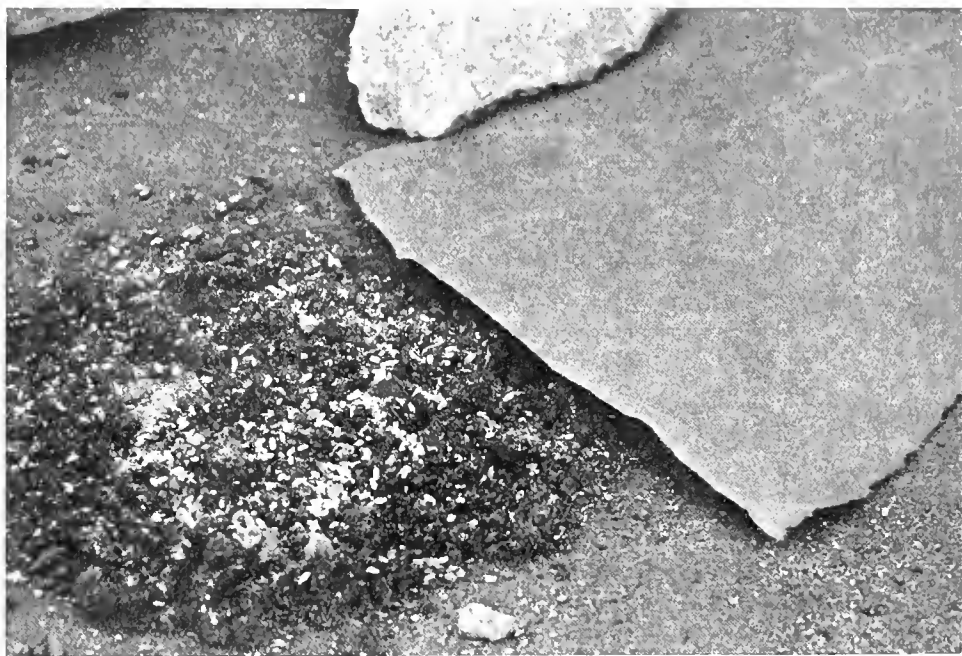
PROBABLY most alpine gardeners have at times been troubled with ants in the rock garden, and I find, in my own case, that very frequently these little creatures select one of my choicest plants under which to make their nest. As this process necessitates considerable tunnelling operations below the ground level and the bringing to the surface grain by grain of large quantities of soil, often completely burying some choice alpine plant under a conical hillock of fine granular particles, it will be readily understood how serious the effect may be. Not only is the foliage end of the plant (often of a woolly character) submerged and excluded from the light, but its root-run is so honeycombed with tunnels that its attachment to the soil is grievously loosened and the moisture so rapidly drained away that if attention is not speedily given to it the plant must succumb.

I have yet to find a really satisfactory method of dealing with this nuisance. I have tried constantly soaking the affected area with water, but the ants seem so efficiently to have drained the subsoil that before the nest is really drenched the plant has suffered considerably from prolonged wetness on its foliage. Another method sometimes adopted is carefully to make a hole in the immediate vicinity with a stick or piece of gas piping and pour into it a solution of cyanide of potassium, afterwards plugging the hole with a piece of moss. Ants are peculiarly susceptible to the gas given off by this chemical, but owing to its extremely poisonous character to human beings it is rather dangerous stuff to have about in the vicinity of one's garden.

The two illustrations given herewith depict, not a method of curing the evil, but a simple arrangement whereby we can at least turn it to some good account. The only really satisfactory method I have yet found of dislodging the ants is to unbuild that portion of the rock garden

affected (usually quite a small area) and after carefully taking out the plant, which may with advantage be potted up and nursed awhile until

resulting from digging out the nest. On the other hand, to throw on to my pool whereon are floating brilliantly coloured *Nymphaea* flowers, the contents of the bucket would mar its beauty for many days owing to the mud which would stain the water and the general detritus which would float on its surface. The alternative, of course, is to separate the eggs from the rest of the mixture -



AN ANTS' NEST AS DUG OUT.

it recovers its health, proceed to dig out the nest. Like so many rock gardeners, I have in association with my alpiners a small pool or two wherein fish make their home. Knowing how they relish fresh ants' eggs (really the larvae of the ant and not eggs at all), it has always grieved me to throw away the bucketful or so of ants' eggs and soil

a tiresome task indeed in view of their number and the very lively character of the angry ants incorporated therein.

The accompanying illustrations shew how this separation may be done promptly and efficiently without the expenditure of more than a few moments of time. The method I adopt is as follows: The contents of the bucket containing the ants, ants' eggs and soil is, directly after digging out, spread in a thin layer, covering perhaps 2ft. in diameter, upon a hard gravel path or pavement, and near to this heap is placed a piece of thick brown paper, the corner of which is allowed slightly to overlap the edge of the patch of mixture. One or two stones are then placed on the paper to prevent it blowing away. The whole is then left for an hour or two, when if the stones are removed and the paper lifted up it will be found that practically the whole of the eggs have been carefully removed by the diligent ants and placed in a neat, compact heap beneath the shade of the paper in a suitable condition easily to be scooped up and placed in the pool without in any way damaging its appearance, and to the great delight of its "finny" inhabitants.

The simple explanation of this, at first sight, extraordinary phenomenon is, of course, the fact that the ants seek to hide away their larvae from the light. We afford them the necessary shadowy spot in close proximity to the heap and they readily take advantage of it as the handiest place of retreat.

REGINALD A. MAIRY.



THE "EGGS" COLLECTED TOGETHER BY THE ANTS.

FORTHCOMING EVENTS.

March 27. -Royal Horticultural Society's Fortnightly Meeting (two days).

March 28. -Mitcham, Footing and District Horticultural Society's Meeting.

SHRUBS FOR BLEAK GARDENS

MY notes on page 60, February 3, might be supplemented by a reference to the genus *Philadelphus*, which yields valuable species and varieties for the embellishment of town gardens. The roughly hemispherical habit of the shrubs is pleasing to the eye, and a maximum height of 12 ft. makes them suitable for cultivation in small gardens. I have proved that the Mock Oranges, as the members of this genus are commonly called, require a sunny aspect to develop their ornamental qualities to the full. Thoroughly ripened wood is a necessity for the production of bowers of bloom, and only sunshine can achieve this. It is often stated that Mock Oranges will thrive in shaded situations. I agree, it wealth of growth may be set up as the standard of excellence. They will spread themselves in the shade like the proverbial green Bay tree, but flowers will be conspicuous by their absence. A moderately rich soil is necessary to sustain a healthy and evenly vigorous growth. It is well to trench the

spot at the base of each petal. The other Mock Oranges enumerated above are pure white in colour, and all of them bloom towards the end of June. The *Diervillas* (also called Bush Honeysuckles) bloom about the same time, and they are of real value to northern gardeners, particularly those who labour under the disadvantages of an industrial area. There is no vital difference between the cultivation of Mock Oranges and the *Diervillas*. In my judgment the latter exhibit a greater tolerance for partial shade. My own garden contains specimens from which the brightest rays of the sun are screened, and they afford every satisfaction. I have arrived at the conclusion that a moderate amount of light is sufficient to mature the wood. The species *rosea* is worthy of a place in every collection because of its reliability. I can confidently recommend the cammie variety *Abel Carrière* to all lovers of the *Diervilla*; *Coquette* also merits praise. This variety is said to be the largest-flowered *Diervilla* in cultivation. With me the individual rose

feature of the garden. Sometimes accommodation can be spared at the apex of a retaining wall or on a rockery. It is easily suited from a cultural standpoint. Soil of light or medium texture is best, and it is absolutely essential that the drainage be above suspicion, for the species will rapidly languish in stagnant soil. No pruning is required other than the removal of dead or unhealthy shoots. If the *Olearia* can be planted in proximity to the purple-leaved *Prunus* *Pissardi*, a beautiful colour effect will be established.

GEO. H. COPLEY.

ABOUT POTATOES

POTATOES! I hear someone say. "Why, anybody can grow Potatoes; why waste valuable space about such common things?" Perhaps it is true that anybody can grow them, but when we learn that the average yield in this country is only 6 tons to the acre, it shows there is something wrong, and those who can do so should endeavour to mend matters in this direction, for the crop is more important than Grapes or Daffodils.

Although it is being continually drilled into them, cultivators seem frequently to forget that perfect edible roots, perfect fruits and perfect seeds can only be produced by perfect leaves, and that perfect leaves are impossible without direct sunlight. Dr. Masters says in *Plant Life*:—"Arrived at the seed, the glucose is turned back into insoluble starch, to be reserved for use when required. The process is essentially the same in the case of the tuber of the Potato, the 'bulb' of the Turnip, or the root of the Mangel. All these organs are severally storehouses wherein food is accumulated for future use. The food is neither made nor elaborated in them, but simply stored, having been formed in the leaves and conveyed to the storehouses."

Well, then, take the case of the Potatoes. We will suppose that every care has been taken of the sets. They were placed in single layers, with the best eyes uppermost, kept in a comparatively light shed and protected from frost till planting time. All this is perfectly correct, but what follows is frequently not such good treatment. They are often planted in rows not more than 2 ft. apart and frequently less.

I do not know whether it is a general practice, but in this neighbourhood, as soon as they are a few inches in height they are what is locally called "hacked," i.e., the soil is loosened with a hoe or a "turn pick," which is a digging fork bent into the form of a hoe. This is done to a considerable depth and close up to the stems of the tubers. Earthing up follows in a few days time.

Now I have found the roots start spreading at a very early stage, and the "hacking" breaks many of them off and exposes others. If it must be done (and in heavy soils there is an excuse for it if there has been much trampling), it should be done as soon after planting as possible, and earthing up finished before there is any danger of injury to the roots. Where, however, the soil is really heavy, or not so dry as one would like it, I prefer at planting time to fork over the ground just sufficiently wide for one row at a time and not tread on the dug ground at all.

I have proved that 2 ft. between the rows is not sufficient, excepting for early, short-hauled varieties, and that heavier crops can be produced by more space. It should be remembered that most plants, including Potatoes, take in more food, with the exception of water, though their leaves than by their roots, and for actual feeding purposes this is principally, if not entirely, confined to one



THE LATE-FLOWERING PHILADELPHUS GRANDIFLORUS (SCENTLESS).

site at planting-time and to incorporate 5 cwt. of dung with each 20 square yards of ground.

Pruning is an important item in the culture of the Mock Orange, and yet how rarely is this realised. It is a common sight in suburban gardens and in public parks to see the shrubs "clipped into shape" with a pair of hedge shears. What a tremendous error! Such treatment greatly reduces or entirely wipes out the following year's prospect of bloom. Mock Oranges bear flowers on one year old growth, which should be allowed to remain and be afforded every opportunity to ripen. It is sound practice, therefore, to prune immediately the flowers have fallen, removing growths which have flowered or are too weak to do so. I have cultivated the species *P. coronarius* and *grandiflorus*. Both of them flower in June and are very useful, the flowers of *grandiflorus* being particularly large. Lately, however, I have centred my affections upon certain Mock Oranges of hybrid origin. One of these is *Avalanche*, a perfect gem, bearing large and fragrant flowers. *Gerbe de Neige* is exceedingly floriferous and a very certain "doer." The charm of *purpureo maculatus* impresses itself at once upon all who see it. The colour is white with a purplish rose

coloured bloom attaining an average diameter of 1½ ins. Last year (which will long be remembered by lovers of hardy shrubs) I measured flowers which were fully 2 ins. across. The praise so often bestowed upon *Eva Rathke* had not proved well earned in my own experience of the variety. True, its richly hued flowers are worthy of unstinted admiration, and the habit of successional blooming is a decidedly strong point. I cannot, however, forgive *Eva Rathke* for its sprawling, pithy habit of growth, which to great extent obliterates its other excellent qualities. If some successful grower would outline his treatment of this variety in *THE GARDEN*, he would earn the gratitude of myself and other northern gardeners. The Victorian Snow Bush (*Olearia Haastii*) is one of the most beautiful and reliable shrubs for gardens in the North. I cannot think of anything which so closely resembles a snow-drift as an example of this species in full bloom. The habit of growth is by no means uniform. Branches protrude here and there beyond their neighbours, gladdening the heart of those to whom anything formal is anathema. Given the opportunity, the Victorian Snow Bush will assume a semi-pendent habit, and then forms an attractive

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particular gas—carbon dioxide—which, in a pure atmosphere is very limited in quantity.

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For further information on this subject the reader is referred to one of the many excellent text books on botany, a subject which is so necessary for gardeners to study, but which as a class they are very loath to do. I trust I have said enough to shew how very foolish it is to allow the leaves of plants to struggle in darkness.

A few years ago I had a gentleman pupil, and, among other things, we experimented on Potato-growing. In one case the rows were 3ft. apart and 15ins. between the sets in the rows. They yielded an average of 6lb. a root. An acre planted at this distance would take 11,520 sets, and this at 6lb. per root would total 30 tons 17 cwt. 16lb. No manure whatever was applied for this crop, but the ground had been well fed for the previous one. It is plain that heavy manuring would have increased the weight, though not the quality. The only fault was that many of the tubers were too large, one turned the scale at 1lb. 5oz. Most of them had been allowed to grow from one eye only.

Two or three stems would probably have produced a larger quantity of a more desirable size. I attribute this satisfactory yield entirely to the effect of the greater portion of the leaves being exposed to the sunlight.

Others of the same variety close by, planted 2ft. by 1ft. apart, were nothing like so good, and many of the tubers were small. The disease also attacked them early in the season, while the more hardy ones were scarcely injured at all.

Mr. Challis, when at Wilton, told me he obtained a greater weight of tubers when his rows were 4ft. apart than when they were 2ft. He planted Broccoli, Curly Greens, etc., between the rows, in the furrows made by pulling the earth over the Potatoes; the latter were not planted, but laid on the flat surface. There is much to be said for this plan. The Potatoes would be placed on and covered with well aerated soil, leaving furrows which would be of advantage to the Broccoli.

Where the soil was fairly good and was not disturbed after an early earthing up, I have found that, when a space of 4ft. was allowed between the rows, the roots met across these spaces at a very early stage, therefore I am confident that the plan of "hacking" and earthing up after the haulms are 5ins. or 6ins. high is very detrimental.

A few varieties bear the tubers close to the stem, but when this is not the case I prefer leaving them in a shallow furrow in order not to bury the primary leaves or needlessly to bleach the stems.

WM. TAYLOR.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Turnips.—Seed may now be sown in quantity in drills 15ins. apart and 3ins. deep. The fly is troublesome occasionally, but as this is only harmful during the seed leaf stage, it can generally be kept in check with a dusting or two of soot. Snowball is a very good variety to sow now.

Peas.—Seed of any of the main crop varieties may be sown, and if the ground has been well dug and liberally manured, flat drills about 6ins. wide will suffice. If for any reason this has not been done, trenches can be prepared similar to those for Celery, taking out the soil 2ft. or 3ft. deep and incorporating a quantity of partly rotted manure and a sprinkling of ashes from the rubbish fire. The distance between the rows will vary in accordance with the height of the Pea grown, and as a guide the distance might be the same as the height of the variety chosen. The seeds should be covered to a depth of 2ins. or 3ins. Another sowing of Broad Bean may also be made.

Beet.—A row or two of Beet may be sown, selecting a turnip-rooted variety for the first crop. A warm border is best for this sowing.

Hot-Beds are always useful for raising a few seeds, and at the same time Cucumbers can be grown thereon with considerable success. The making of a hot-bed does not require a great deal of skill, the most important item being the manure, which should be more or less "green" to get the best results. To every cartload of manure two barrowloads of leaves may be added, and the whole well mixed and turned three or four times before the bed is made. This should be 18ins. wider than the frame on all sides, the frame being placed in position when the bed has settled down. A small mound of soil should be set in the centre of each light, and when the heat is steady at about 70° the Cucumber plants may be put out. Admit a little air when the weather is suitable, but the lights ought to be closed by three o'clock.

The Flower Garden.

Polyanthus.—Seeds of this beautiful spring flower are usually sown about May, but I always prefer March for this operation, because much finer specimens are secured for planting out in September. Sow the seeds in pans or boxes containing a mixture of loam and leaf-mould, and place them in a cool greenhouse or cold frame

Like all the Primula family, germination is often slow and irregular, so if only a few seedlings appear, the pans should still be retained and kept moist. Carefully remove the seedlings and transplant them 1ft. apart in a partially shaded portion of the reserve garden. Keep them free of weeds, and if the summer proves dry, they should be afforded an occasional watering.

Aquilegias have been so improved of late years that now they are well-nigh indispensable for the flower garden. Seeds may be sown at this season as advised for Polyanthus, but they may also be sown at a later date in the open ground, and the plants will bloom next year. Where space and time can be spared, however, early sowing is to be recommended.

Mignonette should be grown by all on account of its perfume. Make the ground firm and well thin the seedlings when large enough. Mignonette will not transplant readily, so it must be sown where it is intended to flower.

Fruit Under Glass.

Strawberries.—Where plants are bearing fruits that are approaching the ripening stage a somewhat drier atmosphere should prevail, and the plants must not be kept excessively wet at the roots. When the fruits begin to colour syringing of the foliage must cease, and a little more air be admitted both day and night.

Vegetables Under Glass.

Cucumbers.—More seeds may be sown to keep up the supply of fruits. Cucumbers enjoy plenty of heat and moisture, and at this season ample use can be made of the sun to keep up the required temperature, while the syringe should be employed once or twice each day according to the weather. Plants that are fruiting will be benefited by weak liquid manure twice each week or an occasional sprinkling of artificial manure.

The Hardy Fruit Garden.

Newly-Planted Fruit Trees should be examined occasionally to ascertain if they are still firmly embedded in the soil, and that the stakes and tying material are not chafing the bark. Standard trees especially will need attention, for many a tree dies because it is loose in the soil. A mulching of partly decayed manure will assist in the formation of fibrous roots and prevent the soil from drying out.

General Work.—At this date the pruning and tying will be completed, and it is advisable to

collect all prunings and burn them, thus giving the fruit quarters a clean and tidy appearance. The hoe must be used frequently among the smaller trees to keep them free of weeds, while a watch ought always to be kept for insect pests.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Carrots.—The main crop should now be sown in shallow drills 3ins. apart. Sow very thinly so that little thinning of the crop will be required. Thinning Carrots encourages the carrot fly. Soot, lime or wood ash also helps to ward off the dreaded enemy.

Late Potatoes should be planted within the next fortnight in drills 3ins. to 3½ins. apart, according to the variety. Only immune varieties must be planted in areas in which the wart disease is present. Wood ashes scattered in the drills improve the crop.

Globe Artichokes.—Remove the protecting material, and if the ground was not mulched in the autumn, it should get a liberal dressing of farmyard manure prior to digging over the quarter. The Globe Artichoke is a gross feeder, and succulent heads cannot be produced unless the plants are liberally treated. If it is desired to make a new plantation, the quarter intended for their reception should be liberally manured and trenched. It is always easy to get side growths from the established plants to form a new plantation.

Mustard and Cress may now be raised in the open, but that raised under glass will be more tender.

Fruit Under Glass.

Early Vines.—Thinning of the fruit should commence as soon as the berries are the size of small lead shot. The bunches should not be touched with the hands, but manipulated by means of a slender forked stick. The circumference of the bunch should not be reduced. First remove all berries which have not set properly and avoid making gaps, *i.e.*, endeavour to have the distance from berry to berry as uniform as possible; the bigger shoulders should be tied up somewhat, but not so far as the horizontal.

Peaches and Nectarines.—Thin out the young shoots at an early stage, but by degrees. The basal shoot on the present year's bearing wood should never be removed if at all a normal shoot, as it is the "succession" shoot which is to bear fruit next year. If any part of a tree—through "gunning" or other cause—is deficient of young wood, allowance should be made for making good the deficiency when removing the young growths.

Vegetables Under Glass.

Tomatoes should have all side shoots promptly removed, and as flowers develop they should be tapped lightly with a rabbit's tail attached to the end of a cane. This operation should be performed in the course of the forenoon.

The Flower Garden.

Half-Hardy Annuals, if pinched immediately beyond the first or second pairs of true leaves, increase in vigour and in flowering capacity.

Roses.—The Hybrid Teas may now be pruned, and the Teas a week hence. The work of pruning completed, the beds or borders should be given a dressing of some reliable fertiliser prior to forking over the whole. If there is any suggestion of sourness or greasiness in the soil, a moderate dressing of lime should also be given.

Monibretias.—Dormant corms of these attractive border plants may now be planted out with safety, but those who adopt the plan of starting them into growth indoors, either in pots or in boxes, had better delay planting for another fortnight.

The Pleasure Grounds.

Lawns should be thoroughly swept and, if dry, rolled, prior to using the lawn mower, which, owing to the mild, open winter, will have to be done rather before the normal period.

Pruning Evergreens.—Most evergreen shrubs may now be pruned, using the knife or secateurs in preference to the hedge shears, which, unless used with great discretion, mutilate a large proportion of the retained foliage. Evergreens on walls, such as Garrya elliptica and Cotoneaster macrophylla, should also be pruned now.

Rhododendrons.—Early-flowering species, such as R. arboreum and R. Nobleman, if of reasonable dimensions, should have the spent blooms removed, and big specimens—if not previously attended to

should receive a mulching of farmyard manure, taking which, the best available leaf-mould.

CHARLES COMFORT

(Formerly Head Gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian).

GREENHOUSE AND CONSERVATORY.

Celosia cristata and its variety *pyramidalis* are very useful for furnishing the greenhouse, and a start may now be made with an early batch. Sow the seeds in a warm house in a temperature of 55°. When large enough to handle the young seedlings should be pricked off into pairs or shallow boxes, using a light, rich compost, and later they should be potted off singly into small pots, adding some old mushroom-bed manure to the compost. Good specimen plants can be grown in 48-sized pots. If larger specimens are required, 6in. or 7in. pots should be used for the final shift; while some of the tall-growing forms of *C. c. pyramidalis* may be placed into 8in. pots, when they should make fine specimens over 3ft. in height. These plants are subject to attacks of red spider, also begonia mite. A free use of the syringe should prevent the former and the sulphur vapouriser should be employed to combat the latter pest.

Capsicum annum in its many varieties proves very useful for the greenhouse in autumn. Besides serving for decorative work, the fruit can be used for culinary purposes. Seed should be sown at this time in a warm house, pricking off the young seedlings when they are large enough to handle. They should be grown on without any check, using a rich compost at all stages of their cultivation. Six-inch pots are a suitable size for their final shift. These plants are very subject to attack by red spider, which can be prevented by a free use of the syringe. Attacks of white fly and begonia mite must also be guarded against.

Hæmanthus Katherinæ and the hybrid *H. Andromeda* are very handsome and useful plants for the greenhouse. They are now starting into growth, and should be shaken out of their pots and repotted, clearing away dead roots and decayed matter at the base of the root-stock. They should be placed deep enough in the pots to ensure the crown of the root-stock being covered with about 2ins. of soil, as it is from the crown that new roots are mainly produced. The plants should be placed in a house with an intermediate temperature, giving them very little water at the root until they are growing freely and are well rooted into the fresh compost. As growth advances they should be given cooler conditions.

Hæmanthus coccineus is a very old garden plant, native of South Africa, and belongs to a different section of the genus and, like all the South African species, only requires ordinary greenhouse treatment at all stages of its cultivation. There are several fine South African species, but with the possible exception of *H. coccineus* and *H. albidus*, there are probably few, if any, of them in cultivation at the present day. The South African species as represented by *H. coccineus* do not require such frequent repotting as the more tropical ones; they are, in fact, best when left undisturbed for a number of years. They are usually kept dry all winter and started into growth about this time, when some of the old top soil should be removed and replaced with a top-dressing of rich compost. When growing freely the plants enjoy copious supplies of water with occasional applications of diluted liquid manure.

Gloriosa superba and *G. Rothschildiana* are generally regarded as requiring stove treatment. It is true they require warm conditions when growing, but when growth is matured and the plants are flowering they will stand in an ordinary greenhouse. Under the cooler conditions the flowers last much longer in good condition than when in a higher temperature. If not already repotted, the tubers which have been stored dry in their pots over winter, should now be turned out and repotted into suitable-sized pots according to the size of the tubers. The largest-sized tubers will require 10in. or 12in. pots. Water should be given very sparingly until they have made fresh roots and are growing strongly. As the growths lengthen they should be carefully secured to neat supports.

Crinum generally require warm house treatment, but *C. Powellii* and *C. P. album*, also *C. Moorei*, are hardy in the South and West if placed at the bottom of warm walls; but in the colder parts of the country they are well worth growing in tubs for the conservatory, or they may be planted out in beds or borders in any house from which frost can be excluded. Planted out in rich soil they produce enormous quantities of their beautiful pink and white flowers respectively

over a long period. If grown in tubs the plants require generous treatment and ample supplies of water.

Royal Botanic Gardens, Kew.

J. COULTES.

EDITOR'S TABLE

FROM Mr. W. A. Watts, St. Asaph, came to hand recently some flowers of *Narcissus* *Princess Victoria*, cut from the open on February 28th. Though carefully packed, they had evidently received rough usage in transit, but the long stems and widely expanded golden cups, heavily edged with deep orange, make this an attractive variety. The corolla segments are also a fairly bright yellow and the whole flower is light and graceful. This flower is classed as an *Incomparabilis*, but it must be very near the border line between *Barrin* and *Incomparabilis*.

A Choice Speedwell. Though seldom seen in gardens and not often in the catalogues, *Veronica peduncularis* is one of the easiest and most pleasing of the rock garden Speedwells. It is a perfectly hardy and robust perennial which throws up from its base in spring a throng of fine and elegant flower-stems some 6ins. or more in length. The blossoms are about as large as those of *V. Cataractæ*, white, lined with rose, and produced in extraordinary abundance from April to early summer. *V. peduncularis*, whose bronzed leafage is somewhat akin to that of our native *V. Chamædrys*, is a neat-habited little plant, elegant and compact in form, and one that asks for nothing beyond a cutting-back to the base in autumn.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

WATER LILIES (Dunmow).—The plants, in order to get them established quickly in their new or permanent quarters, are generally placed in baskets for the purpose. Rotted wood and sticks should not be buried in the soil before the water is added. Use a sufficient quantity of good turfy loam, whole turves in which the grass is dead, surrounding the roots with them or the baskets containing the plants. *Nymphaea laydeni purpurea* (crimson flowers freely blooming), *N. mullerae rosea* (rose-coloured flowers, heavily deep green leaves) and, for a white variety, *N. alba plennissia* are fairly soft and inexpensive.

PASSIFLORA CÆRULEA NOT FLOWERING FOR NINE YEARS (A. C. Norwich).—When grown in a warm position this *Passiflora* usually flowers very freely in the Southern Counties. In the North, and probably in our correspondent's district, the flowering may be less free, but it is unusual for nine years to elapse without flower-buds forming. In a Southern county the writer has seen plants covering large trellises and flowering profusely, afterwards opening a good crop of egg-shaped yellow fruits. We advise our correspondent to retain the plant.

CYCLAMENS AND SWEET PEAS (Mrs. H.).—When the flowering stage is passed, place the Cyclamen plants outside on a bed of ashes with good drainage. Do not apply any water, and directly the leaves have withered cut them off low down; do not pull them off, as this action would cause damage to the dormant crowns. Repot late in the summer or early in autumn, using a compost of turfy loam, sandy peat or sweet leaf-mould and a small proportion of rotted manure. Frame treatment, more moisture but very careful watering must be the rule. Top Sweet Peas so that at least four joints with sound leaves are left above soil level. Do this work several weeks before they are planted out. Sweet Peas raised last autumn and not unduly drawn up should be about 9ins. high now. Those raised early this year should be about 2ins. high.

GREENHOUSE.

AZALEA INDICA (W. W. Weybridge). After flowering, Azaleas should be placed in a warm house with a temperature of 50° to 60°, and during bright weather sprayed over several times a day to encourage free growth. As growth is completed they should be given more air and the temperature lowered. From the end of June they should be stood outdoors in an open position, standing them on a bed of ashes. About the middle of September they should be placed in a cool house. These plants do not require any pruning. Our correspondent's staggly plants are probably in bad condition at the root. Azaleas are best repotted when they are just starting into growth, using good fibrous peat with enough sand to keep it open and porous. They should be potted firmly and carefully watered until they have made plenty of new roots.

TREES AND SHRUBS.

PRUNING SOLANUM JASMINOIDES (W. Beaconsfield).—This beautiful climber does not require hard pruning, but a little shortening of the ends of the shoots, also thinning and trimming of crowded twigs to maintain a tidy appearance. This should be done during February before new growth commences. *Clematis tangutica* may also be pruned about the same time. This *Clematis* flowers on the vigorous young shoots, hence pruning should consist in removing all thin and weak growths, cutting back to firm and healthy wood.

ROSE GARDEN.

ROSES FOR PARTLY SHADED BORDERS (W. R. V. Kent).—The shade being on the north side would not be very detrimental. The drip, as our correspondent says, would do some harm in prolonged wet spells; but in normal summers it would not matter so much. Owing to the roots from the Oak trees permeating the soil of the borders, it will be necessary to lift the Roses every alternate year to clear the roots out. The *Rosa* *Rosa* would prove a satisfactory as any in the position. Distinct varieties may be grown in each bed or a mixture of colours and singles and doubles, which should be very interesting.

MISCELLANEOUS.

FLOWERS FOR IDENTIFICATION (W. W. Weybridge).—The flowers sent are those of the *Chimaphila*, which is known botanically as *Ornithogalum lactum*. It is a bulbous plant native of South Africa. The plants grow quite well under ordinary greenhouse treatment, but they generally prove rather uncertain in flowering, this probably because the bulbs do not get sufficiently ripened. Perhaps our correspondent can get bulbs from her friend in South Africa.

RHODODENDRON FOR IDENTIFICATION (A. M. Hythe).—The flower sent for identification was *Rhododendron Rosa Mundi*. By adding plenty of coarse grit and a little peat and leaf-mould most *Rhododendrons* will thrive in clay soils if lime is absent. The following will certainly grow where the variety *Rosa Mundi* thrives; *Chimaphila* *White*, *Noblesium*, *Princess de Sagan*, *Prince Camille de Rohan*, and *The Countess Chevalier Felix de Sauvage*.

RAMONDIA NATALIE (W. S. C.).—This plant is not found in the Caputians. Its home is in Serbia, one of the localities being Jelasnica, east of Nis, and it is also found along the Sava-Albanian frontier. Both *R. serbica* and *R. Natalie* are found at Jelasnica. If our correspondent wishes, we can, no doubt, put him in touch with someone out there who will direct him to the spot.

ACETYLENE REFUSE (C. R. Manchester).—The refuse from the acetylene generating plant is, after six weeks' exposure to the weather, practically the same as slaked lime which has been similarly exposed. It may be usefully and safely applied whenever lime is required in the garden at the rate of half a bushel to each square rod of soil. The best time to use it is in winter, and the dressing should suffice for three years.

BULBS FOR IDENTIFICATION (Miss W. Newbury).—The bulbs sent are a species of *Hæmanthus*. It is impossible to say which species this is in the present condition of the bulbs. *Hæmanthus* species require a temperature of from 50° to 60° during the growing season. They should be potted in a mixture of fibrous loam and peat with plenty of sand added. After they have made full growth and show signs of turning colour, water should be given sparingly, and the bulbs eventually allowed to rest. On showing signs of growth water must be again supplied. They may be grown in a cool greenhouse or even in the window of a living room. Propagation is effected by means of offsets, which may be taken off and potted up in the mixture mentioned above.

ASHES AND POULTRY MANURE ("Florence").—The ashes should not be injurious to the garden unless the soil is a very light one, but would be safer if allowed to be washed well by the rain before being put into the poultry house. The droppings should be very valuable for use as manure, but it should be remembered that they should be kept dry after they are removed from the house until they are used, and that they are about eight times as strong as stable manure.

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There is, however, another point to be considered. I have drawn a parallel between the herbaceous border and the formally laid-out bed which may seem unjustifiable to some; but, as a matter of fact, there are probably not many people, among those who really think about such things, to whom the average border of perennials is the satisfaction that one is led to assume that it is. Indeed, there are symptoms which shew that a revolt against the border of this kind has already set in. In not a few good gardens it has already ceased to exist, and not only on the score of expense, nor yet because its undoubtedly splendid effect has produced a sense of satiety that is shared by owner and gardener alike. The typical herbaceous border seems likely to follow the carpet-bed because, like the latter, it is wanting in those attributes which are the final and enduring test in all sound gardening, viz., interest in the individual plant rather than the mass; a felicitous treatment of subjects which is the antithesis of formal arrangement; and the impression of permanence, which is one of the greatest lessons we may learn from plants in the wild state and the lack of which is the herbaceous border's most notable failing.

A momentary consideration will reveal the fact that although the bulk of the plants with which the average herbaceous border is made are termed perennials, they are less permanent in one sense than a bed of annuals or "half-hardys." That is to say, the vast majority of them have but a comparatively brief flowering period, which means that gaps in the ranks must be filled up or grown over by others set in with that object in view. Then, most of our hardy perennials do forfeit their claim to what is suggested by that term by demanding frequent lifting, breaking-up and replanting. That they would prove their perenniality without this attention may be true enough, but in so doing they would quickly deteriorate and they would lose their characteristic vigour and which Wherefore, regarded from such points of view, the border of perennials is of anything but permanent nature. It is much more akin to the foliage of a conservatory than anything else in the garden.

It may be thought that I lay too much stress on this matter of permanency, or the lack of it, to anyone who gives the subject a thought. But it is manifest that therein lies the essential difference between the gardener who plants for a permanent bed or a border, his sole object being to preserve a certain definite display for a definite

period and the man who puts in a plant or a tree which he hopes will become established and remain "a joy for ever," not as a part of a whole, but for its own sake. The one may be fully justified in maintaining that he derives as much pleasure out of his squad of Tulips or carefully screened fancy Pansies as the other gets from his odd patches of Anemone and Primula interspersed with Rose species and a few other choice shrubs, but the sentiments which inspire each of these respectively are as wide apart as the Poles.

The sort of border which promises to supplant the orthodox type is furnished with individual plants rather than groups. I have no quarrel with the latter where they are desirable, as often they are, but would avoid them where they are to be the whole what the marble chips are to a piece of mosaic. There are fine old gardens in this country where almost every plant or shrub is an individual and something more. It possesses some special history or interest in addition to its own peculiar beauty or merit, and rather than enthuse over the latest creation of the hybridist's art the owner of such a garden will, as likely as not, point out with keener pride some old variety or species one of whose most cherished attributes is that it is "out of cultivation." We may not all be able to fill our borders with rare treasures, nor would it be desirable to do so. A new Delphinium of merit has as much right to a place in our soil as a bush of Lavender which has been in cultivation with us for nearly four hundred years.

However, to describe the lay-out or the contents of an informal border would be hardly practicable, for each one will be the outcome of the owner's individual taste, a reflection of his individuality, and here, again, you have a clear line of demarcation between the herbaceous and what I have called, in the absence of a better term, the mixed border. The former is, generally speaking, manifestly the result of a carefully worked-out design, possibly the exact replica of one of the map-like plans one sees in nurserymen's catalogues, whereas the latter is as far removed from any indication of such design as is a stretch of moorland or a hedgerow bank. Even though maturity and permanence may be among the most abiding charms of this unconventional border of plants and shrubs, grasses and bulbous things, it is the absence of conscious effort which is, after all, its happiest feature.

A. T. JOHNSON.

TWO EARLY-FLOWERING CHINESE RHODODENDRONS

TWO first-rate Rhododendrons in flower now in these gardens are *RR. calophytum* and *sutchuenense*. They are both Chinese species, and were discovered on the vast mountain ranges of that country by the collector Wilson during his 1904 expedition. *R. calophytum* had previously been found by the Abbé David in Tibet, and *R. sutchuenense* by the Abbé Farges in the province of Hupeh in China. Probably, most of the plants now growing in various gardens are the result of seeds sent home by Wilson.

They are both species with large, handsome foliage. *R. calophytum* has lanceolate leaves



THE ROSY PINK RHODODENDRON SUTCHUENENSE.

from 12ins. to 15ins. in length and nearly 3ins. broad in the middle. The flower truss is large and loosely built up of about twenty flowers; the buds are pink, opening somewhat paler, and fading off almost to white with age. The corolla is deeply lobed and has crimson spots on the upper interior portion. These spots run into a large crimson blotch at the base. The stamens are numerous. I have counted twenty on one flower. A remarkable feature is the big greenish yellow stigma. This is almost a quarter of an inch in diameter! The flowers have the merit of being agreeably scented.

R. sutchuenense is quite a different plant to the preceding. The foliage is slightly glaucous, up to 12ins. in length, bluntly pointed, and about 2ins. wide nearly the whole length of the leaf. The flower-truss is large, fairly compact and made up of about eighteen flowers; the truss is in most

cases a little flat owing to what should be the terminal failing to develop or just forming a few bracts instead of a flower. Now and then a complete oval-shaped truss can be found. The flowers are rosy pink, paler inside and heavily spotted. The corolla is waved, which gives the trusses a distinctly fringed appearance.

Both species are good sturdy growers, only asking for shelter from wind, shade from excessive sun, and a natural canopy of boughs above them as a slight winter protection—conditions which usually obtain by the side of woodland walks and similar places. The foliage of both is very quickly affected by frost, a few degrees being sufficient to make the leaves curl up into the shape of a lead pencil. The leaves of *R. calophytum* will curl up in a similar way if the plants get excessively dry during the summer months. Frost, however, does not appear to harm them, and they seem to be quite hardy in Surrey. Flowering as they do early in March, frost does, however, sometimes spoil the flowers. *R. calophytum* has one other drawback. The leaves surrounding the flower-truss all point upwards and form a sort of basin with the flowers at the bottom. So much is this the case that the upper flowers on a bush, say, 6 ft. high, would be almost hidden. Here is a remedy. Plant it on a slope with a path well above so that one looks down upon it.

Some authorities say these two species are closely related, but as a practical grower and a novice at botany I fail to see where the relationship comes in. That, however, is a small point. What is more to the point is that these are two of the finest really hardy *Rhododendrons* we have had from China.

Holmwood, Surrey.

S. W. P.

A NEW CHINESE PRIMROSE

P *PRIMULA calciphila* is a very interesting Chinese Primrose which has been in flower in the conservatory at Kew since early January. It was originally discovered by Professor A. Henry on limestone hills near Ichang about one thousand miles from the mouth of the Yangtse Kiang River. Seeds were sent home and the plant eventually flowered. It was then thought to be the original wild type of *Primula sinensis*, the well known Chinese *Primula* of greenhouses.

Afterwards Henry's plants were lost to cultivation, but seeds were again collected by E. H. Wilson on the same site near Ichang, and from them were raised the plants now flowering. From the fact that it would not hybridise with the garden forms of *P. sinensis* and from certain structural differences, especially in the calyx, doubts were expressed as to its being the wild type of that species, among others by Professor Bateson of the John Innes Institute at Merton. Further investigation has shown that it is specifically distinct, and it has been named as above, the specific name referring to its love of lime. It is a very pretty plant, and for eight weeks the group of fifty or sixty plants at Kew gave a charming effect. In size and arrangement the flowers resemble those of the common Chinese *Primula*, but are more elegantly disposed. The colour is a pale blue. Cultivated plants produce seed freely if artificially fertilised, and there seems no reason why it should not become a popular plant for winter use in cool greenhouses. Lime in the soil, however, seems essential to its success. Apparently the real wild type of *Primula sinensis* has still to be discovered.

W. J. BLAIR.

NOTES ON BULBS

A NEW DUTCH HYACINTH. — Everyone who has seen the new Hyacinth, Tubergen's Scarlet, in our greenhouse this spring has been taken with its beautiful colouring. Beside it *Roi des Belges* and *Garibaldi* must veil their faces. They

than the majority of its brethren which only hold courtesy titles.

CROCUS SPECIES VERSUS DUTCH CROCUSES. — Not only in *THE GARDEN* but in the pages of several other papers devoted to gardening I have lately seen notes "cracking up" *Crocus* species.

May I hope that for once in a way the trite saying of La Rochefoucauld may be wrong and that the advice to try them may inspire the conduct of readers when bulb-order time next comes round. The quintet I like to see in my own garden are *biflorus*, *Susianus*, *Imperati*, *Tommasianus* and *Sieberi*. They are all — even the largest of them, *Imperati* — ducky little creatures, and in my humble opinion more than hold their own in beauty and grace when compared with the larger and coarser-looking so-called Dutch varieties. A Monseigneur recently told me a good tale. Immediately after war broke out in 1914 he happened to be walking on one of the Devonshire moors when he came across an old roadman to whom he told the news, remarking that he supposed England and Germany would soon be fighting. "Eh, mister, I hope they'll have a fine day for it." Perhaps there are some who know as little about my quintet as the countryman knew of war, and will wonder why I wish they will have a genial early spring in every



PINK TRUMPET NARCISSUS MRS. R. O. BACKHOUSE.

look dowdy. Everyone passed them over in silence, which, if it be golden itself, means so often in similar circumstances that the unnoticed are but as a far baser metal. The new-comer is a sport from the old deep claret-coloured *Distinction*. Thus no one must expect a monster spike like that of *Jacques*, nor bells of the size of the large white *Corregio*. It is, however, amenable to undergoing the process of being "prepared" for extra early blooming, and was one of the varieties that graced the show at Haarlem on December 23, 1922, of which there were some pictures in *THE GARDEN* for February 10, page 71.

HYACINTH PHENEMAN. —

"Should auld acquaintance be forgot,

And never brought to mind?"

We do, alas! sometimes forget. Until I renewed my acquaintance with *Pheneman* this spring I had not seen it for a very long time, and its distinct and effective colouring had passed out of my mind. "Blues" rather overwhelm us in bulb lists. Between the ultra dark *Menehik* and the pretty pale *Johan* there is a multitude of bewildering names, and "which shall I order?" is, in consequence, for many a big puzzle. I think the large-bellied *Pheneman* with its sturdy-looking but somewhat loosely clothed spike might be given a trial. It is, too, far more of a real blue

garden when they make their *début*. It is because they can be counted on to bloom long before the year is three months old even in cold Midland gardens, and one knows what cruel buffetings they often have to endure. It is marvellous how they come through it all. One must not judge them by the Dutch.

IRIS RETICULATA. — I am so glad writers have been singing the praises of this lovely *Iris* when it is grown in a cold house or frame in pots. If instead of pots small, round, low pans are available, the effect is still more pleasing, and it is worth while taking a little trouble to procure them. I wish I could tell readers where they can be had, but I fear I have lost the address. I wish someone who reads these notes and grows *reticulata* in pots, would tell us how to preserve the bulbs after they have done flowering. Unfortunately, with us, potting is the equivalent to a long-drawn-out sentence of death. Empty husks are all that we find when the bulbs come to be turned out.

PINK TRUMPET NARCISSUS. — Judging by enquiries which we receive, much interest is being taken in the pink trumpet *Narcissus* by flower-lovers who, apparently, have never seen them. The variety *Mrs. R. O. Backhouse*, illustrated herewith, is the best known, and the picture gives a good idea of the shape of the flower, which is

on the small side but very refined. The colouring is very pale, amounting to little more than a suffusion of salmony or perhaps coral pink. The blossoms are very beautiful when seen alone, but are easily overlooked in a large mixed exhibit including such as the giant yellow trumpets,

Sea Nymph, which attracted a certain amount of notice at a recent meeting of the Royal Horticultural Society, is not very dissimilar in shape or colouring. They bear evident relationship to the Leedsli section, will probably like similar conditions, and certainly associate well with them.

THE TORCH LILIES

THE *Kniphofia* family is just on the border-line of hardiness in Britain, so that while some species and hybrids are hardy (at least in average winters) in all but the coldest districts, others are useless outdoors except near our seaboard. There is, however, so great and so fine a variety of forms which are comparatively hardy that we need scarcely bother about the tender kinds.

Spring planting is naturally desirable, but this should not be left too late, otherwise the plants do not have time to re-establish themselves before summer comes with its very possible drought. The variety *Rouge et Souffre* illustrated below bears magnificent coral-red spikes which change, as the blossoms expand, to clear yellow. The spikes as shown are about roins. in length, and the stems, while stout enough to carry the heads (pokers as country folk often call them), have not the coarseness characteristic of many of the forms of *Kniphofia Uvaria*.

Not all the *Uvaria* (aloides) forms have coarse stems. *K. U. nobilis* is still one of the finest of Torch Lilies, with almost scarlet flowers changing to soft yellow. Probably the finest of the giant yellow forms is *C. M. Prichard*, which also received an award last year, but the stately *Ochelsk*, the even taller *Star of Baden-Baden* and the orange-yellow *Ophir* are all magnificent.

The majority of Torch Lilies are herbaceous, some being deciduous, but the greater number having linear foliage which persists through the winter. There is one small group, however, which has a persistent gradually lengthening stem and very much stiffer, semi-succulent foliage, so that the whole plant approaches the shrubby *Yuccas* in appearance. Three species of this group are *KK. caulescens*, *Tysonii* and *Northia*. The foliage in each case is glaucous and the habit of the plants much the same, but whereas *K. caulescens* has short, compact flower-stems with flowers opening a virulent brick red, changing

to greenish ivory and very difficult to associate with other flowers, *K. Northia* has long, handsome, soft yellow spikes with the unexpanded buds merely tinged with red. *K. Tysonii* is a June-flowering species with fine spikes of orange-scarlet and primrose yellow; this is a grand plant, but needs care when associating it with other flowers, as the colouring is rather strident. Experience suggests that *K. caulescens* is the hardiest of the trio, but the other species have been with us but a comparatively few years and they may probably acclimatise satisfactorily.

Kniphofia multiflora, also illustrated, is a white-flowered species which, itself only half-hardy, will doubtless leave a mark in time on the harder section of the genus. With its narrow spike of comparatively long protruding stamens it hardly strikes one as a Torch Lily, though the long, broad leaves are very characteristic of the genus. *K. modesta* is another white-flowered species.

Kniphofia paniculata is only hardy in very favoured localities, and the cross-breeds between this species and forms of *K. Uvaria*, though very grass-like and elegant in foliage, fine stemmed and beautiful when in flower, are none too hardy. They are so suitable for rockwork, however, that they should be largely planted even if special protection has to be afforded in winter. They are even more elegant than the dwarf *K. Macowanii* with orange red blossoms, which is, however, hardy enough. The rather attractive *corallina* is a hybrid between *KK. Macowanii* and *Uvaria*,



THE WHITE-FLOWERED KNIPHOFIA MULTIFLORA.



CORAL AND SOFT GOLD, KNIPHOFIA ROUGE ET SOUFFRE.

soil is bigger and stronger than the former, and rather more refined than the latter species.

Light, well drained soils suit the Torch Times best, and these should not be over-manured for two reasons. Over-rich soil does not make for floriferousness, and it does make for softness and

consequent inability to withstand the rigours of an English winter. Lunged disease, too, is apt to attack plants which have been overfed. When all is said too much can be made of the supposed tenderness of the Torch Times. Most of the forms and hybrids of *K. Uvaria* will withstand more

frost than any of the *Yuccas* except *YY. filamentosa* and *flaccida*. In districts where snow is commonly experienced some of the foliage may be tied up to protect the crowns, but care should be taken to see that this does not expose the base of the plant to wind frost.

SOME FACTS ABOUT THE CINERARIA

THIS is a favourable season to take stock of the *Cineraria*, inasmuch as the various strains can now be seen in flower and the time is fast approaching when seed should be sown for late autumn and winter flowering. For spring display the end of June till the middle of July is the best period to put in the seeds.

A good type of the florists' *Cineraria* is illustrated below. These old-fashioned flowers have of recent years had their colour range enlarged considerably, so that, in addition to the old and well known dark blues and velvety rich purples, there are now china blue shades, pure whites, old rose tones and a particularly vivid red shade usually described as scarlet. Many gardeners fight shy of this last, remembering the original German strain of this colour called *Matador*, which left much to be desired as regards habit and form of flower. Messrs. Sutton's present "scarlet" strain is practically as good in every respect as the blues, whites and pinks.

The next addition to the large-flowered class will be the very soft yellow recently exhibited by Messrs. Sutton at the Royal Horticultural Hall, which, while certainly a great improvement

on a Continental strain of similar colouring distributed before the war, will not be everybody's flower. The habit of the plant and shape of the flower are practically identical with Sutton's *Superb White Single*—which is to say that they are excellent. Soft yellow is certainly an extremely useful colour for harmonising otherwise conflicting shades, but this is less necessary with plants in pots under glass, which may be moved about at will, than in the herbaceous border.

Quite apart from these large-flowered exhibition sorts there is quite a variety of distinct types of *Cineraria*, all of which have special merit for some particular purpose. There are tall *Star* forms and dwarf ones and cactus-flowered *Stars*. Incidentally, there is a compact-habited, large-flowered strain with cactus-shaped flowers. Of all the light, graceful forms, however, the strain called *Feltham Beauty* takes the palm for any grace and delicate colouring. The plants of this strain are more spreading in habit than the true *Stars*—they are usually considerably wider than high—the blossoms are larger, the petals broader and more even, but not overlapping, and the central disc, which is proportionately small, is white, whereas in other strains it is dark. The effect which this has on

the apparent lightness of the flower, even on the total effect of the colouring, must be seen to be believed. From a decorative point of view the *Feltham Beauty* strain is the most noteworthy of all races of *Cineraria*.

There is one other variety of small-flowered *Cineraria*—it is not a *Star*—which is very much worthy of mention; this is Sutton's *Forget-me-not Blue*. Not only is the colouring very beautiful (it is a little too vivid for a *Forget-me-not*), but the habit of the plant is very desirable. The head of blossoms is carried just high enough entirely to clear the foliage, which makes this variety much more decorative than the large-flowered sorts. There are, however, many who still cherish affection for the large-flowered varieties and for the brilliant purple and white, blue and white, and crimson and white sorts in particular. Kelway's *Perfect Model* strain of these flowers is wonderfully good and obtainable from most reputable seedsmen throughout the country.

The first half of April is not too soon to sow seeds if the plants are required to be in blossom by Christmas, for the *Cineraria* is a plant which abhors forcing. A compost consisting of three parts fibrous loam, two parts leaf-soil and one part sharp



A TYPICAL FLORISTS' CINERARIA.



THE WHITE-EYED CINERARIA, FELTHAM BEAUTY.

silver sand should suit them well. The *Cineraria* abhors a dry atmosphere, especially when accompanied by heat. Sow the seeds thinly in pans placed in a shady corner of a cool greenhouse, prick off as soon as large enough into pans or boxes of compost similar to that recommended for the seeds, and transfer them as soon as they touch into "large 60" pots. They should now be moved to a cold frame or pit facing north, there to remain until autumn. Repotting must, of course, take place as the pots become full of roots. Six-inch ("12") pots are large enough for most purposes and much handier than larger sizes, but the 7 in. ("24") size may be necessary if the plants are intended for exhibition. They should be potted firmly at all stages (but not heavily rammed like hard-wooded plants), and should not be fed at all until the flower-stems begin to shew. It is true that larger plants can be obtained by earlier feeding, but these are apt to be unduly soft, so that the flowers are weak and misshapen, the trusses loose and straggly, and the foliage becomes limp and wilts on the slightest provocation.

Throughout the period of growth shade must be afforded from the direct rays of the sun, but not from other light. A little thoroughly decayed dung and fine crushed bones may be used in the compost for the final potting. It is very important that the plants should be kept free from insect pests, especially green fly and the leaf-mining maggot. To spray efficiently under the leaves means turning all the pots on their sides, so that frequent fumigation is practically a necessity with this plant. It should not be neglected. Early raised plants are far less likely to be troubled when mature with the leaf-miner than the later batch which flowers in spring. Despite all precautions a few young plants may shew the characteristic transparent tunnels in summer. If a sharp look-out is kept, however, these are soon detected and the offenders caught. For feeding purposes an infusion of sheep dung is excellent. It should be used weak and, as already mentioned, not until the plants are mature. It may be alternated with weak soot-water.

GLORIOSA SUPERBA

If put in a warm, moist temperature in the stove, these useful bulbs grow with great freedom and produce a wealth of flowers for many weeks in succession. It is a native of the warmer climes and was introduced more than two centuries ago, and although commonly called *Gloriosa*, its true name is *Clynostylis*, a name rarely used. It may well be classed among the most useful of stove plants, both for covering trellises and for its flowers. The culture is not difficult, and anyone having a plant stove can grow it with ease. Our plants are grown and trained to wires on the back of the stove, and usually grow to the height of 10 ft. or 12 ft. In this position, though far from the glass, they thrive well and produce very large quantities of flowers. In March the bulbs are carefully shaken out of the old pots and repotted in a mixture of peat, loam and plenty of grit. The soil is for some time kept very sparingly watered, but when plenty of roots have formed, water is more liberally supplied, and weak manure-water is given at intervals during the growing period. Drainage must be good, and the pots clean and dry when the repotting is being done. We usually place four or five bulbs in 10-in or 12-in pots, and when the growing season is drawing to an end and the leaves begin to change colour, water is gradually lessened till the soil becomes quite dry, and the pots are then kept in a warm place till the following March.

H. MARKHAM.

THE "GAZEWAY"

ON the main Portsmouth Road at Surbiton Messrs. W. H. Gaze and Sons of Kingston-on-Thames and 10, Conduit Street, London, have modernised an Early Victorian house

and display there a number of very interesting ideas in furnishing which are, no doubt, intended to appeal to many tastes. Not only are various schemes of decoration carried out, but the latest labour-saving appliances are demonstrated there.

Attached to the house is some six acres of ground which, when Messrs. Gaze took over the place at the beginning of 1922, was absolutely derelict. Except for portions reserved as a nursery and for the well known Gaze hard tennis court, all this land has been laid out as model gardens.

This has been managed in a distinctly clever manner. The house itself is of considerable size and some of the gardens are of suitable proportions for a quite small villa. It needed, then, considerable ingenuity so to arrange the gardens that they should bear any relationship to the house. That the view from the house is quite a pleasing one reflects great credit on the garden-design department.

Looking eastwards from the loggia immediately behind the house, there is a perfectly plain stretch of lawn in the immediate foreground which, further back, has wide borders of herbaceous perennials, the whole terminating in a semi-circular arrangement of steps and walling, which latter supports a curvilinear pergola on higher ground. Water in the shape of a dipping well, a circular pond and a narrow rill with stone coping is also introduced, and above the dipping well the vista carries through between the piers of the pergola to the extremity of the grounds in that direction. The pergola in question is of very elegant design, but too slender for many positions. It looks quite well in the position in which it is placed. Careful inspection shews that some of the piers are genuine old stone and others modern reproductions, thus affording an interesting comparison for those in doubt which to buy.

When one comes to traverse the various formal and semi-formal gardens, the rose and moraine

gardens, herbaceous borders and children's garden, one begins to appreciate what such a range of samples would mean to the average man. Like the draper or the haberdasher, Messrs. Gaze cater for a wide variety of tastes, not only in the gardens



CASCADE IN THE "GAZEWAY" ROCK-GARDEN.

but indoors. There are so many gardens here and so many features that most people could quickly form an idea of what they wanted. Not that one can take bits of several schemes and stick them together and make a design of course, but one could describe what one likes or dislikes to Messrs. Gaze's garden architect in attendance and leave him to work out a scheme from the insight thus afforded into his client's tastes.

One of the most interesting features is the rock and water garden in the setting of greensward now generally approved.

The accompanying illustration shews the cascade in this rock garden, which is a very pleasing piece of work in itself and, considering that it was not commenced until 1922, a marvellously successful piece of planting.

Certain of the gardens are open to the objection of being a trifle banal—there is far too much crazy paving employed, for instance—but, well! Some people like crazy paving, and perhaps there is no harm in shewing what it looks like when laid. The various sorts of rectangular paving are also largely used, and it is thus easy to compare the effects produced.

ON DESIGNING A GARDEN

TO plan and make a garden is a pastime that appeals very much to most of us. The love of plants and the soil is a natural one, and the rich brown colour and clean, healthy scent of newly turned ground is delightful to nearly all of us. In larger gardens much of the work must be done by gardeners, but true plant-lovers like digging and planting, and the pleasure of seeing the results of their own handiwork.

The gardens of to-day are carefully thought out, and are generally in their results much more beautiful than was formerly the case. They may be formal or informal, stately or picturesque, as seems most fitting, but whatever the style, one should feel in any garden that its own particular character has been developed in the most effective way.

Whether large or small, any grounds should contain, in balanced arrangement, as many of the different kinds of gardens as the nature of the site makes reasonable. Some sort of formal terrace or terraces around the house are generally necessary; they are the connecting link between the residence and the gardens proper, and if not present in some form an essential feature is felt to be missing.

Of the different gardens that one may have, several may be classed as indispensable. Everyone will wish to possess a rose garden, and almost everyone will want herbaceous borders; while a collection of flowering and foliage trees and shrubs may, in spring and early summer, form some of the most beautiful and typically English scenes it is possible to have. Rock gardens are always interesting, and when well placed and well made may be very beautiful. Their site, however, needs careful choosing, for, of all gardens, a rock garden must fit happily into its surroundings, otherwise it is better far to do without it. This may be said to apply to greater or less extent to all types of garden, but a formal garden is obviously designed and made, whereas the appearance of a rock garden should arouse the feeling that it has grown there naturally and that no other sort of garden could possibly be in that place.

It has sometimes occurred to me that a great number of people miss a lot of the pleasure of garden making. They like plants of all kinds, but they like them as separate plants, and often entirely miss the added delight of putting them in their right place in the garden. In working or playing with them, whichever way you like to have it, they should, in fact, be used as an artist uses the paint on his canvas, every bit of form and every touch of colour subservient to and helping to make the finished picture. This is the way to use plants, unless you are, or wish to be, a collector, and like to see them in straight rows, each plant with every atom of its natural beauty carefully staked away. I think that even collections should be in groups and each group as big as the space allows.

Some people possess a happy instinct so far as the design and arrangement of gardens is concerned. The quality most essential to success in such work and the quality the evidence of which I have found most often missing in gardens I have visited is the sense of proportion. Many people realise this, yet I have often been asked to treat a certain area of ground, my client saying "we can go farther if necessary when this is done," apparently oblivious of the fact that to extend the gardens in any particular direction might very probably entail the alteration of every garden already made on that axial line. For the plant-lover the choosing of trees, shrubs, and

plants is an engrossing task. The choice and use of plants are inseparably interwoven. Certain plants belong to certain parts of the garden, and one feels instinctively that they could only be used in particular places and for certain kinds of planting. Shrubs, especially those of beautiful habit of growth, seldom, if ever, look well in straight borders, and, generally, the more informal the method of planting the better. As with most other plants, the greater number of shrubs should be planted in masses. To see this it is only necessary to compare the effect of a glowing bank of *Berberis Thunbergii* in autumn, a stretch of *Cotoneaster horizontalis*, or a foamy mass of *Cytisus albus* or *C. praecox* in flower, or seas of *Rhododendrons*, with single specimens of these same plants dotted in a mixed shrubbery. In fact, the difference between single plants and masses of the same thing is often so wonderful that it is difficult to believe they are the same.

Do not plant uninteresting trees, shrubs or plants. There are so many that are really beautiful that the largest garden could scarcely contain them all, at any rate in sufficient numbers to make the most effective planting. It is a sense, partly intuitive, partly the result of training and constantly observing plants, that tells us how and where to use certain plants and what kinds are best for certain positions.

Quite a large number of plants may be grown under any ordinary conditions, but no one would think of planting the *Candelabra Primulas*,

to the ideas of the person using it. Generally, however, it may be taken to mean a happy combination of formal walks, flower borders filled with old-fashioned perennials—only these should be the best varieties—clipped hedges, and, it may be, flagged terraces and walks.

As well as Old English one might give a garden the light, graceful feeling that one associates with French art of a certain period, or it can be made Italian in feeling or treated in many other ways. One may take any keynote, English, French, Italian or whatever one likes, and build upon it any number of variations, remembering always that a certain fitness of relation must govern everything one does and that there must be a *motif*—generally the architectural character of the house.

In some way one must always contrive a culminating point, which must be approached with increasing interest. From it one must go to unexpected but lesser features, being surprised and pleased to the limits of the grounds.

Between the house and its immediate terraces and surroundings and this principal feature in any set of gardens there should be a pause, as in a good musical composition one must be prepared for, and lead gradually to the point of greatest interest.

It is also interesting to take the best of whatever old work is most suitable, and by judgment and good taste make of it a beautiful adaptation for your own grounds. For a classic villa the principal outdoor feature might well be a sunk Italian garden; the classic feeling can then be repeated in the architecture of temples, pavilions



FROM ROSE GARDEN TO UPPER LAWNS AT CRANBOURNE COURT.

Japanese Irises or *Myosotis palustris*, for example, or any other moisture-loving plants on dry banks or in any position other than low down in damp ground or near water.

It would be interesting to make your gardens, or one of them, of a certain period, or to give it a definite character. What is known as the Old English style is probably likely to relate best to most surroundings, but Old English is a vague term and varies greatly in its meaning according

and other buildings, and even by the form and placing of the seats. Probably, however, gardens the most in harmony with present-day English domestic architecture, when the tendency is to have comfortable but smaller houses, are a happy union of formal and informal, without any too marked influence from older design. In such a set of gardens the formal alleys and terraces adjoining the residence, and whatever other formal gardens there might be, should merge into any

rock and wild gardens and natural groupings of trees and shrubs. Gardens entirely formal in design, beautiful as they often may be in themselves, often leave an unsatisfied feeling, as if they were in some way or other incomplete.

The illustration on the preceding page depicts

a portion of the garden at Cranbourne Court, Windsor Forest, the residence of Sir Charles Shaw, and shews the more or less natural use of trees, shrubs and lawns, and the effect that may be obtained with them.

PERCY S. CANE.

(To be continued.)

CORRESPONDENCE

PRIMULUS HYBRID GLADIOLI.

"J. L. G." would like his list of these added to. May I mention a few which I think are hard to beat? I will not include any that I have not grown for at least three years. Jewel, a daintily beautiful flower of clear salmon pink with golden yellow throat; Gold Drop, large ruffled yellow with red lines in throat; Rosalia, yellow, blushed orange, lower petals golden yellow, much the best of its particular colour, but not always a perfect spike; Topaz, an unusual combination of salmon pink and buff; Myra, a giant-flowered variety in this section, but not to be overlooked; Primunilla, always a favourite where grown, but only just coming down in price. Of the more recent introductions I think Bobolink, Eden, Nightingale, Shell Pink, Sonia and Twinkles are among the best. Of the cut and come again varieties (they are all free flowering) I would mention Faun, Linton, Rodano, Sweet Ora, Utopia and Zenobia as being particularly useful. Is the demand for these flowers increasing? Judging from a list received this (March 15) morning it would appear to be so, as several of the varieties are therein marked "sold."—G. C.

ROSE MARECHAL NIEL.

THE parentage of Maréchal Niel is usually given as follows: Raised by Pradel, 1864. Solfaterre × Isabelle Gray.—S. W. BURGESS, Tonbridge.

THE LATE REV. W. WILKS.

AT the meeting of the Council of the Royal Horticultural Society on Tuesday, March 13, Lord Lambourne spoke of the loss which the Society and the Council had incurred through the death of the Rev. W. Wilks. He said that they were meeting under the shadow of a great sorrow, for Mr. Wilks had meant much to the well-being of the Society. His great personality and his intense activity in the stormy days of the Society's early life had been of the greatest value. His ripe judgment and experience had always been at the call of anyone who wished to avail himself of them and, though he was very determined in his opinions, he never hurt anyone's feelings, and his good temper and tact even in the most difficult positions had been of the greatest possible use. Lord Lambourne then moved the following resolution, which was adopted in silence: "The Council has heard with the deepest regret of the death of Mr. Wilks, for thirty-two years secretary of the Society. It wishes to place on record its appreciation of the great work which he did for the Society and of the untiring energy with which he was always ready to further its best interests. Its members feel that they have lost a good friend, and beg to offer their deep sympathy to his relations."—W. R. FYNES, *Secretary, R.H.S.*

CODONOPSIS OVATA.

IN the issue of March 10 a beautiful illustration of *Codonopsis ovata* is given on page 124. Does your correspondent grow the far more graceful plant, variety *himalayana*? Its paler blue flowers have a beautiful combination of

white and orange inside. It is of dwarfer habit than *C. ovata*. If possible, both should be planted on an elevated part of the rock garden, near a path to allow examination of the flowers, which, unfortunately, have an unpleasant smell. The



VIOLA CALCARATA IN THE ALPS.

attraction *Codonopsis* has for slugs may be the reason it is so seldom seen in gardens—W. P. M., *Willbrook*.

THE interesting article in THE GARDEN on *Codonopsis ovata* does not mention the exquisite colour of the inside of the bell. Perhaps its unpleasant smell when bruised may explain its being seldom grown in gardens.—T. A. STURGE.

IS not one reason why this fine plant is comparatively seldom grown because it is not very long-lived in many soils? Also it is of a brittle nature and is liable to be snapped off at the base of the stem by sudden gusts of wind just when it is in full flower. Fortunately, it is so easily raised from seed that it can be readily replaced. It cannot be termed a particularly showy plant, but the exquisite colouring of the interior of the "bell" renders it one of the most fascinating of all the great *Campanula* order. The late Mr. Albert Wood (whose garden at Sutton Coldfield was so full of choice plants) used to delight especially in shewing this plant to visitors. He called it the "Oh! Flower" because he said the introduction to its amazing internal colour scheme invariably evoked an "Oh!" of astonishment from the beholder. One word of warning—do not be beguiled by the beauty of the flowers to pick them, for the broken stem of *Codonopsis* emits the most unpleasant smell, a mixture of *asafetida* and mangy fox.—N. G. HADDEN, *West Porlock, Somerset*.

THE ALPINE PANSY.

THE Alpine Pansy *par excellence* is *Viola calcarata*, surely the most variable of wildlings. Some of the forms are extraordinarily beautiful, and it is rather surprising that the plant is not more frequently found in gardens. One can find a hundred gardens which possess the Grecian *Viola*, *V. gracilis*, to every one which holds even one form of *V. calcarata*. Why is this? It cannot be because of any difficulty of culture or propagation, for it is as easily grown and increased as any of the race. Pure white, soft yellow, deep yellow, lavender and purple all are found in this species, which thus rivals the florists' *Violas* in range of colouring.—S. J. S.

[Perhaps our correspondent underrates the use

made in gardens of *V. calcarata*. So many forms of this species have been sent out as *Viola* "This," "That" or "The Other" that gardeners have become a little tired of all alpine *Violas* but the more distinct species. Readers who care to answer "S. J. S.'s" conundrum may like to explain, also, why our lovely native *V. lutea* is so little seen in gardens.—ED.]

A LOVELY CROCUS.

THAT beautiful mountain Crocus, *C. arius*, grows from 4,000ft. to 5,700ft. in Asia Minor and Kurdistan. Mr. Maw found it in quantity on Mount Olympus in 1877. In its native habitat it flowers in May, in cultivation in early February. It is nearly allied to *Crocus biflorus*, but can be easily distinguished by its red seed and rich purple blue flowers, which are shorter and broader than *C. biflorus*. A variety called *C. arius Celeste*, much paler blue, was sent me from Mr. T. Smith, Daisy Hill, Newry, in a pot, and later in the rock garden it has indeed been a fairy flower.—W. P. M.

FORTHCOMING EVENTS.

April 3.—Royal Caledonian Horticultural Society's Meeting.

April 4.—Lewes Horticultural Society's Meeting.—Wimbledon Gardeners' Society's Meeting.

April 5.—Royal Horticultural Society of Ireland Spring Exhibition (two days).—Manchester and North of England Orchid Society's Meeting.—Jersey Gardeners' Society's Spring Exhibition.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery. Where seeds were sown a few weeks ago the young plants will soon be ready for pricking off in frames about 6 ins. apart. The frame should be placed on a hard base; a few inches of rotten manure laid in the bottom and covered with a layer of old potting soil or similar material. Make it fairly firm, and if at all dry give a thorough watering the day before the planting is done. Keep the lights close for a few days and shade the plants if necessary, but once they are re-established admit air freely, and finally dispense with the lights altogether. The seedlings must be hardened off before they are transferred to the cold frame.

Mushrooms.—Very few people dislike the Mushroom, and where it is possible to collect the necessary manure from the stables a bed should certainly be made. The droppings should be collected while fresh and with as little straw as possible. They should be stored in an open shed until the requisite quantity is obtained, when they should be turned over every second or third day until the rank fiery heat has escaped. Two or three cartloads will make a tolerably good bed, which should be about 4 ft. wide and 2 ft. or 3 ft. deep with a slope to the front. The manure must be trodden and beaten with the back of a spade to render it quite firm, and during the first few days the temperature will be high. This must be allowed to subside, and when the thermometer registers 80° or so the spawning should be done. The bricks of spawn should be broken into pieces about the size of a hen's egg and pushed in the manure at intervals of 5 ins. or 6 ins. The spawn should be only just covered with manure, and in a few days the bed given a thin layer of fine loam. A liberal sprinkling of clean straw will also help to keep the bed warm. An old shed or similar structure from which light is excluded will be ideal for Mushroom growing. Moisture is important, and when the bed is dry it should be sprinkled over with tepid water.

The Flower Garden.

Border Chrysanthemums.—Stock plants that have been stored in cold frames may be divided into small pieces and potted up or planted in the borders. Single shoots with roots attached may be potted off singly, and if more stock is required a batch of cuttings should be inserted. If sandy soil is used, the cuttings will readily form roots in a cold frame. For producing a quantity of cut flower in late autumn these Chrysanthemums are most valuable, and five or six good varieties should be grown.

The Rock Garden is now beginning to be most attractive, and where plants have failed they should be replaced. A few of the bare places could be filled with annuals, and the following are suitable: *Linum rubrum*, *Phacelia campanularia*, *Phlox Drummondii*, *Lobelia* and other dwarf-growing plants. It should, however, be borne in mind that annuals are only employed as a temporary effect until their stations can be filled with true alpine. The general work consists of keeping the rock garden free of weeds, preventing the more aggressive plants from overcrowding their choicer and smaller neighbours, and seeing that none suffers from drought during a spell of dry weather.

Fruit Under Glass.

Peaches and Nectarines. The late trees will have set their fruits, and these must be thinned at once. First of all remove deformed specimens and others where they are exceptionally thick. The young shoots will also require attention, but both disbudding and thinning of the fruit must be done gradually or the trees will receive a check. Admit air freely when the weather is favourable, and well spray the trees twice daily, closing the ventilators about three o'clock. The borders must be examined occasionally to ascertain the condition of the soil, because the surface may be wet from the damping down, but underneath the soil and roots may be dry. When such is the case a thorough soaking is the remedy. Keep a sharp watch for green and black fly on the young growths, as these pests do a lot of damage in a few days. If present, vapourise the house lightly or spray with a reliable insecticide.

Orchard-House. In this structure a miscellaneous collection of plants may be grown, and at this time most of the fruit will be set. During bright weather the trees should be syringed twice daily, first in the forenoon and again about three

o'clock when all the ventilators are closed. A moist, growing atmosphere is thus maintained, a little air being admitted in the morning before the sun raises the temperature excessively. Peaches will need disbudding, and a watch must be kept for grubs and caterpillars in leaves and shoots of Plums, etc. Pot trees will take a copious supply of water, and on no account ought they to become dry at the roots.

The Hardy Fruit Garden.

Wall Trees.—The soil around the base of these trees becomes more or less hard through the gardener treading on the ground when pruning, and it will be advisable to prick it over lightly with a fork. A mulching of manure may then be given. Should the weather prove dry, trees growing against walls will need a thorough watering. This is often overlooked, and much of the fruit fails to develop.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cauliflowers.—Autumn-sown Cauliflowers may now be planted out in all but the very cold districts. A ring of soot or sand placed round each plant will keep slugs at bay, a necessary precaution at this early date when food is scarce. Cauliflowers resulting from seed sown indoors in February should now be hardened off in a cold frame. Sow now in the open for succession. Early Erfurt or Early London, with Walcheren and Veitch's Autumn Giant, will keep up a succession till the end of the season.

Broccoli.—The variety Purple Sprouting will now be turning in, to be succeeded by the white varieties. Sow now for next season's crop. The following can be recommended for the various periods: Veitch's Autumn, Osborn's Winter, Veitch's Model and June Monarch or Methven's June. A sowing of Asparagus Kale (Buda Kale) should also be made for spring use.

Peas.—Continue to make fortnightly sowings of some maincrop variety. Where a 5 ft. variety is not objected to, The Gladstone can hardly be excelled. Of dwarf varieties Sharpe's Queen can be recommended. Sow Spinach between the rows.

Beet.—It is too early to sow the main crop, but a small sowing of a globe variety should be made for early use.

Cucumbers.—Regulate and tie the early batch, and pinch the laterals after the first joint beyond the fruit. Make a sowing for growing in frames on a slight hot-bed after the frames have been cleared of the bedding plants.

Vegetable Marrows.—Seed should be sown in moderate heat. Moore's Cream is a small variety of superior quality and Long White is a reliable large variety.

The Flower Garden.

Bedding Plants should now be transferred to cold frames, keeping the frames rather close for a week, after which the ventilation should be gradually increased according, of course, to climatic conditions.

Alyssum.—Such varieties as Little Dorrit or Sutton's Mimosa are indispensable for edgings, and now is the time to sow in a cool house. Sown in heat they become "drawn."

Pentstemons.—There are now many superior varieties in cultivation, hence their great popularity. The sooner they are planted out now the better. Whole beds, whole borders or drifts of them are more effective than single lines or small patches.

Gladioli. Dormant corms may now be planted with all safety. There is a great choice in these attractive autumn flowers. The primrose-section with its large-flowering hybrids is now very popular. Some of the large-flowering section are somewhat expensive for massing, but for this purpose there are such moderate-priced varieties as *branchleyensis*, *Hollandia*, the pink *branchleyensis*, *Ambera* (pink), *Braunstone* (light yellow) and *Childs* in mixture, a superior class. They may be planted in masses or planted in beds rather sparingly with a groundwork of something more dwarf.

Fruit Under Glass.

Melons. Where seeds were sown in February the resultant plants should now be fit for planting

out. A fairly heavy but fibrous loam suits the Melon best, and to this should be added about a fourth part of horse droppings plus a little bone-meal, also some old lime mortar if procurable. The compost should be left a week before being introduced to the melon-house. When placed in position it should be packed rather firm. Each plant should be planted on a slight mound or on a couple of turves placed grassy side down laid on top of the bed. These means are used as a preventive against canker at the neck, which often attacks the plants. Allow the soil three days to get warmed before planting. Maintain a temperature of 70° to 75°, which may be considerably exceeded with bright sunshine. See that sufficient atmospheric moisture is supplied by damping the pathway and syringing with tepid water when closing down the house. Sow now for succession in frames if a succession crop is desired. If it is intended to plant a second crop in the same house, sowing should be delayed for a few weeks.

Late Vines.—As the laterals extend tie them down by degrees, as they snap readily if bent too far at once. Stop the laterals after the second joint beyond the bunch. Stop sub-laterals beyond the first joint and do not allow more than one bunch to develop on any given shoot. The crop as a whole will probably have to be thinned out, the number of bunches to be retained depending upon their size. Where large bunches are to be used for exhibition purposes their number must be reduced to three or four at most.

The Orchard-House.—Unless early results are desired, very little fire-heat need be applied now. Attention must be given to thinning the young shoots and also the various fruits as they develop. Both operations should be carried out gradually so as not to give the trees any material check. Ventilate freely, but avoid draughts.

CHARLES COMFORT
(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Gerbera Jamesoni and the many beautiful hybrids are excellent for a supply of cut flower. They are easily raised from seed at this time, as they germinate readily in an intermediate temperature. In their younger stages they enjoy such a temperature, although as they increase in size they grow well in an ordinary greenhouse. They thrive best in a compost of light loam with a little leaf-soil and sand. For their size they require fairly large pots, 6 ins. being suitable. Generally speaking, they must be regarded as greenhouse plants, although in the South and West they do very well planted out in a warm border at the foot of a wall. They do best when planted out, and if there is a suitable position in a greenhouse they should be thus treated.

Campanula isophylla and its varieties alba and Mayii are very useful for the greenhouse during late summer and autumn; they all make excellent plants for medium-sized baskets. They are splendid window plants, and as such are generally grown by cottagers; in fact, the finest examples are usually seen in cottage windows. If not already done, they may be propagated at this time by means of cuttings, which root readily in a case in an ordinary greenhouse. During all stages of their cultivation these plants should be grown under perfectly cool conditions.

Campanula fragilis also makes a pretty basket plant for the cool greenhouse, and may be readily raised from seeds or cuttings.

Campanula garganica and its variety *hirsuta*, although they will succeed in the rock garden, are worth growing in large pans for the small unheated greenhouse. They grow freely in good medium loam with plenty of grit added, and are easily propagated by means of cuttings.

Amphicome Emodi.—This plant with its graceful foliage and beautiful rose and yellow flowers is excellent for a cold greenhouse. Like many other beautiful plants, I am afraid it is somewhat scarce in gardens at the present day. It may be increased by means of seed or cuttings, the latter rooting readily in a close case with slight bottom-heat, or even in a cold case, when the process is somewhat slower.

Amphicome arguta is a larger-growing and somewhat harder species. Although by no means such a choice plant as *A. Emodi*, it is worth a place in an unheated greenhouse. Both species grow well in a sandy loam with some leaf-soil and sand added.

Angelonia salicariaefolia and its variety alba are slender, graceful plants worth growing for the greenhouse. They are easily raised from seed



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at this time. As these plants are slender, growing they should be stopped once to cause them to break, or three plants may be grown in a pot. If good specimens are required, they should be potted on into 6in. pots, although useful plants can be grown in 48-sized pots. These plants grow quite well in any ordinary potting compost, and may also be propagated by means of cuttings.

Anomatheca cruenta.—This pretty little South African bulbous plant, although fairly hardy in warm borders at the foot of a wall, is well worth growing in pots or pans for a cold house. It increases very quickly and about this time the plants may be turned out of their pots, divided up and repotted. It grows freely in sandy loam with some leaf-soil added to the compost. The plants may be grown in a cold frame until they reach the flowering stage, when they should be removed to the house. They ripen plenty of seeds, which germinate freely and thus afford a ready means of increase. There is also a very pretty white variety.

Blandfordia is a beautiful genus of Australian plants which I am afraid are poorly represented in gardens at the present day, with the possible exception of *B. nobilis*. They are by no means easy plants to grow successfully, although only requiring ordinary greenhouse treatment. They should be potted in a compost consisting of equal parts good medium loam and fibrous peat, with some coarse clean sand added. After repotting the plants should be very carefully watered until they become established. During the winter they should be kept on the dry side. They may be propagated by division or from seed.

Cantua buxifolia (syn. *B. dependens*) is a very beautiful greenhouse climber, well adapted for training to a rafter or wires under the roof glass. In the West of England this plant succeeds in sheltered position in the open. The plant is very subject to attacks by red spider, which may be prevented by a free use of the syringe. It is easily propagated by means of cuttings under a bell-glass in a cool house, the plants growing well in a good medium loam with leaf-soil and sand added. The sites where they are planted out should be well drained.

Royal Botanic Gardens, Kew. J. COULTS.

A Pretty Woodland Plant.—For a cool corner in well drained loam the little Japanese *Tanaka radicans* is delightful. From its rather sparse tuft of leaves, which are dark green and leathery, and large for so small a plant, it sends up in full summer 4in. to 6in. stems, each of which breaks into a spray of white flowers like that of some diminutive *Spiraea*. *T. radicans* spreads by means of underground runners, and where it is thoroughly satisfied with the conditions will soon cover a considerable space. This, however, is one of those plants which are more apt to sulk than to die. Though not difficult, it appears to be exacting in regard to situation. By moving it about one can generally manage to hit upon a place that will give it what it needs, and it is well worth the trouble.

Loganberries are not nearly so much grown by the amateur as their merits deserve, for they are excellent for cooking and preserving. Moreover, they are in season when small fruits are more or less scarce. The shoots will grow to a good height, so, to secure the best results, fairly high supports are needed, and nothing is better than a few stout poles with wires at intervals of 2ft. or 3ft. The pruning should be done after the fruit is gathered, but often it is left till this time. This pruning consists of cutting out the old growths and replacing them with new shoots, of which there are usually ample. There are a number of these berries in commerce, while the Blackberries ought not to be overlooked where there is space to grow them.

Dipelta floribunda.—This is one of the newer Chinese shrubs, and it is still somewhat rare in our gardens. It is a deciduous species, making a bush up to 5ft. or 6ft. in height and probably more in favourable situations. It has proved a good and easy doer in a warm loam and seems perfectly hardy. In leafage and habit it bears

some resemblance to a *Philadelphus*, but the flowers, produced in early summer, are tubular, nearly 1½in. long and about ½in. wide at the prettily lobed mouth. In colour they are a clear bluish or pale rose, with an orange throat. They are freely produced at the leaf-axils and very fragrant. There is little doubt that *D. floribunda* is a fine lover.

Hybrid Mimuluses. For culture indoors one or two hints will suffice to put cultivators on the high road to success. Whether stock is raised from seed or cuttings, cool culture from the start is by far the best. During the young stages, while greenhouse or frame protection is necessary, it should be contrived by some means to keep the plants well up, as close as possible to the glass. Thus a short stocky growth will be ensured. For potting, a compost consisting of fibrous loam, sharp sand and a little of either well seasoned cow manure or sheep manure will suit admirably, and the plants should be potted on to 48-sized pots before the smaller sizes are quite filled with roots. As soon as the first buds appear liquid manure may be given, adopting the good old plan of giving the stimulant weak and often rather than attempting high strength. Always allow free circulation of air, and from the time the first blossoms fall continually pick over to remove seed-pods and stems that are becoming exhausted. By these methods plants have been had continuously in bloom from early May to the end of September and even into October. Last year, in fact, some of the same plants were shewn at the Holland Park Rink Show as were staged at Chelsea.

Styrax Hemsleyana.—To connoisseurs of hardy trees and shrubs, the genus *Styrax* is already known by two Japanese species of remarkable beauty—*S. japonica* and *S. Obassia*. To the latter, *S. Hemsleyana*, a new species brought from China about fifteen years ago, bears most resemblance. Messrs. Veitch shewed a small tree at the International Exhibition at Chelsea in 1912. Its pure white flowers are about 1 inch wide, and its racemes are 6 inches or so in length; its leaves are 3 inches to 6 inches long, and about two-thirds as wide. It is a small deciduous tree which Mr. Wilson said he saw in China sometimes 20 feet or a little more in height. The *Styraxes* like to be given a permanent spot early, for they do not relish root disturbance. At the time of planting they may have a little prepared compost of peat and leaf-soil mixed with the soil put about their roots for them to start into; after they are established the roots can spread into the ordinary soil of the garden. Shrubs of such exquisite beauty as these deserve a little initial care. Probably the finest plant in this country is in Mr. J. C. Williams' garden at Caerhays, in Cornwall. It is about 12 feet high.

The Midland Daffodil Show.—We understand that this famous show will this year take place at the Botanic Gardens, Edgbaston, Birmingham, on Wednesday and Thursday, April 18 and 19, when a good display is anticipated.

R.H.S. Daffodil Show.—Readers are reminded that there is this season a Daffodil Show run entirely by the Royal Horticultural Society's Daffodil Committee, which, in fact, amounts to much the same thing, from a practical point of view, as a National Society. The schedule is a very good one, and there are classes suitable for the amateur with a small collection. The closing date for entries is April 7, and the Show is on Thursday and Friday, April 12 and 13, 1923. Schedules may be obtained from the Hon. Secretary to the Daffodil Show Committee, Mr. Herbert Smith, Fenby Street, Birmingham. Everyone interested in Daffodils should make a point of supporting the show by staging an exhibit.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SOME SUITABLE PLANTS FOR A NORTH BORDER ("Lark").—*Violas* should do well in the north aspect; also herbaceous *Anemones*, Foxgloves, Solomon's Seal, *Aquilegia*, Saxifrage, Pansies, Mignonette, Fuchsias and early-flowering *Chrysanthemums*. Raise a stock of Primroses and Polyanthus now in readiness for autumn planting and Narcissi. Be careful to avoid overcrowding of the plants and so secure more sturdiness of each specimen. Only a small quantity of well rotted manure will be needed. To fill gaps plant a few *Asters* and Stocks.

FOLIAGE PLANTS FOR WARM, DRY BEDS (L. M. S.).—A few of each of the following kinds of foliage plants would be suitable for association with flowers in the garden, namely, *Cannas*, green and dark leaved; *Ricinus* Gibsoni (Castor Oil Plant); *Nicotiana glauca* (Tobacco), white, fragrant flowers, too; and *Centaurea* for the outer parts of the beds. The berry to which our correspondent refers is, undoubtedly, the Lowberry, the result of a cross between the Loganberry and the Blackberry. The growth is similar to that of the Loganberry, and there is no hard core; it is darker in the fruits than the Loganberry and has the flavour of the Blackberry.

RENEWING SOIL FOR GLADIOLI (G. H., Surrey).—It is always best to prepare the soil for the corns in the autumn. As this cannot be done in our correspondent's case, the manure used must be well rotted. Of the decayed vegetable refuse from the old marrow-bed use liberally, of leaf-mould moderately; no fresh cow or donkey manure, but a small quantity of the older cow droppings. Do not use freshly slacked lime, but about 1lb. of old exposed lime or 2lb. of lime rubble per square yard will not be injurious to them, nor to *Hyacinthus-candicans*. If the soil is clayey or inclined to be heavy in nature, add wood ashes freely—a 6in. potful per square yard. Also add any gritty material and a handful of dry, coarse sand round each corn at planting-time. In all cases the wood ashes are beneficial.

THE GREENHOUSE.

TREATMENT OF INDIAN AZALEAS (E. S.).—The method of culture followed seems to be quite correct. The aim should be to encourage the plants to make plenty of new growths, as it is these which produce the flowers the next year. Sometimes plants flower profusely in alternate years, using the intervening years to make new growths. Perhaps our correspondent's plants flowered well last year. If the plants do not make good growth, they may need repotting, not necessarily into larger pots, but a fresh compost of peat, leaf-mould, coarse sand and lime-free loam should be used if available.

MISCELLANEOUS.

HOW TO DISPOSE OF OLD TINS, CINDERS AND ASHES (J. W. W.).—A hole of moderate size will contain many tins if these are first flattened, and bottles if they are broken up. All such refuse should be buried quite 18in. below the surface. The ashes will certainly prove useful on the garden paths. It is always wise on the part of the owner of a garden to have, in an out of the way corner, a fire occasionally to reduce to ashes weeds, old stacks and rubbish generally, as the ashes are beneficial to the crops if returned in that form to the soil, and the cinders will help in the burning of the refuse.

VARIOUS QUESTIONS (I. W., Edinburgh).—Possibly, late planting followed by the flowering of the bulbs may account for the subsequent weakening and non-flowering of the *Narcissi* bulbs the second year. Early planting—in September if possible—and allowing the bulbs to remain in the soil for three years should be the course followed; the foliage must not be removed till it has browned and matured. A judicious shortening of the lower leaves of the *Tritomas* will not prove harmful. Crown Imperials ought to thrive well in Edinburgh. They should be planted in a fairly moist soil in the autumn. The plants are hardy, but if frosts damage them insert a few green boughs, such as fir branches, among them. Perhaps the roots of the Holly bush rob those of the Glory of the Highlands (if *Tropeolum speciosum* is referred to) too much. The plant thrives best in a north aspect and does well when established. We advise trying a fresh position and to protect the roots from frost.

NAMES OF PLANTS.—M. B. J., Somerset.—*Rhododendron Christnae*—Cheer.—C. B. K., Reading.—*Cornus capitata*.

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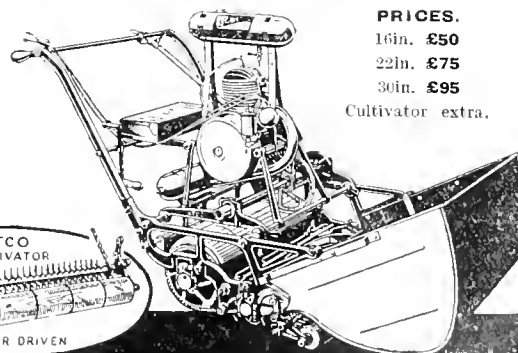
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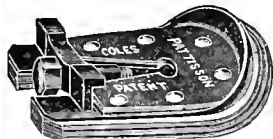


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FIG. 2 (Wetted Pattern).



FIG. 2 (No Wet Pattern).

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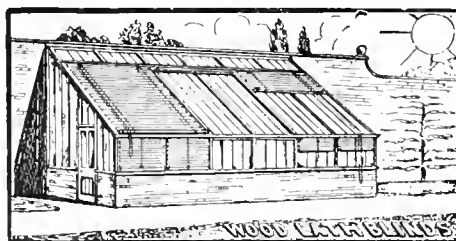
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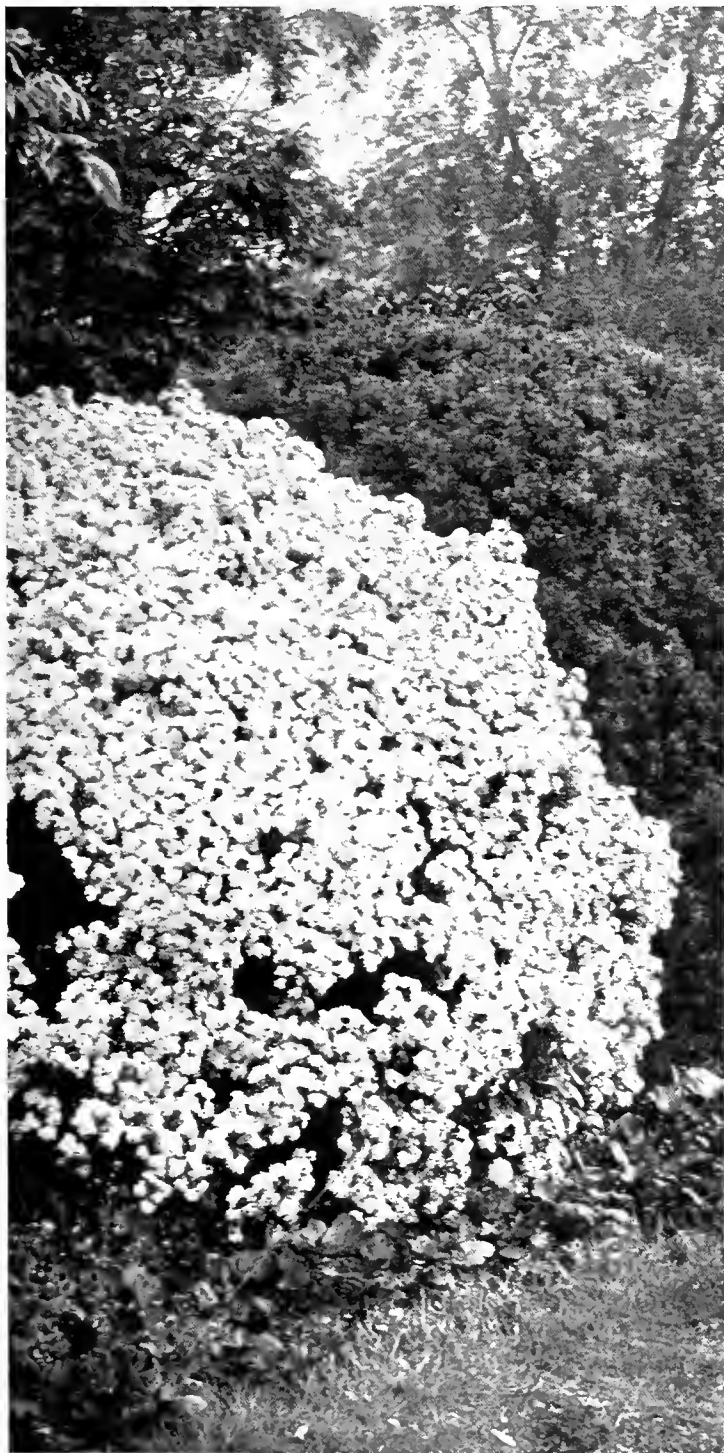
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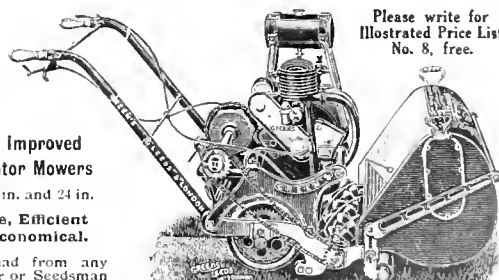
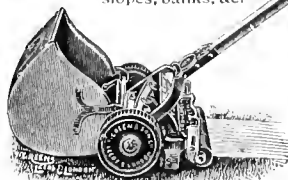
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No. 2681.—VOL. LXXXVII.]

[APRIL 7, 1923.]

INTERESTING SPRING-FLOWERING BULBOUS PLANTS

IT is astonishing what a wealth of garden beauty is practically unknown to the great majority of garden owners. Granted that a very large proportion of plant-lovers have very small—too small—gardens, it is none the less remarkable that there is such a comparative scarcity of many interesting species and even genera in private places. This is as true of spring-flowering bulbous plants as of any section of hardy plants. Daffodils, Florist' Tulips, Hyacinths and Dutch Crocuses are to be found in practically every garden, but when we come to the very beautiful and interesting little Daffodils of the Hoop-Petticoat, Angels' Tears and cyclamineus sections, to mention but three, in how many gardens can we find them?

How often does one see even the commonest of the species Tulips growing, or species Crocuses for that matter? All the Fritillarias and Erythroniums are really uncommon. There must be many thousands of gardens of some size in which even our beautiful native Snakeshead, Fritillaria Meleagris, is wanting, and the same may be said even of the common Dog's Tooth Violet, Erythronium Dens-canis. The glorious sky blue Muscari Heavenly Blue is still a catalogue name to many, and even the old Grape Hyacinth, Muscari botryoides, which was fairly common in Victorian days, is now almost a rarity.

Of the small Narcissi, none is more interesting than the forms of the Hoop Petticoat Narcissus, N. Bulbocodium, but as these were described as recently as the issue for March 17, page 130, there is no need to cover the ground again.

Besides the Bulbocodiums and the Angels' Tears, there are such tiny and beautiful species as N. minimus, a perfect little trumpet Daffodil which scarcely exceeds

jins, in height. This little charmer does admirably in the heath garden, or, in peaty soil, it will flourish on a rocky bank. N. nanus is a giant by comparison with the last, yet it scarcely ever grows taller than Gins. The blossoms are a deep golden yellow, and it is very effective among short grass on banks or mounds.

Of Tulip species none is easier or more beautiful than T. Kaufmanniana, an April-flowering kind of very variable colouring, but, as generally sold, soft creamy yellow tinged on the exterior with pink. T. Greigi, also April-flowering, is also fairly easy, though it seldom increases to any extent. This is a large-flowered species with brilliant vermilion blossoms; the leaves are handsomely blotched with purplish brown.

The wild species which is the parent of the May-flowering Darwin Tulips, T. Gesneriana, is admirable. It is, as might be expected, a tall grower, and the brilliant crimson-scarlet blossoms, each with a conspicuous black zone at the base, are sweet scented. T. dasystemon is a pretty little species very distinct from any of the florists'

Tulips in that it habitually bears several flowers on a stem; strong bulbs will produce as many as seven. The blossoms, in their garb of yellow edged with white, remind one of that brilliant Californian annual, Linum Douglasii. T. persica also bears two or more blossoms on each stem. This is a dwarf species, and the bright yellow flowers, which are bronzed externally, are fragrant. It is best, therefore, in the rock garden and not too far from the eye. Tulipa sylvestris is a native of Britain and worth growing for its fragrance alone. In colour it is pale yellow, touched at the edges with red. There are a great number of other Tulip species, but these should suffice for the beginner to try.

When we come to the Crocus species, considerable selection is necessary, for an article could easily be written upon this topic alone. Crocus Sieberi is a Grecian species of bright lilac colouring in the typical form, with orange at the base; but the natural variety, versicolor, has a wider range of colouring—white, purple and lilac being mottled and striped above the orange base. This form

is illustrated on page 168. Crocus Imperati is one of the largest of the species Crocuses, yet, if size be a desideratum, it falls short of the Giant Dutch sorts. There is a beautiful clear rose form and also a pure white. This is quite one of the best of the very early-flowering species. Crocus Tommasinianus is one of the most beautiful and useful. It flowers just before C. vernus and the Dutch varieties raised from that species. In its most usual form it is what Mr. Bowles calls amethystine-violet, but there are deep purple and pure white varieties as well as one called pictus with dark blotches at the petal-tips. There are numbers of other spring-flowering species and several good



ONE OF THE CHARMING HOOP-PETTICOAT NARCISSI, N. BULBOCODIUM CITRINUS.



NARCISSUS JOHNSONI, A BEAUTIFUL NATURAL HYBRID (N. PSEUDO-NARCISSUS X N. TRIANDRUS).



LILAC, WHITE AND PURPLE, ORANGE CENTRED—CROCUS SIEBERI VERSICOLOR.



THE BEAUTIFUL BLUE MUSCARI-LIKE HYACINTHUS AZUREUS.

common flowering ones all easy to grow and beautiful. Of the white, probably *C. speciosus*, a rich bluish purple hue with a touch of gallant orange provided by the stigmata, is the best.

Fritillaria Meleagris, the Snake-head, still to be found wild in some of our English meadows, is equally easy in turf land or in garden soil. It does not like too hot a situation, but will grow and increase on banks facing east or west, and does not disdain the light shade of deciduous trees. It will flourish on light sandy soils, but probably prefers a moderately grassy loam. When the quaintly-spotted bells reach a height of 2ft. or more, as they will easily do when happy, this is a most effective plant. It is also excellent for cut flower. There are now quite a number of named varieties, but those who have never grown the Snakehead would be well advised to try the typical plant and its even commoner white (or whitish) variety first. Afterwards stock can be rapidly increased from the seeds which are produced in such abundance. Of the other *Fritillarias* we may neglect the Crown Imperials (*F. Imperialis*), since everyone knows them, though, strangely enough, they are little grown nowadays.

F. aurea is a pretty little kinsman of our native Snakehead, but dwarfer growing, and the blossoms are pale yellow spotted brown. *F. Burnetii* is a very early-flowering species with plum-coloured blossoms chequered yellowish green. *F. latifolia*, except for its broader foliage, is very like the Snakehead. There is a number of named varieties, and it may be naturalised as easily as the Snakehead. *F. recurva* is a species with bulb scales like those of a Lily. The whole genus is very nearly related to the true Lilies. The species under notice is late spring flowering and has bright crimson blossoms on slender purplish stems. It likes a warm, sheltered situation, and is not so easy to grow as are most of the species. The Golden Snakehead, *F. Moggridgei*, is beautiful when naturalised in grass, or it may be grown in the rock garden. An alpine species, the flowers are large and golden yellow, chequered brownish crimson on the inside of the bell. *F. pubera* is another charming species, like *F. recurva*, a native of California. It likes a warm corner to ripen the bulbs, and will then produce its golden yellow flowers abundantly. It is quite a dwarf species. There are, of course, other interesting *Fritillarias*, but these few will suffice to start a collection.

Comparatively few gardeners have any conception of the beauty of the better *Erythroniums* when naturalised, for in suitable soils and situations naturalise themselves they all will. Perhaps *E. revolutum* is the most useful species. Some of the forms of this are magnificent and easy to grow. White Beauty has self-coloured flowers of a delightful buttery-cream tone with all the finish we expect in the lily family. The blossoms are not seldom pins, a rosette and when established the flower stems are often more than a foot in height. No one who has only seen this plant as a pigmy specimen in a small pot at a Royal Horticultural Society's meeting can form any conception of its beauty in the garden. This, indeed, applies to all the American species and varieties. Other good forms of *E. revolutum* are Johnsoni, clear pink, and Watsoni, cream colour with a rosy zone. *E. Pink Beauty* is a fine rosy pink sort which makes an excellent companion to White Beauty, but is obviously not very closely related. *E. americanum* is a pretty, clear yellow species with red spots, but not free to flower. The soft yellow and orange *E. Howelli*, rather a rare plant at present, is more floriferous. All in this country like at least half shade and a compost consisting largely of leaf mould. They may easily be naturalised in the rock garden or, of course, in "coppy" parts of the wild garden.

FURTHER FREESIA NOTES

DUDS."—I was every bit as glad to read Mr. Dalrymple's notes on March 17 as he was to read mine. I am very hopeful about our getting the better of "duds," and I fancy we have got to realise that a good baking in their pots is not a sufficient preparation in itself and the after-care of the bulbs also must be attended to. They need to be kept warm and dry until they are planted. The experiment I made last autumn has given satisfactory results. Realising what a cold and sunless ripening season the corms had had, quite late on in the planting season, I put some third-sized "mixed" in a warm, airy cupboard where they remained for weeks. They were in due course planted, and at the same time an equal number that had remained in their boxes in the greenhouse. The result is very striking. While the pots with the non-heated ones are full of "duds," there are only two or three in the others. This experience is worth following up. Alas! I can cap the worse record of my own bulbs with as bad or even "worse" from some received from Dutch and English firms (not from

a Byron and awake one morning and find oneself famous, but when the reverse is the case the less said the better. This last lot is that of Daddy-long-legs. When that variety flowered in 1921 practically all the stock was a wash-out. Only a very few flowers remained unblotched and unmarked—and such hideous markings and blotches! Daddy-long-legs is now a memory only. These mauve and lavender coloured varieties are tiresome things. Here to-day and gone to-morrow. I have got a truly astonishing mauve—an altogether super-Freesia—which without any pressing out measures from 2½ ins. to 2½ ins. across its perianth; but what says latter experience?

"Dame Fortune is a fickle gipsy

Sometimes for years and years together
She'll bless you with the sunniest weather,

Then in a moment—Presto, pass!—
Your joys are withered like the grass."

Can anything be done to prevent this? Are

Then as to whites. We will before very long have varieties which will leave *Purity* and *retracta alba* far behind. Thanks to a present from America I have got a splendid new race of whites—very tall, very vigorous, very floriferous and very large in flower. Probably what I have got others have too, hence I think an advance all along the line may confidently be expected. This year one of my tip-toppers had six flowers larger than half a crown open at once. I am afraid pink and rose shades are going to be the weaklings of the *Freesia* family. The contrast between my batches of new seedling yellows and whites and the new seedling pinks and roses is very great. These last look poor and small behind their more robust brothers, and they do not improve with age. True there are exceptions which prove the rule. *Conquest* is one of them. It is a delightful variety. So, too, I used to think *Rosa Bonheur*, but I have not grown it for some years.

I wonder what *Bartley Rose* is like. I saw it when it got its award in 1910, but I have no very clear picture of it in my mind. None of these three is as near a true pink as *Pinkie* (A.M., 1910), but *Pinkie* is not what one would call a particularly good doer. My seed pans have sent up a large real pink this year far beyond my extreme flights of fancy. Will the plant prove healthy and strong? Will it keep a self? *Experientia docet*. I must possess my soul in patience and try to keep calm. JOSEPH JACOB.



ON THE LEFT, REV. J. JACOB'S YELLOW FREESIAS; ON THE RIGHT, A DUTCH "GOLDEN" FORM.

Mr. Dalrymple). Another point that needs consideration is whether some varieties are more to given "dudding" than others. While my beautiful big pale primrose, *Primrose Day*, so far has been free, there are one or two which produce far too many. They were practically without them after the hot summer of 1921. Yet another thing that I have noticed and which I think is worth mentioning is that very few are to be found among seedlings flowering for the first time or among the smaller offsets of older bulbs.

ON "BREAKING."—On the whole I seem to agree with Mr. Dalrymple, but not when he condemns the loose, open flower. I conclude he means those of the type of my Daddy-long-legs, which received an award of merit on March 11, 1919, and which attracted a large amount of favourable attention because it marked a novel type of flower. It is very nice, no doubt, to be

there any mauves or pinks that are immune? These are important questions. At the same time let me say that I think some of the broken forms are "quite all right" and are likely to find favour in the eyes of the public.

VARIETIES.—I have grown all the yellows I could get together this last year, and my verdict is, "Very disappointed." *Goldfinch* and *Golden King* are too tubular and very small. *Daffodil*, *Apogee*, *Buttercup*, *Treasure* and *Success* are too much alike for all to be wanted, and are very little more than deep primrose in colour. Nevertheless, they are decidedly attractive; but to call *Daffodil* "bright yellow and orange" and *Success* "uniform deep yellow" are rather stretches of the imagination. Not one goes in depth of colour beyond the primrose yellow which describes *Apogee* and *Buttercup*. No one has seen my *Flame* and *Yellow Emperor* or they would know what I call a yellow

EDITOR'S TABLE

SOME NEW LACHENALIAS.

FROM the Rev. Joseph Jacob, Whitewell Rectory, Whitechurch, Salop, came to hand recently a goodly number of spikes of new *Lachenalias*. There were eight varieties altogether, of which the following is a brief description: *LEIDEN* is deep orange flushed with scarlet at the apex, the stem beautifully spotted; the spacing of the bells is excellent, and altogether this is a remarkably handsome variety. *AFRICA* has a golden tube (small compared with the last) edged at the mouth with brown; the sepals are lightly tipped green and the stem is slightly maculated. *JAPAN* is golden yellow and green, the sepals heavily flushed with orange scarlet; this variety is much in the way of *L. tricolor*. *MONTE CARLO* is much like the last, but the tube is tipped with brown and the flush on the sepals lighter.

TANGIER is a flower of different calibre altogether. The blossoms are soft golden yellow, edged bronzy plum; the petals open out much like those of a *Bluebell* and the stem is much maculated; there are comparatively few bells to a spike, but this is, none the less, a very remarkable addition. *WINDSOR* is much in the way of the last, but the flowers are arranged more to the top of the spike and the sepals are distinctly tipped green. *MANDALAY* is almost a deep golden yellow self, but the bells are touched with scarlet at the apex; the blossoms are very large, well arranged and open-throated, and have very beautiful and conspicuous chocolate stamens. The stems are heavily blotched brown. *SIAM* has waxy golden yellow flowers, the tube fairly expanded at the mouth; this is a green-stemmed variety.

As far as it was possible to judge from the cut spikes, the four outstanding varieties are *Leiden*, *Tangier*, *Mandalay* and *Siam*. All four represent a great advance on anything yet seen in *Lachenalias*.

THE MECONOPSIS FAMILY

THIS popular genus is now known to consist of over forty species, several of which have been introduced into cultivation during the last twenty years.

All but two are found in the Himalayas and on the mountain ranges of Western China and Tibet. Of the other two, one, *M. cambrica*, is the well known Welsh Poppy, one of the few perennials in the genus; the other, *M. heterophylla*, is a Californian annual. Of this number quite half have been or are now in cultivation in this country, but as the majority are biennials and do not set good seed freely in many places, only a few have become in any way plentiful in gardens. Till the yellow-flowered *P. integrifolia* was introduced from Western China, the Himalayan *P. Wallichii* was first favourite with its drooping blue flowers, and it possibly still holds that position in spite of the new arrival.

With the exception of the Californian annual and the Welsh Poppy, all the species are high alpine plants, found at elevations of 10,000ft. and over. *M. horridula* enjoys the distinction of being found at the highest altitude, which is 17,500ft., both in the Himalayas and in Western China. From these altitudes to our sea level conditions is a far cry, and it is no wonder that many of these attractive plants are difficult to grow and refuse to become acclimatised. The best we can do is to give them a shady or partly

shaded position, planted in rich, moist and thoroughly drained soil. This should consist of good fibrous loam, to which may be added a generous proportion of peat and leaf-soil with plenty of sand to keep it open. Some species, like *M. Wallichii*, prefer more peat than others, while *M. integrifolia* likes good loam with plenty of manure beneath. A selection of the best species in cultivation is given below in alphabetical order.

M. ACULEATA. This species is a native of the Western Himalayas, from Kashmir to Kumaon, growing at elevations of 11,000ft. to 15,000ft. It first flowered in this country in June of 1864. It is a biennial, producing the first year a rosette of prickly hairy leaves having a sinuate margin. In the following May a 2ft. stem is formed, bearing on its full length the beautiful large flowers singly on long stalks. In the best forms the flowers are a good blue, some 2ins. across, the beauty of the blossom being enhanced by the ring of yellow stamens.

M. CAMBRICA.—The Welsh Poppy is a well known perennial with yellow flowers, very useful and desirable for naturalising in the rock garden or on shady rocky banks. It reproduces itself freely from seeds and varies in colour from bright yellow to orange. There is also a beautiful double-flowered orange variety.

M. CHELIDONIFOLIA.—A pretty plant, but not

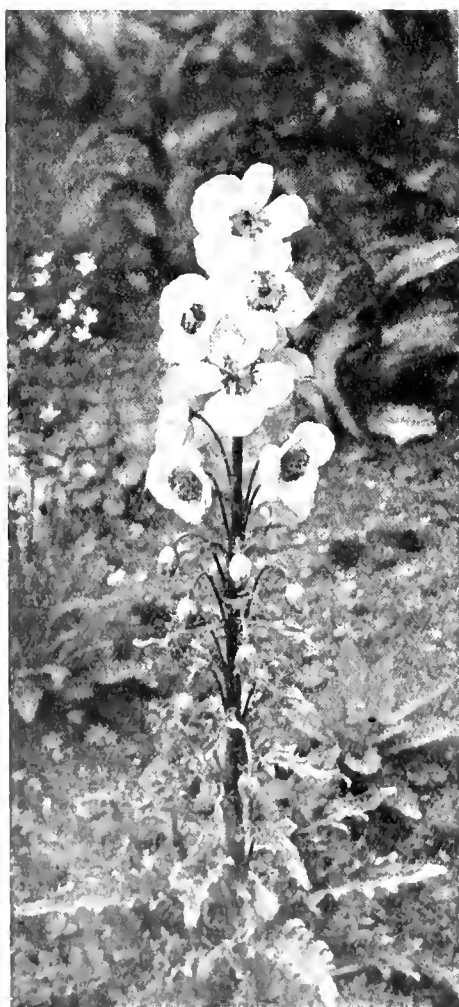
so attractive as many of the other kinds. It is another of the few perennials in the genus, and is a native of Western China. It was found by Wilson in Szechuen, and grows about 2ft. high, with soft chelidonium-like leaves and clear yellow, saucer-shaped flowers 2½ins. across. These are produced in July. It is easily increased by division and also by means of the bulbils which are produced on the stems.

M. DELAVAYI.—A delightful little alpine species from Yunnan, with large, solitary, deep violet, pendent flowers on stems 2ins. to 6ins. high. The leaves are few in a rosette, ovate to lanceolate, on long stalks, pale green above and glaucous below. This plant was found by Forrest and flowered at Edinburgh in May, 1911.

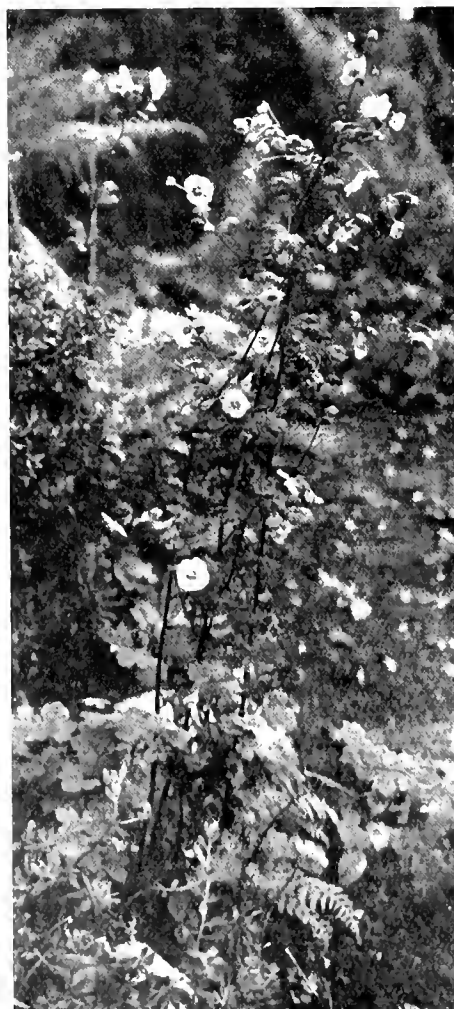
M. GRAYII.—A Himalayan species growing only in Sikkim, which is somewhat like *M. integrifolia* in habit, but is perennial in some places. It has entire leaves with stems up to 2ft. high, bearing two or three large purple flowers.

M. HETEROPHYLLA.—A beautiful annual from California, growing from 1ft. to 2ft. high, with orange red flowers having a darker red-purple base. It is the sole American representative of the genus, as *M. cambrica* is the sole European one. It is easy to grow in an open sunny border, and should be sown where it is to flower.

M. INTEGRIFOLIA.—Much has been written about this handsome Poppy since it was introduced by Mr. E. H. Wilson when plant collecting in Western China for Messrs. Veitch and Sons. He first found it in Kansu, but it has a wide range



THE SPLENDID PALE AZURE MECONOPSIS LATIFOLIA.



MECONOPSIS CHELIDONIFOLIA, A GOOD PERENNIAL YELLOW-FLOWERED SPECIES.



RICH BLUE OR VIOLET, MECONOPSIS RACEMOSA.

from there to Yunnan and Central Tibet. It is said to grow in alpine meadows, whole hill-sides being starred with its sulphur-coloured, nodding flowers. The species is never found below 11,000ft., while 15,500ft. marks its higher limit. From a tuft of entire hairy leaves it produces a stout stem 2ft. or more high, which bears from four to six flowers, each from bins. to 10ins. in diameter. It was first shown in flower in May, 1905, at a meeting of the Royal Horticultural Society, by Messrs. Veitch and Sons, and attracted much attention at the time. It grows well in strong loamy soil.

Closely allied to this is *M. pseudointegrifolia*, which differs in having a distinct style and narrower stigma. It is a native of Southern Tibet.

M. LATIFOLIA.—Somewhat like *M. aculeata* in habit, but the whole plant, leaves and stems, is covered with stiff bristles. It grows about 2ft. high and bears pale purplish blue flowers in May. This species was introduced from Kashmir in the spring of 1906.

M. PANICULATA.—One of the best known species, this is a yellow-flowered plant from the Himalayas, in habit like *M. Wallichii*, but shorter, and with less divided leaves. It is a biennial.

M. PUNICEA.—This is another of Wilson's finds in Western China, which flowered about the same time as *M. integrifolia*. It is of very striking appearance, bearing solitary, drooping flowers of a crimson colour on a stem about 18ins. high. It has not proved easy to grow, and has almost, if not quite, gone out of cultivation.

M. QUINTUPLINERVA.—One of the few good perennials in the genus, this species make a mat of foliage and produces its nodding flowers singly on stems 1ft. or more high. In colour it varies from blue to purple. It has proved easy to grow in gravelly loam in a shady situation. Mr. Farrer spoke very highly of this plant, which is a native of Northern Tibet and Kansu.

M. PRATII.—A free-growing plant, growing from 2ft. to 3ft. high, with entire leaves and long racemes of pale blue or purple flowers. From Western China.

M. RACEMOSA.—In habit like the above, but covered with stiff hairs on the leaves and stem. The flowers vary in colour from the deepest purple to pale lilac. This is really only a form of *M. horridula*, but it has its flowers in a raceme instead of solitary.

M. SIMPLICIFOLIA.—This Himalayan species is a biennial, which during the first year forms a rosette of entire, lance-shaped leaves, and in the following spring produces its solitary flowers on hairy stems up to 1ft. high. These are usually of a dull purple colour in the type. A form, however, has been recently introduced by Captain Bailey which bears lovely pale blue flowers which are fully 4½ins. in diameter. It is a most desirable variety, each plant bearing several flowers.

M. WALLICHII is, without question, the finest member of the genus from a garden point of view.

This Himalayan species is a very popular plant, and when well grown in a cool, shady spot it is a very beautiful object. It dies after flowering, but often takes two or three years to flower from seed. Its rosettes of beautiful foliage, however, are very ornamental and often reach a diameter



THE FRAGRANT ORANGE SCARLET AND BLACK ANNUAL,
MECONOPSIS HETEROPHYLLA.

of 3ft. or more. Owing to the hairy nature of the foliage it is very susceptible to damp in winter, and in some places it is necessary to protect the crowns with glass to throw off the rain. The leaves are pinnatifid and covered with golden russet hairs, as well as the stems. In favourable positions the stems often reach a height of 7ft. or more, bearing large panicles of lovely blue flowers. Individually they do not last long, but they are produced freely in succession. There is a variety in cultivation with dull purple flowers. W. L.

FORTHCOMING EVENTS.

April 9.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardeners' Society's Meeting.

April 10.—Royal Horticultural Society's Fortnightly Meeting (two days).—Jersey Gardeners' Society's Meeting.

April 11.—East Anglian Horticultural Society's Meeting.

April 12.—Royal Horticultural Society's Daffodil Show (two days).

April 14.—Ghent Quinquennial Exhibition (nine days).

GERBERA HYBRIDS

I PREFER to call these *Gerbera* hybrids rather than hybrids of *Gerbera Jamesoni*, because they are no less the hybrids of *G. viridifolia*, for all the colours that are valuable—apart from the orange-scarlet, the scarlet and the yellow obtained from *G. Jamesoni*—are due to the intervention of *G. viridifolia*, which is always, I think I may say, clearly evident in the shape of the leaves. In answer to a correspondent in the issue of March 17, page 142, reference is made only to varying shades of orange-scarlet, but for all colours approaching scarlet there is nothing better than the true *G. Jamesoni*, and the flowering season is longer. The colours to be required from the hybrids are the two colours of the first cross, viz., white and pink, which came without any others, the white being exceptional, salmon colours in variety, yellows to orange and altogether a number of variations which have been counted, I believe, up to the number of about fifty, and especially a port wine or claret colour called after me by M. Adnet of the Cap d'Antibes. This finely coloured flower derives all its beauty from the back of the petal of the rather dirty white *G. viridifolia*, which is of the same colour. It appeared at Cambridge among my early crosses and afterwards with M. Adnet, who of all growers laid himself out to produce results; indeed, I do not know where the best hybrids are now to be found, except perhaps a few at Cambridge and with M. Adnet, if his firm has found it a paying proposition to continue to grow them. They are perfectly easy to grow, but they must have the requisite attention, and it is a drawback that, like the common *Cineraria*, they should be self-sterile.

To perpetuate any choice colour exactly, it is necessary to have another plant of the same colour in flower in right condition at the same time. Nevertheless, it is astonishing what fine results can be obtained by best possible crossing. If seeds are sown as soon as ripe, there should be a fine flower in, say, a large 60 pot within about twelve months; but this implies a warm house during the winter. The plants should be grown without check to the first flower, and if I may give a hint, I would say sow the seed by sticking it in with the pappus upright. The root then goes down and the seed leaves come into position without having to turn. I must be brief, but I would wish to say that there is no difficulty whatever in setting seed. My own best account of *Gerberas*, I think, is in Robinson's "Flora and Sylva," Vol. III, page 206, with good plate by Moon. The misfortune for this plate was that the plants had almost all gone out of flower, leaving a poor selection. There is also a very good account in the *Revue Horticole* by M. Mottet, which has been translated and published in one of the English horticultural journals.

Hybrids of pure white, sunset and salmon colours were to be seen almost recently in the Cambridge Botanic Garden, but serving no special botanical purpose no speciality could be made of them.

As the raiser of *Gerbera* hybrids I feel a responsibility for shewing what they are, and if the colours to which I refer above are not now to be obtained there is a field of work open to someone who would take it up provided the materials can be obtained, the most important perhaps being a white like *G. viridifolia*, but distinction cannot properly be made. It is the light and delicate colours that are so attractive.

R. IRWIN LYNCH, V.M.H.

Chelston, Torquay.

EASTER FLOWERS AT VINCENT SQUARE

THE warm spring sunshine permitted exhibitors to show their spring flowers to the fullest advantage at the R.H.S. Hall on March 27 and 28 last. It was a very large Show, and the attendance during the afternoon taxed the capacity of the hall to the utmost.

Narcissi were the dominant feature of the Show, though forced bulbs and Roses were also very prominent. In most of the Narcissus collections it was the useful large Trumpet varieties that predominated by reason of their size and rich golden colouring as well as in numbers. In their very large collection Messrs. Barr and Sons had such sorts as Prospero, Chloria, Latone, Alexis and Carminata of this section, while their vases of Belarius, Proteus and Apricot Queen, besides many seedlings, were of great beauty. Mr. F. H. Chapman had in Rampant, Eminent, Bob Major and Stalwart exceptionally good large Trumpet varieties, though most attention was directed to Fortune, his magnificent Incomparabilis variety, which has a long orange-coloured tube surrounded by a yellow perianth.

In a fine collection by Messrs. J. R. Pearson and Sons, Weardale Perfection, Fairy and Florence Pearson of the large Trumpet Daffodils; Red Beacon, Sunrise and Lucifer of the Barrii group; and J. W. Macfield of the Poetaz were of great excellence. King Alfred was splendid in a group by Messrs. R. H. Bath, Limited, and other especially good large Trumpets were Golden Sunshine, The President and March White, Macbearer and

large double Ten de Jole were also much admired. In another place Messrs. Bath had a number of Darwin Tulips in bowls of fibre. Mr. J. L. Richardson gave prominence to his new Poetaz variety Glorious, and this was surrounded by such as Van Waveren's Giant, Comeragh and Cleopatra of the Trumpets, and Empire and King Cup of the Incomparabilis type.

A decorative exhibit of Narcissus King Alfred, Tulips Fon Brilliance, Sweet Lavender and King Harold was made by Messrs. Carter and Co.; and the Maytham Gardens arranged such Tulips as La Merveille, Louise de la Vallière, Gold-lush and La Tulip Noire very attractively. A great number of Dutch Tulips was displayed by Messrs. R. and G. Cuthbert, and these included King of the Yellows, La Remarquable, Prince of Austria, Le Rêve and Couleur de Cardinal.

The first coloured Freesias of the season were shown by Messrs. Sutton and Sons, who had mop-pets of the blush Merry Widow, Mouette, Treasure and the deep pink Robinette.

In the warm sunshine the Roses opened beautifully, and were almost equal in charm to outdoor blooms. The colouring of Padre, which was shown by Mr. George Prince and Mr. E. J. Hicks, was most delightful. Mr. Prince also had vases of the deliciously fragrant Florence H. Veitch and the rare species Rosa hemispherica, bearing small double yellow flowers. Primrose Pirrie, shown by Messrs. E. Cant and Co., is a good new Rose for forcing. Sovereign, Phoebe and Golden

Ophelia were staged in fine condition by Messrs. B. R. Cant and Co.

There did not seem to be any novelty among the Carnations, though the vases of the fancy varieties attracted considerable attention. Wivelsfield Fancy and Chintz, shown by Messrs. Allwood Brothers; and Rani, Benara and Circe by Mr. C. Engelmann, were very attractive. The Hon. Charlotte Knollys, Hon. Nita Weir and Eileen Low, staged by Messrs. Stuart Low and Co.; and Carola, Cupid and Peerless by Messrs. Keith Lufford and Co. were very fresh and bright.

Among the shrubs, the Rhododendrons were the most showy. Mr. C. E. Heath sent from his garden at Anstie Grange, Holmwood, trusses of such sorts as calophytum, sutchuenense, Chilonii, ciliatum and arboreum superbum. Among the collection by Messrs. R. Gill and Co. there were many branches of R. Cornish Red, one of the oldest R. arboreum varieties. They had a photograph of part of a tree growing at Falmouth which is said to have borne as many as 5,000 trusses in one season. R. zelanicum is a rare species, and bears compact pyramids of rich crimson flowers. Messrs. Gill also had flowers of their good strain of single St. Brigid Anemones. The double varieties were well represented by Messrs. Reamsbottom and Co. with a goodly space filled with gorgeous blooms. Among the Rhododendron exhibits was a very interesting collection of R. arboreum seedlings sent by Mrs. Haywood Johnstone from Bingley Park, Pulborough. There



THE ROSY-BLOSSOMED PURPLE-LEAVED PRUNUS BLAIRIANA.



A FINE GARDEN POETAZ NARCISSUS WITH FIERY CUP, N. GLORIOUS

were many desirable varieties among them, and all the trusses were of unusually large size.

Forced shrubs were also a prominent feature. Messrs. Wallace and Co. had many excellent *Azalea mollis*, so good as to justify the names they gave them. *Wistarias* and *Laburnums* were also well shewn. *Azaleas*, with many little plants of *Clematis*, each bearing four or more flowers, were attractively arranged by Messrs. L. R. Russell, Limited, who also had a small plant of *Francisea calycina major*, a greenhouse plant bearing rich blue flowers.

Cheiranthus Allionii was included by Mr. G. G. Whitelegg with some uncommonly good *Saxifrages* and many dwarf conifers. *Thymus citriodorus aureus* of good colour was staged by the Chalk Hill Nursery Company, who also had quantities of double mauve *Primrose*.

In distinct colours—blue, deep crimson, yellow and white—Messrs. Blackmore and Langdon displayed a large number of excellent *Polyanthuses*. These flowers were also well shewn by Mr. F. G. Wood, his crimson varieties being particularly attractive. Messrs. Clarence Elliott had an interesting exhibit of alpine, including a specially fine pan of a good form of *Primula Allionii*.

Mr. Maurice Prichard had the dark-coloured *Aubrietia* H. Marshall and some well flowered plants of *Morisia hypogaea* among an interesting collection.

Messrs. Cheal's exhibit was especially noteworthy for *Anemone nemorosa Robinsoniana*, *A. apennina*, *Aubrietia* Lloyd Edwards and a patch of the brilliant *Anemone fulgens*.

Among an interesting collection of alpine from Mr. G. Reuthe, a well flowered plant of *Rhododendron calophytum* was noteworthy. He also had bushes of the fragrant *Viburnum Carlesii*, which was also to be found in several other places in the Show.

Besides the Carnations mentioned above, Messrs. Stuart Low and Co. had some well flowered *Cyclamens* and an interesting collection of well grown *Acacias*. Some of the best were *diffusa*, *Riceana* and *armata*.

NEW AND RARE PLANTS.

***Berberis replicata*.**—This is evidently a rather compact-habited evergreen species, with glossy black-green leaves about an inch long and quantities of rather small greenish yellow flowers. This cannot be described as a showy species, yet as a bush in the open it would no doubt be effective, for, even in the hall, the blossoms were more effective from a little distance than close at hand. Sent from the Society's gardens at Wisley and granted an award of merit.

***Narcissus Calirrhoe*.**—The award to this large Trumpet Daffodil was as a show flower.

It is of quite large size, the perianth segments are paper white in colour, though of good texture, and the shapely trumpet is a deep lemon colour. Award of merit to Messrs. F. H. Chapman, Limited.

N. Glorious.—The name well described the colouring of this excellent Tazetta variety. The

immediately after it received an award of merit. On the present occasion several very floriferous bushes were shewn, and its great superiority to its ally *P. japonica* was more fully evident. First-class certificate to the Marquis of Headfort.

Prunus Blireiana fl. pl.—This highly decorative, hardy small tree received an award of merit a few years ago. It is a variety of *P. cerasifera* and, like *P. Pissardi*, bears showy purple foliage. At this season the stout, erect branches are wreathed with semi-double, bright rose-coloured flowers, making it the most beautiful of early spring-flowering trees. First-class certificate to Mr. R. C. Notcutt.

***Rhododendron rhododactylum*.**—This is a pretty little species, though of no great value for garden decoration. It is relatively small in all its parts. The loose trusses contained six campanulate white flowers which have dull rosy markings along the centre of the outsides of the segments. Award of merit to Lady Aberconway and Hon. H. D. McLaren.

Saxifraga Grisebachii Wisley var.—A large pan of well grown plants of this showy Saxifrage was on view. It differs chiefly from the type in its more robust habit and the more intense colour of the reddish leafy bracts along the flower-stems. Award of merit to Mr. Clarence Elliott.

Cattleya Suavior Low's var.—A very pretty little stove Orchid of the palest blush colour heavily flushed with velvety purple on the outer halves of the segments. Award of merit to Messrs. Stuart Low and Co.

***Laelio-Cattleya Nora*.**—A magnificent bloom, in which the deep mauve of the sepals and petals is set off by the rich velvety crimson of the large spreading lip. There are golden lines radiating from the base of the throat. Award of merit to Messrs. Cowans and Co.

***Odontoglossum Aurora var. Rajah*.**—This is a highly decorative variety. The erect spike bore flowers of deep chocolate maroon colour with a few paler spots at the margins. The distinct white lip has a golden crest. Award of merit to Messrs. Sander and Co.

SHIRLEY POPPIES

ONE of the most beautiful groupings of Shirley Poppies the writer has ever seen was quite an accidental one in a grass orchard which had been dressed with wood ashes from the garden bonfire, which had consumed the remains of the previous year's batch of Shirley Poppies. No doubt a considerable proportion of the ripe seeds had fallen through the heat and escaped the severest heat of the fire. The heat of the hot ashes the very hard seeds must, of course, have endured. Wherever there was a little bare earth in the orchard there were Poppies. In the cleared rings round the bases of the trees, of course, where a large heap of spent compost had stood long enough to kill much of the grass, even where a tunneling mole had left a thin place in the grass, there were Poppies—and such Poppies! None of them less than 3ft. high, some of the plants were almost as much through and they went on blossoming all summer through.

Now three lessons can, I think, be drawn from this object lesson. In the first place the "Shirleys" do not resent a little shade in summer. Secondly, the size and vigour of the plants must very largely have been due to the fact that the plants were not overcrowded—if a plant had 3ft. square of space to fill it very comfortably filled it. The third lesson, and the most obvious, is that these Poppies might well be used as the single Chinese Aster is at Kew; that is the seed might be sown with that of the grass when making good or returning takes place.

R. V. G. W.



A SPLENDID GIANT LEEDSII NARCISSUS—PRINCE UMBRIA.

twin flowers are of good size and shape. The perianth is white, and the compact corona the fiery orange colour associated with the very best Poeticus varieties. Award of merit to Mr. J. L. Richardson.

N. Golden Sunrise.—A useful large Trumpet Daffodil, recommended for garden decoration and as a cut flower. It is of deep yellow colour, and the sturdy fringed trumpet is widely expanded. Award of merit to Messrs. R. H. Bath, Limited.

N. Prince Umbria.—This is one of the newer hybrids that baffle classification. In some characters it is Giant Leedsii, while others would place it among the *Incomparabilis*. However, it is an uncommon bloom of striking appearance and large size. The perianth is paper white and the trumpet-like tube of pale yellow heavily stained with a much deeper shade. Award of merit to Messrs. Barr and Sons.

N. Provost.—A magnificent, large Trumpet Daffodil which is decidedly a show flower. The colour is a rich golden yellow. The long, somewhat pointed perianth segments are slightly twisted, giving a star-like appearance. The trumpet is very long, perfectly round, and the rim is beautifully frilled. Award of merit to the Rev. G. H. Engleheart.

***Pieris (Andromeda) taiwanensis*.**—We published an illustration of this beautiful hardy shrub in our issue of March 25, 1922, page 142, almost

A BORDER OF SIMPLE FLOWERS

The writer describes an effective scheme of border planting which is renewed season by season.

PERHAPS I should have entitled this article "A Border of Summer Flowers," but as I do not propose to mention any plants which may not be successfully treated as biennials, and as the majority are annuals, it would not be quite fair to do so and ignore the gorgeous perennials. With apologies, therefore, to the herbaceous border, I will endeavour to describe the planting of one which, when at its best, is equally as interesting. First of all, however, let me tell how we came to have this "biennial-annual" border, which, by the way, now goes under the name of the "simple border" and has become a yearly feature. We had been growing these beautiful flowers I shall mention rather extensively, planting them freely in the mixed border and wherever space permitted in the foreground of the shrubbery. Eventually, we came to having plots of ground for each. This method revealed them at their best, but it also exposed weaknesses which were not conspicuous when they were associated with other plants. This led to a border being devoted to annuals and plants best treated as biennials, and it was planted on lines similar to a modern herbaceous border. The result proved to be an unqualified success, since it ensured a wealth of glorious colour from the end of May until frost.

The following notes on the plants employed may, perhaps, be useful where a border has to be filled at short notice. The absence of biennials in nursery beds can easily be overcome at this season, since they can be purchased cheaply. The border having been manured and dug in winter, is made ready for planting when the weather is favourable from the latter end of March until about the end of April. Clumps of Sweet Peas at a distance of 1 ft. apart are planted along the back of the border, which in our case is about 10 ft. wide. The plants are raised in pots from seeds sown in autumn and wintered in a cold frame. The supports used are spiral wire rings, which are obtainable from horticultural sundriesmen. They answer their purpose perfectly, and are very durable. Ours have been in use for ten successive summers. Between these clumps Hollyhocks are planted, which were raised from seeds sown last April. Under this method of raising, disease has, so far, been conspicuous by its absence, and the growth is remarkable for its vigour. Canterbury Bells, naturally, play an important part in the whole scheme. The cup-and-saucer varieties are very striking in pink, white and blue, and they are planted in groups of separate colours, but far enough apart to admit of annuals coming between, otherwise there would be unsightly spaces, which would not be admired, after the biennials had ceased flowering. Sweet Williams are made equally as much of, but being dwarfier are placed nearer the front. The most pleasing variety among many we have tried is Sutton's Pink Beauty, a lovely rich salmon. White and scarlet are, of course, indispensable. We prefer these self colours, although the Auricle-eyed are very gay. All these plants were raised from seed sown in an open border last June. Though not strictly biennials, the long-spurred Aquilegias are never better than when treated as such. Care is taken to obtain a good strain of seed, and these are sown in April in boxes in a frame and subsequently pricked out in a border of rich soil, from whence they are taken and planted the following March. When in flower few plants are more

attractive, but being spare of foliage the groups should not be too large, in order that the bare spaces after flowering shall not be too conspicuous. The same cultural remarks apply to the popular Geum, Mrs Bradshaw, plants which have no superior where broad patches of vivid scarlet would be appreciated. Complaints are sometimes heard of these plants deteriorating after the first season, but we never run any risks; we sow annually. Another race of long-lasting, bright-flowering plants comprises the varieties of Lupinus



HOLLYHOCKS ARE A MAIN FEATURE OF THE SIMPLE BORDER.

polyphyllus. These make a remarkable display in the colours now available, which include a lovely soft pink, a lavender, pure white, and blue; there is a yellow, but of rather slower growth than the preceding. Seeds of these are sown in May and transferred to their flowering quarters

the following March. The graceful Gypsophila paniculata must also be included, for it does exceedingly well if sown now for next season's planting. Mention must also be made of Pansies and Violas. No attempt is made to employ either as an edging; they are simply placed near the front in clumps of a dozen or so plants. All are raised from seed sown in the previous June, and the variety is surprising, as well as the excellent form which the majority possess.

The first thing in the sowing or planting of annuals is to anticipate the bare spaces which inevitably result after the Canterbury Bells and Aquilegias have ceased flowering. Our method is to sow suitable varieties at the same time or very shortly after the plants are put in, very close to and sometimes among them. Clarkias of the elegans type are very useful for this purpose. They are quite hardy and remarkably gay, in colours which range from salmon scarlet through delicate pink to pure white. Godetias are equally as popular. There are tall and dwarf sorts, and both are available in all the choicest colours; but the mauves are best kept apart from the reds and pinks, for one spoils the effect of the other. The annual Delphiniums, or Larkspurs, are exceedingly attractive, and they very nearly take the place of the perennials of the same name in our border. Here also there are tall varieties for near the Sweet Peas and Hollyhocks, and dwarfier ones for associating with Aquilegias. Pink Pearl is a lovely colour, with Rosy Scarlet a close second. Blue, white and mauve are also obtainable. Annual Lupinus shew little inferiority to the perennial type. The Hartwegii varieties include a deep blue and a pure white, and there is a pleasing yellow in Menziesii. These are tall (nearly 3 ft.). Dwarf varieties in carmine and white, yellow, pink, white and blue are also well worth using freely. Another pleasing tall-growing annual is Lavatera rosea splendens. It makes quite a large plant, and is most striking when its bright rosy pink flowers are at their best. L. alba splendens is a white form. All these may be sown in early April where intended to bloom, and the chief thing afterwards is to thin them out severely, so as to leave each plant room to develop. Among dwarfier varieties there is a wide choice. Candytufts are quite as useful as Violas for massing near the edge, and for that purpose we employ the compact varieties freely, setting the spiral forms behind them. Few annuals shew greater improvement in the colours now available than these. Another pretty edging plant is Leptosiphon hybridus, embracing a beautiful combination of colours. The charming, and best, Love-in-a-Mist—Nigella Miss Jekyll—and Cornflowers in blue, pink and white are freely employed. The Iceland Poppy, P. nudicaule, is one of our most charming plants, the orange, scarlet, yellow and white flowers being a great attraction. These, of course, are treated as biennials. I omitted to mention above the free-flowering Coreopsis grandiflora, which is never a greater success than when treated in the same way as Canterbury Bells. Mignonette, so desirable and yet so apt to be erratic when sown in the open, we make sure of by sowing a pinch of seed in each of as many small pots as are required. The seeds germinate quickly in gentle heat, when the pots are removed to a cold frame, and planting out follows early in May. Other pretty annuals we invariably find room for include Linarias, Linums, dwarf Nasturtiums, the pretty blue Phacelia campanularia, Sweet Sultan and Viscaria. With the exceptions already noted seeds are sown in April, and judicious thinning is then all that is required to enable these simple things to combine together to furnish a wealth of beautiful flowers from the end of May until frost.

J. T.

CORRESPONDENCE

ABOUT LACHENALIAS.

I HAD the pleasure the other day of looking through the private garden of Mr. W. Manger of Messrs. W. Manger and Sons, bulb growers, etc., and saw a batch of seedling Lachenalias which I am sure would have greatly interested many of your readers. One all too seldom comes across these beautiful greenhouse plants nowadays, but could those under notice have been transported and put up at one of the London shows they could not have failed to arouse enthusiasm among all flower-lovers. I have been connected with flowers, etc., for over forty years, the earlier part of that time being spent in some of the best-kept gardens in England, and I have never seen Lachenalias nearly so well cultivated as these of Mr. Manger's. They like, as is fairly well known, a rich and open compost, and in this case it consisted of peat, well rotted manure, loam and sand with a little lime added, and they were grown in pans in rows, across and about 4 ins. deep. Some of the spikes are 20 ins. high and carry as many as twenty-four blooms without any stakes to support them. The colouring of some of them is beautiful, rich golden yellow of different shades, many of them brighter and deeper than Nelsoni. Some of them have a wide Indian red margin at the bottom of the blooms and bright red at the top streaking down the bells. Others are deep yellow at top, the lower part light green with a red margin. One very fine variety is red at top, green base with a broad red margin and very large bells. Only one of them has been named and will be known as Siam, a fine self golden yellow, strong, with splendid green foliage. It is not an easy matter to describe the colours of many flowers so as to convey a correct idea of the colouring some of them possess, and I am afraid it is too difficult for me in this case, but I can strongly recommend your readers to obtain some from the raiser and see them in their own greenhouses. These seedlings were obtained from the raiser, the Rev. J. Jacob, Whitechurch, Salop, who is a well known enthusiast in the raising of many kinds of flowers, and to whom the garden is so much indebted for many of his products. Both the raiser and the grower of these Lachenalias I have attempted to interest your readers in deserve high commendation.—H. BRITTEN, *Guernsey*.

[The Editor has attempted to describe some of the varieties under Editor's Table on page 169. It will be noted that at least eight varieties now have names.—ED.]

SPLENDID! Two good hard congratulatory slaps on the back, and now (THE GARDEN for March 17) a more gentle but none the less a most welcome pat from "G. C." Surely the tide has at last begun to flow in! Ostend, Riga and Boston are now back numbers. Greenland is almost eclipsed by Cork. I am more than ever thankful to that kindly Irishman who sent me my first bulbs. It is true, as he said, that growing them has been, up to now, the ploughing of a lonely furrow, but the fascination of fathoming the latent possibilities of what Nature has hidden in a few rather sombre species and varieties has been an ample compensation. The high water mark is represented by the beautiful waxy Siam; the tall, deep orange Leiden, made extra striking by its unique dark stems; Tangier, sturdy and red edged; the delightful yellow-bellied and red-topped spikes of Japan; Switzerland, with the wide red-edged, almost orange bells; and Britain, tall and vigorous, with large, open-mouthed, red-edged, deep yellow bells—the very emblem

of strength. Rosemary, which is the last Lachenalia to receive an award of merit from the R.H.S., is quite outclassed by some of the newest seedlings, of which as yet there are only two or three bulbs. Nelsoni is but a moon to Arabia. There is, I venture to think, an advance all along the line. Never before have we had such a show as we have this year, for, coupled with the greater beauty of the latest-born varieties, it has been a "Lachenalia year." My dear little children, cheerio! cheerio! Remember

"Even the weariest
river
Winds somewhere safe to
sea."

—JOSEPH JACOB.

PRIMULA SILVER STAR.

AS one who has never cared for Chinese Primulas, I am writing to own my admiration for Sutton's Silver Star. I consider this one of the most beautiful plants there is for the cool greenhouse and for table decoration indoors. I shall certainly grow a batch for next year. I also admire the new so-called "Star" Symmetry. This does not seem to stand carriage, so is not very effective at a show, but as I see it in my friends' houses it is splendid. Why call it a Star, though? There is nothing starry about it!—J. S.

[Many "Star" flowers are not starry. The original Primulas of this class *were* rather starry, and the name has attached itself to the type and would be difficult to uproot.—ED.]

MOISTURE-LOVING IRISES.

THE views expressed in the article on "Moisture-loving Irises" on page 143 are so heterodox that it seems worth while to enquire whether they are based on any evidence. Is it true, for instance, that there is no Iris in cultivation in this country "which is an aquatic in the sense that *I. pseudacorus* is"? Has it ever been proved that *I. versicolor*, its cousin from the Eastern United States, is not equally aquatic? The two species are obviously very closely allied. They resemble each other in appearance and their seeds are indistinguishable, which in itself is strong evidence of their relationship.

The statement that *I. aurea*, *ochroleuca* and *Monnieri* "will not tolerate real drought" seems to need some qualification, for these Irises undoubtedly flourish in Asia Minor and in other parts further east where the summer drought is more severe than anything that ever occurs in this country, for it is accompanied by heat greater than any we get. The truth probably is that these Irises, in a strong, fertile loam, will stand any amount of drought when once the flowering season is over. No plant can thrive when drought prevails in the growing season

unless there is underground moisture; but there is little doubt that all these Irises appreciate drought and heat to ripen their rhizomes after the flowering season. The leaves will then wither entirely away and the fresh shoots appear when rain comes in the autumn. An Iris which thrives with such treatment can hardly be said not to tolerate drought.

I. Monnieri, by the way, is almost certainly not a wild species but a garden plant, for seedlings



PURE WHITE PRIMULA SILVER STAR.

of it give much variation, the majority being forms of what we know as *I. ochroleuca*. The statement that the flowers of *Monnieri* are of a rich yellow margined with white is surely a mistake, for, as reference to Redouté's "Liliacæ" will show, the original plant and the one which is now in cultivation has flowers of a uniform lemon yellow without any white edge.

The statement that *I. Kämpferi* has been evolved from *I. laevigata* and *I. setosa* needs proof. It is perfectly true that both *I. Kämpferi* and *I. setosa* are natives of Japan and that in both of them the "falls" have tended to grow in size at the expense of the "standards"; but, beyond this, there is no known evidence that *I. setosa* has ever been crossed with *I. Kämpferi*. Among many hundreds of self-sown seedlings of *I. Kämpferi* nothing like *I. setosa* has ever been known to appear, and attempts to cross the two species have been so far unsuccessful. Moreover, *I. laevigata* and *I. Kämpferi* are two totally distinct species. They are both found, it is true, in the Amur district of Manchuria, but *Kämpferi* has leaves with a distinct midrib, while those of *laevigata* are quite smooth. *I. laevigata* has "standards" which are practically of the same length as the "falls," while those of *Kämpferi* are not much more than half as long. Still more obvious differences are to be found in the seed capsule and in the seeds themselves: the capsule

of *I. Kämpferi* is short and rounded and that of *I. laevigata* oblong in outline and triangular in section. The seeds, too, are totally unlike; those of *laevigata* being smooth and practically indistinguishable from those of *I. Pseudacorus* and *I. versicolor*, while those of *I. Kämpferi* are flat and surrounded with a kind of flange. The two species have often been confused; but anyone who has seen the red-purple *I. Kämpferi*, with its somewhat narrow leaves, growing alongside the rich blue flowers of *I. laevigata* must have seen at once that the two species are totally distinct. Negative evidence of failure is not worth much; but several attempts to cross the two species have produced no result and there appears to be no record of any trace of the real *I. laevigata* among seedlings raised from either Japanese or European specimens of *I. Kämpferi*. How the Japanese have evolved their hybrids from the single-flowered wild form of *I. Kämpferi* is not known; but probably, as in many other garden plants, these double forms have merely arisen in cultivation without any admixture from another species. The same explanation applies without a doubt to the Bearded Iris *Clematis*. Seedlings of *I. pallida* not infrequently appear with some or all of the "standards" changed in form, and there is even extant a paper by a learned Professor of Innsbrück who seeks to prove that this flat form of flower is the archetype of all Irises. His whole argument is based on an *I. pallida* identical in shape with the variety *I. Clematis*. Mr. Bliss was the raiser of *Clematis*, and he will probably support the statement that *I. Kämpferi* was in no way responsible for its shape. There is, in fact, no authenticated hybrid between a bearded and a beardless species of Iris.—W. R. DYKIS.

ON PUTTING PLANTS TOGETHER.

DOES "A Painter" still read *THE GARDEN*? If so, he may like the following idea: By the side of a drive a long, low retaining wall is topped by a broad planting of *Erica carnea*, at the back of which stretches a thick double line of Crocuses in three varieties—a rich warm purple, pale mauve and white striped, and pure white. I came upon this unexpectedly the other day when the sun was full upon it, and the effect was beautiful in the extreme. So attractive was it that I was glued to the gate for some time, and made a point of walking round that way daily while its beauty lasted. Such a pity there were no bees about to enjoy it!—(Mrs.) W. DUGGAN, Bournemouth.

THE MILD SEASON.

IN April, 1920, I remarked in the *Journal of Botany* that I had "no record of such precocious flowering during my residence in the West of England prior to 1889, nor again during the past six years." Although the third week in March this year has been cold in Bristol, vegetation seems about as advanced as in 1920. To-day (March 18) a *Laburnum* is showing its racemes of flower-buds, yet quite short, and two variegated Laurels (*Aucuba*) are in full bloom. In both cases the *Aucuba* bushes had apparently been much pruned, and the leaves are short and but slightly variegated with yellow. A small Lime tree at Clifton is just opening its leaves, some of which are 1 in. long. The same tree on March 20, 1920, was "green with leaves already 1½ ins. across." As then, Limes immediately adjoining, and others elsewhere, have not burst their leaf-buds at all. A Mountain Ash (*Pyrus Aucuparia*) to-day has leaves of 4 ins. and clusters of buds 2 ins. high. On March 21, 1920, it had leaves 5 ins. in size. An old Horse Chestnut below Clifton Parish Church is a little more forward than on

March 7, 1918, when "some of the young green shoots were about 4 ins. across" (*THE GARDEN*, March 23, 1918). To-day many of the leaves are partly expanded, though other Horse Chestnuts close by show no sign of it. Can any explanation be given for the persistent precociousness of certain individual trees and other plants not specially favoured by situation?—H. S. THOMPSON.

A FINE ALOE.

AMONG the many species and varieties of the flowering Aloes there is none, I think, more worthy of general cultivation than *A. spinosissima*. It deserves attention from gardeners in general, as it is dwarf in habit and has long and brilliant spikes of light red flowers in the end of February. Evidently it increases very rapidly by offsets. Being stemless and dwarf in growth, it seems to me well suited for pot culture where it could not be grown out of doors. It would take up no more room than a well grown *Cineraria*, and would give a note of distinction to any cold greenhouse. It is, of course, a child of the sun, and needs all the sun and air that it can get in northern regions,



A LITTLE CLUMP OF *VIOLA GRACILIS*.

but in summer left to itself outside under a sunny wall it would need little or no attention in the matter of watering, and would, I think, mature its growths sufficiently to produce its handsome spikes of flower. I have only seen it in quantity in such gardens as La Mortola or that of the Prince of Monaco, and I do not know if it is in the hands of nurserymen, but it certainly is a plant to cultivate on the Riviera, where it needs no attention when once planted in a sunny spot, unless it be some winter when a sudden storm of snow falls as it can sometimes do on this coast, and then it is only the flower-spikes that would need protection. There are several varieties, and perhaps that which is termed *cyanea* is the finest and biggest, but the difference in any case is small. They make a specially good effect when grouped with the massive stemmed forms of Aloe, such as *A. Salm-Dyckiana* and others, which flower a little later in the winter, prolonging the season of brilliant tritoma-like flower-spikes for six weeks or more. Thus grouped they are the admiration of all who behold them.—E. H. W.

AN ALPINE PANSY.

I WAS interested to see the note by S. J. S. on *Viola calcarata* and I agree that in some of its best forms *V. calcarata* is worthy of extended culture, but I do not like the rather disparaging way in which he speaks of *Viola gracilis*. I am by no means sure that this is not my favourite alpine. When we get forms of *V. calcarata* which will give masses of such glorious colouring as *V. gracilis* affords, it will no doubt become equally popular! Personally I do not think *V. gracilis* a bit over-rated. If your correspondent had attacked *Viola cornuta* now,—but that is another story.—ALPINIST.

A VALUABLE ACHILLEA.

ACHILLEA LEWISII is a charming hybrid Achillea that has for some reason or other got about under two names, viz., *A. Lewisii* and *A. King Edward*. There seems, however, little doubt that *Lewisii* is the correct name by right of priority. The plant is a spontaneous hybrid between *Achillea rupestris* and *A. tomentosa*, and was discovered in 1908 by Mr. Ingwersen, and was then named by him in honour of Mr.

Lewis, in a gravel path in whose garden it had sprung up self-sown. The two parents were growing close together, leaving no doubt as to the hybrid origin of the seedling. The flattish heads of flowers are pale sulphur in colour, and the plant spreads into tidy mats of ash grey foliage. It is a free grower without ever becoming a pest, and since we have had it at Stevenage it has seldom, if ever, been out of flower. This continuous flowering is a very valuable trait in the plant's character. It seems to thrive in any reasonably decent soil, and prefers fullest sunshine. In height it is about 4 ins. or 5 ins. Last year I hit upon a very happy companion for *Achillea Lewisii*. This was *Campanula pusilla* Miss Willmott. In planting a rock garden I put a mixed broken drift of the two plants. The colour contrast of lavender blue and sulphur yellow was delightful, and they lived happily together without mutual strangulation. The same beautiful effect of lavender blue and sulphur may be obtained earlier in the year by planting *Alyssum saxatile citrinum* and *Anubrieta* Lavender near one another.—CLARENCE ELLIOTT.

ROSES UNDER GLASS

A Use for Cold Houses.

NOT a few imposing palatial glass structures—regarded as more ornamental than useful even before war worries cut down, or off, the coal bill from garden expenses, in perennially poaching on the plainer but more practical plant preserves to keep them furnished—might now not inaptly bear the legend “Ichabod” (Their glory hath departed). Of two such houses in the gardens of Roebuck Castle, Dundrum, the town of the fort on the ridge, on the southern side of the Milesian metropolis in the pleasantly situated demesne of Mr. Francis V. Westby, D.L., one, best suited to the purpose, has been happily converted into a rose-house embracing a good collection of well grown pot plants.

The Roebuck Castle rose-house, an imposing curvilinear iron-ribbed building erected in happier Victorian days and, one might say, judging by elaborate internal fittings, regardless of expense, is not adapted to the planting out of climbing varieties as is the roomier and more imposing conservatory standing in the pleasure grounds of Luttrellstown Castle, the ancestral home of the lately deceased Lord Annaly, at the other end of the County Dublin. This house, originally the section of an exhibition building purchased by the late Lord Annaly's father full fifty years ago, was long, under the then changed conditions Irish landlords seem heir to, looked on as a white elephant and a heavy tax on the garden economy in providing it with provender in the way of putty and paint.

An old friend, however, in his then new charge of Luttrellstown Gardens, under changed conditions of having to make them pay, while forcibly stating that he “couldn't think what possessed the old lord to put up such a useless structure,” soon discovered its usefulness. Heating arrangements were at that time derelict, but by a liberal planting of climbing Tea Roses trained up the lofty vertical sides (it was glass to the ground) he was able, under his manipulation, to cut many baskets of blooms from late spring pretty well on to Christmas, which were appreciated to the extent of good prices in the Dublin market, and thus the “useless” house contributed its quota to the credit side of the garden account. The particular manipulation referred to was that the foreman whose duty it was to cut the blooms was grounded into the practice of pruning as he cut, by removing any superfluous weak growth, and, further, cutting back the shorn flowering wood to a couple of eyes, to the end of pretty well perennial pruning and perpetual flowering going hand in hand.

GOOD ROOF CLIMBERS.—Two rather remarkable roof climbers in the Luttrellstown conservatory appear worth noting, as both contributed to the demand for cut flowers. The one, *Clematis indivisa lobata*, provided crops of pearly white blooms much sought for by the florists; the other, *Stauntonia latifolia* (thus called, probably hexaphylla), was appreciated for its exquisite perfume. Both, as there treated, and as seen there, were remarkably clean, healthy growers. The *Stauntonia* seemed especially a lady's flower and gave much delight to the young Princesses of Connaught at the time their father, the Duke, was resident in Dublin as Commander of the Forces, when they visited the Hon. Mrs. Barton, then tenant of the Castle, because it “smelt like grandmother's handkerchiefs.” Grandmother, of course, was Queen Victoria, who honoured Mrs. Barton with a visit too.

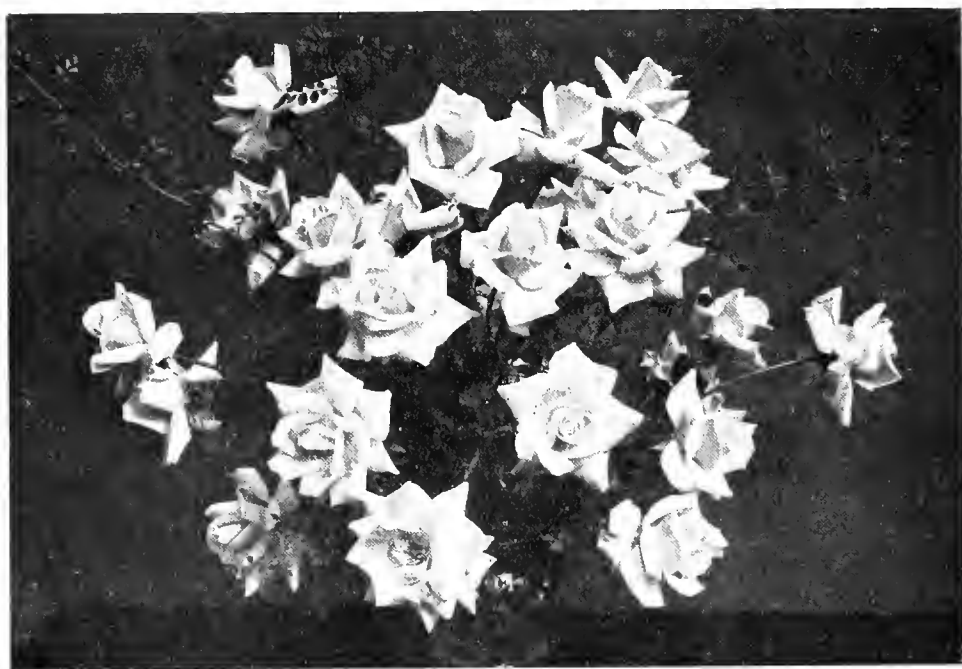
Back to the Cotswolds and early days, and the palm for Tea Roses under glass is ungrudgingly

given to “Old Jarge,” “T' Pa'ason's” gardener in that old-fashioned rectory garden on the Cotswold Hills. The “grinhus” was to all intents and purposes a rose-house, climbing varieties, among which “Glory de John” loomed large, practically covering all roof space. It seemed a case of singleness of purpose accomplishing more than a plurality of talent, for the worthy Rector, whose tastes for following the hounds little pleased the proletariat of the parish prone to stray into the “Methody” fold, leaving him with but few of the faithful to care for, took a liberal share in gardening generally to the end of taking credit for success or blame for failure, but in the “grinhus” “Old Jarge” was *aut Caesar aut nullus*.

DIGRESSING AND REMINISCING.—Certainly as “sextant” “Old Jarge” was invested with a

them into half-standards potted up for “t' grinhus.” Could one ever forget those glorious canary-coloured, oval-shaped blooms never seen equalled since, compared with which the now rarely seen *Maréchal* of latter days is of decidedly degraded rank. No! for the exquisite perfume comes wafted back over long years. “Old Jarge” and his Roses were talked of from “Cisester” (Cirencester) to Cheltenham.

But there came times when good relations ‘twixt garden (or rather “grinhus”) and house were strained almost to breaking point. Those were the “feeding times” when “Jarge,” after soaking the border with rain water from the cistern, followed it up by many buckets of nourishing liquid from the sewage tank, and all the rectory windows on the windward side were kept religiously closed. Another critical period was when “Jarge” “smoked t' grinhus,” and the same exclusive method was perforce repeated by the maids. “Zeed old Jarge a scratching himself



ONE OF THE BEST GREENHOUSE ROSES—OPHELIA.

certain amount of ecclesiastical dignity, the more especially as, by the keener critics of his master's theology, he was credited with (or accused of) having a hand in concocting the Sunday sermon. This he did not affirm, yet it was rather suspicious that he never denied it; but there may have been less truth in that than in the report that on a certain Sunday morning only the twain turned up for the service, and when “T' Pa'ason” mounted to the top storey of the shaky old three-decker pulpit, “Jarge,” handing up the ponderous church key, asked him to “lock up when he'd done, there being no use in his a'waiting.” That happened prior to my migration to the Cotswolds in 1873, for the minimum congregation personally experienced (including myself) was seven.

“You may break, you may shatter, the vase as you will, but the scent of the Roses will hang round it still,” and fragrant memories gratefully crop up of “Old Jarge's” Roses. He lived with them and for them a long and happy life. That was the time when the brave old *Maréchal Niel* was in the heyday of youth and beauty, and “Jarge,” who managed to secure buds from “T' Squire's” garden (Squire Elwes of Colesborne, father of the late Mr. H. J. Elwes) soon converted

in t' grinhus this marning” was the sure and certain sign that he had seen signs of green fly, his *bête vert*, on his beloved, and weather permitting, fumigation would follow that evening. So much in sympathy was the old man with the objects of his love and care that was there any signs of their discomfort he was telepathically uncomfortable too. But, as Dean Hole would have said, he had Roses in his heart. K. DUBLIN.

PRIMULA SIEBOLDII

FOR a shaded, rather moist position in the rock garden or on the bank of a small stream this, in April and May, forms a particularly attractive picture. In colour it varies considerably, from white to lilac and several shades of rose pink, the white varieties being especially striking. It is easily raised from seed and luxuriates in a soil in which leaf-mould bulks largely. It is advisable to provide a top-dressing of this annually each spring after the leaves are well up. A point that should be noted is to label their position, clearly and conspicuously, as the foliage dies down in winter and, when tidying up, they are apt to be overlooked and destroyed.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Black Currants.—In many districts these bushes are badly infested with the gall mite, which causes what is commonly known as big bud and, unfortunately, no variety is immune from attack. Only persistent treatment of the bushes will keep it in check, and so far as old specimens are concerned it is better to grub them up and plant, on a fresh site, such as Boskoop Giant or some other strong, vigorous kind. The black currant mite should be dealt with from April to June. The "big bud" on those attacked are easily recognised, and they should be picked off by hand and burnt at once. Afterwards thoroughly spray the bushes and repeat the application every ten days until June. A useful spray is made up of soft soap 2ozs. and quassia extract 4ozs. to every gallon of soft water. With the currant gall-mite, grease makes a good spray earlier in the season. The bushes may also be dusted with lime and sulphur when the branches are moist with the dew, employing one part of the lime to two parts of sulphur. These should be well mixed and applied at intervals as recommended for the spraying. Personally, I have found the quassia mixture most effective.

Fruit Under Glass.

Melons.—Although Melons are usually grown in low houses, there is no reason why the person with a cold frame should not enjoy a few fruits also. Now is a good time to collect material, such as leaves and stable litter, for the formation of a hot-bed. The position chosen should be an open one, where the sun will reach the frame during the greater part of the day. When the rank heat of the bed has passed off and the mounds of soil are thoroughly warmed, the young plants should be placed in position, two being ample for each light. For a week or so it may be necessary to leave a little air on throughout the night to allow any rank steam to escape. If the nights are cold, mats should be placed on the lights, removing them in the morning when the outside temperature begins to rise.

The Melon-House.—Here it will be an easy matter to keep up the temperature, and the atmosphere must be kept moist by damping the floors and syringing the plants twice daily. The roots should be kept well supplied with water, and plants swelling their fruits will be benefited by applications of weak liquid manure. The water should always be tepid, whether employed for watering or spraying.

The Kitchen Garden.

Asparagus.—Where new beds are required, now is the best time to make them. While admitting that an Asparagus-bed should be well made, there is really no necessity to go to a lot of expense in its preparation. A deep rich loam or any good garden soil will suit Asparagus, and having pegged out the bed 4ft. wide it should be well trenched, incorporating a liberal quantity of manure as the operation proceeds. An alley of 2ft. is needed between the beds, and the best of the soil from the paths may be placed on the beds. When the soil has settled the Asparagus roots should be planted about 18ins. apart. Care must be taken to prevent the roots getting dry, or they will suffer in consequence. No "grass" ought to be cut from these beds until the plants are well established. If the grower can afford to wait, seed may be sown in lines 18ins. apart and three or four seeds placed at intervals of 15ins. When the young plants are a few inches high thinning must be done, leaving the best plant of each grouplet. Established beds must be kept free from weeds and receive a dressing of soot. A liberal sprinkling of agricultural salt is also recommended a fortnight hence, the application being repeated in another three weeks. This not only stimulates the plants but discourages the growth of weeds.

Cauliflowers.—Plants raised from seed early in the year may be planted out when the weather is warm and showery. Keep the hoe at work, and thus encourage the plants to make rapid growth.

The Flower Garden.

Violets. When the plants growing in cold frames have been hardened, the necessary runners should be taken and transferred to their summer quarters. A partially shaded border is ideal for Violets, and if the soil is rich and has been well prepared by deep digging, strong, healthy plants will be the result. As a rule there are plenty of runners or side growths with roots attached, and these should be planted in lines

15ins. apart and 10ins. between the plants. If the stock of any variety is scarce, the growths without roots may be placed in a cold frame similar to cuttings, and if they are syringed occasionally roots will form readily. If the weather proves dry, water will be needed until the plantlets are established. During the summer months a watch must be kept for red spider; but with a free use of the syringe and an occasional dusting of soot this pest is not very troublesome.

Dahlias.—It is time the tubers were removed from their resting quarters and placed in boxes containing a little leaf-soil. Sprinkle more soil among the tubers and place them in a cool greenhouse, where they will form short-jointed and sturdy growth. The stock of special varieties may be increased by splitting up the roots when the shoots are sufficiently advanced.

T. W. BRISCOE.
(Gardener to W. R. Lysaght, Esq.).

Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions which were sown under glass in January should now be planted out in well enriched, deeply dug ground. Stretch the garden line and plant to it either with trowel or dibble, allowing 6ins. between the plants and 12ins. to 15ins. between the lines. See that the roots are inserted their full length and the bulb just resting on the surface of the soil. Unless the soil is extra heavy, it should be trodden firm with the feet and raked smooth before commencing to plant.

Broad Beans.—Another sowing for succession should now be made in rows 2½ft. apart, placing the seeds about 8ins. apart in the row. Bunyard's Exhibition and Seville Longpod are two excellent varieties.

Turnips.—A small sowing may now be made on a south border for early use. Sow in very shallow drills from 12ins. to 14ins. apart. Early Milan matures quickly. I prefer the White Early Milan as having less bitterness than the type.

Lettuce.—A full sowing should now be made; the Cabbage type is more useful than the Cos, Neapolitan, Tennis Ball and All the Year Round are all excellent varieties. Sow in rows 9ins. or 10ins. apart.

Celery.—As soon as the seedlings are large enough to handle prick them out in frames in fairly rich soil that has been passed through a half-inch sieve. It will be an advantage if a foot or more of rank manure or other open material is placed in the bottom of the frame, thereby raising the temperature of the soil. Allow about 4ins. between the seedlings. Shade for a day or two with the frame close, then gradually inure to light and air. All these little attentions tell on the future welfare of the plants.

Fruit Under Glass.

The Early Vinery.—As soon as the berries have attained the size of an average Black Currant the work of second thinning should be taken in hand, directing special attention to the centre of the bunches and to the removal of any berries whose footstalks may have been injured during the first thinning. Slightly tie up any "shoulders" of considerable size which were previously overlooked. The berries removed at this thinning, if collected and washed, may be used in the kitchen for tarts. Examine the border (by means of an auger if in doubt), and if dry, give it a good soaking, as the lack of moisture at the roots will militate against the welfare of the Vines generally and against the swelling of the fruit in particular.

Strawberries.—Withhold stimulants from plants whose fruits are showing colour, and expose the fruits as fully as possible to the sun's rays. Where there is a succession batch swelling its fruits, moderately strong stimulants should be applied twice a week. Do not on any account allow the plants to suffer from lack of water; in fact, from now onwards the pots may be stood in saucers, which will conserve the drainings from the pots.

The Hardy Fruit Garden.

Side Grafting.—This form of grafting is suitable for filling up gaps on a tree or for grafting a superior variety on to an inferior one. Now is the time for performing this operation when the sap is ascending. An incision is made in the bark of the stock, and the scion, being neatly prepared as for splice grafting, is inserted into the incision as in budding and then covered with grafting wax or clay.

The Flower Garden.

Hollyhocks.—These stately plants are less popular now than they were, but they still have their use as background plants. They may now be planted from nursery lines in rich, deeply worked soil, as these plants are gross feeders.

Sweet Violets.—Rooted runners should now be taken from plants in frames and planted about 1ft. apart on a cool border which has been well manured and deeply dug. As the young plants develop, all runners or side growths should be promptly removed as they appear, as it is only thus that vigorous plants can be obtained for frame culture next season. As soon as the parent plants have finished flowering they should be thrown away.

Antirrhinums.—Autumn-sown plants and those which were raised from cuttings in the autumn should now be planted out. The Antirrhinum should not be too liberally treated, in proof of which see the goodly specimens growing in the crevices of an old stone wall. Spring-raised seedlings, which are most in vogue, should be well exposed now, preparatory to being planted out; meanwhile see that the ground is in readiness for their reception.

Lawns now demand close attention. They must be mown once a week at least, and playing lawns twice a week. The same remark applies to rolling. The broom must also be brought into operation if the mower is not furnished with a grass box.

CHARLES COMFORT

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Humea elegans, commonly known as the Incense Plant, is not often seen in gardens at the present day. It has generally been regarded as a somewhat difficult plant to manage, but I have not experienced any difficulty with it. It is, undoubtedly, troublesome when given its final potting, and at this stage an unskilful cultivator may kill every plant by an overdose of water. *Humea elegans* requires careful watering at all times, also, cool, airy conditions. Plants raised from seed sown last July or August should now be ready for their final potting, which if they have been well grown should be into 8in. or 10in. pots containing plenty of drainage material. The compost should consist of good mellow loam with the addition of some leaf-soil or old mushroom-bed manure and enough clean coarse sand to keep the whole open and porous. Pot the plants moderately firm and water very carefully until the roots have got a good hold of the fresh compost. *Humea elegans* is sometimes attacked by aphids, and as this plant is very impatient of fumigations and insecticides, it is well to keep a sharp lookout and brush the pests off as they appear. Here I think I should state that this plant produces a rash or eczema on some persons in the same way as *Primula obconica*.

Lobelia Tenuior.—Earlier-sown batches of this beautiful plant should be potted on as they require it. If large specimens are desired, three plants are best grown in a pot, and they may be pinched once or twice to induce a bushy habit. As they increase in height some sprays of Hazel should be used to support them. A pinch of seed should be sown at this time to maintain a succession of plants, as by so doing it is possible to have this *Lobelia* in flower until early winter. The ordinary dwarf *Lobelias* are also excellent for furnishing the fronts of the stages, and the different varieties come very true from seed, although it is usual to increase any good variety by means of cuttings, which root very readily during the spring months. The double varieties, which are excellent for pots, must, of course, be increased by means of cuttings. There are several long, straggling growers, such as *Sapphire*, which are excellent for small baskets, and these are best raised from seed.

Tecoma alata (syn. *T. Smithii*) is a good plant for autumn and winter flowering, and is easily propagated by means of cuttings at this time. By propagating at different times this plant may be had in flower over a considerable period. This plant grows quite well in any ordinary potting compost, potting on the rooted cuttings as they require it. Their final shift should be into 6in. pots. This plant requires quite cool treatment at all times, and during the summer may, with advantage, be stood outdoors on a bed of ashes. If fine large inflorescences are required, the plants should not be stopped; if more bushy examples are desired, the young plants should be pinched

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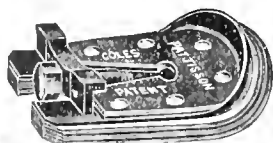
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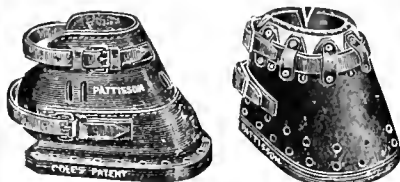
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once, which will induce several shoots to develop. The cultivation of this plant presents no difficulty, but whenever the flower-buds shew at the ends of the shoots all lateral growths which at this time appear below the flowers should be rubbed off, as such laterals soon take the lead, with the result that the flower-buds are suppressed and fall off.

Rhododendrons.—There are quite a number of fine greenhouse Rhododendrons which are worthy of more general cultivation, as they are excellent for planting out in cool conservatories and also make fine specimens in large pots or tubs. Many of them, such as Lady Alice Fitzwilliam, are hybrids of *R. Edgeworthii*, and from this species they derive their delicious fragrance. *R. Fosterianum* is one of the best, with large white flowers with a yellow blotch at the base and sometimes slightly tinted with pink. Most of these Rhododendrons are easily propagated at this time by means of cuttings, using medium

sized, half-ripened shoots for this purpose. Insert the cuttings in pots containing sandy peat, and plunge them in a propagating-case with slight bottom-heat. Lady Alice Fitzwilliam usually sets seed so freely that the plants suffer severely if the capsules are not picked off. The seed, however, affords a ready means of increase, the resulting plants shewing very little, if any, variation. *R. Veitchianum* is a very beautiful species which is readily raised from seed. Any of these Rhododendrons that may prove difficult to propagate by means of cuttings can readily be grafted on stocks of *R. formosanum*, side grafting being the best method to adopt. Many of these hybrid greenhouse Rhododendrons make long, straggling growths, but as they can easily be bent in any direction they can readily be trained round supporting stakes, and if they are bent down it induces the back buds to start into growth and thus helps to keep the plants well furnished.

Royal Botanic Gardens, Kew. J. COULTS.

ABOUT OVERCROWDING

IT is possible that overcrowding is responsible for more failures in the garden than any other mistake. We begin with sowing seeds too thickly, especially indoors, so that as soon as germination has taken place the little plantlets touch one another, and then neither air nor light can reach them in sufficient quantity.

Just remember the difference you may have observed when sowing Lettuce seed in a row in the open air. If two or three seeds happen to be dropped outside the line, compare results as regards health and vigour with those you have taken so much care of. There will be no visible stem to the accidental outcasts, and whether transplanted or left where they are, they will almost certainly produce better results than the thickly sown yet carefully tended ones. The latter, though they may be pricked off early, will have already formed weakly stems, and though these may be buried by transplanting, they will have lost some of their inherent potency and be more likely to run to seed prematurely than the more naturally grown ones, especially if there should be a shortage of water. When sown indoors they are more likely to be sown thickly and become still more drawn. I mention Lettuces, as these, though being among the easiest things to grow, will quickly shew the effects of unskilful treatment.

Then take the case of Peas, which we generally see sown much too thickly, the result being puny stems which seldom branch out, and by the time the first few pods are gathered the leaves at the base begin to turn yellow from starvation and suffocation. There may be more than enough plant food in the soil, but that will count for nothing without sufficient light and air. Peas will live a long time without manure, supposing there is sufficient moisture at the roots, but a deficiency of air to either root or leaf will speedily leave its mark. Vigorous-growing Marrowfat peas never ought to be nearer than 3 ins. apart, and it is best to sow a double row zigzag. When remonstrating with my vegetable man for wasting seed, he said, "Mice like Peas, master." But if Peas are properly dressed before sowing with red lead or paraffin, the mice, and birds too, will go elsewhere for their breakfast. That the distance mentioned is not too great is proved by the fact that seeds raised in boxes and planted 6 ins. apart are found to be quite close enough. It is not only that the plants hold out longer when given sufficient room for both leaves and roots, but the quality of the produce is greatly improved.

Those who grow Sweet Peas for exhibition will know the value of a little extra space, and we should take a lesson from them, for perfect flowers

are as necessary for culinary Peas as for the ornamental varieties.

Runner Beans, perhaps more than any vegetable, require ample room for development. Where the means are at hand I prefer sowing these indoors in March singly in 5 in. pots half filled with soil at first and afterwards top-dressed. The plants, if stopped twice, will form good-sized bushes, and may be planted 18 ins. apart in a row or, what is better, singly in deep basins 2 ft. or 4 ft. apart each way. They can be frequent stopping easily be kept down to 5 ft., and I have found that stopping the rambling shoots makes them no later in bearing. I have on several occasions gathered Beans by Midsummer Day from plants so treated, and some of the pods were produced very near the ground. Should there be a necessity for watering, this can be done thoroughly, for the basins should be capable of holding a couple of gallons. Dribblers are very harmful, therefore if one must apply water, it should be done thoroughly, and it is surprising how much water they will take in hot, dry weather, when the flowers are likely to fall off. Remember, the roots will not be confined to the basins in which they are planted; they will ramble laterally through the spaces between, and water poured into the basins will, if sufficient in quantity, percolate under the surface to these rambling roots. Bear in mind also that roots have the power of sucking moisture from soil which is beyond their extremities. Many people pour water just round the stem of a plant. This may satisfy the operator, but it is far from satisfying the plant.

To digress for a moment, I may say I have found a good heavy syringing during the middle of a hot summer day useful to prevent flowers dropping and also to assist fertilisation. A slight spraying would be injurious, as it would cause what is called "scalding," but which I call "chilling," produced by rapid evaporation. Not only should the plants be drenched, but the surrounding soil should be well damped. This will have the effect of lowering the temperature, checking transpiration, and vapour will be produced, which, though invisible, will perhaps suffice to produce a little shade temporarily.

If one cannot sow singly in pots, seeds may be sown in a box during April and transplanted when they have made a leaf or two beyond the seed leaf. The box may be kept in the dark till germination has taken place and afterwards placed outside and covered when necessary. During this interval the outside soil will probably be getting warmed somewhat. I have known this plan successfully practised by cottagers.

I wish I could persuade all cottagers to treat their Runner Beans more rationally. It is a very

important vegetable to them, yet unless the summer happens to be cold or wet, they seldom gather many Beans before September, and these are borne only in the upper portion of the stems. If sown 5 ins. apart a better crop is produced than when less space is given. T.

ON DESIGNING A GARDEN

(Continued from page 165.)

ANOTHER reason for having gardens as widely contrasting in character as space will allow—and it is wonderful how much may be done in a small space if everything is kept to scale—is that one can grow all, or nearly all, of the hosts of different plants as they should be grown in their proper places. Herbaceous plants, annuals and biennials will be planted in the more formal gardens, Roses, of course, in the rose garden, and the smaller-growing trees and most of the shrubs in the more natural parts of the grounds. Do not make the mistake of mixing Roses with other things, they are essentially plants to be grown by themselves. As in many other races of plants, there is a harmony in their colouring that, like the Scottish clanish feeling, is for members of the family alone. There are, however, exceptions to this rule, as to most others. Numbers of the Rose species, such as *Moyesii*, *rubrifolia* and several others can be used most effectively in shrubberies, on banks and in many places other than in the rose garden.

With the significance that the appearance of most shrubberies gives to it, the word "shrubbery" is a detestable one. The shrubbery walks and gardens in which, as well as shrubs, many of the smaller trees will be included, should be some of the most naturally beautiful parts of any garden. The bright colours of their flowers in spring and early summer, the variety of choice they offer for any soil and situation and, above all, the beauty of form of many of them, lend themselves in their successful planting to the making of some of the loveliest of garden scenes. The Japanese have the reputation for being supreme in the art of landscape gardening, but our English taste, a taste that is the product of long cultivation, likes, at any rate in its gardens, something that is English in feeling. With the more beautiful shrubs and trees, and it may be a few masses of the straggler-growing herbaceous plants and here and there a great boulder of stone, an artist can make gardens every line of which is a joy to look upon.

To make this sort of garden to perfection the lawns should be more or less hollowed towards their centres, and the sectional curvature continued in a more pronounced degree by the borders and planting. It is a kind of planting none but one who is, at any rate, something of an artist had better try to arrange, for to see the most beautiful of shrubs grouping themselves in squares and rectangles, as I have seen them do under the supervision of really skilled gardeners, is something to be avoided. For this kind of garden, shrubs should be chosen as much for the beauty of their habit of growth as for their flowers, for in form such planting as this is always lovely, whether the shrubs be in flower or not. Never admit a Laurel; these plants are excellent for game coverts and are occasionally suitable as hedges, but they are not for the position we have in mind. Shrubs may be divided roughly into two classes, those of beautiful habit of growth, whether in flower or not, and those that are planted principally for

the display they give during their season of flowering.

Among the former may be included almost all the Barberries, *Berberis stenophylla* and its various hybrids, *B.B. Gagnepaulii*, *Darwinii* and *Thunbergii*, the lovely dwarf-growing *Berberis Wilsonae*, and both the green and purple forms of the common Barberry, *Berberis vulgaris*. The shrubby *Spiræas* also offer some beautiful forms of flowering shrubs, *Spiræa arguta*, *S.S. discolor* (*aristifolia*), *Lindleyana*, *confusa* and *prunifolia* fl. pl. being some of the best. Thorns, *Laburnums*, *Lilacs*, Japanese Maples (in sheltered spots), Brooms and Gorse, *Cistus*, *Lonicera* and many others offer a wealth of material from which to choose.

There are too many interesting and beautiful shrubs to attempt to enumerate them in the space of a short article. Be sure, however, to include some both of the upright and prostrate-growing Junipers. The grey-green colour of their foliage as well as their beautiful habit of growth makes of them some of the most useful plants we have. Also utilise cypresses and other evergreens in any planting of shrubs; they add weight, and in winter, will intensify the beautiful tracery of the branches of the deciduous trees and shrubs by the contrast with their own persistent green foliage.

It is difficult to make an informal treatment look really well in a small space. Carving lines in a garden need length and a setting of trees and shrubs.

PERCY S. CANE.

"THE SQUIRE, THE GARDENER AND THE COOK"

A DIALOGUE ABOUT VEGETABLES.

THE SQUIRE: Your kindly reception of my suggestions, Paxton, has given me a great deal of pleasure, and I now take such an interest in the garden as I should not have thought possible. I am beginning to think Disraeli was unfortunate in his gardener acquaintances according to his estimate of them in "Lothair." I may say now that I have one or two compliments to pay you. A friend tells me he detests Cabbages, that they are indigestible and have no taste, unless it is a very disagreeable strong one, that they are only fit for pigs. They are not fit for cows, as they spoil the flavour of the butter. Well, now, the Cabbages you sent in last spring were delicious, and the cook tells me they only require from twenty to thirty minutes' boiling, and that they retain their fresh green colour without soda being added to the water. Sometimes in former situations she has had to boil these vegetables twice or three that length of time, and although soda was added, the colour of them when dished up was not attractive. What is the reason? Is it a particular variety you grow?

PAXTON: No, sir, it is not the variety; it is the culture and the cooking. They are planted in very rich soil, in shallow drills 2ft. apart and 1ft. apart in the row. As soon as they commence to grow freely in February a little stimulant is given in the shape of "nitrate," and the soil is pulled close to the stems with a hoe. This operation is repeated with the feeding in March, and at no time is any bare stem left visible. They very soon show that they like this attention. Many people plant them rans, apart on level ground, and this distance gives no room for earthing up without injuring the roots. If the situation is an exposed one, you may see them swaying about with the wind and making a plastered hole the size of an eggcup. The number of plants in a given space is about the same either way. Then, again, they are sometimes planted by the edges

of walks to economise space, but this does not bring either quality or early development. As to cooking, you are fortunate in having a cook who does not always follow her grandmother's practice. After one trial she knows the time it takes to cook a green vegetable, and the lid is never once lifted till the vegetable is ready to take up. The more steam there is confined the better. Any ordinary saucepan will allow more than enough to escape. If you would fit an adjustable sieve inside the lid in order to keep the green vegetables under water, the thing would be perfect. Any leaf above the water turns brown, just as badly as it will do in a steaming apparatus. Cabbages should be quickly grown, quickly used after gathering and quickly cooked.

THE SQUIRE: Your explanation interests me exceedingly. I have lately read much about what scientists call "vitamines," which I do not clearly understand, but as there seems to be a general agreement among learned men that these are very valuable constituents of our food, there must be something in it. They also tell us that the longer vegetables are boiled the greater is the loss of these vitamins. So you see, whether you know it or not, you and the cook are acting on the side of the scientists. Then as to Carrots. I had no idea till last spring that I liked these roots as a vegetable. They had previously only been used for flavouring, but those little stumpy ones, about the size and length of one's thumb, were very much relished, and I am told that these, too, were only boiled half an hour and were neither peeled nor scraped. Why cannot you supply these all through the summer and autumn?

PAXTON: Oh! yes, sir, I can supply them, as you like them so well, by sowing every month from March to the first week in August, and the last two sowings will keep up the supply through the winter and early spring. They will not be so good in the spring when the roots start growing afresh and will take longer to cook, but they will be young Carrots and can always be pulled fresh from the ground with their leaves quite green. When Carrots need boiling a long time there is more flavour in the water than in the roots. The variety I prefer is Early Nantes, and I wish those who grow for seed would take more care to preserve the true stock instead of devoting so much attention to reputed improvements.

THE SQUIRE: The cook tells me the Runner Beans you send in require no stringing and that they are quickly cooked. Is it a stringless variety?

PAXTON: No, sir, it is only a question of gathering at the right time, which is before one can see much of the shape of the seeds.

THE SQUIRE: I am informed that large Parsnips are the best, there being comparatively less core, and the core being of inferior quality need not be used; but I wish you would grow some smaller Onions. You may take pride in producing bulbs 3lb. in weight while your neighbour's only reach 2½lb., but they are wasteful in the kitchen.

PAXTON: I will attend to your wishes, sir, and am glad to have pleased you in some other matters.

THE SQUIRE (musing): What Heaven-sent blessings! A competent gardener and a competent cook, neither being too concerned to attend to my whims. Truly, knowledge begets modesty. Who can gauge the power for promoting human health and happiness possessed by two such unassuming yet qualified persons acting in unison?

WM. TAYLOR.

The Great Ghent Show. There will be an important horticultural exhibition held in Ghent from April 14 to 22, which should prove of great interest. Those of our readers who would like

to visit this will be pleased to learn that the Southern Railway are issuing cheap week-end tickets from London to Ostend, via Dover, which will enable passengers not only to visit the exhibition, but to spend a few days on the Belgian coast. A point which is worth noting in this connexion is that for British subjects passports are entirely dispensed with, thus greatly facilitating the journey.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

TREATMENT OF NARCISSI ("Torquay").—If the foliage is allowed to ripen off naturally and healthily, the bulbs should continue to produce flowers satisfactorily year after year. The necessary weeding and cleaning should not be harmful to the plants. If the bulbs are lifted after flowering, this work must not be done till the foliage is properly matured. When dried, store the bulbs in paper bags till time for replanting, which ought to be early in September.

FRUIT GARDEN.

CUTTING STEMS OF WALNUT TREES ("Wood Dean").—The term "lud-bound" is used in some districts, and the cutting or slitting of the bark is occasionally done when the outer bark has contracted or hardened unduly, a callus forms along the cuts and the stem thickens. The condition occurs mainly owing to an unsuitable rooting medium and a check to the flow of sap resulting. In such circumstances it is generally the best course to take to destroy the trees and plant new ones in better positions.

ABOUT PLANTING FRUIT TREES ("Novice").—It is too late in the season to plant Apple and Pear trees. If they are planted now they will receive a severe check and produce very second-rate shoots during the summer. The better plan would be thoroughly to prepare the soil in readiness for planting, in our correspondent's district (Doncaster) the end of next November. We recommend cordons, bush and standard (the last, especially, if undercropping with Gooseberries is contemplated), and cordons for the production of extra fine fruits. The following are good varieties: Cox's Orange Pippin, Ellison's Orange, James Grieve, Warner's King, Golden Spire, Worcester Pearmain, Lane's Prince Albert, Bismarck, Alfriston, Newton Wonder and Bramley's Seedling. Pears: Williams' Bon Chrétien, Durondeau, Doyenné du Comice, Pitmaston Duchess, Beurré de Capiaumont, Marie Louise, Louise Bonne de Jersey, Beurré Hardy and Josephine de Malines. Approximate distance apart to plant. Standards, 15ft. to 24ft. for medium and 24ft. to 30ft. for strong-growing varieties. Bushes, 12ft. to 15ft. apart.

KITCHEN GARDEN.

GREENS ATTACKED ("Torquay").—The plants are attacked by the fungus *Peronospora parasitica*, one of the "false mildews." It is too late to do much to counteract this attack, but young plants should be sprayed with Bordeaux mixture and every care should be taken that the diseased foliage, etc., should not be allowed to get into the soil.

VEGETABLES UNDER GLASS.

CUCUMBER SEEDS NOT GERMINATING (A Regular Reader).—Without knowing the exact treatment of the seeds after potting we are unable to tell our correspondent the cause of failure. However, judging from the sample of seeds sent for examination, we think it likely that excessive moisture in the soil and the comparative coldness of the latter are the two principal reasons for non-success. Sixty-five degrees bottom-heat should, with very moderate soil moisture, cause successful germination. The seeds contain ample pulp, which has rotted instead of forming the two seed leaves normally.

MISCELLANEOUS.

GROWING MUSHROOMS IN BOXES (A. M., Surrey).—Proper materials and position are necessary if Mushrooms are to be grown successfully. The best positions are dark sheds, cellars and under stages in a greenhouse, all free from cold draughts. The necessary materials are horse manure from which the bulk of straw has been taken and the droppings treated so as to get rid of the rank gases, sweet maiden loam for covering bed 2ins. thick, and a final covering of clean straw 1ft. deep. The nick loam taken from immediately under the peeled-off turf should be used in boxes and made moderately firm. The bricks of spawn should be broken each into twelve pieces and inserted 6ins. apart 2ins. below the surface. Avoid applying much water but maintain a moist atmosphere round each box. Failures often occur where conditions are uncongenial.

INSECT PESTS (A. E. M.).—The black fungus on the leaves is not in itself very harmful. It grows upon the honeydew secreted by green flies and scale insects, and attention to the prompt destruction of these pests will prevent the occurrence of the fungus. The Roses have also been attacked by thrips, but the brown spots to which our correspondent refers are apparently due to lack of water at some time in the past or to injury through spraying at a wrong time or with too strong an insecticide. The Ferns have also been attacked by thrips.

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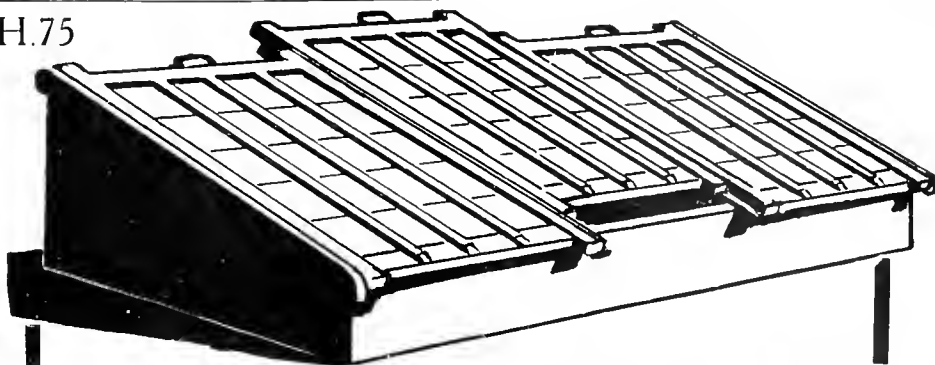
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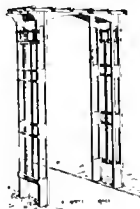
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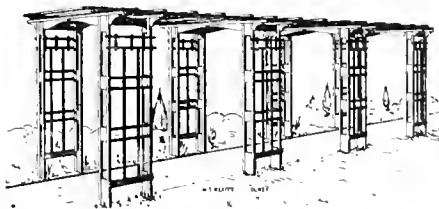
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Salvia argentea, strikingly beautiful silvery leaves in large rosettes, pinkish white flowers, 4, 1/4. **Saponaria**, dwarf trailing, pink flowers, 6, 1/6. **Saxifraga**, mossy, crimson or pink flowers, 3, 1/6; white, 4, 1/4. **Sweet Scabious**, lovely colours, dwarf or tall, 6, 1/4. **Scabiosa** caucasica, large, exquisite mauve flowers, one year old, 3, 1/6; two year,

very large, 1/- each. **Shasta Daisy**, 4, 1/4. **Sedums**, 4, 1/4. **Silene**, pink, compact, 12, 1/6. **Solidago** (Golden Wings), 3, 1/6. **Solomon's Seal**, 6, 1/6. **Stachys** (Lamb's Wool), 6, 1/6. **Sweet Rocket**, purple or white, 6, 1/4. **Sweet William**, new Scarlet, Pink and Crimson Beauty, 6, 1/6; double white, 6, 1/6; double and single hybrids, 12, 1/6. **Thistle** Queen of Scots, 3, 1/6. **Thalictrum**, hardy Maiden-hair, 3, 1/6. **Thrift**, compact, pink flowering, 6, 1/4. **Tritoma** (Red-hot Poker), 3, 1/6. **Tussilago** (Winter Heliotrope), 3, 1/6. **Tunica** saxifraga, dwarf, edging or rockery, 6, 1/6. **Verbascum**, large, tall, yellow, 3, 1/6. **Valerian**, old crimson favourite, 6, 1/6. **Veronica** spicata, tall blue, 4, 1/4; **gentianoides**, dwarf blue, 4, 1/4. **Viola** cornuta, masses of small blooms, lovely for rockeries, etc., Mauve and Purple Queen, White and Blue Perfection, 12, 1/9. **Violas** from seed, Bath's bedding, yellow, white, purple, blue, and mixed (all colours), 12, 1/6; good bedding, mauve, from seed, 12, 1/10; from cuttings, best large mauve, yellow and white, 12, 2/6.

STRONG TRANSPLANTED GREENHOUSE AND POT PLANTS, ETC. **Agapanthus**, blue African Lily, two year old, 2, 1/4. **Agatha** celestis, lovely blue Marguerite, 6, 1/6. **Aralia** (Fig Palm), 3, 1/6. **Arum Lily**, one year, for potting, 3, 1/6. **Asparagus Fern**, erect or trailing, 3, 1/6. **Begonias**, evergreen, perpetual flowering, pots or bedding, 4, 1/4. **Beauty Stocks**, lovely, fragrant, double, 6, 1/6. **Cannas**, Crozy's beautiful hybrids, strong two year old, 3, 1/6. **Celsia** cretica, charming perennial pot plant, spikes yellow and mauve, 4, 1/4. **Cobæa** scandens, handsome, rapid climber, large purple flowers, 3, 1/6. **Cyclamen**, choice strain, 3, 1/6.

Dahlias, Peony-flowered, Collarette, Colossal, single, Cactus, double, etc., 3, 1/6. **Deutzia** gracilis, pot shrub, soon be covered with lovely pink or white flowers, 2 for 2/-.

Echeveria, glaucous rosettes trailing red flowers, 4, 1/4. **Eucalyptus** (Blue Gum), 4, 1/4.

Fuchsias, choice sorts, 4, 1/8. **Francoa** (Bridal Wreath), long trails white bloom, 4, 1/4.

Gloxinias, large erect blooming, lovely colours, 2, 1/4. **Heliotrope** (Cherry Pie), 3, 1/6.

Ivy Geraniums, double pink, 3, 1/6. **Lily of the Valley**, strong flowering crowns, 6, 1/6. **Lobelia** cardinalis Queen Victoria, claret foliage, spikes scarlet flowers, 3, 1/6.

Marguerite Covent Garden White, and large yellow and sulphur, 4, 1/4.

Nicotiana, white or crimson, fragrant Tobacco, 4, 1/4.

Passion Flower, 2, 1/6. **Plumbago**, beautiful blue, 1/4 each. **Primula** obconica, new giant, lovely colour, 3, 1/6; **malacoides**, lilac, 4, 1/4; **kevensis**, yellow, 4, 1/4; **japonica**, Queen of Primulas, 3, 1/6; **cortusoides**, rosy purple, very fine, 3, 1/6.

Rehmannia, handsome large pink trumpet flower, greenhouse perennial, 3, 1/6.

Salvia coccinea, scarlet, 4, 1/4. **Saxifrage** Mother of Thousands, 4, 1/4. **Smilax**, trailing, 4, 1/4. **Streptocarpus**, lovely Cape Primrose, beautiful new hybrids, 3, 1/6. **Schizanthus** Wistoniensis hybrids, 4, 1/4.

Tomato strong transplanted, best varieties, 6, 1/6.

STRONG VEGETABLE AND HERB PLANTS from open ground. **Asparagus**, Kelway's Giant, two year old roots 7/- 100; three years, 10/- 100. **Sage**, **Thyme**, **Mint**, **Marijor**, 3/- doz. **Parsley**, best curled, 1/4 doz. **Spring Cabbage**, **Brussels Sprouts**, **Cos** and **Cabbage Lettuce**, **Leeks**, **Cauliflower**, **Winter Tripoli Onions**, **Pickling Cabbage**, 1/9 100.

STRONG HARDY CLIMBERS. **Ampelopsis** Veitchii, self-climbing, small leaf, large roots, several trails, each 2s. **Clematis** Traveller's Joy and Flammula (Virgin's Bower), white, rapid climbers, large two year roots, 2/- each. **Honeysuckle**, very fine red-flowering Dutch, large plants, 3/- each. **Wistaria** sinensis, large racemes of bluish-lilac flowers, 3/6 each. **Everlasting Climbing Pea**, red, white, pink, 3, 1/6. **Apios**, tuberous rooted Wistaria (not sinensis), rapid climber, sweetly scented purple flowers, 3, 1/6. **Calystegia**, double pink Morning Glory, 3, 1/6. **Passion Flower**, hardy blue and white, 1, 1/4. **Tropæolum** speciosum, tiny flame flowers, glory of the South Islands, 2, 1/6. **Jasmine**, fragrant white flowering two year rooted cuttings, 1/- each; very rare yellow summer-flowering, two year rooted cuttings, 1/4 each; yellow winter-flowering, two year rooted cuttings, 2, 1/9. **Eccremocarpus**, trusses orange-red flowers, 2, 1/4.

Extract from one of the leading Garden Journals, dated March 17, 1923:—"MRS. PYM'S HARDY PLANTS.—This is a catalogue of Hardy Plants for beds, borders and rockeries, also Hardy Climbers, Vegetable and Greenhouse Plants, all of which are in small lots priced carriage paid and offered on money back terms. There is no plant catalogue more to be recommended to the amateur gardener. It is post free from Mrs. Pym, and readers may order therefrom with every confidence of entire satisfaction."

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[APRIL 14, 1923.]

COLOUR HARMONY IN THE ROCK GARDEN

NO one who is in the habit of seeing many rock gardens at this season will question the desirability of an article on this topic. There may be objections, of course, from those who say that in Nature colours never clash; surely rather a sweeping assertion, though one with a deal of truth in it! A rock garden is not natural, however, only an attempt at reproducing the natural, and, in one respect at all events, the attempt is usually not very successful. Just at this season of the year the average rock garden is deficient in greenery. There is a superabundance of blossom, but (to repeat) as a rule a woeful shortage of harmonising foliage.

If we confined our rock garden planting to species and wild varieties, colour clashes would be still possible, but much less probable. The garden varieties of *Aubrietia*, however, to take but one instance, are apt to clash quite badly one with another. The so-called pink and red shades are difficult with the so-called blue tones, and these last again look dowdy in the extreme if allowed to come in juxtaposition with the pure colouring of the *Gentianella* or of the *Lithospermums*.

Then again the brilliant *Lychnis viscaria splendens plena* or the almost equally strident *Calandrinia umbellata* must be used with the greatest care if trouble is not to ensue, and some of the small *Rhododendron* species have, also, that magenta tone which is so difficult to utilise satisfactorily. *R. mucronulatum* has particularly striking and difficult colouring. Many of the purplish and deep rose *Geraniums*, too, have a large share of magenta in their composition.

It has always to be remembered that in the rock garden, groups of plants actually a considerable distance apart may, from some view-points, be brought together for comparison. For this reason it is dangerous to place plants of quarrelsome colouring on "bluffs" or other prominent positions in the rock garden.

In the herbaceous border we usually ensure harmony by the liberal use of plants with grey foliage and inconspicuous blossom. In the rock garden we shall do much better to concentrate on plants which give repose now with their foliage and will provide us with

blossom at another season when flower in the rock garden is even more welcome. There is not the least doubt that the average rock garden is deficient in plants which bloom in summer, autumn or early spring.

Quite a number of the *Geraniums* may be mentioned as summer-flowerers and the foliage of most is interesting the year through. *G. Traversii* is the choicest with its silky, silvery foliage and charming but not striking rose-pink blossoms. The two most useful species for the rock garden however, are *G. G. Wallichianum* and *sanguineum*. The former has blossoms in some shade of light

or dark blue and reddish bracts at the junction of flower stem and foliage, while *G. sanguineum* in its typical form is a fiery crimson not unmixed with magenta. There is, however, considerable diversity alike in habit and in colouring, and it is worth while to collect a good form of this native species. There is a splendid pure white form in commerce and the prostrate soft pink *G. laucastriense*—an invaluable plant—is botanically a natural variety. There is a lovely prostrate form of *G. Wallichianum* called Buxton's variety, which has large violet blossoms. There are, of course, many other interesting and beautiful species, including the Tibetan *G. Pylzowianum*, illustrated on this page.

Again we have the summer-flowering Rock and Sun Roses (*Cistus* and *Helianthemum*), many of which are very interesting in foliage at this season of the year. The grey-leaved beauty of the forms of the perfectly hardy *Helianthemum roseum* is especially attractive. There are many garden forms and hybrids of this species with similarly beautiful foliage.

Many of the *Silenes* flower after the great rush of blossom is over. This applies to that most beautiful of early white-flowering rock plants, *S. alpestris*, but *S. Schafta* is invaluable as one of the best late-flowering alpine. Its purplish red blossoms are borne in late summer and on into early autumn. Another interesting species is *S. vallesia* with rather nondescript coloured flowers.

The *Campanulas* are, of course, a great stand-by when *Aubrietia*, *Arabis*, *Alyssum* and *Phlox subulata* are over and although their range of colouring is not great, there is here an immense diversity of form and habit. The tiny but proportionately large-bellied *C. pusilla* may be had in several fine and distinct forms, including the lovely variety called Miss Willmott. Then there is the large-bellied *C. Allionii* and *C. Zeyssii* with singular bottle-shaped blossoms. Quite distinct again with their relatively large solitary bells are *C. C. pulla* and *pulloides*, while there is a small host of forms of the common Harebell, *C. rotundifolia*, and an equal number of species which are, in fact, little more than forms of this species. Then there are the many forms of the admirable *C. carpatica*, not to be



MUCH LIKE A VERY FINE GERANIUM SANGUINEUM,
G. PYLZOWIANUM.

The smaller *Geraniums* are valuable summer-flowering rock plants.

There are two species of *Chamaecrista* in the United States, *Chamaecrista fasciculata* (L.) Greene and *Chamaecrista nictitans* (L.) Greene. The former is a native of the United States and is much commoner than the latter. It is a bushy plant, the leaves of which are deeply lobed, the leaves of the stem being ovate, and the leaves of the larger branches being ovate or elliptical. The flowers are small and are of a light blue or white color. The fruit is a long, slender, cylindrical pod, which is flattened and is covered with a fine, white, woolly covering. The seed is small and is of a light brown color. The plant is a native of the United States and is much commoner than the latter. It is a bushy plant, the leaves of which are deeply lobed, the leaves of the stem being ovate, and the leaves of the larger branches being ovate or elliptical. The flowers are small and are of a light blue or white color. The fruit is a long, slender, cylindrical pod, which is flattened and is covered with a fine, white, woolly covering. The seed is small and is of a light brown color.

Most of the Gentians on the high alpine rock gardens are spring-flowering, but there are some noteworthy exceptions. The Willow Gentian, *G. sepium*, and all its clams are summer-flowering (i.e., September), and *Przewalskii* are both previous and later species belonging to this section. Two truly alpine species of the first rank are autumn-flowering, namely *G. Farnetii* and *sino-comata*, both are Asiatic species. The equally beautiful and remarkable *G. Kurroisii* is summer-flowering.

That splendid little "Everlasting," *Hebechrysum* bulboides, with its multitudes of white rosettes in charming grey foliage, should be in every rock garden. It will withstand such winters as we have had of late years in any sunny position, but it is a New Zealand, and it would be wise to give it a sheltered position with a south-western exposure, or to put a little stock in a frame in case of accidents.

The *Shortias*, of which the most beautiful is the Japanese *S. uniflora*, illustrated herewith, with pale flesh-coloured blossoms, are late spring or early summer flowering, but their leathery foliage is beautiful the year round. There is an especially fine free-flowering form of *S. uniflora* called *S. u. grandiflora*. *S. galapahua*, the North American species, is less striking when in flower, though handsome enough, but has foliage which takes on delightful crimson colouring in winter. It should therefore be planted in at least half sun, whereas *S. uniflora* prefers shade. Both should have a soil containing a large percentage of decayed vegetable matter.

Closely related to *Shortia* is *Schizocodon*, of which *S. soldanellodes*, with its soldanella-shaped bells (all but tinged in a way no *Soldanella* ever was), is the species usually seen. The colouring is similar to that of the *Shortia*, and this, too, is a shade-loving plant. Closely related to *S. rhinodius* (with rather bell-like foliage)

Another useful family, inasmuch as it flowers before the great mass of rock plants have finished so that of the *Potentilla*. The showiest, and perhaps that account the most useful species for the rock garden, is the bright rose *P. nepalensis*, a strong-growing, summer-flowering trailer now largely overshadowed by the splendid bright cerise coloured variety *Willmottii*. Much choicer and, in a smaller way, even more beautiful, is the exquisite rose coloured *Potentilla nativa*. There is a splendid pure white form of this. Both are rare enough for the nursery. Closely allied to *P. nativa*, but also in cultivation, is the splendid milk-white *P. Christii* which, however, seems to prefer, like the rose, a good *Potentilla* lime.

but a warm and sheltered corner, since they seem to have, like the bulbous and Malvastrum-like et al., no flowering plants, though they have a climbing, rather carefully arranged vine. The species I collected, *M. campanulata*, is one of the best. *M. conopsea* has a more delicate



SAXIFRAGA OPPOSITIFOLIA, OFTEN OF "DIFFICULT" COLOURING.



THE DELICATELY COLOURED SHORTIA UNIFLORA.



THE SUMMER-FLOWERING MALVASTRUM CAMPANULATUM.

NOTES FROM THE EDINBURGH ROYAL BOTANIC GARDEN

MARCH is always a little disappointing in Scottish gardens, and there is not a great deal to be seen in flower out of doors. The Rockery at the Botanic Garden is dominated by Saxifrages—white, pink and yellow, chiefly yellow, and three in particular stand out for effectiveness. The white *Petræschii* (tombæanensis = *Rocheliana*) is one which I have seen blooming profusely here every March since 1912, and it can be recommended as quite one of the best and easiest of all to grow. Then there is another fine hybrid to be noted in Faldonside, with its handsome yellow flowers which are large for so tiny a plant. It is the result of a cross between *Burseriana* × *aretoides*, which also produced *Boydii*, of which the flowers are smaller and the growth less free. Faldonside asks for good drainage and, when convenient, a sheet of glass to protect its blossoms, which open first in February and are apt to get spoilt by bad weather. The third Saxifrage that strikes one as showy and most free-growing is the well known *apiculata* (*Rocheliana* × *sancta*), which may be seen spreading over a large area a sheet of pale yellow bloom. Some people prefer *Elizabethæ* (*Burseriana* × *sancta*) for its closer habit and richer yellow flowers, but at Edinburgh it does not bloom quite as freely. Other Saxifrages blooming here in March include *Rocheliana* var. *coriophylla*, white, with very neat encrusted foliage; *Haagei*, a useful little hybrid bearing small but bright orangy yellow flowers on sturdy 3 in. stems, said to be one of the best kinds for planting outdoors. *Borisii* and *Kyrillii* have yellow flowers and are of encrusted habit; they are both the result of a cross between *marginata* and *Ferdinandi* Coburgi in the Botanic Gardens at Sofia, and were named after the two Bulgarian Princes, Boris and Kyril. The big-leaved *crassifolia* and *ligulata* were well out by the middle of the month, but the little mossy *sancta* was still only in bud, and should be remembered as useful for succession in bloom, also as one of the "easiest doers" in this large genus. This question of succession is often of interest when planting a rockery, and I give the following short list of Saxifrages I have seen out at Edinburgh as typical to the various months. January: *Burseriana* and its varieties; February: *apiculata*, Faldonside; March: *Petræschii*, *ligulata*, *crassifolia*; April: *sancta*, early mossy varieties; May and June: *decipiens*, *muscoides*, *longifolia*; July: *Brunoniana*, *Cymbalaria*; October–November: *Fortunei*.

Apart from Saxifrages there were but few other plants out that might be taken as representative of March. *Shortia galacifolia* does extraordinarily well up here and, despite the fragile appearance of its white bells, so daintily fringed and tinted with pink, they seem to pass unscathed through bad weather. The persistent foliage is always beautiful, daintily marbled and veined, turning to richest crimson shades when autumn comes. *Trillium ovatum* may be seen looking very happy in a low shaded corner bearing several of its large three-petalled flowers of purest white. There is a lowly little bulbous plant out, too, in *Gagea fascicularis*, often called the Yellow Star of Bethlehem because of its yellow striped green starry flowers. It is only some 3 ins. high, and is perhaps more curious than showy. The same may be said of two *Euphorbias*, *E. amygdaloides* and *E. Myrsinites*, both from Europe and more noted for their good foliage throughout winter than for their inconspicuous yellow flowers. The latter species is a really valuable asset to any rock garden for its pleasant glaucous-grey effect,

A few *Primulas* are out, the most uncommon being *P. leucophylla* from the Carpathians, like a pale and delicate Cowslip; and *P. erythrocarpa* from Bhutan, bearing small, lilac, ball-shaped heads and narrow leaves—a miniature and fragile denticulata in appearance.

Shrubs are chiefly represented by *Daphnes* and *Rhododendrons*, and of the latter genus there are four to be seen that can generally be relied on to bloom at this time of year. *R. Metternichii* is not well known yet, but from what I have seen of it here for the past few years it appears to form a nice sturdy little bush, freely covered with bright pink flowers of fair size. *R. ciliatum* is growing over one of the highest and most exposed peaks in the whole garden, yet it seems to flourish in great health and vigour and to bloom profusely,

and it forms a pretty little bush about 2 ft. high. Growing in beds by themselves and forming quite respectable trees one may also see *R. Smithii* and *R. barbatum*, both from Sikkim. Both are bearing vivid crimson-scarlet flowers, and it is noticeable how badly those of *R. barbatum* have suffered from wind and weather, while those of *Smithii* are unharmed. It is just this kind of information one should be on the look-out for as a help when choosing kinds for planting.

Many of the early outdoor *Rhododendrons*, together with rare and half-hardy species, are grown in the spacious glass-house set apart for them in this Botanic Garden. Perhaps the most arresting inhabitant there this March is *R. Campbellii* from Sikkim, which bears a fine, shapely truss of bloom of a peculiarly cheerful shade of pink. The bush is 5 ft. high and a little loose in habit, but the colour and symmetry of the flowers make it very attractive. From one end of the huge glass-house opens a long glass corridor,



THE EXCELLENT YELLOW-FLOWERED SAXIFRAGA HAAGEI.

R. intricatum will always be an attraction for its daintiness and unique colouring of blue-mauve, and *oleifolium* commends itself as a fine plant for windy places, for its position at Edinburgh is in a rocky crevice where draughty winds shake it unmercifully. Its little pinky white flowers seemed quite unharmed and were well set off by its small dark thick leaves.

The most striking *Rhododendron* is, however, not to be found in the Rockery, but in a bed in another part of these gardens. It is *R. quinquefolium* from Japan, and the beauty of this almost takes one's breath away when first one sees it on a grey, "east-windy" March morning as a small, upright little tree some 4 ft. high, with never a leaf, but such a cloud of pink blossom that it reminds one of a dwarf Peach in bloom. Here is a species that will bring joyousness and grace combined with bright colour to any garden, and it is to be found in several nurserymen's catalogues, though sometimes classed as an *Azalea*. Not far from this species is one still smaller, to be seen flowering freely under the name of *R. Kerskei*, also from Japan. Its small pale yellow flowers have a quiet daintiness of their own,

one side of this being a high wall up which climbing plants are trained. Some of these are so long that they hang down overhead and give the pleasant illusion that one is walking along some jungle by-way, an illusion that is heightened by the long bed beside the path, where grow *Strelitzias*, *Clivias* and other plants of sub-tropical appearance. A particularly tall and pendulous climber may be seen in *Bomarea caldasiana* from Peru, of which the clusters of curiously spotted bells, orange and green and yellow, droop invitingly from the root. Of stiffer habit is the rare *Rondeletia Rozei* from Guatemala, which bears the prettiest bunches of pale pink flowers in great profusion. The coral-scarlet tubes of *Cestrum Newellii* provide nice glowing patches of colour, and there are many other interesting plants, as well as some that are better known among the *Acacias*, *Geraniums* and *Camellias*. A corridor such as this might appeal to some amateur gardeners, and should not prove difficult to accomplish, especially if carried out on a smaller scale. The heating arrangements could be of the simplest, and should only be used to prevent the temperature falling below freezing point. M. E. STEBBING.

ROUND ABOUT A SPRING GARDEN

THOUGH the official opening of spring on March 21 was accompanied by the blossoming of more flowers than is usual, there were two among the latter which raised especial interest—two flowers so curiously alike in blossom, so utterly unlike in character, and natives of widely differing parts of America. I refer to *Dendromecon rigidum*, the true Tree Poppy of California, and *Stylophorum diphyllum*, the Celandine Poppy of Wisconsin woods. Of the latter one cannot speak too highly. It might be described as a giant form of our native Celandine (*Chelidonium majus*), bearing splendid golden-yellow Welsh Poppies throughout the season. This Poppywort is a loose-habited, eminently graceful plant of some 2 ft., and it is admirable for grouping with native Ferns or other things which enjoy a cool, semi-shady place.

As for *Dendromecon rigidum*, with its grey-green, very pointed, willow-like leaves, elegant

that this species is as perennial as our climate will allow. In the same colour and also with carrot-like leaves—albeit a carrot that has known the fly, for the foliage is distinctly bronzed—is *Corydalis cheilanthifolia*. This Chinese Fumitory's flowers are much like those of the familiar and naturalised *C. lutea*, but rather larger in the spike.

In a cooler corner where there are old-time, double Primroses, lilac, white and yellow, *Viola sulphurea* in an ivory buff is abloom with the pretty rosy purple *V. California* and others. As for *V. gracilis*, it is almost a weed, if one can apply such a word to the loveliest thing of its lovely world. Like so many other *Violas*, *V. gracilis* is some weeks before its time, as also is the delightful variety known as Perry's Yellow.

Though *Anemone appennina* and *A. blanda* have been in flower for a long while, many of their kindred have remained curiously indifferent to

clan. To this last one may also add the splendid *Chieranthus Allionii*, earliest to flower and last to go over; that equally delightful and fragrant Wallflower known as *C. Harpur Crewe*, and the trailing masses, already studded with bluish purple, of *Erysimum linifolium*—the last, by the way, being a fine dry wall plant.

Two of the *Arabis* breed cannot be overlooked in these early days, the one being the very dainty *A. aubrietioides*, whose delicate shell pink flowers have the grace to overlap their rounded petals, which gives the flowers a firmer, more refined effect; an effect, indeed, which *A. Sundermanni* just fails to achieve, for the reason that its flowers are distinctly starred. Albeit, the latter is a fine and generous all-season plant for any cool and partially shaded place where the high-toned, wild rose pink of its blossoms will escape the bleaching to which it is very subject.

The Bitter Vetches are always among the first of the bantlings of spring, and one gets to like them as much for their independent, optimistic natures as for their elegance and colour. *Orobus cyanens* in a cool, turquoise blue is one of the prettiest in flower as I write, but *O. vernus* in a particularly chaste pink and white form runs it very closely, and then there is *O. pannonicus varius*, another exquisite little Vetch that adds a quiet unobtrusiveness to its other good qualities.

On a dry ledge the bold yellow and deep orange heads of *Sedums confusum* and *Palmeri* thoroughly appreciate these sunny days. But one cannot help wishing that they (and especially *S. Palmeri*) would forget their early habits and come into flower with, let us say, *S. spatulifolium* in one or other of its fat and fascinating forms. Here also on these dry ledges *Iris pumila* in various shades of blue and violet on dim stems, is rejoicing that it has arrived before the slugs, and the ever-delightful creeping Rosemary, which embraces the sun-warmed rocks so closely with its refreshing green, has been toothed with its pale blue flowers these many weeks.

From the woodland, where *Genista fragrans* and *Cytisus præcox* are in full bloom, evening brings the sweetest of all fragrances, that of a bean field. *Osmanthus Delavayi* and the old *Daphne pontica* add their quota to this breath of spring. There are hours and places where the smell of the Cowslips and Narcissi only prevail, and it wants but a few days before the generous scent of Wood Hyacinths will fill the glade with the very essence of an English April.

Among the Heaths and their kindred, *Erica australis* is, perhaps, the most distinguished of its kind in bloom to-day, and the fine dark foliage and purple blossoms of one particular specimen are extremely effective against the soft, plumose branches and grassy green of a group of Tree Heaths close by. *Bryanthus empetrifolius* has raised aloft its little candelabras of prettily crimped Chinese lanterns in rosy pink, and *B. erectus*, which has proved more perennial and more floriferous than we had dared to hope, is also shewing colour. *Gaultherias Shallon* and *trichophylla* are in this company and with the grey-leaved *Andromeda polifolia*—a very worthy native shrubbing, *Vaccinium corymbosum* and others of their clan, are proving their appreciation of a drenching February by flowering earlier and better than they usually do in our sharply drained loam. Here, too, *Sanguinaria canadensis* is unfurling its glaucous purple scroll, a colour which is curiously like that of *Dicentra formosa*'s young growths near by, which latter will in a very few days look like rosy red Wood Hyacinths.

Grateful as one is for all these and more, I am not at all sure, however, that the fresh shoots of verdure which one notices every day, every hour, are not even as cheerful among the tidings



SOFT ROSE BLOSSOMS OF ARABIS AUBRIETIOIDES

form and fragrant yellow Poppies which it produces so abundantly, it is a shrub for which the best place in the garden is never too good. Perhaps sentiment has something to do with my affection for it, for was it not on its own glorious hills when they were azured to the summit with *Ceanothus* that I first beheld this beautiful object in such perfection? However, beneath our comparatively dull skies the offspring of those radiant mountain slopes does very well, often giving us a blossoming season that extends from spring to November; but it so obstinately refuses to come from cuttings that it remains scarce and expensive. As for seed, Mr. Payne of Los Angeles persuades me that even this has to be boiled before it will bring forth seedlings.

And so to the rock garden where *Veronica hirtella* is dappled its close-clinging mat of green with bright little Speedwells in a pure, cool blue, and here *Eichscholtzia tenuifolia*, partly as a half-grown Carrot, is holding erect a dozen of its dainty golden saucers. This little charmer, grown as an annual, usually leaves us when winter approaches, but these stray survivals are welcomed for their early and pre-blossoming, and they suggest

the early season. *A. triobata* arrived, as usual, just before the wild *Anemones* of the wood, and very prim and chaste it looks in its orderly little colonies. The *Hepaticas* have given us an extra long season, and these have kept the good wine to the last in the form of *A. Hepatica hibernica*. Who is responsible for the creation or discovery of this beautiful variety I have forgotten, but whoever it may be deserves the gratitude of all honest gardeners, for the big, upstanding blooms in a particularly appealing shade of blue lavender or smoke blue with a dark eye are extremely fascinating.

Ethionema ibericum is a fine, hearty plant in the early rock garden, covering its pretty carpet of glaucous foliage with heads of large, dead-white flowers which have the sweet keen scent of new-mown hay. Just below this generous and easy-tempered thing, some *Soldanellas* are expanding their fringed tassels to the sun. *Morista hypogaea* is a close-set mound of deep and glossy crinkled green, inlaid with the mustard yellow of its opening buds, while round about it is a cheerful family of baby *Moristias* which are also beginning to show the crimson badge of their numerous

of spring as the blossoms themselves. Who can mark unmoved the first green whorl of the Woodruff, the emerald which breaks from the Stehwort's wintered straw? The first furry crozier of the Bracken is a revelation which means much to all who love a garden well, and Nature more. Then there are those grassy growths on the Dianthus, so ardent with promise, the glossy bronze with which the Alpine Phloxes have revived their weathered mats and the deeper green which has come to the creeping Thymes. What is more lovely, more suggestive of spring, than the exquisite delicacy of the Epimedium's silken trefoils, or the first whiff of perfume from Penzance Briars, or those quaint little spoons of vivid green which have appeared among the brown, sapless foliage of Corokia Cotoneaster? A few weeks ago a more sorry sight could not have been found in the

garden than was presented by the wind-worried Mossy Saxifrages and all those woolly and silvery things which shrank so pitifully from the continuous wet. But the recovery of these convalescents, the repairs which have been executed with such miraculous spontaneity by spring's healing artistry, the green and the gloss of life renewed and beauty restored, these are not the least of the season's joys. N. WALES.

HARDY PRIMULAS

The Farinosa Section.

ALTHOUGH this section does not figure among the most important groups of the genus *Primula*, it contains several pretty and useful species. There are some eight or nine that are worth growing and they come from the various countries in the North Temperate regions, extending from Western North America to Europe and Northern Asia, while one comes from the Magellan region of South America. Without exception all are hardy in this country and although the conditions under which they are found in their native habitats must be of a widely divergent nature, it is possible to grow them successfully under practically the same conditions here.

While being practically perennial, some of these *Primulas* often prove short-lived in this country, and die after flowering. It is thus essential, in order to keep up a supply, to make frequent sowings and raise fresh stock. Most of them seed freely, and the seeds germinate readily when sown fresh. They enjoy a deep, moist, loamy soil, and in the northern part of the country a partly shaded position is preferable, as they get burnt up in the

hot, dry summer. The best kinds are:—

P. ALGIDA.—This marsh-loving species is a native of the Caucasus and is nearly allied to our native *P. farinosa*. The finely toothed, obtuse leaves are, however, larger, while the flowers are more showy and of a rich violet-purple colour. It is somewhat rare in gardens and generally dies after flowering. It grows best in a half shady position, planted in a mixture of peat and loam with abundance of moisture when growing.

P. CAPITELLATA may be described as a small edition of the Himalayan *P. denticulata*, with flowers almost like those of *P. farinosa*. It is also a bog plant from Asia Minor and loves plenty of moisture.



THE ROSY-LILAC PRIMULA DARIALICA

P. CONSPERSA.—This is more nearly allied to the *sibirica* group, producing tufts of similar leaves, ovate linear in outline, notched at the edges and about 4ins. to 6ins. long. The scapes are from 12ins. to 15ins. high, covered near the top with a meal, while the rose-pink flowers are produced in two or three whorls. It was collected by Mr. Farrer in Kansu.

P. COGNATA is one of the many new plants introduced from Western China by Messrs. Veitch and Son, through their collector, Mr. E. H. Wilson. He found it growing along with *Meconopsis pumila* in open valleys in Western Szechuen, at an elevation of over 12,000ft., usually on loamy banks. The leaves and stems are slightly mealy, while the lavender-coloured flowers, in heads of six to eight, are about the size of those of *P. longifolia* and borne on stems 6ins. high. Like many others of this popular genus, *P. cognata* appears to be only a biennial. Seeds, however, are freely produced and the plants flourish under conditions suitable for our native species.

P. DARIALICA. A native of the Caucasus, this is a free-growing plant with tufts of mealy leaves 4ins. long. Numerous flower stems, 6ins. high, are produced, often twelve or more on each plant, these carrying from eight to twelve good sized, rosy-lilac flowers. It makes a good plant for growing in pots or pans for the alpine house and also does well in shady positions in the rock garden.

P. FARINOSA (Bird's-eye Primrose), which is found in many parts of this country, is very appropriately named, being covered all over with a white mealy powder which gives it a silver appearance. It is usually found growing on moist loamy banks and is a lime-loving species. Both in its wild and cultivated forms it is one of the most



THE BIRD'S-EYE PRIMROSE, PRIMULA FARINOSA.

attractive and pretty little *Primulas* that we have. It is a plant that can be grown with little trouble, its chief requirements being moist soil in half-shade. A good perennial, it soon grows into good sized tufts. In April, numerous flower stems, 6ins. or more high, are produced, bearing heads of flowers of various shades of blue to pure white. There are many forms of this species, of which the most distinct is *P. farinosa* var. *scotica*, or *P. scotica* as it is often called. It is found in the pasture lands of Caithness and in the Orkneys, and bears flowers of a rich violet-purple colour on very short stalks. *P. magellanica* is another form from South America.

P. FORTUNEI.—This is one of the least hardy members of this set and requires to be kept in a cold frame during the winter months. Owing to its early-flowering habit it is a useful plant for the alpine house when grown in pots. It is probably of hybrid origin and appears to be intermediate between *P. denticulata* and *P. farinosa*. The leaves are coarsely dentate, with a little farina, while the stems are 3ins. to 4ins. high, terminating in loose heads of flowers. These are about 1in. in diameter and bluish-lilac in colour, with a primrose-yellow eye. It is a good perennial and easily increased by dividing the crowns soon after flowering. It is a very old garden plant, but is not common.

P. FRONDOSA.—A beautiful tree-flowering species from the Balkans, which may be described as a large-leaved *P. farinosa*. It is quite hardy in this country and will grow well in a half shady place,

planted in moist, sandy peat and loam. A good perennial, it is readily propagated by dividing the crowns after flowering. It is one of the most useful early-flowering *Primulas* for growing in pans for the alpine house as well as one of the easiest to grow.

P. LOCZII.—A native of Kansu, where it was found by Mr. Farrer, this species is remarkable for producing stolons in the way of a Strawberry plant. It is thus easy to increase as it soon spreads and forms wide tufts. There is little meal on the leaves, while the stems are about 4ins. to 5ins. high and bear pale blue flowers in April. It is quite hardy and soon makes itself at home in a moist, shady position.

P. LONGIFLORA.—A beautiful and distinct species from the mountains of Southern Europe, it is remarkable for having flowers with a long tube rim, or more in length. These are blue in colour, of good size and produced in April and May. It will grow under similar conditions to those which suit *P. farinosa* and like that species it has its leaves powdered with meal.

P. MODESTA.—This is the Japanese form of *P. farinosa*, with tufts of mealy leaves and rosy-lilac flowers early in April. It is quite hardy but does not grow so tall as our native plant.

P. STRICTA.—This is simply a small state of *P. farinosa* from Northern Europe. The leaves are denticulate with rounded teeth and have no meal on the underside. The pale pink flowers are borne in loose heads or stems 4ins. to 5ins. high. W. I.

them. The quaint little Aroid, *Arisarum proboscideum*, pokes up its glossy triangular leaves and odd-shaped flowers among the Anemones. Some people see in the flower a resemblance to an elephant with uplifted trunk; others liken it to a scared mouse bolting down a hole! Anyhow, it is an uncommon and interesting little plant, appreciated by all who enjoy strange flowers as well as showy ones.

One unlucky day a small piece of *Helxine Solierii* was planted in this border, and has since been the cause of much back-aching labour in vain efforts to abolish it, since no amount of scraping and scratching has much effect on this Uriah Heep of a plant. It looks so neat and promising a carpeter with its attractive green foliage that the unwary hail it with joy and plant it reverently near cherished alpenes, only to find that it is a more rampant smotherer than *Arenaria balearica*, without any redeeming beauty of flower. The only use I have found for *Helxine* is to let it ramp over *Primula rosea* in summer, when it keeps the *Primula* roots cool, and it pulled up in handfuls in autumn a sufficient stock will be found to come up again to repeat the process the following season. A few shade-loving Daffodils have been squeezed into the border as well, and the best of these is the little Spanish *Narcissus moschatus* with very charming drooping white trumpets. *N. cyclamineus* found conditions too dry and did not thrive here, and *Tropædium speciosum* proved another disappointment, though theoretically the position was ideal for it. N. G. HADDEN.

A SUCCESSFUL NORTH BORDER

OWNERS of small gardens often find it difficult to make good use of narrow strips of border facing due north, so that an account of one which has proved a success may be of some interest. Being a very narrow border (only 2ft. wide and 15ft. long) against the wall of the house and, moreover, full of the roots of *Cydonia japonica* and *Solanum crispum*, which are trained up the wall, it did not appear a very promising site for choice plants. After several years of experimenting, however, this little border has become full of interest and is seldom without some flowers at all seasons. The soil was top-dressed with a mixture of virgin loam, peat, leaf-mould and a little lime-rubble, which last ingredient is especially appreciated by the *Cyclamens*.

Cyclamen neapolitanum is the main feature of the border, and is a great success, seedlings from the four original corns having been planted all along. The great variety of form and marbling of the foliage is one of the charms of this invaluable species, while the pink and white blossoms brighten up the border in August and September, just when the other occupants are dormant. A single corn of *C. neriifolium album* planted three years ago is cherished more for the beauty of its very large dentate leaves than for its somewhat scanty crop of flowers in March. Some seedlings of the later-flowering crimson *C. repandum* must be added to this little colony, but as this species is flourishing in a southern exposure it is perhaps asking too much of it to adorn a north border also. The native Oak Fern is encouraged to wander as it will among the *Cyclamens*, where its graceful fronds show to full advantage in early summer when the *Cyclamen* foliage dies down. The exquisitely beautiful *Anemone Alleni* is spreading in a most heartening manner, and the flowers remain in perfect condition much longer than when they are fully exposed to the sun. It is a delight every spring to see its buds and leaves pushing through the soil in an ever-increasing circle from

the spot where the original tuber was planted four years ago. *Anemone Blue Bonnet* and *A. nemorosa grandiflora* are most recent introductions, but both appear to find the conditions equally congenial; they are all the more welcome here since the wild Wood *Anemone* is strangely absent from most West Somerset woods. *Eupedemum Muschianum*, a neat-growing white-flowered Japanese, enjoys similar conditions, and though it is increasing steadily, is not an invasive species like too many of the genus. Several species of *Primula* have been tried, but the border is much too dry for their liking, so that now only *P. Julia* remains, and is thoroughly happy creeping over the edging stones with its roots kept cool beneath

A NEW BARBERRY

BERBERIS REPLICATA, which recently received an award of merit (see April 7 issue, page 173), was raised from seed collected at an altitude of 11,000ft. in open scrub on the Shweli-Salween divide by Mr. Geo. Forrest and sent to the Royal Horticultural Society. It is evergreen, and the rather small leaves with recurved margins are grey below. It is an early and very profusely flowering species, blossoming freely in the young state and very pleasing from its habit of flowering all along the branches, which in older plants arch gracefully. The plants at Wisley are about 2ft. high, but eventually reach 4ft. or 5ft., and bear deep crimson fruits. It appears to be perfectly hardy. F. J. C.



GREENISH YELLOW BLOSSOMS AND DARK GREEN AND GREY FOLIAGE OF *BERBERIS REPLICATA*.

NOTES ON BULBS

DUTCH CROCUSES.—Is it only my imagination coupled with a faulty memory that makes me think all these Crocuses are taller and more lanky than usual? The basal tubes of the flowers seem to be longer than they generally are, and their extra length is by no means an improvement. The exception is the old yellow. This does not shew any difference from the usual. Truly it is a very remarkable plant—a really great plant. By vegetative reproduction it has gone on unchanged for generations. No one has ever gathered a single seed from all the countless millions that have flowered in countless bulb fields and gardens, and yet it is as healthy and vigorous as if it was just starting life. We should disturb it as little as possible, for its yellow never looks so rich as when many small-sized blooms are clustered together in solid masses. It, too, approaches more nearly to the style of the dainty species, which is no slight recommendation. After the yellow come the purples in my estimation.

There seems to be something in the colour itself which, as it were, harmonises with mere size, hence the old *purpurea grandiflora* looks well although it is so large. To this I would add two which I think I am right in saying are much newer, namely, the dark rich *President Cleveland* and the very large deep-coloured *Hero*. After the purples come the lavenders or pale mauves. *Dorothea* (syn. *Maximilian*) is undoubtedly my favourite. As an additional recommendation for gardeners under glass may I say it is one of the very best to grow in pots. It is less floppy than the majority. *Margot* comes *proxime accessit* to *Dorothea*, but it looks a little too large for its delicate colouring. *Cambridge blue* and *Charterhouse pink* do not harmonise with sixty! Lavenders and mauves are followed by whites. Far the most satisfying to me is the moderate-sized, round-shaped *May*. I am quite content to let the size-worshippers buy up all the *King of the Whites* and *Kathleen Parlows* and *White Giants* if only they leave a few of this really beautiful flower in the dealers' hands. After the whites, but at a very considerable distance, there are the striped. I cannot bring myself to like them.

In a collection of Dutch Crocuses they must necessarily be included, but otherwise I would never plant them in my garden. Yet there must be people who like them and buy them, otherwise there would not be so many of them in our bulb lists. *Edna* and *Mikado* are about the best. *Margot*, which perhaps ought to be classed under this head, I have already mentioned, but it is more shaded than striped.

CHIONODOXAS.—These beautiful bright little flowers have not been fifty years in British gardens, but they have caught on wonderfully. There are probably few to whom they are unknown; but not everyone knows how much they improve in size and effectiveness when they are left undisturbed. I never even take off the seed-pods, but let the seeds shed all over the beds where they are. The result is the soil is so full of *Chionodoxas* that it bears digging and preparing for other plants—e.g., *Aquilegias* and *Tulips*—without any diminution of their numbers. I think the blue and white *Lucilia* is more prolific than the all blue *sardensis*, but I am not sure. Which is my favourite I never know. I could be happy with either "were the other fair charmer away."

THE RETURN OF THE PRODIGAL.—While horticulture remains the name of William Wilks can

never be forgotten, but the individual ties which bound him in one way or another to his friends will be snapped. *Narcissus cyclamineus* I always associate with the late secretary of the R.H.S. and with another good friend of mine, the late Andrew Kingsmill, who was one of the first to appreciate the immense possibilities of the work among *Daffodils* that was being done by the then, comparatively speaking, unknown parson of Appleshaw. In the thin woodland which formed part of poor Kingsmill's garden at Harrow there

the surprise was great when it turned up again by a streamside in Portugal after being lost sight of for nearly three hundred years. The perianth segments are quite as much reflexed as in a *Cyclamen*, but when we have very nearly as much reflexing in the triandrus branch of the family, one rather wonders at the cock-sure unbelief of the eminent one about Vallet's picture. *N. cyclamineus* sets seed very freely and can readily be increased by this means. Plenty of hybrids have been raised between it and other sections, but only a very small proportion have perpetuated themselves. Most have soon died out. Still, the crossings are worth making; there is something very charming in

cyclamineus hybrids even if they are only birds of passage. The Prodigal is with us now; let us by all means in our power make the most of him.

"THE GREATLY INFIRIOR EMPEROR"?—I cannot sit down quietly and read what is said in *THE GARDEN* for March 17 (page 130) about our good old friend Emperor. "Old friends are best," so until I find that King Alfred will grow and flourish in far more gardens than it does at present or has done in the past I will never place it as a garden plant as the equal of Emperor. If Cornwall was England it might be different. Mr. E. M. Crosfield, who knew all the tricks of the trade, could never get King Alfred to flourish in his garden when he lived near Wrexham. Fourteen miles off, in my own garden, neither love nor money will persuade it to live anything but a life of misery. The first time it flowers it may seem all right, but summer it and winter it and see what happens then! JOSEPH JACOB.

[**NARCISSUS TRIANDRUS HYBRIDS.**—Mrs. E. M. Crosfield sends a photograph, which is reproduced herewith, which conveys a good deal of the charm and grace with which all the hybrids of *Narcissus triandrus* are endowed. The Angel's Tears is



HYBRID SEEDLINGS OF NARCISSUS TRIANDRUS.

was the finest mass of this strange-looking little flower that I have ever seen, while in the garden of the Wilderness at Shirley in a very similar position there were a good many fine specimens dotted here and there "all over the place," which impressed me very much. I have used the epithet "strange-looking" to this flower; not without reason I think you will say, when I tell you that the accurate representations of the plant in the picture books of Pierre Vallet, which gave illustrations of the contents of the gardens of the French Kings Henri IV, Louis XIII and Louis XIV, were once considered by one of our eminent botanists to be wholly imaginary. Naturally,

not a long-lived species, and most of the hybrids are slow of increase and apt to be short-lived also, which is annoying when one has a specially beautiful form, but the species crosses readily, the seedlings are easily raised and, as a rule, flower in from two to three years, and all can be relied upon to be beautiful and—important point!—harmonious in colouring, for *Narcissus triandrus* always imposes a great deal of its pallid colouring upon the seedlings. Pale colouring is always delightful in the *Daffodil*. Strong colour seems to distract attention from the beauty of form of this gracious flower.—Ed.]

ANNUALS FOR THE BLUE BORDER

ONE meets with a large number of "blue borders" in which all the flowers are chosen for the fact that they possess that inimitable colour. Wonderful pictures are produced in spring and early summer, right from the days when the first Hepaticas open their timid buds until the passing of the last Delphinium. A rich and satisfying feast of gorgeous flower, but—what then? That is the question that many find very difficult of solution, for with the shortening of the days blue becomes rarer and rarer. It is just here that the good old hardy annuals and half-hardy annuals come to our assistance, for there are large numbers of these easily raised at the cost of a little time and trouble, the "blueness" of whose blood is beyond all question and who will—if we time the sowings correctly—step into the breach, just at the psychological moment, and carry on the blueness of the blue border until the latest autumn days.

Let us take those of the half-hardy class first, for it is these that require the earliest attention in sowing under glass in the cool greenhouse. Agatheia, also known as *Aster capensis*, is delightful in full sun and—although not strictly annual in its duration—responds very readily to culture in this way. The plant makes a low-growing shrubby bush covered with a profusion of the daisy-like "china blue" flowers from June to October. Much depends upon the variety of the *Ageratum* you choose, as to how much blueness you get, although all of them possess sufficient to warrant their inclusion. A favourite of mine is that known as Little Blue Star, a compact, bushy little plant about 6 ins. in height. Another annual that certainly merits a trial is the annual Alkanet—*Anchusa*. This reaches a height of 1½ ft., with a profusion of clear blue flowers that give a fine show in the mass. Another "Little Blue Star" is found in the dainty little *Brachycome*, or Swan River Daisy, an Australian annual deserving the widest popularity. For broad clumps or as edgings to the blue border it is unequalled, and gives such a mass of tiny light blue cineraria-like flowers that these almost hide the small pale green foliage. Sow early, but do not use too much heat, and plant out rather closely after careful hardening off. Many are under the impression that *Browallias* will only grow in the greenhouse, but to them I would say "try and see." Many years ago I made the experiment and found the plants to be an inexhaustible store of unmatched blueness, lasting for months. There are no *Asters* that quite satisfy me for the blue border, although one uses the single *sinensis* as coming the nearest to one's requirements, and a point about this is that seeds may be sown in April where the plants are to flower, and will then continue blooming very late indeed, although I mention it here in case early blooms are wanted, in which case the season must be anticipated by sowing under glass. *Lobelias*, of course, will occur to mind as of quite undisputed blueness, and generous sowings should be made so that a very large number of plants is on hand when planting-time comes, for one can "tuck these in" almost anywhere, and their blueness persists until the very hardest frosts kill them off. Few people seem to know that the glorious Forget-me-not, *Myosotis azurea*, that makes such a superb grounding for beds of bulbs in the spring garden, can be had in autumn by the simple expedient of sowing the seeds in gentle warmth in spring and planting out. August and September see these plants a perfect blaze of flower, dwarf and compact and of a blueness that the bluest blue lover cannot criticise. Make a

note of this for this purpose; it is a gem. Two of the genus *Salvia* are grand plants, and both of the "very easy" order. *S. farinacea* is especially useful, as it achieves the height of 2½ ft., a useful point when grouping among early taller growers that can be cut down considerably. *S. patens*, known to all blue lovers, though fleeting in duration of its individual blooms, continues to open these in succession over a long period, while its very blueness compensates any shortcomings in the way of duration. If you have not tried it, you should be pleased with the new strain of *Statice sinuata* (known as True Blue), for in this the tendency to blue has been eliminated and the flowers are a clean navy blue.

Now let us suggest a few hardy annuals that may be sown *in situ* and that give the minimum of trouble. The blue Pimpernel, *Anagallis Phillipsii*, should be used for bold patches well forward in the border, and it is better not to sow until the middle of April, as late frosts are liable to catch plants that are too forward. Suited to a similar position and equally attractive is the blue Woodruff, *Asperula azurea setosa*, though this is a very pale colour. Do not omit the dwarf *Convolvuli*, for these, in their season—which is by no means a short one—present a massed blue effect of the finest quality and are a grand addition to the border. Cornflowers are certain to be well represented, and can be sown anywhere where a plant 2½ ft. to 3 ft. high is desired. Spring-sown plants invariably do well, but there can be no question that—for length of life and multitude of bloom—those sown by the previous year's plants in autumn are the best, and if you have any of these in odd places that are not just where you want them you can now transplant with safety.

For late summer and autumn the annual Rocket Larkspur, *Delphinium Ajacis*, is simply wonderful. Tireless in flowering and very double, a bright indigo blue, the plants attain a height of 2½ ft. and take up the story just at the point where the Cornflowers are beginning to become shorter in the stem, thus replacing them, too, in the direction

of cut flowers as well as of border decorators. The branching D. *Consolida coerulea* should not be omitted either; it is an equally valuable plant and makes a great show. Sweet Peas in various shades of blue are a great "height" stand-by, and always welcome for their lengthy flowering season and fragrant blossoms, which, again, are invaluable for cutting purposes. Do not omit the common blue Flax from your list. This is listed as *Linum usitatissimum*, a somewhat fearsome name, but the plant is all right—a very dainty little thing in pale azure blue, of light, elegant habit and smothered with flowers. By contrast *Nigella damascena*, the Latin name of Love-in-a-Mist has a compelling sound about it, and you will not go far wrong in using this lovely hardy annual lavishly, especially the variety Miss Jekyll with its charming bright blue flowers "veiled" in their misty leafage. Right in the front, beside the path edge, most charming little patches of brilliant deep blue can be obtained by sowing *Phacelia campanularia*, a free, and continuous-flowering little plant. H. W. CANNING-WRIGHT.

A BEAUTIFUL BORDER CRANESBILL

ONE of the most beautiful and interesting of the taller-growing *Geraniums* is *G. anemonifolium*, a native of the Canaries. As the illustration shews, the plant has handsome foliage, and the scale of the picture will be appreciated when it is noted that the flowers are an inch or more across, satin rose in colour, deepening to crimson at the eye. The stamens also are crimson. This is a splendid plant for not too exposed a place in the wild garden, for it seeds freely and will even naturalise itself. Shelter from the east is desirable, since the plant makes new growth in winter-time. Unless in very deep fertile soils, shade from midday sun is also helpful. The flower-stems are thickly covered with silky hairs.

The plant remains in blossom for a length of time. This and the beautiful *G. Wallichianum* are probably the most useful garden species of this very useful genus.



A BEAUTIFUL SOFT ROSE BORDER PLANT, GERANIUM ANEMONIFOLIUM.

CORRESPONDENCE

A CHOICE SPEEDWELL.

THE history of the Speedwell mentioned on page 156 is as follows: About 1803 Mr. Wolley Dod gave me a plant and said he found it by the roadside in Hungary. No botanists, either German or Russian, could give it a name. The late Mr. T. Smith, Newry, asked me for a plant, and a few years later I was rather amazed to see it described as "Veronica species E. C. Buxton—a gem for the rockery." Mr. T. Smith said he had tried to get it named at Kew (and, I think, at Edinburgh) without success. He also said that no visitors came to his nursery without taking away a plant. About 1914 it was recognised at Kew as *Veronica peduncularis*, from the Caucasus. If this *Veronica* is cut back after flowering it soon flowers again.—E. C. BUXTON, *Beltus-y-Coed*.

A PLEASING FLOWER BORDER.

IN the Bournemouth district there is a garden containing a large border filled with bulbous and other flowering plants in such a way as to produce nearly all yellow in spring, blue in the summer and, mainly, rose, mauve and lavender colours in the autumn. It has been a great success, and its general appearance seems to be more interesting and attractive each year. I have not been closer to it than the entrance gate, but one could see practically all the principal occupants of the border, which is about 150ft. long and 15ft. wide, almost level with the drive, scarcely raised at all at the back. In spring yellow-flowered Hyacinths, Tulips, Crocuses, Narcissi and *Doronicums* predominate; in the summer, Delphiniums, Cornflowers, Scabious, etc.; and in the autumn, Chrysanthemums, Michaelmas Daisies, etc. When I first observed this border several years ago I noticed that great care had been taken to avoid overcrowding. All the occupants seem to be well established now, but there is not any overcrowding, and at the same time the border from February to the end of November has a well furnished appearance. There are, I am sure, many borders in our gardens filled to furnish practically self-colours from season to season, but I thought a brief description of the one referred to would prove interesting to many readers of THE GARDEN.—HANTS.

PACHYSANDRA PROCUMBENS.

THIS is quite an interesting herbaceous plant, which has the additional merits of being beautiful and uncommon. Its attractiveness lies chiefly in the thickened stamens from which it derives its generic name. It belongs to the *Buxæ* section of the *Euphorbiaceæ*, being closely allied to *Buxus* and *Sarcococca*, but differing from both in habit of growth. The fruits, like those of *Buxus*, are capsular, but the leaves are alternate instead of opposite, while the fruits of *Sarcococca*, which stands alone, are baccate. The sweet-scented flowers are monoecious on the same spike; the staminate flowers, which are in the majority, being above, while the few pistillate blossoms are below. All are without petals, the staminate flowers consisting of four greenish purple sepals, four stamens, which are opposite the sepals, and long thick filaments from one-third to half an inch long, which are exserted; while the few pistillate flowers, the sepals of which are variable, have a three-celled pistil, with two ovules in each cell and three comparatively large fleshy styles, which are spreading. The plant is of spreading habit, with stout, unbranched stems about 4ins. in length, bearing at the top a cluster of dark

bronzy evergreen leaves from 2ins. to 4ins. long, ovate or obovate, obtuse or acute at the apex, the upper part coarsely dentate, the lower part entire, narrowing at the base into a petiole, either equal to or shorter than the blade. The foliage gives the appearance of a ring surrounding the



THE REMARKABLE HERBACEOUS PLANT PACHYSANDRA PROCUMBENS.

dense cylindrical spikes of flowers, which rise from the axils of the scales from the lower part of the branches in March and April.

The culture of the plant is quite simple; it grows in ordinary soil and is a suitable plant for woodland or a semi-shady position, although here, at Cambridge, it is fairly in the open, though the shade of some trees passes over it. It can be propagated from cuttings, but the most convenient method is by division. It is a native of the South-Eastern United States and known as the Allegheny Mountain Spurge, but it is also found in Carolina and Kentucky, and was introduced into this country in 1800. Other species of this interesting genus suitable for similar positions are *P. axillaris*, a Chinese species, and *P. terminalis* from Japan, as well as a variegated-leaved variety of the latter, sometimes grown in greenhouses as a foliage plant, although it appears to be perfectly hardy.—F. G. PRESTON, *Botanic Gardens, Cambridge*.

AN EARLY-FLOWERING ROCK PLANT.

THE *Scrophulariad*, *Synthyris reniformis*, is a native of North-West America, from whence it was introduced about 1885, but in spite of this fact it is rarely seen in gardens. It is difficult to assign a reason, because it is of easy culture, a free-flowering plant which often opens its first flowers early in the year. The tubular blooms are about a quarter of an inch in length, pale violet in colour, and they are produced in quantity on erect spikes 6ins. or more in length. The leaves also are attractive, being deeply toothed at the margins. This plant is quite hardy and in its native habitat it is found growing in moist places, so it should be given a damp spot in the rock garden; although I have grown it successfully

in various positions, except where it is heavily shaded. A cool loamy soil is needed, and in a dry season it may require water at the root to keep it going until more moist conditions prevail. This year it has flowered freely, and the earliness of *S. reniformis* should warrant it a place in every rock garden, while for an alpine house it would be found most useful for an early display. The plant can be increased by division and from seeds,

but these are sparsely produced even when the flowers are pollinated by hand.—T. W. B.

PLANTING POTATOES.

I WAS much interested in the article on Potatoes by Mr. Wm. Taylor, issue March 24, page 154. I would like to refer here to one point, the method of planting as practised by Mr. Challis, who is so well known as an expert horticulturist. The method adopted by him and referred to by Mr. Taylor was to my knowledge carried out by my father once after levelling an old hedge bank. There was a good depth of soil and, being very busy, he simply dropped the "sets" on the surface about 3ft. apart each way and covered each "set" with a spadeful of soil. Later he placed one spadeful of soil in the centre of the haulm of each root. Manures were not used; the haulm covered the whole of the soil, and my father said he never filled a sack with Potatoes so quickly as he did when lifting the resultant crop, which was a very heavy one.—G. G.

ABOUT MORELS.

"ANNE AMATEUR," in one of her versatile "chit-chats" some time ago, deplored her inability to find Morels. I must, while sympathising with her, congratulate her on her veracity. In France we say, as near as I can translate it, "It takes a good liar to find Morels"; but joking apart, I am a few weeks late in writing this, but on March 24 a friend brought me two Morels. I knew that for some time past they were to be found, but had not had the leisure myself to look for them. There are in the family of the *Morchellaceæ* at present to be found the following: *Morchella rotunda* (Pers), round-headed Morel, dirty grey in colour, March and

April: *Morchella vulgaris* (Pers.), similar, but somewhat darker in colour and more conical in form. There are other common varieties, but, in the way of taste at least, there is little to classify them. Perhaps the most common is *Morchella conica* (Pers.). All are comestible and quite easy to distinguish from other fungi by their characteristic spongy head. At this season there is not the slightest danger of making a mistake; while even in summer, *Phallus impudicus*, which resembles the *Morchella* in form, is edible, though its perfume would be enough to deter the most enterprising mycologist. Now, to find Morels from March to May, look for them in newly cut woods on sandy soil, especially Elm woods and those containing Privet, more often towards the edges than in the woods themselves. When you have found your Morels, cut them in half, wash carefully and dry. The sandy soil they like makes them, unless properly prepared, a gritty dish; also, being hollow, many insects make their home in their centre. Now, to cook them, they are excellent chopped up in an omelette or round a small roast of veal; but to appreciate them properly, *sauté* them lightly in butter (*without* garlic, parsley or other herbs) and you have a *plat* worthy of Lucullus or Cæsar.

Not having been born in England, perhaps I make a mistake, but I always thought of the Cowslips as being perfumed, perhaps because

of the cowslip wine that I have been privileged to taste in England. Here, the Cowslips are absolutely devoid of any scent; but the white Violet equals, it it does not surpass in odour, her darker sister.—FOREIGN LEGATIONAIRE, *Scène et Mœurs*, France.

[The English Cowslip (*Primula officinalis*) is certainly fragrant, though the fragrance is not at all overpowering, and it is this fragrance which forms the bouquet of cowslip wine, which, properly made, is surely among the most elegant and most delicate of drinks, though by no means lacking in potency.—ED.]

A SUPERIOR DEAD NETTLE.

ABOUT twenty years ago Mr. Wolley Dod gave me what he described as a superior form of *Lamium Orvala*. It is much dwarter than the plant usually so called. Mr. P. Neill Fraser of Edinburgh gave me the same thing. In Mr. Bowles' "My Garden in Spring" it is referred to as *Orvala lamioides*. In 1910 a pure white seedling appeared—a very beautiful thing indeed. Many of my friends had the seed, but as far as I know no white seedling has appeared. In 1921 a great many seedlings came up here. One of these is now in flower and is pure white. My gardener hopes to root a cutting. Hitherto the plant has been so valuable to me that I did not like to interfere with it.—E. C. BRETTON.

SOME LATE DESSERT APPLES

IT is acknowledged by fruit growers that there is an abundance of good early and mid-season dessert varieties of the Apple. Late-keeping sorts, however, are not so plentiful. There are a few and they ought to be better known. I say this after careful observation, for I have seen many empty fruit rooms of late. In other establishments some useful late-season varieties have come under my notice. The notes that follow will bear upon their characters. These have formed matter for study in the orchard as well as in the field.

The first variety is KING'S ACRE PIPPIN. It is of medium size and bright appearance. The yellow ground colour of the skin is striped with red. Ribston Pippin is one of the parents of this variety. The flavour of the two is very similar. In a well appointed fruit room King's Acre Pippin will keep until the middle of May. The growth is fairly compact and fruit is borne with regularity.

NEWTON WONDER is usually considered a culinary variety, but it has excellent dessert qualities. From January until the end of May it is in the right condition for use. It is undoubtedly a handsome Apple. The shape is globular and it is beautifully striped with red on the sunward side. The growth is clean, of the right vigour and fertile. Newton Wonder appears to succeed equally well grown as bush or standard.

I am certain that the possibilities of the variety LORD HINCHIN have not been properly explored. In my opinion it is not excelled by any other late Apple. The firm flesh of the fruit has a most acceptable flavour. I have kept it in good condition until July. The tree makes drooping growth. Sometimes fruit buds occur on the tips of the shoots, after the manner of Irish Peach. At other times spurs must be formed by the well known method of pruning.

STURMER PIPPIN has an unattractive appearance and a splendid flavour. Such a combination is regrettable. If the eating qualities of Sturmer Pippin were inside the gorgeous skin of Worcester Pearmain the variety would be a tremendous power on the market at this season of the year.

As it is, commercial growers are wise to avoid "Sturmer." It cannot command true value on the market. In private gardens, however, where appearance is not so important, the variety should be grown. It will keep until the end of June and the flavour is delicious. The season must be well advanced before the fruit is gathered or it will shrivel. It is not possible to name a date for seasons vary greatly. Unless autumn gales cause bruising, the fruit should hang, however, until most of the leaves have fallen. The tree is very compact so that the variety is very useful for the small garden.

A variety which originated in the Coventry district in the eighteenth century is now known as WYKEN PIPPIN. Though so old, it is accounted an excellent dessert Apple. I cannot describe its appearance as very attractive, but it is comely. It is a medium size and somewhat flattened in shape. The colour is yellow and the flavour most satisfying. Fruit is produced with regularity on a shapely tree.

Shall I incur criticism, I wonder, by writing that LANE'S PRINCE ALBERT is worthy to be classed as a late dessert Apple? There are many better varieties it is true. It is equally true that there are many infinitely worse. The appearance of "Lane's" is in its favour for commercial purposes. A pale yellow, slightly flushed skin is shown by well grown fruits. There can be no doubt about its keeping properties. May is well advanced before it passes out of season. The regularity with which this variety bears is proverbial. Apple prospects are nearly hopeless if it fails. A weeping slender form of growth is characteristic.

The varieties about which I have written are the cream of the late keepers. Many skilled and patient hands are toiling to raise more. May their labours be crowned with success. I have often wondered why there should be so many early varieties of the Apple and so few late ones. The Crab is the first parent of all cultivated kinds. It is ripe in late autumn and can be kept in good condition only until January. Perhaps our difficulty lies there. GEO. H. CORLEY.

SIR HERBERT MAXWELL ON BULBS

A LECTURE on Hardy Bulbous Plants was delivered by Sir Herbert E. Maxwell, Bart., at a recent monthly meeting of the Glasgow and West of Scotland Horticultural Society, at which Mr. John Cairns presided.

Sir Herbert at the outset pointed out the difference between a true bulb, such as that of the Snowdrop or Daffodil, and a corm, such as that of the Crocus, and he described the characteristics of a number of plants belonging to both groups. In referring to the different species of *Narcissus* he said that the ease with which they could be grown in British gardens seemed the more remarkable because, being mostly natives of Southern Europe and North Africa, they encountered in Britain different conditions of soil and climate. Probably no genus of flowering plants lent itself so generously to cultivation and was so little liable to disease. In a passing reference to the Dutch Crocus, he said that these were poured into this country in millions every autumn. They were chiefly cultural varieties of *Crocus vernus*, and gorgeous as were their blossoms, in his judgment they were no improvement on the species as it grew wild. He did not share the view of some amateurs that increase of size or blossom meant increase of beauty. The lecturer described true Lilies as a family of plants with which greater difficulties have been encountered and more frequent failure incurred than with any other kind of bulbous plant. It was a mournful fact, he said, that of the immense consignments of bulbs of the finer Asiatic species that reached this country every year, and the less abundant species imported from America, only a trifling percentage came to any good with us. They might flower once from nutriment stored within the bulb, but very few survived a second season. If only 5 per cent. of the Lily bulbs imported annually were to flourish and increase in this country, British gardens would by this time present a display in summer realising the dreams of the most sanguine amateur. A much larger percentage ought to survive provided (1) that better care were to be applied to raising and packing the bulbs, and (2) that their wants on arrival should be better understood. For instance, *L. auratum*, the golden-rayed Lily of Japan, was capable of flourishing permanently under British conditions, as had been proved by instances that had come under his own observation. Unfortunately, Japanese growers in their anxiety to take advantage of a profitable market had over-propagated this Lily and forced its cultivation on ground without rotation of crops. This probably accounted for the great majority of bulbs which arrived in this country being infested with a deadly fungus or by swarms of root mites. He thought it was high time that the leading horticultural societies such as theirs should take this matter up and urge on the Government the need for imposing restrictions on the importation of plants and roots calculated to carry disease.

The lecturer then gave the names and a few of the outstanding features of about a dozen varieties of the Lily family with which he said any amateur might deal with the best prospects of success. They are *L. giganteum*, *L. monadelphum*, *L. testaceum*, *L. croceum* (Orange Lily), *L. regale* (Royal Lily), *L. Sargentii* (Mrs. Sargent's Lily), *L. dauricum* or *umbellatum*, *L. Martagon* and *L. pyrenaicum* (Turk's Caps), *L. tigrinum* (Tiger Lily), *L. pardalinum* (Panther Lily), *L. superbum* and *L. chalcidonicum*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

American Blight.—This is also known as woolly aphid, and it is easily recognised by the cotton-wool-like appearance on the branches of Apple trees. It is fairly common, and if allowed to increase will soon cause the trees to become unhealthy; but, happily, it readily responds to treatment. Directly it is seen, a little methylated spirit should be applied with a stiff paintbrush. Such work must be done throughout the summer whenever the pest appears.

Apricots.—These are about the first to need disbudding, but if the weather is very cold such work should be left until more congenial conditions prevail. Apricots should not be disbudded so severely as Peaches and Nectarines, and when the work is carried out it must be borne in mind whether the tree is a young one or if it has filled its allotted space. With the former, allowance must be made for extension and to see that the space is well furnished with healthy shoots. All badly placed shoots should be removed, such as those growing behind the branches and any that may be at right angles with the front or face of the tree. The main shoots should be carefully tied in along with other well placed growths to form a good foundation. With old trees the disbudding is much the same, but some of the growths that are not required for tying in may be pinched at the fourth leaf with the object of producing fruit-buds. Disbudding should be carried out gradually.

Fruit Under Glass.

Vines.—The general routine in the vineries will be tying and pinching the shoots, while the thinning of the berries will also require attention. At this season ventilation will need careful regulation so as to prevent the foliage being scorched and to avoid cold currents of air passing among the rods. Sudden bursts of sunshine are often responsible for the scorching of the young shoots, while it sometimes happens in the morning if a little top air is not admitted sufficiently early. The atmosphere should be kept moist, and if at all dry the floors may be damped down in the morning when the temperature begins to rise and again in the afternoon about three o'clock when the ventilators are closed. The watering of the borders should receive attention, but when this is necessary it ought to be done thoroughly and tepid water used. Vines that may be swelling their fruit may be assisted with liquid manure from the farmyard diluted to the colour of straw, or some fertiliser may be employed, but this must not be overdone. A light sprinkling over the border if watered in will usually suffice. Any watering should be done early in the day when the maximum amount of ventilation is afforded. The border may also be mulched with cow manure or the manure from an old mushroom-bed.

The Kitchen Garden.

Potatoes.—The main crop should be planted in lines 2ft. or 3ft. apart and 18ins. between the "sets," while each tuber should be about 6ins. deep. If the ground is of a heavy nature, a trench may be dug out with the spade, but on light soils the dibber may be employed.

Salsafy is held in high esteem by many, and seeds may be sown from now till the end of May, but to secure straight roots of fine quality the ground should be in good heart. Recently manured soil is not advised, but if a piece has been trenched, with manure placed at the bottom of the trench only, then Salsafy will succeed. Sow the seeds in lines 15ins. apart and thin the seedlings to 6ins.

Onions.—Plants raised in heat early in the year will now be ready for planting out, but care must be taken to see that they are well hardened off before transplanting them. The site, having been previously prepared, will only need a light forking over, and, at the same time, a dressing of soot, or ash from the rubbish fire. When the surface is dry enough rake it over and then place the seedlings in lines 15ins. apart and 12ins. between the plants. The planting must be done carefully and the roots made quite firm in the soil. If the weather is dry, an occasional sprinkling of water will be needed until the plants are re-established.

The Flower Garden.

Lobelia fulgens.—The varieties of this showy Lobelia are generally lifted in the autumn and stored in a frost-proof frame, and where this was done the present is a suitable time to divide

them. Pot up the various pieces and plant them out towards the end of May. They succeed admirably in a bog if it is not too wet.

Pansies.—Seed may be sown in pans of light soil and then placed in a warm greenhouse until the seedlings appear. When they are pricked off a cold frame will suffice, and, finally, they should be transferred to a partially shaded spot where the soil is fairly rich. Seed may be sown in the open ground a few weeks hence.

Annuals.—Many annuals are sown in the open border where they are intended to flower, but to be a success the seed must be sown thinly and the seedlings thinned to a reasonable distance. Mignonette and suchlike should be sown at intervals of a few weeks to keep up a continual display.

T. W. BRISCOM.

(Gardener to W. R. V. saght, Esq.,
Castleford, Chesham, Gloucestershire.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—Continue to make fortnightly sowings of mancrop varieties. Stake the various sowings as soon as they have made in. or 2ins. of growth above ground. If the stakes are rather bare at bottom, work in some dwarf twiggy branches to carry the plants up, as it is in the earlier stages of their growth that support is most essential. Draw a little soil up to the plants before commencing to stake.

Asparagus.—This is the best time to make new plantations. The ground should be trenched to a minimum depth of 3ins., and it is of great advantage to place a foot or so of some open material, such as the stems of herbaceous flowers or stems of the Cabbage tribe at the bottom. If the soil is at all heavy, a proportion of clean sand or vegetable mould should be incorporated with it, also a good dressing of farmyard manure, and if seaweed is procurable, a dressing of it will be of great value, as Asparagus is a salt-loving plant. Beds 4ft. wide with a 15in. alley between will accommodate three lines, the plants being allowed a distance of about 6ins. in the line. The young plants should be out of the ground as short a time as possible, and even during the brief period their roots should be protected from the air and light. The alternative plan is to sow seed now a few inches apart in the prepared beds, thinning out the plants in due course. This means a year's delay, but some light crop, such as salad or stump-rooted Carrots, may be grown between the lines this season.

Fruit Under Glass.

Melons planted a week or two ago will be growing away freely. Tie and regulate the shoots as the plants develop, but do not fertilise any female blossoms until four or five can be secured simultaneously, as flowers fertilised only three days after others are almost certain to prove abortive. Maintain a minimum temperature of 65°. Do not make use of the syringe during the flowering period till the fruits set.

Vegetables Under Glass.

Tomato plants swelling their fruits should be fed with a mild stimulant twice a week. Stop the plants when they have attained a height at which the growth becomes weak.

The Flower Garden.

Sweet Peas.—If the soil is in good condition, no time should be lost in getting Sweet Peas planted. Those who have potted up the plants four or five in a pot should plant the groups intact about 15ins. apart, and those who have potted them up singly should plant them 1ft. apart. Plants grown on in lines in boxes should be planted singly from 6ins. to 12ins. apart, according to whether they are required for general decorative purposes or with a view to the production of flowers of exhibition standard.

Hardy Annuals.—Seed may now be sown outdoors with safety. Annuals may be used with good effect in clumps or in drifts in conjunction with hardy herbaceous flowers, or they may be used for filling whole beds in a geometrical design. Care should be taken not to sow too thickly, especially with the stronger kinds, such as Lavatera, varieties of Clarkia elegans and Godetias. In sowing, rake the ground smooth and scatter the seeds on the surface and rake the surface smooth.

Rock Plants.—The majority of these bloom during April and May. Planting operations may

still be carried out without risk of failure. All weeds should be dealt with promptly, and it is attended to during the next few weeks they will give comparatively little trouble during the summer months.

CHARLES COMFORT.

(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Plumbago capensis and its white variety have long been favourite greenhouse plants, either for growing in pots or for planting out to furnish pillars or ratters. Plants cut back and started into growth some time ago should now give a supply of cuttings, which will root readily in a slightly heated case. Rooted at this time they make nice little plants in 48-sized pots for autumn flowering and, of course, should be kept for growing on next year.

Ceratostigma Willmottiana, although hardy in warm, dry situations in the South, is well worth growing as a pot plant for the cold greenhouse. Outdoors it is apt to get cut to the ground with frosts, but with the shelter of a cold house it preserves its shrubby habit, and it is a very graceful plant, making a number of slender, freely branching shoots. It can be readily propagated by means of half-ripened shoots, which root freely in a close case in a cool house. The newer *Ceratostigma Griffithii* should be tried in the same way.

Deutzia gracilis is an old favourite for forcing purposes. The plants, as they pass out of flower, should have the old flowering wood cut out and thus encourage strong young shoots for next year's flowering. Grow the plants on in a cool house until growth is completed. They should afterwards be stood outdoors for the summer months, receiving attention as regards watering and feeding. If it is desired to increase the stock, cuttings should be put in now, as the young shoots from pot-grown plants root very readily at this time. Later on, such young plants should be planted out in the nursery garden, where they will make strong growth and in due course may be potted up for forcing.

Chorizemas as they pass out of flower should be slightly pruned. These plants are somewhat impatient of hard pruning. When grown in pots their long, slender shoots are easily trained round suitable supports, and by this means one can soon obtain large specimens. They are, however, seen at their best when planted out in a well drained border in a cool house, where they soon make large specimens. These plants may be propagated at this time by means of twiggy half-ripened shoots, inserting the cuttings in pots of sandy peat and standing them under bell glasses in a cool house. In their younger stages they should be pinched frequently so as to build up a good foundation for the future plants.

Platytheca galioides is another beautiful plant which is by no means common in our conservatories at the present day. It is a very slender, graceful plant with thin, wiry stems, and requires frequent stopping in its younger stages to induce a bushy habit. It succeeds best in compost of good fibrous peat with a little light loam and sand added. It may be propagated in the same way as advised for Chorizemas. This plant is not by any means easy to propagate and grow successfully, but, like many other beautiful plants, is worth a little extra trouble.

Aotus gracillima is another fine plant with numerous small pea-shaped flowers, produced in long, slender, drooping shoots, the flowers being yellow with a brown blotch. It is readily propagated at this time by means of small, twiggy shoots which root freely in light sandy soil, standing the pots under bell glasses in a cool house. This plant is seen to best advantage when trained as a standard some 3ft. high. For this purpose the young plants should be stopped once, and two or three of the strongest shoots tied up to a stake until the desired height is reached, when the tips should be pinched out. After flowering, the shoots should be pruned hard back, the plants being kept slightly closer and warmer until they break into fresh growth.

Reinwardtia tetragyna and *R. trigyna*, more generally known as Limons, are very old garden plants which are very useful for winter flowering. Their beautiful yellow flowers are very attractive during the dull days. These plants should be propagated at this time by means of young shoots, which root readily in a close case. They must be grown under perfectly cool conditions. They are very subject to attacks of red spider, which may be prevented by a free use of the syringe.

Royal Botanic Gardens, Kew.

J. COATES.

SALADS AND SALADINGS

ENORMOUS quantities of salad plants are sent to Covent Garden and also to all the provincial markets throughout the British Isles. We know quite well that the French gardeners are expert cultivators of all kinds of salad plants, and in sending them to market in a proper way—by this I mean in carefully packing and grading the produce, which is an important item if the best prices are to be obtained. I have seen in London in some of the West End shops, Cos Lettuce at 9d. and 1s. each, in the early spring months, that were beautifully blanched and crisp, which makes all the difference in making a good salad or a bad one; and it is a remunerative crop to grow.

Lettuce is one of the chief ingredients for the salad-bowl, and to obtain nice tender crisp plants must be grown quickly and without receiving any check. To do this the ground should be deeply dug, in the autumn for preference, and be given a good rich dressing of decayed manure. Choose a warm south border for the seed-bed, and sow in shallow drills from 6ins. to a foot apart from the middle of March, and at intervals of a fortnight or so, till well into June. When the plants have made three or four leaves they will require transplanting out, leaving the others in the seed-bed at about 6ins. to 8ins. apart for Cabbage varieties; planting those taken up the same distance apart, and about 6ins. from row to row. Take them up carefully with a small ball of soil attached—the trowel is the best tool to work with—so that they do not receive any check by removing. If the soil is dry they should be watered in, and not allowed to become dry at any time during their growth; also keep the soil between the rows hoed frequently, which will keep the weeds in check and be most beneficial to the plants. Slugs are a very troublesome pest to these young plants, but if the plants are dusted over with a little lime and soot in the early morning or evening it will keep slugs in check and will assist the growth of the plants. Cabbage varieties are the earliest to mature, and for early spring sowing Tom Thumb, a miniature variety, is very early, heart compact, bead firm and white, crisp and of good quality. Early Paris Market is another reliable early sort, and if one of these two varieties be sown at the same time as All the Year Round, this latter will form a succession, as it takes a little longer to come to maturity, but it is of fine flavour, crisp and tender. May King is another splendid sort, forming nice solid heads, and is equally good either for frame culture or outside.

Cos Varieties.—I think Cos Lettuces are far more appreciated than the Cabbage varieties by most people. To get these early in the spring they should be taken up from the ground about the second or third week in October and be planted out in cold frames in good rich soil in rows a foot apart and the same distance from plant to plant. Give plenty of air when the weather is favourable; when very frosty, they should be covered either with mats, long litter or dried bracken, always keeping the soil between the plants well stirred. Early in March they should be growing nicely and will require plenty of water at the roots and overhead. To each one with a piece of straw, so as to blanch it, and they should be ready for cutting towards the end of the month, or perhaps earlier if the season is suitable. Hardy Winter White is a most excellent sort, crisp, and very slow to run to seed. Bath Black Seeded is another good old variety, very tender, and of nice nutty flavour. These two are the most reliable sorts to grow for early spring use. Balloon

Cos is a good summer Lettuce and blanches well without tying up. On good rich soil this variety will grow to immense size and is very crisp and sweet. Carter's Giant White Cos is a great favourite with many people; it forms large compact heads, self folding, of exquisite flavour, and does not run to seed so quickly as other Cos varieties. The Cos Lettuce should have plenty of space to grow, not less than a foot apart each way, a little more if it can be spared, and be given a deeply tilled soil. From June to the latter part of August we often get very hot weather, and then salads are required almost daily. The best plan is to sow seed on a north border in the latter part of May. The plants from this sowing can be grown between the rows of other vegetables, such as Peas, also on Celery ridges; the latter is an ideal position. Grown in this way, the other crops shade them from the strong sun. If the winter has killed the plants that were sown last autumn no time should be lost in sowing one of the early Cabbage varieties which I have mentioned. If sown in a box and placed in a cold frame they will soon make nice plants for the outside garden. Harden them well by giving abundance of air on every favourable occasion before finally planting them out. I have to consider all kinds of methods to get a good supply of salads almost all the year round, as to keep up a supply for between eighty and a hundred people requires some little forethought. I have missed mentioning one Cabbage Lettuce, and that is Sutton's Ideal. This is a splendid variety of good size, heart compact, leaves slightly tinged with red, and stands a very long time before running to seed.

Endive is a most useful companion to Lettuce and cannot be done without, for in the autumn, winter and the early months of the year it is a most valuable salad plant. To obtain good specimens, seed should be sown about the first week in July, and the last sowing made in August. The plants should be fully grown by October; after the latter month they do not make much growth. If a cold frame is available they should be lifted with good balls of soil and planted in it, keeping the lights off by day when the weather is fine, putting them on at night in case of rain or snow, for Endive dislikes being damp at that season of the year. In case of very hard frost the glass should be covered with litter or bracken. Where cold frames are not available for putting the plants in, they may be shielded in the open garden, where they have grown, by placing over each plant an inverted flower-pot or wooden box. By this latter method I have kept Endive for quite a long time. Endive is always tough and stringy if it is not properly blanched, and this can only be done by tying each plant up and keeping it in the dark. There are about a dozen varieties of Endive, but it is quite unnecessary to grow more than two sorts. The best are Improved Round-leaved Batavian and Green Curled; the former variety is the one chiefly grown. This salad plant requires about the same treatment as that given to Lettuce. Good rich soil and plenty of moisture at the roots when at all dry, while frequent hoeings between the plants will prove beneficial.

Cucumbers are appreciated by most people especially when they first come in, and to have them in perfection it is essential that they should be grown in a warm house or heated pit where a night temperature of 65° can be maintained. They delight in a little bottom-heat, made up with fresh leaves and long manure mixed together, three parts leaves to one part

manure, if the latter cannot be had, all leaves will answer the purpose, and the heat will be more lasting. The soil should be turfy loam, half decayed leaf-soil and old horse manure, mixed and placed in billocks ready for putting the plants out, keeping the soil light and not beating it down too firm, as the Cucumber likes to run its roots about the soil. Little air need be given to the house, providing plenty of water is thrown about the paths and stages two or three times a day in hot sunny weather, and the plants kept well syringed, which will keep down green fly and red spider. These are two most troublesome pests to the Cucumber, and mildew sometimes will appear on the foliage after a spell of dull weather, but if dusted with sulphur when it is first seen that will check it. Plenty of water must be given to the roots, and weak liquid manure occasionally will be most beneficial. There are many varieties, but if a good strain of Telegraph or Lockie's Perfection can be got they take some beating.

Ridge Cucumbers.—In favourable situations Ridge Cucumbers may be grown without any assistance in the way of bottom-heat beyond that supplied by the sun; but an early start, provided no sacrifice is made of health or vigour, means early production. I am not much in favour of putting plants out that have been raised in strong heat, but I do admit that the seeds must be sown in small pots and germinated in a warm house, close to the glass to prevent them from growing up weakly. There is no reason why they should not thrive and do well if properly hardened off before being planted out in their permanent quarters. A hand light, bell glass, or long flower-pot placed over them for a few nights until they become established will assist them considerably. These Ridge Cucumbers are very nice mixed with other salads, although a little coarser than those which are grown entirely under glass. Sutton's King of the Ridge and Long Green are two of the best varieties to cultivate. They grow quite straight and are from 12ins. to 15ins. in length; they partake of the characteristics of a frame Cucumber.

Radishes.—It is necessary that some pains should be taken to ensure a free and moist root run on well enriched ground if Radishes are to be grown to perfection. It is customary to sow these and other saladings indiscriminately on any piece of ground which is vacant. This is rather a mistake, as the soil, having been partly exhausted by a previous crop, and being, perhaps, lumpy and sour, is in a very unfit state for the reception of the seed. Choose a piece of ground in the late autumn and trench or dig it deeply, adding decayed manure and lime; then leave it for the winter frosts to sweeten it, when in the early spring it will rake down nicely and be in good heart for receiving the seed. Sow very thinly in broad, shallow drills, or broadcast; perhaps the latter method will be preferable. The latter part of February, or first week in March, is a suitable time to make the first sowing outside, and continue at intervals till September or October. It is from the beginning of June onwards up to the end of August that the greatest difficulty is experienced in getting tender Radishes. Cool and moist ground should be given in these particular months, and the plants should have copious supplies of water whenever they need it. I usually sow Wood's Early Frame at the end of December or early in January, on a mild hot-bed in a double-lighted frame, to get them early, and follow on outside with French Breakfast, Sparkler and Scarlet Olive. Some people prefer a few Radishes cut up in the salad; used in this way they make the salad look more tempting.

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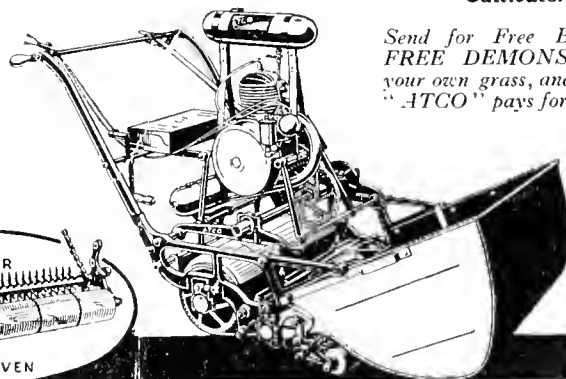
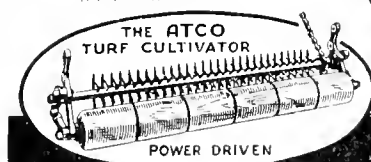
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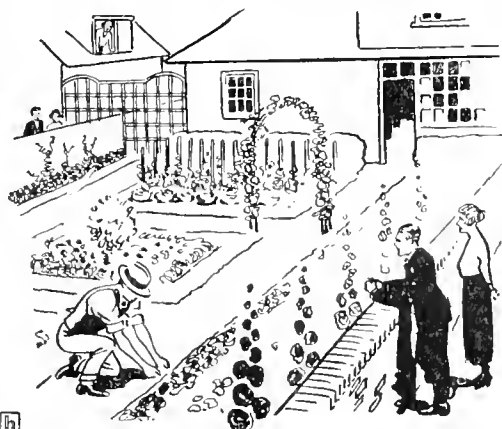
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Chicory.—A few rows of Chicory should always be grown, as it is a most useful salad plant in winter and early spring. The only fault with this salad is that it has rather a bitter taste that is not appreciated by everyone. If it is sown during May in drills, and thinned out in the rows to six inches apart and kept clean, it will be ready for taking up in October or November, when the roots can be stacked up by the side of a south wall, planted in dryish soil, and be covered over with a wooden framework to exclude light. It will soon push forth beautiful blanched leaves that can be used either as a vegetable or in the salad. Witloof and Christmas Salad are two of the best sorts to grow.

Mustard and Cress.—Although not required in such large quantities as Lettuce and Endive, this is very useful for winter and early spring. Its cultivation is so simple and well known that it does not require any further notice than to say that at all times of the year it should have a rich

soil, which not only grows it much crisper, but less hot and pungent.

Dandelion when nicely blanched and mixed with the salad is very wholesome. The Improved Broad-leaved Dandelion is superior to the old form of this common weed. Seed if sown now will furnish strong roots for next winter's forcing, when it can be blanched like Endive or Chicory.

Corn Salad or Lamb's Lettuce.—This is not largely used in this country, but, I believe, on the Continent it is cultivated to some extent. It makes a very good change in the salad-bowl. It about three sowings be made—the first in February, the second in April, and the third in September—a fair supply can be maintained throughout the year. The ground should be deeply dug, not heavily manured, and the seed sown in drills six inches asunder, the plants thinned out to six inches apart in the rows. In very severe frost a covering of litter will protect them from any harm. J. W. BIRKINSHAW.

GROWING MELONS AS CORDONS

IT is quite twenty-five years since I first, with many other cultivators, began to grow Melon plants as cordons. There are still numbers of cultivators who grow the plants in the old way with many branching shoots—practically on the extension system. It is not for me to say that such cultivators are wrong, as I know that many experts manage to secure very heavy crops from plants grown in the latter way; but I am quite sure that the great majority of amateur cultivators would be more successful with cordons and grow more and finer fruits. In my own case I found it a difficult matter to get more than an average of four fruits to set and swell to maturity on each plant, and as the latter were grown about 4 feet apart, it did not require many to fill one side of a Melon-house 30 feet long. I used to ripen about thirty nice fruits from each batch of plants, and was not satisfied with the crop. Then we adopted the plan of planting cordons, having about thirty in the same space and securing ninety fruits. Melon seeds are plentiful; it is easier to attend to thirty cordons and train them than to seven plants grown on the extension system. I grow Melons in frames on hot-beds, also as cordons. Briefly, the work is carried out as follows:

Making up the Hot-bed.—Littery manure fresh from the stables should be secured, laid out thinly on the floor of an open shed and be turned every other day for one week. To one barrow-load of this prepared manure add one peck of sweet tree leaves gathered the previous autumn. Mix all thoroughly, and build up a nice firm bed about 3 feet in depth when well trodden down.

The Soil.—Fibrous loam, rather heavy in texture, is the best. The grass portion must be quite dead. When able to procure such loam I never add any other ingredients to it at the start. With the loam cover the surface of the bed (whether in glass-house or frame on a hot-bed) to a depth of 3 inches, but near the front of the house, or in the centre in the case of a frame, form a ridge of soil 6 inches deep and 18 inches wide. On the ridge plant the young Melon plants 14 inches apart. The soil must be in a medium state of moisture and be pressed down firmly.

Planting and Training.—Plant the young Melons when the soil is nicely warmed; press the soil firmly round the roots, but do not bury the stem nor bruise it. Apply water with care, maintaining the soil in a medium state of moisture; the soil quite near the stem of the plant should be drier than any other. Train the main stem

to a stake or the wires till it has grown about 3 feet 6 inches in length, then stop each plant; side shoots will now grow more rapidly and these, in turn, must be stopped at the first joint beyond the young embryo fruit. Usually it is possible to have three or four young fruits with their flowers open at the same time, and they must be "set" forthwith.

How to "Set" Melons.—The following hints will be useful to the inexperienced cultivator: To set the fruit a staminate (male) flower should be taken, and, after removing the petals, insert the stigma in the centre of a pistillate (female) bloom; that is, the one with an embryo fruit attached. About noon when the sun is shining is a good time for this work to be done and when as many female (fruit) flowers as possible can be found open at the same time. All young growth beyond the main stem, main leaves, side stems and the main leaves on the latter must be pinched off while quite small.

General Work. Melons thrive in a nice heat—summer heat—and moisture in the atmosphere while growth is active. As the roots show on the surface apply a top-dressing of rotted manure and loam in equal proportions. Thin layers frequently applied are better than one thick layer. Diluted liquid manure is beneficial; also concentrated manures applied according to directions given with them.

The Ripening Fruits must have more air and less moisture in every way, although it is a mistake suddenly to stop the supply of water. Some atmospheric moisture on very hot days is beneficial, and the plants must have enough at their roots to prevent the leaves flagging. Plants in frames require less moisture than those grown in houses. Furthermore, it will be necessary to fix nets under depending fruits, when half grown, to afford them support. GEORGE GARNER.

FORTHCOMING EVENTS.

April 17. Winchester Horticultural Society's Meeting.

April 18. The Midland Daffodil Show, to be held at Birmingham (two days).—Huntingdonshire Daffodil Society's Meeting.

April 19.—Manchester and North of England Orchid Society's Meeting.

April 20.—National Rose Society's Spring Show, to be held at the Royal Horticultural Society's Hall, Vincent Square, Westminster.

Exhibitors and a Hospital.—Readers may be interested to know that Messrs. Pulham and Son have handed to the Governor of the Middlesex Hospital a cheque for £28 2s. 6d., being the proceeds of the sale of postcards illustrating their exhibit (Princess Mary's Garden), in the Annexe, at the recent Ideal Home Exhibition at Olympia.

Presentation to Mr. Alexander Dewar.—Mr. Dewar, who has retired after many years honoured service as head-gardener to Mrs. Mann Thomson, Dankeith, Kilmarnock, was visited upon by a representative deputation at his home and made the recipient of a handsome testimonial from his fellow horticulturists and other friends in the district. Mr. Melville, head-gardener at Cambusdoon, Ayr, in handing over a well-filled wallet of treasury notes, referred to the prominent position Mr. Dewar held in the horticultural world, to the valuable services he had rendered in connexion with flower shows in the district and to the high esteem in which he was held by all who knew him. Mr. Dewar, in thanking his friends for their thoughtfulness and handsome gifts, referred to the many happy years he had spent in the pleasurable pursuit of horticulture and the many changes which had taken place during the last forty years in garden designs and fashion. Mr. A. J. Ferguson, in handing over several articles in silver to Mrs. Dewar, alluded to the generous hospitality she had always extended to visitors at Dankeith. He trusted that both Mr. and Mrs. Dewar would be long spared to each other, and that they would have every comfort and happiness in the evening of their days.

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.

ROCK GARDEN.

ROCK PLANT (E. G. P., Surrey).—The correct name of the plant is *Mazus reptans*, *M. rugosus* being a small-flowered annual. *M. reptans* is not particular as to position, and a sunny or half-shady place will meet its requirements. It likes plenty of moisture when growing and should be planted in a mixture of good turfy loam, leaf soil and sand. *Convolvulus mauritanicus* does best in a sunny position, planted in loamy, well drained soil. A ledge of the rock garden is an ideal place, where the flowering shoots can hang down in a natural manner. It is not quite hardy and would need protection in winter. Cuttings, however, strike readily in summer if inserted in sand in a close frame or under a bell glass. Seeds also are produced freely.

TREES AND SHRUBS.

CYDONIA JAPONICA UNSATISFACTORY (W. T. D.).—Since the tree was planted the weather, generally, has been cool, and there has been no great sun heat either. As the plant occupies a north-west aspect on the wall, flower buds have not been formed. A quite normal summer would have a very beneficial effect on the plant. We advise our correspondent to leave it where it is this year, then replant in the more sunny position next winter if flowers fail again; this plant should be well watered in dry weather. Remove some of the surface soil, haring the roots, and replace with some of a fairly heavy nature, making it moderately firm. Do this now and cut away all dead branches to sound wood.

MISCELLANEOUS.

HOW TO DESTROY WOODLICE (M. R., Salop).—Potatoes cut in half and hollowed out should be placed near the infested spots with the hollow side downwards. The woodlice will shelter and feed in these, and those attracted may be killed by dropping them into hot water.

NAME OF PLANT.—R. J., Coldstream.—*Nuttallia cerasiformis*, "Oso Berry."

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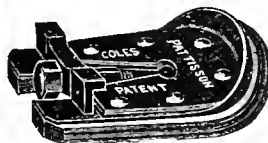


FIG. 1.—For Shod Horses.



FIG. 2 (Wetted Pattern). FIG. 2 (No Welt Pattern).

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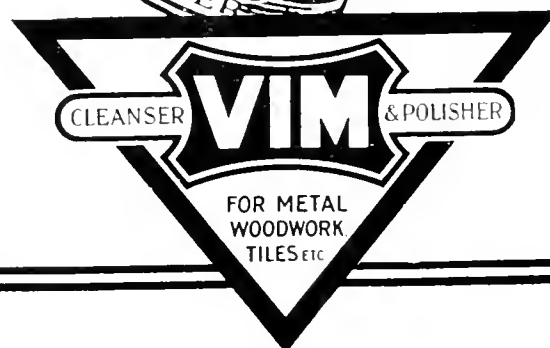
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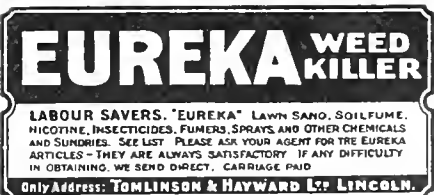
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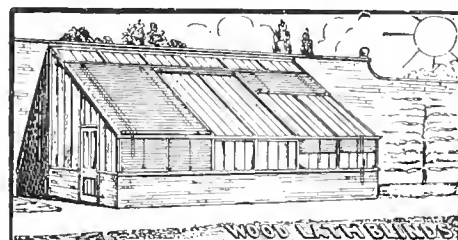
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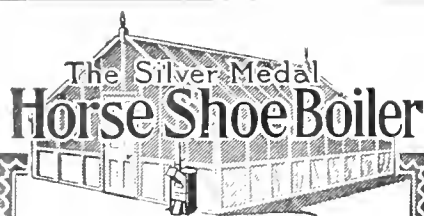
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STRONG PLANTS FOR BORDERS, BEDS, ROCK-ERIES, ETC., will flower this year and improve every year. **Achillea** Pearl, double white, 4 for 1/4; Perry's Double White, 3, 1/6; Kelway's Crimson and Cerise Queen, 3, 1/6. **Aconitum**, tall blue Monk's Hood, 3, 1/6. **Agrostemma**, rich crimson, 6, 1/6. **Alyssum** Gold Dust, 6, 1/6; montanum, rare alpine, 3, 1/6. **Alpine Pinks**, white or pink, creeping, 4, 1/4; mixed colours, 6, 1/4. **Anchusa** italica, deep blue, 4, 1/6; **Dropanore**, intense blue, 3, 1/6; **myosotidiflora**, new dwarf for rockeries, masses of gentian blue, 3, 1/6. **Astrœmeria** (Peruvian Flame Lily), 3, 1/6. **Alpine Wallflowers**, very dwarf, summer flowering, bright yellow, golden and lovely new mauve for borders, old walls, rockeries, etc., 12, 1/4. **Antirrhinums**, autumn sown, transplanted, bushy plants, all the new colours, separate or mixed, 12, 3/-; autumn sown, not transplanted, mixed, 12, 1/6. **Antennaria**, charming rockery plant, 3, 1/6. **Anemone** japonica, pink or white, 3, 1/6; semi-double salmon pink, 2, 1/6. **Anthemis** Kelway grandiflora, fine golden, 4, 1/4; styriaca and montana, silvery leaves, white flowers, rockery, etc., 3, 1/6. **Aquilegia**, Kelway's lovely hybrids, 4, 1/4. **Arabis**, double white, 6, 1/6; aurea, golden variegated foliage, 3, 1/6. **Aubrietia**, rich purple, 6, 1/4; large-flowering new hybrids 4, 1/4. **Auricula** alpinus, lovely varieties, 4, 1/6. **Aster** alpinus, lovely dwarf for rockeries, 3, 1/6. **Aster** (Michaelmas Daisy), best large-flowering, Beauty of Colwall, Perry's White, Climax, Nancy Ballard, Ella, etc., 2, 1/4. **Balm**, fragrant, 4, 1/4. **Brompton Stocks**, Scarlet Giant and mixed, one year old, transplanted, 6, 1/6; not transplanted, 12, 1/6. **Campanulas**, dwarf, for rockeries, etc., or tall, for borders, etc., blue or white, 3, 1/6. **Campanula** glomerata, large heads, rich purple, 2, 1/6; **macrantha**, large mauve bell flower, 4, 1/4; **pyramidalis**, favourite chimney bell flower, blue or white, two years old, 3, 1/6. **Canterbury Bells**, large year old plants, double, white, blue, pink, 6, 1/6; single, white, blue, mauve, pink, 12, 1/9. **Candytuft**, perennial, lilac or white, 3, 1/6. **Carnation** Grenadin, brilliant scarlet, 6, 1/9; Margaret, fine new type, crimson, scarlet, white, yellow grounds, 6, 1/9; good border, mixed doubles, 6, 1/6. **Catmint** (Nepeta), dwarf, lovely mauve, rockeries, etc., 4, 1/4. **Centaurea** montana, large-flowering, blue or white, 6, 1/6; mauve or pink, 4, 1/6. **Ceræum** (Snow in Summer), 6, 1/4. **Cheiranthus** (Siberian Wallflower), yellow, golden, mauve, 12, 1/4. **Chelone** (Turtle-head or Lobster Flower), coral red, 4, 1/4. **Christmas Roses**, large roots, 1, 1/4. **Chrysanthemum**, rooted cuttings, all colours, early, mid or late, 6, 1/9. **Chrysanthemum** maximum, single hardy white Marguerite Daisies, very large blooms, Mrs. Lotherian Bell, King Edward, California, Market Favourite, etc., 6, 1/4. **Chinese Pinks**, double and single, bright colours, 6, 1/6. **Cistus** (Rock Roses), lovely colours, charming for rockeries or border, 6, 1/6. **Commelina** celestis, heavenly blue, 3, 1/6. **Coreopsis** grandiflora, 6, 1/6. **Cornflowers**, Kelway's blue, 12, 1/6. **Crucianella**, dense heads, pink blooms, fine for rockery, 3, 1/6.

Daisies, grand new bedding varieties. **Monstrosa**, intensely double enormous blooms, pink or white, 12, 1/4; mixed, 20, 1/6. **Rob Roy**, crimson, yellow center, 12, 1/4. Large very double crimson, quilled, 12, 1/6. **Dolphins**, best named varieties and lovely hybrids, 1 year old, 3, 1/6; 2 years, 9d. each; 3 years, 1/- each. **Dianthus**, charming bedder, double or single, all colours, mixed or separate, 12, 1/9. **Dianthus** Lucifer, intense orange scarlet, double, 6, 1/6; Heddewegii, chinensis, imperialis, laciniatus, equal to good Carnations, 6, 1/4. **Dianthus**, rockery varieties, Cheddar Pink, cruentus (blood red), deltoides (creeping, bright pink), 6, 1/6. **Dielytra** (Bleeding Heart), large roots, 1/- each.

Ericas (Alpine Heath), hardy evergreen foliage, bright coloured flowers, rockery gem, large plants, full of buds, 2, 1/6. **Erigeron** stenactis, Mauve Marguerite, 4, 1/4. **Erysimum** Golden Gem, border, rockeries, old walls, etc., 20, 1/6. **Evening Primrose** (E. nocturna) Afterglow, new beautiful perennial variety, large yellow, medium, 4, 1/4; tall yellow, 6, 1/6.

Forget-me-nots, best perennial dwarf, light or dark blue, large-flowering, 12, 1/4. **Foxgloves** (Digitalis purpurea), 12, 1/6; new glorioxia-flowered, 6, 1/4; new yellow (grandiflora), 6, 1/6; white, 6, 1/4; ivory spotted, 12, 1/9.

Francoa (Bridal Wreath), long branching stems, white flowers, 3, 1/6. **French Honeysuckle** (not a climber), red flowers, 4, 1/4. **Fuchsia**, hardy Crimson Bush, 3, 1/6. **Funkia** (Corin Lily), very lovely, pure white scented flowers on long stems, likes shade, handsome foliage, 2, 1/4.

Gaillardia grandiflora, new large-flowering hybrids, rich shades, 6, 1/6. **Galega** (Goat's Rue), mauve or white, lovely for

cutting, 6, 1/6. **Gaitionia**, very handsome, tall white Lily, 3, 1/6. **Geum** Mrs. Bradshaw, large double scarlet, large 2 and 3 year old plants, 1/- each; Glory, fine double scarlet, 3, 1/6; coccineum, semi-double, bright scarlet, splendid for rockeries, 4, 1/4. **Gladiolus**, best large-flowering, large bulbs, 12, 1/9. **Gypsophila** paniculata, favourite gauze flower, 4, 1/4; glabrata, dwarf for rockeries, 12, 1/9.

Helianthemum (Sun Roses), bright colours, 4, 1/4. **Heuchera** sanguinea splendens, pretty evergreen leaves, rich red flowers, rockery or border, 3, 1/6. **Hesperis** Dawes' Violet, 6, 1/6. **Homeroacallis**, hardy Lily, large yellow, orange and tawny blooms, very free-flowering, 3, 1/6; Queen of May, early flowering, very large roots, 1/6 each. **Hollyhocks**, Kelway's double, 3, 1/6; single, 4, 1/4. **Hydrangea** paniculata, enormous heads white bloom, quite hardy, large plants, 1/4 each. **Hypericum** (St. John's Wort or Rose of Sharon), do well in shady places, large golden flowers, evergreen foliage, 4, 1/4.

Iceland Poppies, Excelsior strain, many new and lovely shades, 6, 1/6. **Incarvillea**, large bell-shaped flowers, rich carmine, yellow throat, very handsome, 3, 1/6. **Indian Pinks**, various colours, 6, 1/4. **Inula** glandulosa, very large, golden yellow, bold and handsome, 3, 1/6. **Iris**, Japanese, large flowers, rich colours, 3, 1/6; large flag, splendid large-flowering, white, mauve, yellow, blue, purple, separate, 3, 1/6; mixed, 4, 1/6. **Iris** punilla, lovely for border or rockery, 4, 1/4; **hispanica** (Poor Man's Orchid), splendid for cutting, 6, 1/4. **Isatis** (Woad), rare handsome plant, glaucous foliage, cloud-like masses bright yellow bloom, 4, 1/4.

Kniphofia (Torch Lily), tall orange scarlet, 3, 1/6.

Lavender, fragrant Old English, 2 year old bushes, 3, 1/6.

Lilies, hardy Tiger, double or single, 3, 1/6. **Lily of the Valley**, strong flowering crowns, 6, 1/6. **Linum** perenne, beautiful blue Flax, 6, 1/6. **Linaria** dalmatica, spikes yellow, blotched red, 6, 1/6. **Lobelia** cardinalis, spikes rich scarlet, 4, 1/4; Queen Victoria, claret foliage, 3, 1/6. **Lupin**, Tree, yellow or white, 3, 1/6; polyphyllus, large spikes, blue, white, etc., 6, 1/4; roseus, lovely pink flowering, 4, 1/4. **Lychnis** chalcidonica, scarlet Jerusalem Cross or New Salmon Queen, 3, 1/6; coronaria, silvery foliage, crimson flowers, 6, 1/6.

Malva moschata, musk-scented, very showy, pink or white, 4, 1/4. **Mimulus** cardinalis, hardy scarlet Musk, forms large bush, 4, 1/4. **Monarda** (Fragrant Bergamot), new Cambridge Scarlet, 3, 1/6. **Montbretia**, spikes, brilliant colours, 12, 1/9. **Onopordon**, tall, very handsome Thistle, 3, 1/6.

Pansies, best large-flowering exhibition varieties, 12, 1/6; separate colours for bedding, blue, white, yellow, red, purple, golden, 12, 1/6; Coquette de Poissy, charming for bedding, lovely rosy mauve, 12, 1/10. **Papaver**, Oriental Queen, Salmon Queen, Apricot Queen, 3, 1/6; orientale, crimson and scarlet, 6, 1/6. **Pentstemon**, large scarlet Southgate Gem, Middleton Gem and large Excelsior strain, 3, 1/6; gentianoides, blue shades, 6, 1/6. **Periwinkle**, large blue, 4, 1/4. **Pæonies**, lovely new double and single Japanese varieties, all colours, mixed, 3, 1/6; larger, separate colours, 9d. each, very large, 1/- each. **Pulmonaria**, Jerusalem blue Cowslip, very rare, large plants, 1/- each. **Pea**, everlasting, red, white, pink, 3, 1/6. **Physalis**, giant Chinese Lantern, 6, 1/6. **Pinkie**, old-fashioned fragrant double white, 6, 1/6; Mrs. Sinkins, 3, 1/6; double, semi-double and single, all colours, very fragrant, 12, 1/9.

Potentilla, double, crimson, 4, 1/4. **Primulas**, lovely hardy varieties for borders, rockeries, bogs, assorted, 4, 1/4; larger, 3, 1/6; very large, in bud, 1/- each. **Polyanthus**, best large flowering, one year old plants, 6, 1/4. **Primrose**, blue and purple shades, 3, 1/6. **Primula** denticulata, large heads, lilac; rosea, very bright pink; cortusoides, rosy purple; japonica, large heads, rich colours; cashmeriana, large purple heads; pulcherrima, rich crimson flowers on stout stems; 3, 1/6; larger, 2, 1/6; sikkimensis (Himalayan Cowslip), sweetly fragrant pale yellow flowers, loves shade and moisture, 3, 1/6. **Phlox**, large flowering, best named, all colours, 3, 1/6; verna, dwarf creeping alpine for rockery, bright pink, 3, 1/6. **Pyrethrum**, Kelway's hybrids, 4, 1/6. **Perennial Sunflowers**, Miss Mellish, rigidus, 6, 1/6. **Pyrethrum**, double pink, white, crimson, large clumps, 2, 1/6; James Kelway, large scarlet, 2, 1/4.

Rose Campton, bright crimson, 6, 1/6. **Rudbeckia** New-mani speciosa, 3, 1/6; Golden Ball, large double, 3, 1/6.

Salvia argentea, strikingly beautiful silvery leaves in large rosettes, pinkish white flowers, 4, 1/4. **Saponaria**, dwarf trailing, pink flowers, 6, 1/6. **Saxifraga**, mossy, crimson or pink flowers, 3, 1/6; white, 4, 1/4. **Sweet Scabious**, lovely colours, dwarf or tall, 6, 1/4. **Scabiosa** caucasica, large, exquisite mauve flowers, one year old, 3, 1/6; two year,

very large, 1/- each. **Shasta Daisy**, 4, 1/4. **Sedums**, 4, 1/4. **Silene**, pink, compact, 12, 1/6. **Solidago** Golden Wings, 3, 1/6. **Solomon's Seal**, 6, 1/6. **Stachys** (Lamb's Wool), 6, 1/6. **Sweet Rocket**, purple or white, 6, 1/4. **Sweet William**, new Scarlet, Pink and Crimson Beauty, 6, 1/6; double white, 6, 1/6; double and single hybrids, 12, 1/6. **Thistle** Queen of Scots, 3, 1/6. **Thalictrum**, hardy Maiden-hair, 3, 1/6. **Thrift**, compact, pink flowering, 6, 1/4. **Tritoma** (Red-hot Poker), 3, 1/6. **Tusailago** (Winter Heliotrope), 3, 1/6. **Tunica** Saxifraga, dwarf, edging or rockery, 6, 1/6. **Verbascum**, large, tall, yellow, 3, 1/6. **Valerian**, old crimson favourite, 6, 1/6. **Veronica** spicata, tall blue, 4, 1/4; gentianoides, dwarf blue, 4, 1/4. **Viola** cornuta, masses of small blooms, lovely for rockeries, etc., Mauve and Purple Queen, White and Blue Perfection, 12, 1/9. **Violas** from seed, Bath's bedding, yellow, white, purple, blue, and mixed (all colours), 12, 1/6; good bedding, mauve, from seed, 12, 1/10; from cuttings, best large mauve, yellow and white, 12, 6d.

STRONG TRANSPLANTED GREENHOUSE AND POT PLANTS, ETC. **Agapanthus**, blue African Lily, two year old, 2, 1/4. **Agatha** celestis, lovely blue Marguerite, 6, 1/6. **Aralia** (Fig Palm), 3, 1/6. **Arum** Lily, one year, for potting, 3, 1/6. **Asparagus** Fern, erect or trailing, 3, 1/6. **Begonias**, evergreen, perpetual flowering, pots or bedding, 4, 1/4. **Beauty Stocks**, lovely, fragrant, double, 6, 1/6. **Cannas**, Crozy's beautiful hybrids, strong two year old, 3, 1/6. **Celaia** cretica, charming perennial pot plant, spikes yellow and mauve, 4, 1/4. **Cobaea** scandens, handsome, rapid climber, large purple flowers, 3, 1/6. **Cyclamen**, choice strain, 3, 1/6.

Dahlias, Paony-flowered, Collarette, Colossal, single, Cactus, double, etc., 3, 1/6. **Deutzia** gracilis, pot shrub, soon be covered with lovely pink or white flowers, 2 for 2/-.

Echeveria, glaucous rosettes trailing red flowers, 4, 1/4. **Eucalyptus** (Blue Gum), 4, 1/4.

Fuchsias, choice sorts, 4, 1/8. **Francoa** (Bridal Wreath), long trails white bloom, 4, 1/4.

Gloxinias, large erect blooming, lovely colours, 2, 1/4.

Heliotrope (Cherry Pie), 3, 1/6.

Ivy Geraniums, double pink, 3, 1/6.

Lily of the Valley, strong flowering crowns, 6, 1/6. **Lobelia** cardinalis Queen Victoria, claret foliage, spikes scarlet flowers, 3, 1/6.

Marguerite Covent Garden White, and large yellow and sulphur, 4, 1/4.

Nicotiana, white or crimson, fragrant Tobacco, 4, 1/4.

Passion Flower, 2, 1/6. **Plumbago**, beautiful blue, 1/4 each. **Primula** obconica, new giant, lovely colour, 3, 1/6; malacoides, lilac, 4, 1/4; kewensis, yellow, 4, 1/4; japonica, Queen of Primulas, 3, 1/6; cortusoides, rosy purple, very fine, 3, 1/6.

Rehmannia, handsome large pink trumpet flower, greenhouse perennial, 3, 1/6.

Salvia coccinea, scarlet, 4, 1/4. **Saxifraga** Mother of Thousands, 4, 1/4. **Smilax**, trailing, 4, 1/4. **Streptocarpus**, lovely Cape Primrose, beautiful new hybrids, 3, 1/6. **Schizanthus** Wistonsis hybrids, 4, 1/4.

Tomato, strong transplanted, best varieties, 6, 1/6.

STRONG VEGETABLE AND HERB PLANTS from open ground. **Asparagus**, Kelway's Giant, two year old roots 7/- 100; three years, 10/- 100. **Sage**, **Thyme**, **Mint**, **Marijoram**, 3/- doz. **Paraley**, best curled, 1/4 doz. **Spring Cabbage**, **Brussels Sprouts**, **Coa** and **Cabbage Lettuce**, **Leeks**, **Cauliflower**, **Winter Tripoli Onion**, **Pickling Cabbage**, 1/9 100.

STRONG HARDY CLIMBERS. **Ampelopsis** Veitchii, self-climbing, small leaf, large roots, several trails, each 2s. **Clematis** Traveller's Joy and Flammula (Virginia's Bower), white, rapid climbers, large two year roots, 2/- each. **Honey-suckle**, very fine red-flowering Dutch, large plants, 3/- each. **Wistaria** sinensis, large racemes of bluish-lilac flowers, 3/6 each. Everlasting **Climbing Pea**, red, white, pink, 3, 1/6. **Apios**, tuberous rooted **Wistaria** (not sinensis), rapid climber, sweetly scented purple flowers, 3, 1/6. **Cayotegia**, double pink Morning Glory, 3, 1/6. **Passion Flower**, hardy blue and white, 1, 1/4. **Tropæolum** speciosum, tiny flame flowers, Glory of the Scotch Islands, 2, 1/6. **Jasmine**, fragrant white flowering two year rooted cuttings, 1/- each; very rare yellow summer-flowering, two year rooted cuttings, 1/4 each; yellow winter flowering, two year rooted cuttings, 2, 1/9. **Eccremocarpus**, trusses orange-red flowers, 2, 1/4.

Extract from one of the leading Garden Journals, dated March 17, 1923:—"MRS. PYM'S HARDY PLANTS.—This is a catalogue of Hardy Plants for beds, borders and rockeries, also Hardy Climbers, Vegetable and Greenhouse Plants, all of which are in small lots priced carriage paid and offered on money back terms. There is no plant catalogue more to be recommended to the amateur gardener. It is post free from Mrs. Pym, and readers may order therefrom with every confidence of entire satisfaction."

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No. 2683.—VOL. LXXXVII.]

[APRIL 21, 1923.]

WILD SPECIES OF TULIP

IN the eyes of some gardeners there is a fascination about wild species of plants which is never or seldom present in the garden forms which have been derived from them. In Tulips this difference is at least as striking as in any other genus and we have only to compare a collection of the so-called English florist Tulips with another of Tulip species in order to appreciate it. The florists' Tulips are all of one height or very nearly so; they all stand erect; they all have, or should have, petals of the same shape and all the flowers are striped. This is attributed by the florists to the mysterious "breaking" by which the self-coloured seedlings become striped and variegated with pink, red or purple on a white or yellow ground. The fact is that these bulbs are all diseased and suffer from a complaint akin to "mosaic" in Potatoes. So we turn from them to the species and find some with two, three, six or even ten flowers on a stem; others which come up with their stems bent like a shepherd's crook; and others, again, with amazing flowers of the most dazzling scarlet, roins, or 12ins. in diameter. There is infinitely more variety and, moreover, the first species flowers in February and the last not till the end of May or even the first days of June.

The first to open is a dwarf plant with one or two small starry flowers, white with a yellow centre, and coming from the south of Russia near the lower reaches of the Volga. This is *Tulipa biflora*, and it is closely related to, and closely followed in the flowering season by, *T. turkestanica*, which is rather larger and has a stem about 8ins. or roins. in height with any number of flowers up to a dozen. The colour is white, with a much smaller yellow centre than in *T. biflora*. Both these species are usually in flower before the end of February, and the first flowers of *T. Kaufmanniana* may also be expected before the end of the month. This is in some ways the most surprising of all Tulips. Almost as soon as the leaves are through the ground the buds begin to appear, and they are then not green as in other species, but the colour of the perfect flower,

and ready to open on the first sunny day. As the sun grows stronger in March the stems lengthen, until, near the end of the month, they are a foot or more in height, and the bed of Kaufmannianas is a wonderful blaze of colour. The typical flower when open is white with a large yellow centre, though there are others which are yellow all over and others, again, entirely scarlet. Of the yellow and white forms the closed flowers shew that the backs of the outer petals are flamed with scarlet or shaded with pale, slate blue or merely tinged with pink.

Before the last petals of this splendid Tulip fall there should be in flower the first specimens of *T. Greigi*. The two species seem to grow in close proximity in Russian Turkestan, and there are some interesting hybrids between them. The two most noticeable features about *T. Greigi* are the fact that the leaves are striped and blotched with dark brown-purple and the magnificent shape of the flowers. The three outer petals curve outwards, while the others remain more nearly erect and give the flower an outline, which is as distinct as it is pleasing. The colour is usually

a brilliant deep scarlet, though there are bright yellow forms blotched or shaded with red.

Even larger than the flowers of *T. Greigi* are those of *T. Eichleri* from the region to the south of the Caucasus and of *T. Fosteriana* from further east. Of these the petals often measure more than 5ins. in length, so that the effect produced by a number of the open flowers on a bright sunny day in April is better imagined than described. The colour of both is a dazzling scarlet, the shade being brighter and clearer in *T. Fosteriana*, which also is distinguished by its shorter and broader leaves and by the fact that its basal blotch of yellow or black and yellow is more nearly circular in outline than in *T. Eichleri*, where the blotches on the three inner segments are much larger than those on the outer segments.

A little later come two other Turkestan species, first *ingens*, with narrow, glaucous leaves and big scarlet flowers and a large black base, and then *Tubergeniana* with greener leaves and even larger flowers of a better shape and of a lighter scarlet.

Few Tulips are so distinct as *prastans*, which flowers at the end of March and early in April. The leaves are so glaucous as to be rough to the touch on the upper surface and they also have a midrib, which distinguishes them from those of any other species. The stems branch and bear two or three flowers of a curious shade of light scarlet. Of this species there are two distinct forms, the tall type usually with a little black shading



THE TYPICAL WHITE, YELLOW-CENTRED TULIPA KAUFMANNIANA,
THE BACKS OF THE PETALS SHADED PINK.

at the base when the flowers open, and the dwarf early form with bright red filaments to the anthers. This is known as the variety *Tubergeniana*.

The latest of all species to flower is *T. Sprenger* from Armenia. This has narrow leaves of a deep green and a bright red flower, and the additional merit of seeding very freely, probably because it comes so late that the flowers escape the effects of late frosts. The seeds may be scattered about the garden among lilies and other perennials, and some four or five years later these parts of the garden will one day be suddenly gay in most surprising fashion.

For the rock garden nothing can surpass the brilliant little trio, *Maximowiczii*, *limicola* and *Batalin*. The first two have brilliant scarlet flowers which open flat in sun and only differ because the first has upright leaves while those of the other sprawl on the ground. *Batalin* is probably merely a colour form with pale yellow flowers, and the most delightful hybrids of all shades of buff and apricot can be obtained by crossing.

T. Clusiana with cherry red backs to its outer petals and white inner surface with a deep purple base has long been well known and has become naturalised in Southern Europe. Probably it is native of Central Asia, or possibly of the North-west Frontier of India, where there also grow forms known as *stellata*, some white with a yellow, instead of a purple, base and others in which the white ground is replaced by deep yellow.

In Greece and in Western Asia Minor there are a number of Tulips closely allied to the sweet-scented yellow *T. sylvestris*, which is claimed, though perhaps the claim is doubtful, as a native of this country. The flowers usually have pointed petals and are poised horizontally rather than vertically. One called *Orphanidesii* has flowers of a shade of terra-cotta with an olive green base, while others are almost orange. *T. Hageri*, from the borders of Attica, has flowers of a curious combination of scarlet and green, while *T. pruinella*, an African relative of this group, has white flowers flushed outside with pale green and pink and the extraordinary habit of remaining closed through the heat of the day when all the others open widest and of only opening in the late afternoon when the rest close their petals.

Another ally of the same group, *T. dasystemon*, comes from Turkestan and is a dwarf plant well suited to a rock garden. Each bulb may send up as many as five or six white star-shaped flowers with a yellow centre, charmingly set in a tuft of narrow deep green leaves.

Many of the species are, unfortunately, rare in cultivation, but the gardener who makes efforts to obtain them will be well repaid. *T. triphylla* is a dwarf species with deep orange flowers; *T. Kolpakowskiana* is a graceful plant with narrow leaves and yellow flowers backed with scarlet; while *T. Ostrowskiana* has the curious habit of pointing its buds to the ground until the stem is full grown. Even more striking is *T. Schmidtii* from the district south of the Caucasus. It flowers very late and sends up a tall stem with a large scarlet flower from a rosette-like tuft of ten or twelve leaves.

The secret of successful cultivation of Tulip species is simple, for it consists in lifting the bulbs every year as soon as the foliage has died down or even turned yellow. They should then be allowed to dry in an airy place, so that the old skins can be cleaned off. The bulbs should be stored in a warm place, either in paper bags or in dry sand, until November and then replanted at least pins, and preferably ones, or suns, deep in well worked soil. If this is sandy and rich in humus, so much the better, and the addition of



TULIPA DASYSTEMON, WHITE, CENTRED YELLOW.



PALE MAUVE AND YELLOW, TULIPA SAXATILIS.



THE SCARLET AND YELLOW FORM OF *T. KAUFMANNIANA*.

bone-meal, when the beds are dug over before planting, will be beneficial.

There is one difficulty about lifting the bulbs and that is that they are not always to be found where they were planted. Some run horizontally and send out stolons at the end of which new bulbs form often 6 ins. or 1 ft. from where the old bulbs were planted. The worst offenders are the Cretan *T. saxatilis*, with its beautiful flowers of pale mauve and yellow, and the so-called *T. præcox*, which is almost certainly a garden hybrid of some Syrian species. Others send down "droppers" to a depth of several inches, and it is fortunate that it is usually only small bulbs and not those

of flowering size which transgress in this way. Those gardeners, however, who are unaware of this trick will be confident that they have lifted all their bulbs of *T. Kaufmanniana* or of *T. Greigi* and then be surprised to find them still in the same position the next year.

It is not safe to leave bulbs in the ground from year to year, except possibly in fertile soil on the sunny side of, and among the roots of, shrubs, where the soil will be sucked dry in summer and so allow the bulbs to obtain that ripening without which they will begin to grow too early in the year and then fall victims to late frosts and bad weather.

W. R. DYKES.

CLIMBING AND WALL PLANTS

MANY of our vigorous climbing plants never look so charming as when they have plenty of room for development, rambling freely over large bushes or small trees, or old fences or walls, or, failing these, over a great pyramid of rough oak branches. Under such conditions there is no need for the severe annual pruning which is necessary when free-growing climbers are set amid cramped surroundings. The luxuriant tangle of growth made by the Traveller's Joy (*Clematis Vitalba*) over hedges and bushes in many parts of the country gives us a good example of what may also be done with many of the best exotics.

But satisfactory results can only be obtained by treating the plants well. It is of little use planting climbers near the trunk of a tree beneath shade of branches, where, in the summer-time, they will get very little water. They are better placed about the outskirts of the branches and encouraged to ascend from the outside of the tree. Each plant must be provided with a really good pocket of rich soil, which should be defended against any encroaching roots until the climber is well established. This is sometimes done by sinking a tub or box in the ground to hold the good soil, or a trench may be dug 2 ft. or 3 ft. inside the pocket of the new soil and all the tree roots cut away. The climbers may also be assisted by a generous mulch of well rotted manure or an application of liquid manure now and then; but once they become really vigorous and take full possession of the support they are usually well able to take care of themselves.

Many of the ornamental Vines are excellent for this free and easy method of growth, particularly such rampant growers as *V. Coignetiae*, *V. Labrusca*, *V. Thunbergii*, *V. armata*, *V. riparia*, etc., while *V. inconstans* (*Ampelopsis Veitchii*) and *V. muralis* are useful for planting near an old Pine, up the naked trunk of which they will ascend to a height of 40 ft. or 50 ft., clothing it with a mantle of green, changing in autumn to glowing crimson. A useful climber of vigorous growth is found in *Celastrus articulatus*. This will reach the top of a moderate-sized tree, and though its flowers are small and insignificant, its fruits are very showy during late autumn and early winter, and remain quite attractive until Christmas. When an old Holly or Conifer can be given over to *Polygonum baldschuanicum* the effect is quite good, the dark green foliage of the support forming an excellent setting for the white flowers and fruits of the climber. Another excellent plant for a similar position is *Rosa moschata*, which attains a height of at least 24 ft. and blossoms very freely. The large, rounded leaves of the Dutchman's Pipe (*Aristolochia Sipho*), coupled with its vigorous growth, warrant it a place among naturally grown climbers, although its curiously shaped flowers are not very

showy. *Periploca græca* is another vigorous climber which is suitable for planting in the open in the milder parts of the country, although in some places it must have a wall. Then there is *Actinidia arguta* and the new *A. chinensis*, both good for the purpose, as are also *Wistaria chinensis* and *W. multijuga*. Numerous Clematises can be used for the same purpose, particularly such kinds as *C. montana* and its variety *rubens*, *C. campaniflora*, *C. orientalis*, *C. Flammula*, *C. Jouiniana*, and the numerous forms of *C. Jackmanni* and *C. lanuginosa*. Under certain conditions *Jasminum officinale* may be used with effect, while the winter-flowering *J. nudiflorum* looks well in companionship with Ivy for covering low walls or fences. The Ivy in its various forms may be allowed to grow over old deciduous trees, for it causes them little harm, and is very picturesque when it reaches its mature or flowering stage, and covers the head of its support with a luxuriant evergreen growth. In the south-west counties *Solanum jasminoides* may be used with effect to cover low fences or evergreen bushes, for its white flowers are attractive over a long period in summer.

All the climbers already mentioned can, of course, be grown against walls as well as in other positions, although it is often advisable to reserve all available wall space for tender climbers, and for plants of shrubby habit which are unsuitable for open borders. Locality decides largely the question of the amount of protection necessary, for a plant which is tender about London may be quite hardy in Cornwall, while a wall plant in Cornwall may require indoor culture about London.

Among self-clinging climbers the various Ivies are the most important, for they are evergreen and very hardy, and the commoner kinds often flourish in the heart of a smoky town, and cover

bare and ugly walls with greenery. A severe clipping once or twice a year is all the attention they require. When one clipping only is given, the work should be done in April, but when more attention can be allowed the removal of long shoots in July is an advantage. Other self-clinging climbers are *Vitis inconstans*, *V. muralis*, *V. Henryana*, *Hydrangea petiolaris*, *Ereilla volubilis* and *Tecoma radicans*. The last two are only partly self-clinging, and all require to be nailed to their supports until they are growing freely in the desired direction.

Rough-cast walls sometimes present difficulties to the horticulturist, for until the newness of lime or cement has worn off, the climbers do not cling well. It is therefore advisable to fix trellis work or battens on the walls to hold the plants in their places. As a rule, however, such walls do not give much trouble after the freshness of the lime or cement has worn off. In the case of creosoted fences it is wise to secure the plants to strands of wire gins, apart running along the fence.



THE BEAUTIFUL JASMINUM PRIMULINUM.

Climbers which do not naturally cling are best suited for growing in this way.

The drooping growth of *Garrya elliptica* would be ruined by hard pruning, and it may be allowed to grow according to its nature if it is placed against a blank wall or fence. When shrubs are grown on the walls of houses they must generally be cut quite close, otherwise they obstruct light, collect dust and dirt, and have a neglected appearance. Moreover, unpruned plants on house walls may soon cause a good deal of mischief to gutters, water pipes, walls and roofs, and it is advisable to keep them cut back each year at least 1 ft.

how the cutters, and to remove any shoots which appear to be forcing their way between the joints of pipes or into crevices in woodwork. On no account should climbers be allowed to encroach upon the roots of buildings, for in such a position they are bound to cause serious harm sooner or later.

Deciduous wall plants that are grown solely for ornamental foliage or for their fruit in autumn should be pruned after the fall of leaves or fruit, and not later than February. *Ceanothus* Gloire de Versailles and other shrubs which bloom from young wood may also be pruned during the winter, as also may the long shoots of *Wistaria*, for its flowers are borne from stunted, spur-like growths and from the lower buds of shoots pruned back during the previous summer. Speaking generally, however, plants grown for their beautiful flowers, such as *Cydonia japonica*, *Chimonanthus fragrans*, *Jasminum nudiflorum*, *Forsythia suspensa* and the spring-flowering *Ceanothuses* must be pruned as soon as the flowers fade. As a rule it is well to prune wall plants on the spur system, getting the branches well back to the wall each year and depending upon new wood to produce the flowers. Plants which bear their flowers on the growth of the previous year should only be pruned once. The double-flowered *Prunus triloba*, for instance, flowers entirely on the new shoots formed after the yearly pruning in May, and if these new shoots are cut away the next year's blossoms will be lost. When plants can be allowed to grow out from the wall they may be left unpruned for several years or just be cut back sufficiently to enable the old branches to support the weight of the new growth.

Soil at planting time should be of good quality, for all plants should be encouraged to develop as rapidly as possible, though ultimately some may flower more profusely in moderately poor soil. When too rapid growth is being made a little root pruning will usually give the desired check. On the other hand, stronger growth can be encouraged by surface dressings of manure or by other stimulants.

Among the most suitable wall plants for the colder parts of the country are the climbing Roses and Honeysuckles, particularly forms of *Lonicera Periclymenum* and *L. japonica*, *Garrya elliptica*, *Cydonia japonica*, *Forsythia suspensa*, *Escallonia laurifolia*, *Magnolia conspicua*, *M. stellata*, *M. salicifolia*, *Sophora viciifolia* and, in fact, any good flowering shrubs which grow but do not flower well in the open in that particular district. Many of those mentioned below may also be tried, for climatic conditions often vary greatly in the course of a few miles, and what may require protection on one side of a county may be quite hardy on the other.

In the South and Southern Midlands the following can be added: *Jasminum nudiflorum*, *J. officinale*, *J. revolutum*, *Clematis* in variety, particularly the many garden varieties and *C. montana* and its variety *rubens*, the various hybrids of *Camellia japonica*, *Magnolia*

grandiflora, all the *Wistarias*, *Ceanothus rigidus*, *C. papillosus*, *C. divaricatus*, *C. Veitchianus*, *C. Gloire de Versailles*, *Abelia uniflora*, *A. grandiflora*, *A. triloba*, Scented Verbena (*Aloysia citriodora*), *Escallonia macrantha*, *Hydrangea petiolaris*, *Prunus triloba* fl. pl., *Myrtus communis* and varieties, *Pittosporum crassifolium*, *Olearia macroloba*, *Pasiflora coerulea*, *Rosa bracteata*, *Chimonanthus fragrans* and its variety *grandiflora*, *Pyracantha coccinea*, *P. angustifolia*, ornamental Vines and Ivies in variety.

For Cornwall, Devonshire, South Wales, Ireland and some parts of West Scotland the following



CLEMATIS NELLIE MOSER, A GOOD GARDEN VARIETY.

more tender plants are likely to prove satisfactory against walls: *Clianthus puniceus*, *Cassia corymbosa*, *Lupageria rosea* and its variety *albiflora*, *Clematis indivisa*, *Correas* in variety, *Solanum crispum*, *S. jasminoides*, *Punica Granatum* and its variety *nana*, *Acacias* in variety, various kinds of *Metrosideros*, *Abelia floribunda*, *Magnolia tuscata*, *Cestrum elegans*, *Araucaria sericea*, *Erubotrya japonica*, *Sophora tetraptera*, *Diospyros Kaki*, *Cydonia sinensis*, *Billardiera longiflora*, *B. scandens*, *Sollya heterophylla* and, in specially favoured places, *Rhodochiton volubile* and *Citrus medica*.

W. D.

A FINE OXALIS

IT is a great pity that more of the *Oxalis* family are not hardy in English gardens. There are over two hundred species, mostly natives of South Africa and South America, and those that I used to see growing in the veldt at the Cape were exquisitely beautiful—pink, crimson, apricot, yellow and white. Yet I only know about ten or a dozen hardy species, and of these, several, though beautiful, are capable of becoming in the rock garden what rabbits are in Australia. I was all the more delighted, therefore, at being introduced a year or two ago by Mr. Ingwersen to *Oxalis magellanica*, for *Oxalis magellanica* is a hardy species, well behaved and of the greatest charm. *Oxalis enneaphylla*, *enneaphylla rosea* and *adenophylla* are sumptuous aristocrats, so slow of increase as almost to be accused of race suicide, while pretty little *Oxalis corniculata* and its red-leaved variety *rubra* go to the other extreme and indulge in a perfect orgy of fecundity.

Oxalis magellanica is a dwarf carpeter, in general aspect much like our own native Wood Sorrel, *O. Acetosella*, on a minute yet effective scale. It creeps closely and steadily, never rising more than half an inch from the ground. Its clover-shaped leaves have just the same silkiness as Wood Sorrel. The flowers, however, are different. Those of the Wood Sorrel are delicately satiny, with pale water-mark veinings, and a droop as of conscious meekness. The flowers of *O. magellanica* are round and saucer-like, large for the size of the plant and of a clear dead whiteness which there is no mistaking, and there is no modest droop about them either; they stare straight up at you with an assurance which their beauty justifies.

But where has this eligible plant been rusticated all these years? I do not pretend to know half the plants moving in good rock garden society, yet I confess I am surprised I had not met *O. magellanica* until a couple of years ago, nor even heard of it. Nicholson does not mention it, and I had not noticed it in any of the Alpine Who's Who, such as Tucker, Prichard or Stormonth. Who brought it from Magellan's Straits, and when? I wish someone would write to THE GARDEN giving information. Oh! I have just looked into Farrer's "English Rock Garden." He at least makes brief passing mention of the plant. And I read on to see what he has to say about *Oxalis enneaphylla* and my own particular introduction, *enneaphylla rosea*. He gives *enneaphylla* some of the praise its great beauty deserves, and dismisses *enneaphylla rosea* in a few words, almost as an undesirable, and hastens on to *adenophylla*, and praises it greatly at the expense of *enneaphylla rosea*. Now, *enneaphylla rosea* is not a fixed type, and possibly Farrer never saw the best forms. In its finest developments the colour is clear and decided, the flowers full and large and round, and always the texture of the petals is solid and waxy. Of *adenophylla* I have seen two distinct forms. One with a darker blotch at the base of each petal, and one in which the petals are pale pink throughout; but in neither form are the petals so full and round and overlapping as in the better forms of *enneaphylla rosea*, and the texture of the petals is thin and flimsy after the solid waxiness of *enneaphylla*. Nor has *adenophylla* the delicious almond fragrance of *enneaphylla*. This is not to say that *adenophylla* is not an extremely pretty plant. It is merely to say that Farrer liked *adenophylla* best and that I much prefer *enneaphylla rosea*. One of these days I hope to take my special form of *enneaphylla rosea* to Chelsea or Vincent Square.

Stevenage.

CLARENCE ELLIOTT.

MORE ABOUT SPRING-FLOWERING BULBOUS PLANTS

TULIPS. In THE GARDEN for April 7, Tulipa Gesneriana is spoken of as being a wild species on a par as it were with *T. dasystemon*. *T. Gesneriana* is, as far as I have been able to find out, a sort of Barnacle Goose Tulip, at least I have never been able to run it to earth any more than Sylvius—afterwards Pope of Rome—was able to locate the strange tree that bore geese when he, thirsting for knowledge, visited the northern part of Scotland in 1468. Probably, however, *T. Gesneriana spatulata*, or major, is meant. If so, I have always understood that the almost certain probability is that it is a garden hybrid raised in the early part of the nineteenth century by Van der Vinne. Again, I would very much like to know what evidence there is for regarding either *T. Gesneriana* or *T. Gesneriana major* as "the parent of the May-flowering Darwin Tulips."

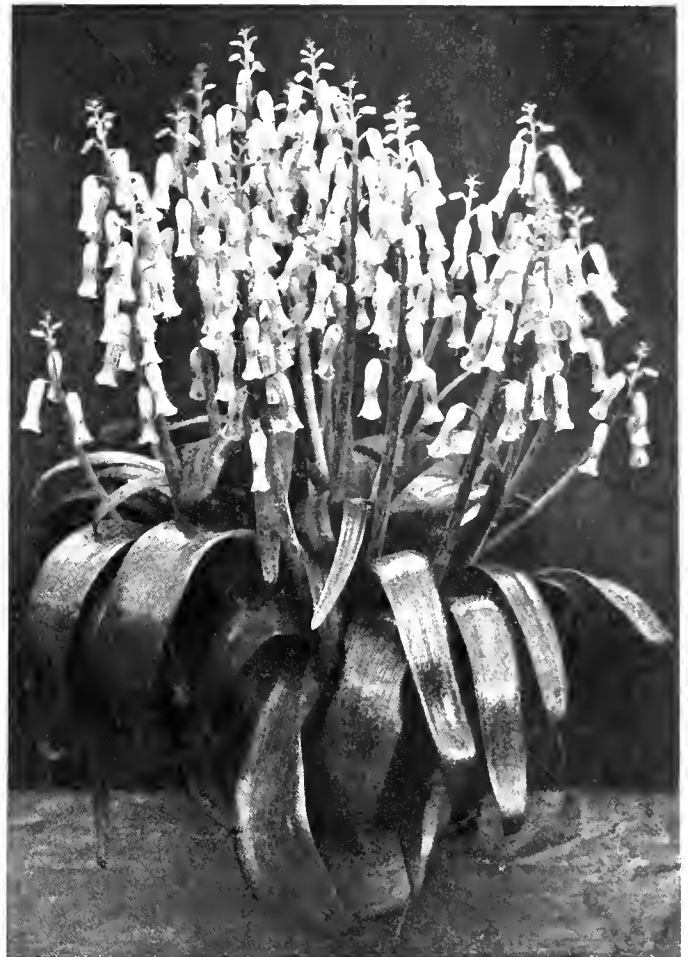
I would like to add *Tulipa præcox* to the select list of good doers. I saw it this last March for the second time in Mr. Peter Veitch's Exeter nursery, where it flourishes exceedingly and seeds "all about the place." This is somewhat similar to *T. Oculis-solis*, but is distinguished from that species by its long almond-shaped dark basal blotches bordered with primrose yellow, by its earlier blooming, and by the yellowy exterior of the perianth segments. The last named is called *Gesneriana* in the *Botanical Register* (Plate 380), but this certainly is no longer considered to be correct, if it ever was.

ERYTHRONIUMS OR DOG'S TOOTH VIOLETS.—One of the best in my garden is *E. grandiflorum* (or *gigantum*?). In the place of the solitary flower of *americanum* it has generally two and frequently three flowers on a stem. They are large and of a rich yellow colour. It appears to seed itself fairly freely. *Hartwegii* is another excellent and enduring variety. Its beautiful marbled leaves are just as pleasing as its pale straw and orange-based flowers.

CROCUS SPECIES.—Just a word for the little deep yellow *Susianus*. I do not like it to be left out when the early-flowering species are written about. And what about that exquisite little hybrid *E. A. Bowles*, which was born a few years ago in the Haarleim nursery of van Tubergen? It is not a true species, but we may look upon it as next door to one. It is a beautiful deep primrose yellow, and although rather expensive, may be bought with confidence, as it is a good doer and it increases freely.

IRIS RETICULATA CANTAB.—I fancy *reticulata* seedlings must be favourites with the gods, as so many, I am told, die young. *Cantab.*, however, is one of those that thrive and increase, and because of this and because of its lovely shade of pale blue is loved by every gardener who has seen it. At least anyone who does not do so must be more or less of a crank. I hope it will not be long before it may be found in some of our dealers' lists.

IXIOLIRIONS.—"When doctors differ." When dictionaries of flowers differ and when one has no learned botanist at hand to solve the perplexing



A GOOD POT OF THE GOLDEN LACHENALIA NELSONI.

nomenclature of the afore-mentioned works, one can only give the names as sold by the dealer. Hence I write of *Ixiolirion Ledebouri* and *I. Pallasii*. Under the sennames I have this year renewed my acquaintance with this peculiarly graceful little genus. It looks, if the authorities that I have consulted are to be trusted, as if it only contained two species, and that *montanum*, *Pallasii*, *Ledebouri*, *brachyantherum* and *tataricum* are but variants of one and the self-same thing with only insignificant garden differences to divide them. *I. Kolpakowskianum* I have never seen, so it may be more unlike the others than I expect it is. It, however, reminds me what an escape the genus has had from being called *Kolpakowskia*! These tongue-twisting names might have no terrors if you happen to

"have been a Russian,
A French or Turk or Proesian,
Or perhaps Italian,"

but although it does not seem altogether happy, *Ixiolirion* or *Ixia*-like Lily is a distinct improvement for the "Englishman." To me the palish purple-blue flowers suggest loosely built, narrow petalled Campanulas poised on thin, slender, quivering pedicels which spring from a stronger main stem in more or less umbel fashion. There is no doubt that the species or variety with the many aliases is one of the most graceful flowers that can be found to fill medium-sized vases. I gathered some yesterday and they are now in water springing out of a greeny haze of short growths of *shaved* *Asparagus Sprengeri*. The pots are labelled *Ledebouri* from which the bunch was cut. *Pallasii* is still very much in the bud stage, so I presume one is earlier than the other, which is something to note, for most people when they



THE DEEP PRIMROSE YELLOW CROCUS E. A. BOWLES.

get to know these delicate and graceful flowers will be glad to have their season lengthened.

Ixiomons are on the borderland of hardiness. They have come through this last winter all right here, as they have done several times in the past, but for all this I fear in cold seasons they would be killed in most Midland and Northern gardens. As prices are to-day they are a

cheap bulb, and might well be given a trial outside where the soil is on the light side and where a warm position can be spared. In Southern gardens they are probably hardy. From what has just been written it will be gathered that when they are grown under glass they only require a minimum of heat and plenty of air.

JOSIEH JACOB.

A SPLENDID "FORTNIGHTLY" SHOW

IN anticipation of the Daffodil Show on the 12th and 13th inst., these beautiful flowers formed a considerable part of a very attractive Show at the Royal Horticultural Society's Hall on April 10 and 11. The recent bitterly cold weather does not seem to have had the slightest adverse effect on Narcissi, for they were shewn in very large quantities and of such superlative quality that two gold medals were recommended for collections. These were arranged by the Donard Nursery Company and by Messrs. Barr and Sons. They were at opposite sides of the hall, and each drew the close attention and admiration of a great many enthusiasts and also of general visitors.

Both collections included a large proportion of splendid seedlings. In the Irish collection these were principally of the large Trumpet section, while most of Messrs. Barr's were Leedsii and Barrii types. Of the named sorts in the Donard collection Magog, Matron, Vestal Virgin and

Antrim of the Trumpets; Loch Fyne, (Incomparabilis); Donax, Torch and Dragon with vivid coronas and Thetis and Nightingale, (Poeticus), demanded special mention, though every one of the many blooms was really excellent.

It was the chaste and fascinating Leedsii types that at first drew the enthusiast to the collection of Messrs. Barr and Sons, and the very best of the named sorts were Lavender, Grey Lady, Agnes Harvey, St. Senara and Sea Nymph. As is only fitting, the collection was also very strong in the Barrii section, and of these the vivid coronas of Fiery Monarch, Nannie Nunn, Picador and Rahant were most charming. There were also some splendid seedlings of this type.

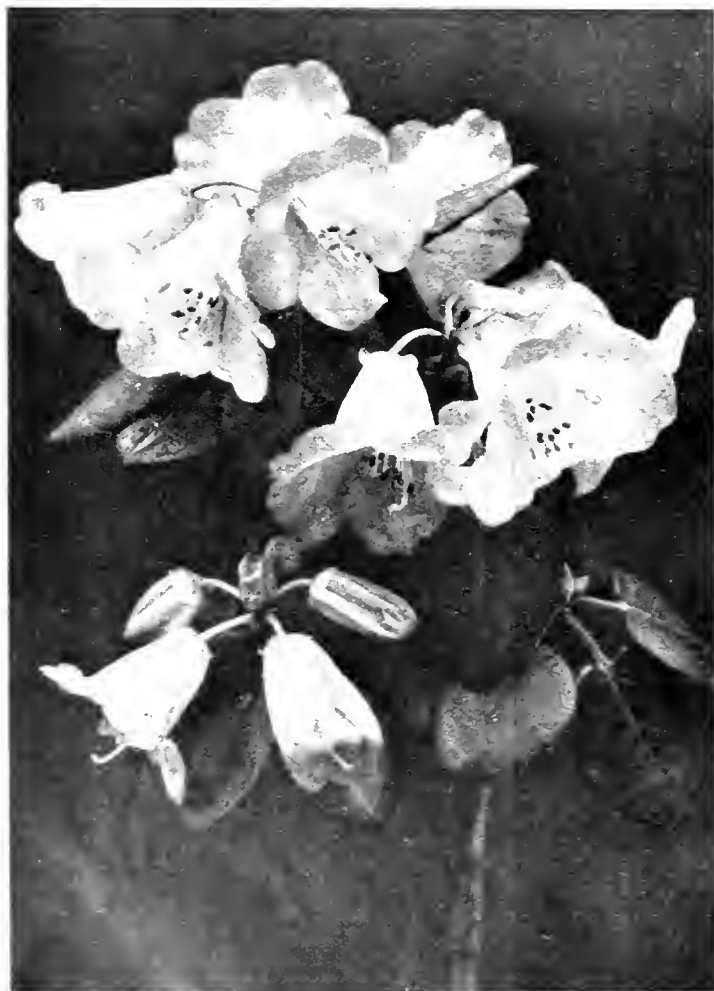
The fascinating blooms staged by Messrs. J. R. Pearson and Sons were all from home-grown bulbs, and very good they were too. Such Barrii sorts as Marshlight, Lucifer, Sunrise and Sunset Glow had particularly bright coronas. There were also many desirable Trumpet varieties,

and Hæro, Barcarolle and Virgil of great merit among the Poet's Narcissi. Messrs. Cartwright and Goodwin also had in Jasper, Cigar, Sunrise and Dragon particularly good Barrii varieties; while the Incomparabilis Bernardino, Loch Fyne and Lady Mary Bosawen were very attractive.

The new Scarlet Perfection had a prominent place in the collection of Messrs. R. H. Bath, Limited, and there were other good Barrii seedlings there. Dopsis and Firetail, Barrii types; Sarabanda and Noel, Poeticus varieties, were also excellent. Double Daffodils were the most important in Mr. W. F. M. Copeland's exhibit, and these included Mary Copeland, Strawberries and Cream, Orange and Ripe Tomatoes.

The large display of Messrs. Sutton and Sons was quite distinct from the above collections, which contained a great many varieties in quite small numbers. Messrs. Sutton and Sons aimed at illustrating the great decorative value of some of the more abundant varieties when used in generous quantities. This exhibit was arranged with all the skill and taste the public has long since come to expect from the Reading house, and it was one of the chief features of the Show. The principal Daffodils so well used were King Alfred, Princess Juliana, Mme. de Graaf, Mustapha and Spring Glory of the large Trumpets; Firebrand, Salmonetta, Peach, Sunrise and Red Chief of the red-cupped Barrii sorts; and Great Warley and Lord Kitchener of the Incomparabilis varieties.

Among the general floral exhibits the chief were Rhododendrons, Roses, Carnations and



THE LOVELY ROSE AND CREAM RHODODENDRON EXMINSTER.



THE DELICATE SULPHUR TRUMPET DAFFODIL PURITAN MAIDEN.

Polyanthuses. Although the largest Rhododendron collection was by Messrs. Gill and Son, there were two meritorious displays by amateurs. Mrs. Heywood Johnstone, Bignor Park, Pulborough, sent quite a large number of magnificent trusses of Rhododendron Falconeri, with many other sorts, which included the deep pink Lueombeana and Dr. Stocker, a delightful white flower which is lightly spotted on the two upper petals. Lieutenant-Colonel Messel sent from Nymans, Handcross, a very pretty collection of unnamed hardy varieties.

The fragrant greenhouse Rhododendrons were well represented. Mr. L. R. Russell had five or six sorts, which included Princess Alice and Gibsoniana superba. Messrs. Gill included Countess of Haddington apparently cut from the open. Beautiful as their Rhododendrons were, however, most visitors paid greater attention to the splendid spikes and large glossy leaves of the Norfolk Island Forget-me-not (*Myosotidium nobile*). These beautiful blue flowers were also on view in Mr. G. Reuthe's exhibit.

A few unusually large flowers of the Japanese Tree Pæony (*Pæonia Moutan*) were to be seen in Messrs. Piper's collection of general plants. Other shrubs of note included Veronica Hulkeana, Daphne Cneorum, Brooms in great variety, Pyruses, Wistarias and double flowered Cherries.

Among the alpine, several patches of wonderfully blue Gentians compelled admiration. The patches of *Gentiana verna* in Messrs. C. Elliott's little collection were of magnificent colour and splendidly flowered; while Messrs. R. Tucker and Sons had most charming clumps of *G. Clusii*, and they also shewed the rare yellow Himalayan Poppy (*Meconopsis integrifolia*), *Edraianthus serpyllifolius*, *Dryas Sundermanni*, *Omphalodes capadocica*.

Drabas and Houstonias were to be seen in quantity in various exhibits of alpine. Mr. G. G. Whitelegg included a patch of the graceful *Lycnis alpina* and also had many little conifers suitable for the rock garden.

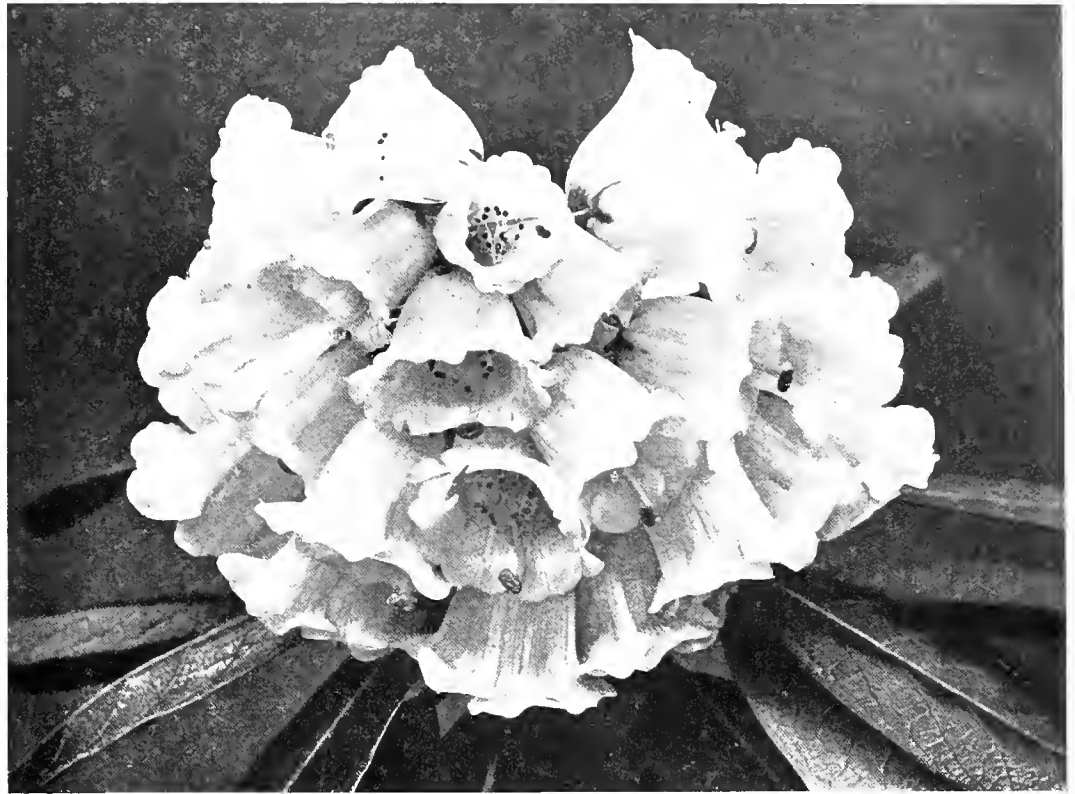
Mr. J. Douglas brought a good collection of the Auriculas he grows so well. The Alpine and the Fancy varieties were about equally represented, and there were many excellent varieties of each.

Carnations continue to be consistently well shewn by Messrs. Allwood Brothers, Mr. C. Engelmann, and Messrs. Stuart Low and Co. The last named also staged good *Hippeastrums*, *Cyclamens* and *Mimosas*.

In different parts of the hall there were many beautiful and fragrant Roses. Mr. George Prince had a vase of magnificent blooms of the creamy white Muriel Wilson, which were most deliciously fragrant. The gorgeous *Padrè*, *Mme. Butterfly* and the deep yellow Lady Hillingdon were also splendid on this stand. Deeper coloured blooms of Climbing Lady Hillingdon were massed to great effect by Mr. Elisha J. Hicks, and among his many sorts there was a delightful vase of Coral Cluster. *Esme* and *Sovereign* were particularly well coloured in the display by Messrs. B. R. Cant and Sons, who staged the Rev. F. Page-Roberts and *Phœbe* in splendid form.

NEW AND RARE PLANTS.

Narcissus Puritan Maiden.—A chaste and beautiful white Trumpet Daffodil of medium size and good substance. The trumpet is long, widely open and nicely reflexed. Award of merit to Messrs. J. R. Pearson and Sons.



A FINE TRUSS OF RHODODENDRON FALCONERI.

Narcissus "White Seedling."—This unnamed flower is a very large white Trumpet Daffodil which seemed to be a trifle coarse and was somewhat weather stained. It is, however, one of the largest of its type, and will probably be valued as a show flower. Award of merit to Captain Buxton, Titchfield, Hants.

Narcissus Scarlet Perfection.—In this case the superlative name is well deserved, for it is a really splendid example of the broad-cupped *Barrii* *Narcissi*. Although shewn among very many excellent varieties, it stood out in a class by itself by reason of the intense deep fiery orange colouring of its corona and the general high quality of the flower. Unfortunately, only one bloom was staged, so only a Preliminary Commendation was awarded to Messrs. R. H. Bath, Limited.

Rhododendron Exminster.—This is a very beautiful medium-sized Rhododendron which will probably be suited for growing out of doors in the milder parts of the country, and is also well worthy of a place in the cool greenhouse. The loose trusses are made up of widely expanded, bell-shaped flowers, which are delightfully flushed with deep rose on the outsides. The interiors of the flowers are bluish coloured. The oval-shaped, shining deep green leaves are nearly 3 ins. long and about 2 ins. across. It is stated to be a cross between *R. Thomsoni* and *R. campylocarpum*. Award of merit to Messrs. R. Veitch and Sons.

Cattleya Dr. M. Lacroze var. Excelsior.—This is a magnificent stove Orchid of quite uncommon colouring and as large as the average

Brasso-Cattleya. It is also reminiscent of the *Brasso-Cattleyas* in its wide and crested lip, which is of deep bluish purple with broad transverse golden yellow marking. The large, spreading petals are of delicate bluish colour. First-class certificate to Messrs. Flory and Black.

Lælio-Cattleya Faust, Broadlands variety.—Although this name appeared on the official list of awards, a close search failed to discover the plant. Award of merit to Mr. C. R. Ashton.

Lælio-Cattleya Hassallii alba var. Perfection.—A beautiful Orchid of large size. The pure whiteness of the sepals and petals is relieved by the rosy purple lip, which is faintly margined by a nearly white edge. First-class certificate to Messrs. Cowan and Co.

Miltoniodes Harwoodii, Ashted Park var.—One of the most gorgeous Orchids on view for a long time past. The plant bore a large, graceful spike of glowing, velvety deep rose-coloured flowers which have a paler—almost rosy orange coloured—lip and small golden crest. First-class certificate to Mr. Pantia Ralli.

Odontoglossum Aiglon Majesticum.—An erect spike of large, white flowers which are freely marked with chocolate and have a bright golden crest. Award of merit to Mr. H. T. Pitt.

Odontoglossum Aureola.—A robust, erect spike, well furnished with large, shapely flowers of deep yellow colour which pales towards the middle of the segments. The lip has distinct, chocolate markings. This is of an exceedingly unusual type. Award of merit to Mr. Pantia Ralli. *A full report of the R.H.S. Daffodil Show is held over until our next issue.*

FORTHCOMING EVENTS.

April 24.—Royal Horticultural Society's Fortnightly Meeting (two days).

April 26.—Royal Botanic Society's Meeting. Mitcham, Tooting and District Horticultural Society's Meeting.

DRY WALLS AND HA-HAS

THE importance of walling in many garden schemes can scarcely be exaggerated. The terraced garden with its supporting walls and parapets has, if properly proportioned, an interest all its own, but even a dead-level site often offers suitable opportunities for the use of walling.

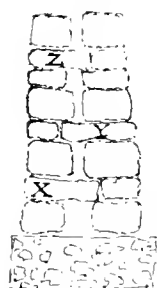


FIG. 1.—Section of partition wall.

Dry walls may be used instead of hedges to part garden from garden, and the formal sunk garden is a favourite for gardens large or small. Unless on the grand scale, a sunk garden should not be more than 2ft. or, at most 3ft., below the general level. A walk all round on the higher level is very desirable, since the superior view which is obtainable of the beds and their arrangement is one of the principal merits of the sunk garden. An article or two could well be written upon the placing and proportioning of walls and the closely connected problem of the arrangement of garden stairways and terraces, but on this occasion we must confine our attention to the practical problem of the construction of dry—that is unmortared—garden walls.

Let us first consider the dry-built purely partition wall. In this case the ground on either side will be on one level. Fig. 1 shows a section of such a wall which, it will be noted, is built on a concrete foundation. Such a foundation is only necessary if the ground is recently made up or otherwise unsound, or if the wall is of some considerable height. It is very seldom necessary to lay a foundation for the ordinary 3ft. high wall, and a concrete foundation should never be used for a partition wall which is to bear plants, *unless* it is buried at least a foot (preferably 2ft.) below ground level. All walling looks better coursed, and, if it is to be stable, dry walling must be coursed. Such coursing may be straightforward as shewn in elevation in Fig. 2, or random as shewn in Fig. 3, but in either case the principle of construction is the same. Stones of approximately the same thickness are selected for each course. Two thin stones, however, may be used to make

up a wide course on occasion, as shewn occasionally in Fig. 2, or one large stone may be employed to tie two courses into one, as in Fig. 3. Stones should *always* be laid upon their natural bed.

In random coursed walling no stone should be more than two courses deep, and the courses need not necessarily be continuous; the opportunity of a two-course stone may be taken to alter the arrangement of the courses—note the courses between the letters A and B in Fig. 3. Random coursed walling, however, is only suitable for walls of some size—say, 6ft. high as a minimum. It may be used for partition or for retaining walls, and is equally effective for either.

To return to our partition wall, Fig. 1, it is better to have the courses on each side of equal thickness, and to lay one course complete on both sides before commencing the next. The stones of each course must pitch backwards a little into the work, so that the face of the wall may slope back from 5° to 10° from the vertical. A “batter” of 10° sets back the top of a 6ft. wall about 1ft. (shorter or greater lengths in proportion), and a 5° batter sets back about 1ft. in 11ft. These facts are mentioned because measurements are usually easier for the amateur to work out than angles. The batter is very necessary, since gravity and friction have to be depended upon to hold a dry-built wall together. At X, Y and Z headers are shewn tying the two sides together. It is not at all necessary to put in a complete course of headers; indeed, one header in each header course every 2yds. should be ample. It is equally unnecessary and, indeed, undesirable to put in the headers one over another. If plants are intended to be grown upon the wall, the interstices of the stones should everywhere be filled with sweet loam, otherwise any fine soil which can be packed thoroughly solid as the work proceeds will do. Since stones hold water when soil would dry completely out, it is a good plan to mix broken pieces of sandstone or other porous stone of which the wall is constructed with the soil in the larger spaces. A certain amount of trimming is always necessary for coursed walling, however rough, and these trimmings can thus be utilised with profit. If any plants are to be established in the wall, they must be placed in position as the wall is being built, and their roots carefully laid out and made firm in the soil before the next course is laid. Afterwards, if replanting

becomes necessary, which with a properly built wall should not be the case, either the wall must be largely demolished for replanting or recourse must be had to sowing seeds, which ultimately gives first-rate results better results perhaps than putting in plants in the first place, but, of course, needs patience.

The first course of the wall completed and the soil being rammed thoroughly firm in every joint and in the middle of the wall, another course is commenced at the corners in the manner usual with brickwork and masonry, and a builder's line stretched between, to which the remainder of the course is laid. If the wall is a very long one, it will, naturally, have to be built in sections, starting at one end and working to the other, though a considerable length can be laid to one line if a stone is set up at intervals to the correct height for the course, and the line made fast at the correct height with a short piece of string and a stone to keep it in place.

The third course should be super-imposed on the second, just as the second was on the first, and so on until the wall is carried to the proper height, but care must be taken not to omit the tying pieces (or “headers” as we should call them in brickwork) or the plants if planting is intended. Suitable plants for such a wall will be discussed in a subsequent article; suffice it here to state that there is a prevalent tendency to over-plant garden walls. One often sees such walls so smothered that the texture, even the character, of the wall is obscured; this is a sad mistake. Colour schemes for dry walls have been suggested, even employed, but in our view such stilted and artificial arrangements shew a very considerable want of taste on the part of those who perpetrate them. When calculating the necessary width of a partition wall at the base, do not overlook that it has *two* battered sides. Let us take the case of a wall to be 3ft. high and 1ft. 9ins. wide at the top with a batter of 10°. Now the total height of wall which is battered is twice 3ft.—6ft., and in this height the amount of batter at 10° may be taken as 1ft.—that is to say, the wall should be 2ft. 9ins. wide at the base.

A retaining wall is even easier to erect than a partition wall. The section shewn in Fig. 2 indicates the method clearly enough. Sufficient soil must always be cut away to enable the rammer to work freely behind the stones, but this cutting away can best be done as the work proceeds. Walls with a parapet are better reinforced with a little mortar or cement

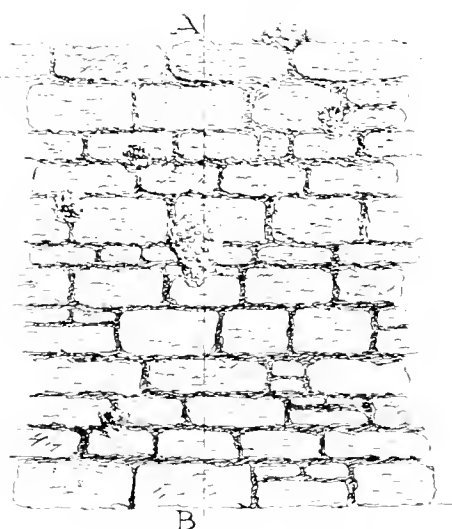
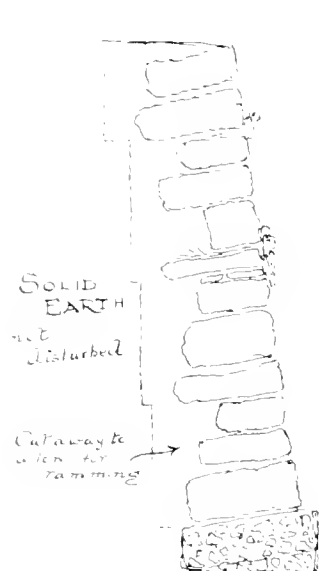


FIG. 2.—COURSED DRY WALL (AND SECTION)

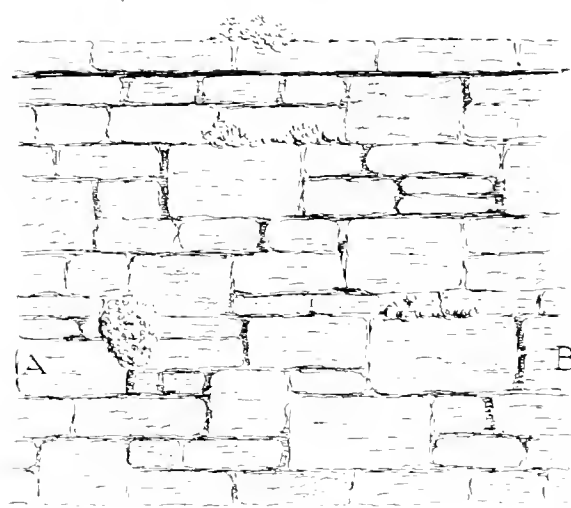


FIG. 3.—COURSED RANDOM WALLING.

CORRESPONDENCE

THE BEARBERRIES.

I HAVE just read the article in your issue of March 10 on *Arctostaphylos* Manzanita, one of a genus I have long cultivated in spite of the general indifference to native shrubs shewn by gardeners here. I have seen, I think, most of our Californian species in the wild, ranging as they do from sea level to 7,000ft. or 8,000ft. elevation, and in form from low mat-like shrubs to small trees, particularly in the species you describe. I feel, therefore, I have some warrant in venturing to differ with your correspondent's statement that *A. Manzanita* "is undoubtedly the most beautiful member of the family." I think could he see, as I often have, *A. Stanfordiana*, a species with narrow, green leaves bearing no resemblance to the dull blue tone of the *Eucalyptus* and carrying masses of bright pink blossoms or, again, *A. canescens*, with leaves of a beautiful soft grey and large pink flowers, he would at once acknowledge either one to be distinctly more beautiful than the subject of your note. I might add the Spanish name *Manzanita* (little Apples) is derived from the appearance of the fruits, which both in form and colouring are extraordinarily like tiny Apples. —ROBERT MENZIES, *San Francisco, U.S.A.*

ALPINE FLOWER-FIELDS.

IN reply to many English enquiries, I have jotted down the following notes. Will you, perhaps, find room for them in *THE GARDEN*? The flora of the Alps is at its best in the spring—I mean the alpine spring, which comes from middle of May till beginning of July. In summer, when the tourist time is at its height and the alpine climbers at work, the best of the flowers are already gone. This seems overlooked by great numbers of people. If one reads Ruskin's notes, however, one cannot fail to appreciate his admiration for the field of *Gentians* on the Jura in early spring. When I was a boy I fell in love with the blue fields of *Gentiana verna* over the old town of Grandson, and my mind was in such a turmoil that—as my mother said—"I was as in a dream." My friend the great artist Flemwell said in his book, "Flower-fields of Alpine Switzerland," that if ever there is a nervous energy of nature it is in May in alpine regions, and that in May the fields there are a Paradise. Then blossoms *Crocus vernus*, which does not wait till the snow is melted to push its heads out of the frozen ground. They grow in thousands and form sheets of violet and white. Then comes the *Soldanella* in its dark foliage, which is never found far from melting snow. After the *Soldanella* comes the light pink *Primula farinosa* with the Marsh Marigold, *Caltha palustris*, in its alpine form, *C. p. var. alpestris*. At end of May the pastures are thickly sown with flower jewels in a way that neither paint nor ink can portray. The immense fields of *Narcissus poeticus* above Montreux and near Château d'Oex, the glorious masses of *Anemone alpina* which on the limestone Alps and on the Jura extend their royal drapery over all and cover the land with their glory (in the granitic Alps the colour is yellow, and then it is *Anemone sulphurea*)—all these treasures are to be seen at their best towards the end of May. That is why I always advise friends to come from the end of May till the beginning of July. At the time of writing (the end of March) we may see in the very low alpine sites just near to Martigny all the rocks being covered with the deep carmine *Primula viscosa*, which adorns by millions the granitic walls. Again, since the end of January the fields of Alpine Heath (*Erica carnea*) all above Bex and to St. Maurice and then everywhere in the Central Alps are a glorious sight indeed. I would like alpinists to come here at this early season really to enjoy the alpine flora. Just now the fields of *Orchis pallens*, of *Gentiana verna*, of *Potentilla verna* and of Lent Lilies (*Narcissus pseudo-narcissus*) are adorning the pastures above Bex, Martigny, etc. The slopes are brilliant yellow with *Adonis vernalis*, and nothing can express the beauty of them, particularly when mixed with the dark violet *Anemone montana*, which is the granitic form of the Common *Pulsatilla*. —H. CORREVOY, *Floraire, Geneva*.

THE FREESIA ILLUSTRATION IN "THE GARDEN" FOR APRIL 7.

I HOPE no one will think the flowers in the picture represented either the form or the size of the best primrose and yellow varieties that are now in existence. They were some "tail-ends" I sent to the Editor to shew the difference between the yellow of my deepest-coloured seedlings and the so-called "yellow" of Success and Treasure. I am sorry this was not explicitly stated under the illustration, in case anyone should think they are typical flowers which were there represented. —JOSEPH JACOB

[The flowers were somewhat the worse for wear on arrival. The illustration was, of course, intended to shew difference in colouring only.—ED.]



ANEMONE ALPINA IN THE SWISS ALPS.



CROCUS VERNUS IN SWITZERLAND.

THALICTRUM MINUS ADIANTIFOLIUM.

IN a note of mine published in *THE GARDEN* for January 27, in reference to this *Thalictrum*, I said that "of the Meadow Rues it is possibly the least hardy, and to ensure it going through the winter I usually mulch the crowns with coconut fibre in late autumn." The Editor kindly invited expressions of opinion on this point, as he was not aware that it was other than hardy. The correspondents—over a wide area—who have been good enough to reply confirm the Editor's view, and I am pleased to learn that no longer need I take steps to "nurse" my plants, however severe the winter may be. Personally, I am much obliged to those who have written in respect of this beautiful hardy foliage plant.—W. LINDERS LEA.

WHY NOT MORE SPRING FLOWER SHOWS?

ARE not we flower-lovers somewhat lax in our devotion to the floral beauties of spring, at least as expressed in the organisation of spring flower shows—local shows, I mean? Every town, every village runs—more or less successfully—its summer show, in which competition is keen and interest alive and alert. But where—oh! where—in most cases are the floral treasures of the fresh spring-tide gathered together and a "show" which shall be a missionary effort organised? Yesterday, far—very far—from London, I visited a show (one of several in the surrounding districts) devoted to the beauties of the spring, and I bethought me of how much we others miss in foregoing this spring show. Two days of it—mind you, with a military band and other attractions, well patronised and open from 10 a.m. to dark. And the flowers!—from both trade and private growers. "Best collections" of this, that and the other in the bulb world, Primroses, Polyanthus, Violets, cut Rhododendrons, etc., not forgetting table decorations and wild flowers. For nearly three hours I wandered amid those tempting exhibits. Three crowded hours of colour-feast and perfume. Azaleas, Acacias, Freesias, Tulips, Schizanthuses, Cinerarias, Anemones, Ferns and foliage plants. The whole while the question hammered in my brain—"Why?" Why do not the rest of us emulate this noble example? Why should not every town and suburb hold its spring display, either as a separate society or an offshoot of the summer show? It is a golden opportunity, let us be up and doing.—H. W. CANNING-WRIGHT.

SAXIFRAGA CUSCUTÆFORMIS.

ONE has occasional enquiries regarding the hardiness of this pretty late-flowering Saxifrage, but it is not always possible to assure the enquirer that it will stand the winter in his or her locality. Whether it is hardy or not does not depend only upon the climate of the district, but also very greatly upon the nature of the soil and the position the plant occupies. I do not think that it can be relied upon north of the Tweed, or, for that matter, in many districts a long way south of it. There is no doubt that our variable and often wet winters are detrimental to its welfare, and this may be set down as a frequent cause of its demise. When this is associated with a cold, rather heavy soil the loss of this Saxifrage is almost inevitable. It wants a warm position and a thoroughly drained, open, sandy surface soil, with a well drained subsoil, which will allow any surplus rain to soak rapidly from the knob-like little scaly root-stocks, if such we may call them. Then, as it appears as if the old plants die off after a few years of life, we have to depend upon the young ones formed by the shoots

which root in the soil near at hand, or those from the underground stolons. They seem planned to maintain the succession, and to do this it is necessary that these stolons should have a chance of rooting in the soil adjacent to the old plant. It is evident that this cannot be done so well if *S. cuscuteformis* is crowded up among other plants, and it is desirable that it should be surrounded by a space of open light soil to enable these stolons to root freely. Where it is happy this near ally of *S. sarmentosa*, the Mother of Thousands, will soon make a pretty group with its ornamental leaves, its spikes of white flowers, and its numerous progeny thrust out from the parent by means of thread-like stolons. While it can be grown in the open in favoured parts of the country, it is really more desirable for the cool or cold greenhouse, especially the former. The cold greenhouse is not of great value in cool, moist districts, where the damp atmosphere is often injurious to many plants which would thrive if a little gentle heat were supplied. In the cool greenhouse, from which frost is just excluded, it looks remarkably pretty in a hanging pot, and its offshoots can be taken off and struck in small pots if desired. Truly, *Saxifraga cuscuteformis* is not a plant for the many who have no glass, and it is most to be commended to the gardener owning a greenhouse supplied with sufficient heat to keep out the frost and drive away dampness from the atmosphere.—S. ARNOTT.

AN UNCOMMON IRIS.

ALTHOUGH for many years in cultivation and catalogued with fair frequency in bulb lists, *Iris orchoides* is far from common in gardens, even where the less plentiful Irises are appreciated, and it is fairly high in price, a fact which does not say too much in its favour as a commercial plant. Yet it is an interesting and pretty early Iris, of very distinct appearance, and giving its yellow flowers early in spring. This is sometimes its undoing, as I have seen its succulent varnished leaves suffer considerably from late frosts, and when opportunity served and one realised that we were to have an unusually severe frost at night, I have found it profitable to protect this Iris with a bell-glass or handlight. I have grown three forms of this pretty species, one with yellow flowers, another with paler ones, and another with flowers tinged with blue. Of the three I think the ordinary yellow one is the best. It is about a foot or gins. high and does well in sandy soil in sun.—DUMFRIES.

DIANTHUS CÆSIUS AND MICE.

HAVE other readers of *THE GARDEN* noticed that the Cheddar Pink appears to be untouched by mice, whereas the flowering shoots of most (if not all) other varieties are eaten out during the winter? If this observation is borne out by the experience of others, it is a very satisfactory thing to know. I certainly believe it to be a fact in this garden.—F. RIVIS, *Saxmundham, Suffolk*.

[Readers' views on this point would be of interest. *Dianthus cæsius* is sometimes within our knowledge destroyed by voles, but we have had little trouble with mice in the rock garden.—ED.]

A FRAGRANT SHRUB.

I THINK perhaps the enclosed picture of *Osmanthus Delavayi* may interest many shrub-loving readers of *THE GARDEN*. It was sent to me by the Rev. F. Page-Roberts. The plant has been growing outside the greenhouse at Stratfieldsaye Rectory for five or six years. The photograph was taken the week before Easter.—J. J.

[This slow-growing but beautiful and fragrant evergreen shrub seems to prefer a light soil and a rather sheltered situation. As far as present experience goes it is winter-hard, however.—ED.]

FRUIT TREE STOCKS.

MR. J. W. MORTON on page 111 of *THE GARDEN* gives good practical advice as to the selection of fruit trees for various positions and the stock upon which they ought to be grafted, but, unfortunately, when increasing the number of our trees, we are largely in the hands of the nurseryman, who is not always able to comply with the conditions mentioned, and we have



A NICE PLANT OF *OSMANTHUS DELAVAYI*.

perforce to make the best of what he sends us. In regard to Pears that old ditty is quoted

"He who plants Pears,
Plants for his heirs,"

and, whether there is a lot of truth in it or not, where Pear stock is used of one thing I am certain, that it has prevented many from trying to grow them, as I have been in a good few orchards where no Pears had been planted. Enquiry as to this usually elicited the information that it was because of the couplet. But is there not another poetic version of Pears and their culture worth recalling?

"Plant Pears for your heirs
Was a saying our grandfathers knew,
But we have learnt since
If you graft on the Quince,
The Pears will be growing for you."

Mr. Morton, I am pleased to observe, makes mention of Quince stock for Pears. What does it matter if, when so grafted, the trees are smaller? Are the Pears, though fewer in number, less sweet?—W. L. L.

ANDROSACES FOR THE ROCK GARDEN

SEVERAL members of the *Androsace* family may be counted among the most charming of plants suitable for furnishing the rock garden, providing a wealth of beautiful flowers in the early spring and summer months. In the last monograph of the genus by Pax and Knuth they divided it into four sections, of which No. 1, called "Pseudo-Primula," contains thirteen species, the most characteristic members of which are *A. geraniifolia* and *A. Henryi*. No. 2 section, "Chamæjasme," twenty-five species, includes such well known plants as *AA. villosa*, *carnea*, *sarmentosa* and *lanuginosa primuloides*. No. 3, "Aretia," twenty-eight species, is on the whole more difficult to cultivate in this country, and includes *A. helvetica*, *A. glacialis* and *A. pyrenaica*. The last group, No. 4, known as "Andraspis," contains eighteen species, all of which are of an annual or biennial character, the best known being *A. lactiflora*, *A. albana* and *A. maxima*.

Essentially mountain or rock plants, the various members are found on the Alps and Pyrenees of Europe, the mountains of the Caucasus, the Himalayas, Western China and Central Asia. In the latter areas they are found in greater numbers than in Europe, but very few have yet been introduced into cultivation from those regions.

From a cultural point of view the genus may be divided into two groups. In Group 1 the members grow naturally in turf, in pastures, or on dry, stony ledges and slopes; these are the true *Androsaces*. Species of the other group, which has been called *Aretia*, are generally found growing in the fissures of rocks and form the saxatile section. For garden purposes the former group is by far the most important, and is here dealt with.

A. ALBANA is a biennial from the Caucasus, growing about 6 ins. high, with a rosette of leaves which are deeply toothed at the apex. The flowers vary from pink to white, and are produced in umbels in April and May. It is easy to grow in gritty soil.

A. ARACHNOIDEA.—A native of the calcareous Alps of Eastern Europe, it is closely allied to *A. villosa*, but has narrower leaves, while the silky threads instead of being free are confused and matted together. The flowers also are larger and pure white. This species and others of its kindred are typical plants for the moraine, enjoying thorough drainage in gritty soil, providing they are well supplied with moisture during the growing season.

A. CARNEA (syn. *A. Halleri*).—This is a dwarf tufted plant found on the granitic Alps in Central Europe. The narrow leaves are produced in lax rosettes, being slightly glaucous with very short hairs. The flower-stems, 2 ins. to 4 ins. high, bear a small umbel of very bright rose-coloured flowers in May and June. There are several varieties of this species, including *A. brigantiaea* with pink flowers, from the Alps of Briançon; *A. Reverchonii*, with pure white flowers, from Piedmont; and *A. puberula* from Mont Viso. All these like peat and granitic sand, and a partly shaded position. They are best increased by means of seeds.

A. CHUMBYI (*sarmentosa* × *villosa*).—This is very near *A. sarmentosa*, with shorter and very woolly foliage, and large bright carmine flowers in May. It comes from the Himalayas.

A. COCCINEA (*Bulleyana*).—This Chinese species is a biennial, forming the first year a rosette of sessile, spatulate leaves which are glaucous and have ciliate margins. The second year the plant produces numerous scapes with umbels of cinnabar-red and vermilion-coloured

flowers. It is found growing on dry, rocky hill-sides on the Chungtien plateau in North-Western Yunnan at an altitude of 10,000 ft. It does not appear to be hardy, but may be grown in a cold frame in well drained loamy soil with ample drainage.

A. FOLIOSA.—A vigorous species from rocky pastures in the Himalayas at high elevations. It has a thick, stoloniferous stem, with broad, obovate, glabrous leaves, ciliated at the base, in large rosettes. The pink or purple-tinged flowers are produced in umbels, on stems 8 ins. or more high. It does well in rich, moist soil in half shade,



THE PALE COLOURED, BRIGHT EYED, ANDROSACE LANUGINOSA OCULATA.

and flowers from May to August. Easily increased by means of cuttings.

A. GERANIIFOLIA.—A very distinct and pretty species from the Himalayas, with rosettes of rounded Geranium-like leaves on long petioles. The pink flowers are produced in umbels during the summer months. It spreads by means of strawberry-like runners, the tips of which take root and produce fresh plants. It is hardy in sheltered positions, and grows best in rich moist soil in half shade.

A. LACTEA, from the calcareous Alps in various parts of Europe, is a turfy plant with rosettes of narrow leaves. The slender stems, 6 ins. or more high, bear several pure white flowers with a yellow eye in umbels. It is very easy to grow in rich moist soil in half shade, and is easily increased by means of seeds or division. It flowers in May and June.

A. LACTIFLORA (*A. coronopifolia*).—A well known biennial with rosettes of ovate-lanceolate leaves toothed towards the apex. Numerous flower-stems are produced, bearing umbels of pure white flowers from May to September. A native of Siberia.

A. LAGGERI.—This is the representative of *A. carnea* in the Pyrenees, where it is found at an altitude of over 6,000 ft. It is often grown and sold as *A. carnea*, but it is quite distinct from that plant. Forming wide tufts of dark green foliage (not glaucous as in *A. carnea*), the leaves of which are very narrow, it is covered in April and May with umbels of bright pink flowers. It is easy to grow in the rock garden with moraine-like conditions, and is more partial to sun than some of the others. Few plants form such a charming picture as a well grown pan of this species in the alpine house; it is most suitable for growing in this way.

A. LANUGINOSA.—A native of the Himalayas and one of the most valuable plants in the genus. The stems are of trailing habit and freely furnished with ovate, acuminate leaves that are thickly covered with soft, silky hairs. The stems after growing a bit produce umbels of delicate pink flowers, each of which has a yellow eye. In this way a succession of bloom is produced over a long period in the summer months and well into autumn. *A. l. var. oculata* has white flowers with a yellow eye. One of the easiest plants to grow, it is quite at home in a sandy compost of loam and peat, to which has been added some mortar rubble. It may be used for clothing rocky ledges in full sun in the rock garden or even old walls and rocky slopes. It dislikes damp in winter, and should be provided with ample drainage. Seeds are produced freely, and it may also be increased by means of cuttings in summer.

A. SARMENTOSA.—This is the type of a group, the various forms of which are found in the Himalayas. It grows in rocky pastures over a wide area from Sikkim to Kashmir at elevations of from 11,000 ft. to 14,000 ft. Some of the forms approach the well known *A. lanuginosa*, but *A. sarmentosa* is less silky than that species, and has larger rosettes of broader leaves; it also produces stolons, which root as they spread, soon forming large carpets. The flower-stems, about 5 ins. high, appear in April and bear umbels of deep lilac-coloured flowers, which have paler eyes. It is one of the easiest of this set to grow, doing well in gritty loam in a sunny position. *A. Watkinsonii* is a form of this, with larger rosettes of silky leaves. *A. primuloides* is another form from Kumaon, with rosettes of silky villous leaves, compact in habit and usually without stolons. It has bright carmine flowers. *A. sarmentosa*

var. *grandiflora* (syn. *A. strigilosa*) is a stronger-growing form with larger flowers.

A. SEMPERVIVOIDES.—A neat little spreading plant from the Himalayas with sempervivum-like rosettes of leaves and rosy purple flowers in umbels in May and June.

A. SPINULIFERA.—A strong-growing species from Western China with rosettes of leaves in the way of *A. foliosa*, having a spiny tip. The stout scapes, covered with hairs, reach a height of nearly a foot, and bear umbels of delicate rose-pink flowers twenty to thirty in a head. So far as my experience goes it dies after flowering.

A. TIBETICA is a charming little plant that was introduced from Kansu in Northern China. It is somewhat like the Himalayan *A. sempervivoides*, but has broader leaves and the whole plant is more softly hairy. The hairy flower-stems

are about 2 ins. long and bear umbels of from six to nine white flowers having a yellow eye. Quite hardy, it will grow under the same conditions as *A. villosa*.

A. VILLOSA.—This pretty little species has a wide distribution, being found on the mountains of Europe and Asia. It makes mats of small rosettes of densely woolly leaves, and in May and June bears its umbels of pale pink, or almost white flowers, with deeper coloured centres.

A. VILLOSA VAR. CHAMEJASME is a form with flowers that open pure white, but gradually become bluish pink with age. Both these like a very gritty soil in full sun, and are charming plants for the moraine.

The species and varieties above enumerated are not an exhaustive list of the members of this genus in cultivation, but only some of the best and more easily grown kinds. W. I.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Peaches and Nectarines.—The disbudding of both Peaches and Nectarines must be proceeded with directly the shoots are large enough for removal. It is a mistake to allow them to become any length before the operation begins and, moreover, it should be done gradually; the same remark applies to the thinning of the fruit. When disbudding it ought to be borne in mind that the shoots retained will constitute the fruiting wood next year, so the object should be to leave sufficient well placed growths without unduly overcrowding the tree.

Blister or Leaf-Curl.—This disease is often present, and it usually appears after a cold east wind. All infected leaves should be picked off, and the trees usually improve with more congenial weather.

Mildew.—This is another trouble with Peaches growing in the open, and it is often caused through dryness at the root, so it is advisable to pay due attention to watering, afterwards mulching the base of the tree with manure to conserve moisture. Gishurst Compound is a useful cure and preventive for mildew if the instructions as to strength are carried out.

General Work.—Cleanliness is an important factor in successful fruit culture, and not only must insect pests be dealt with, but weeds must be kept in check. The soil between the trees should be hoed or lightly forked over at intervals, and everything done to render the fruit garden clean and tidy.

Fruit Under Glass.

Strawberries.—At this season Strawberries in pots require a lot of attention, especially if they are arranged on shelves in vineries or peach-houses. They will need frequent applications of water, and those that have just set their fruits may be given occasional waterings with liquid manure, while the syringe must be used freely to hold in check red spider, a pest which is very partial to Strawberries at this period of the year. There is always a danger of the pest spreading to other plants, but this must be prevented even if it involves moving the plants to another structure away from the Vines and Peach trees. Plants ripening their fruits must not be syringed, and these may be accommodated in a cooler house, while the last batch of pot Strawberries will succeed in a cool house or pits. When the fruits have been gathered, the plants should be stood in a cold frame for a few weeks and then planted out in a bed, otherwise they should be thrown away.

The Kitchen Garden.

Marrows.—About this date a liberal sowing of all kinds of Marrows should be made to furnish the main crop. The seeds may either be sown singly in small pots or a number in a box or pan, but whichever method is adopted they should be raised in a warm greenhouse and later on transferred to a cold frame to harden off. The young plants must not be starved while in small pots, as they rarely recover when planted out.

Peas.—A further sowing of Peas should be made to keep up a continual supply, and second

early varieties should be selected. Earlier sowings must be given sticks before they begin to fall over, and when time permits the stakes may be placed in position soon after the seeds are sown.

Carrots.—The main or principal sowing of Carrots should be made in drills 1 ft. apart. Give the soil a sprinkling of soot or ash from the rubbish fire and rake the ground to produce a fine surface and free it from large stones. When large enough thin out the seedlings to 6 ins., but this applies chiefly to the intermediate kinds, the stump or horn varieties being thinned for the kitchen as the necessity arises.

Turnips.—During the next month or two an occasional sowing of Turnip seed should be made to keep up a supply of crisp young roots. Sow in shallow lines 1 ft. to 15 ins. apart, and thin the seedlings before they become overcrowded.

Lettuce.—Make fortnightly sowings and transplant the seedlings before they become leggy. When doing this care should be taken to prevent injury to the main root, or the young plants take a long time to recover.

Runner Beans.—An early supply may be obtained by sowing under glass and then planting out when all danger of frosts is past. Seed may either be sown in boxes or small pots and then placed in a warm greenhouse until germination has taken place. A cold frame will then accommodate them, removing the lights during the day.

The Flower Garden.

Bedding Plants.—Latterly the houses and heated pits have been crowded with plants destined to occupy the beds during the summer months. Now every cold frame should be used for the purpose of hardening them off, and such plants as *Pelargoniums*, *Lobelias* and *Marguerites* if well rooted should be moved during the next week or two. Frames cleared of Violets, etc., will be found useful for pricking off *Phlox Drummondii*, *Nemesias* and *Antirrhinums*.

Pentstemons.—These may be set out in their flowering quarters at once, which will relieve the work of bedding out in May and, moreover, enable the plants to become established before the hot weather arrives.

Sunflowers.—The large-flowered kinds are well adapted for the back of herbaceous borders and as clumps in shrubberies where space is available. The seeds should be sown where the plants are intended to flower.

Shrubs.—Both Holly and Yew may be transplanted at this season. Keep the roots moist during the operation.

F. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.)
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale Beet.—This vegetable is not of high value, but it has two points of merit: It sometimes comes in handy as a stopgap and it supplies two distinct kinds of dishes. The leaf-stalks supply a substitute for Seakale and the leaves for Spinach, being actually superior to the variety known as Spinach Beet. Lett in the ground over winter the leaf-stems are most

tender when the plant starts to grow afresh in late spring, when there is not otherwise great choice of variety. Sow from now to the first week in May in lines 15 ins. or 16 ins. apart, thinning the plants out in due course to 9 ins. apart.

Seakale.—Where the crop or part of it has been mildly forced *in situ* the protecting material should be duly removed. The ground should then receive a fairly liberal dressing of organic manure, and if seaweed is available it should form either the whole or part of the dressing, or, failing this, a moderate dressing of salt should be added.

Celery.—It is good policy to form and prepare the trenches now. By this arrangement a crop of Lettuces may be sown or planted in the space between the trenches and used or so far used that they will not interfere with the operation of earthing up the crop. Trenches may be formed of breadths varying from one for a single row of Celery to one that will accommodate five or six rows. Celery trenches are frequently made too deep, often accounting more or less for the crop rotting. In its natural habitat the whole of the plant except the root grows above ground; earthing up is one of man's "many inventions." When the manure is dug in the bottom of the trench it should not be more than a few inches below the ground level.

The Flower Garden.

Dahlias.—See that the ground is in readiness for their reception a few weeks hence. Dahlias are gross feeders, and for their successful cultivation demand a rich, deeply worked soil. The plants, whether young or old, should now be in cold frames being hardened off. Old roots should have plenty of flaky leaf-mould worked in among their roots so that they will suffer little check when planted out. These old plants generally send up several leading shoots, and these should promptly be reduced to two at most.

Fragrant Plants.—These are always acceptable, especially to the ladies. "The scented garden" is a feature in some establishments, but short of this it is desirable to have them in greater or less quantity near to the main entrance to the garden. The following readily occur to one's mind: *Melissa officinalis* (Bee Balm), *Cedronella cana*, both hardy. Among half-hardy plants there are *Cedronella triphylla* (Balm of Gilead), *Aloysia citrodora* (Sweet-scented Verbena), *Heliotrope*, Pheasant's Foot *Geranium*, *Nicotiana glauca* (annual) and the popular hardy annual, the Night-Scented Stock, *Matthiola bicornis*.

Fruit Under Glass.

Vines.—Promptly pinch out all sub-laterals as they appear. In a house started in early February the night temperature should now be about 60°. Close the houses in time to imprison a certain amount of solar heat; it is superior to fire heat, besides being more economical. Thoroughly damp down the house at closing time, putting on a chink of air for the night later on. Keep an eye on the foliage, which will be fairly thick and leathery if the culture has been correct; if rather thin, be a little more liberal with the ventilation.

Peaches and Nectarines.—Employ the syringe rather vigorously at closing time as a preventive against thrip or red spider. See that the trees do not suffer for lack of water at the root, and as successional shoots develop in early houses tie them in promptly. Thin the fruit gradually in late houses, commencing as soon as they attain the size of small marbles. They should ultimately be thinned out to about a foot apart.

Melons.—Support the fruits by means of the "melon net" as soon as they attain the size of a pigeon's egg and promptly pinch out all young growths. Assist the swelling of the fruits by bi-weekly applications of a mild liquid manure. If roots show on the surface, give a light top-dressing.

CHARLES COMFORT
(Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

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Alberta magna.—This plant is a native of Natal and is generally given warm house treatment, but I find it does much better when planted out in a conservatory where the night temperature during the winter is as low as 40° to 45°. It is a handsome shrub or small tree with dark green glossy leaves, and is now producing its red flowers in quantity. It is generally regarded as a difficult plant to propagate, but I find it roots readily from quite young soft shoots inserted in pots of sandy soil and plunged in a close case with slight bottom-heat.

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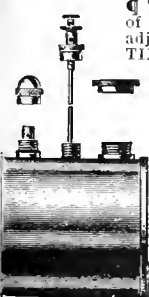
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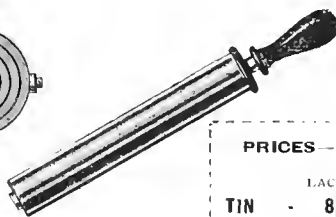
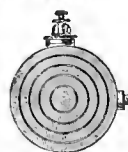
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Burchellia capensis is a South African plant which produces tubular orange-scarlet flowers. It is a plant that does not take kindly to pot cultivation, but is seen at its best when planted out in a well drained bed in a cool conservatory. It should be planted in a compost of light loam with the addition of some fibrous peat and sand. This plant is easily propagated by means of cuttings of half-ripened shoots. Unfortunately, it is very subject to attacks by mealy bug, which must be guarded against.

Winter-Flowering Begonias as represented by such varieties as *Optima*, *Exquisite* and *Mrs. Heal* are difficult plants to bring safely through their resting period, and although the worst time is now past, they still require very careful treatment. Care should be taken not to allow the plants to become too wet at the root. The young growth that is beginning to show signs of breaking from the base should be encouraged by being sprayed lightly several times a day during bright weather. Next month one should begin to get a supply of cuttings, which should be secured when they are about 3 ins. to 4 ins. in length. These are best inserted singly in small pots of light sandy soil, plunging them in a warm case with slight bottom-heat at command. When rooted they should be grown on in an intermediate temperature, taking care not to overpot them.

Begonia socotrana, which is one of the parents of this group, apart from its interest as such, is well worth growing from the decorative point of view, and it should be started into growth about the middle of May. It has no tuberous roots, but forms fat buds on top of the soil. These buds carry the plants through the resting period. Each bud is capable of producing a plant, but where good specimens are required clusters of three or four buds should be potted up in a light rich compost. Give very little water until they have started into growth and made a quantity of roots. They are best grown in a temperature of 60° to 65°. In common with all *Begonias*, mite must be guarded against by the use of the sulphur vaporiser.

Prostanthera rotundifolia is a beautiful pot plant for a cool greenhouse or as a large specimen planted out in a cool conservatory. It produces its beautiful purple flowers very freely, and in the South and West at least is nearly hardy, standing most winters if planted against a warm wall. This plant is easily propagated by means of cuttings of half-ripened twiggy shoots which root freely under a bell glass in a cool house. The young plants should be stopped several times to induce a bushy habit. After flowering, the long shoots should be cut back, but the species is somewhat impatient of the knife and old plants do not start readily after being cut back. It is therefore necessary to have a succession of young plants coming on. *P. lasianthos* is another beautiful species and, like the former plant, is nearly hardy in favoured localities. It is, however, a very different plant from the former, having long, slender shoots with narrow leaves. Unfortunately, it is a very difficult plant to propagate, the cuttings forming a large callus. However, by keeping this callus pared down a proportion of the cuttings may be induced to form roots. *P. nivea* is a slender-growing species, having white flowers tinged with pale blue. This species and *P. lasianthos* make fine specimens if planted out in a well drained border in a cold house.

Mosehosma riparium.—This beautiful winter-flowering plant should be propagated by means of cuttings at this time. The cuttings root readily in a slightly heated case, and the young plants should be potted on until they are in 6 in. or 7 in. pots. During the summer months they only require ordinary greenhouse treatment. This plant suffers very quickly from fogs, and in this neighbourhood usually gets spoiled just as it is coming into flower.

Royal Botanic Gardens, Kew.

J. COUTTS.

EDITOR'S TABLE

FROM MESSRS. Storrie and Storrie (of tiny seedling tunic), Glencarse Nurseries, came quite a posy of giant *Primula obconica* blossoms. The range of colouring is good, but not exceptional; the flowers and trusses are shapely and of fine size, and they are borne on fine stout stems. Some of those sent measured 13 ins. Quite the most attractive of those included was a white form of quite exceptional size, form and purity of colour.

Peter Barr Memorial Cup.—At the meeting of the K.H.S. Narcissus Committee the Peter Barr Memorial Cup, which is annually held by someone who has done good work among Daffodils, was unanimously awarded to Mr. Charles H. Curtis, who for the past twenty years has acted as hon. secretary to the committee and has done a great deal of valuable work in the classification of Daffodils and in compiling the official lists.

Horticulture by Wireless.—It may be that the day is not far off when the debates in Parliament will be broadcast, at any rate the British Broadcasting Company are quite catholic in their programmes, and a lecture on Roses was included on April 7 by Mr. Laurence Cook of Messrs. Stuart Low and Co., Bush Hill Park. He dealt with the various phases of their cultivation and on points of individual varieties, and made a strong point of the fact (not always sufficiently appreciated) that horticulture gives a better return for the time and money spent upon it than any other hobby. He warned his 50,000 "listeners in" that those who had been tempted by cheap offers of Dutch Roses would be disappointed, as the soft, sappy trees grown on the moist, sandy and peaty soils of Holland are never satisfactory in this country, as they die back badly.

Revival of Kirkcudbright Flower Show.—At a meeting held on April 3 Provost M'Alister, Kirkcudbright, presiding, it was agreed to resuscitate the flower show, which has been moribund for some years. It was resolved to have a show this autumn, and that the prizes be not in money but in cups and medals. The show is to be confined to the stewardry of Kirkcudbright, and the name of the organisation is to be the Kirkcudbright Horticultural Society. In addition to a large committee, the following office-bearers were appointed: President, Mr. R. Waugh; vice-presidents, Sheriff Napier, Mr. E. A. Hornel, Dr. Stewart, Mr. S. Campbell and Mr. Milburn, Mr. J. Kelly and Mr. G. Houston were appointed joint secretaries and treasurers.

Arrangements for the Great Glasgow Show.—Arrangements have been completed for Scotland's premier flower show, which will be held in the Kelvin Hall, Glasgow, on September 5, 6, 7 and 8 next. The prize list has been completed and schedules are now being issued. Like the successful show held last year, it is promoted by the Corporation of Glasgow in conjunction with the Glasgow and West of Scotland Horticultural Society, and is certain to command the same public patronage, while the number of competitors should be, if anything, more numerous. There are in all something like 400 classes divided into sections and, apart from valuable trophies, gold, silver and bronze medals, £1,500 will be awarded in prizes. For the best rock or rock and water garden arranged on the floor level in a space 30 ft. by 15 ft. £100 will be given in four prizes. A similar amount will be awarded in the pot plant section for the best groups of miscellaneous stove and greenhouse plants arranged for effect on the floor. The winner of the first prize will be presented, in addition to the money award, with the Corporation of the City of Glasgow Challenge Cup value £50. In the fruit section £70 is given in four prizes for the best decorated fruit table, the first prize also including the *Glasgow Herald* Challenge Cup value £40. Entries, which close on August 22, are to be lodged with Mr. J. Carriek Kerr, 38, Bath Street, the new secretary of the Glasgow and West of Scotland Horticultural Society.

An International Gladiolus Show.—We are informed that there will be held in the City of Guelph on August 22 and 23 of this year an International Gladiolus Show. Much interest is already being manifested in this Show, both

on the part of the Ontario Government and also by horticulturists all over Canada and the northern part of the United States. In Guelph is situated the Ontario Agricultural College, and the Ontario Government is placing at the disposal of the Ontario Gladioli Society a piece of ground at the college in which it is hoped the various centres of Europe which are famous for their Gladioli will become interested. Trial plots for growers and hybridisers are to be maintained by the Ontario Government, and every possible care will be given to these plots by competent horticulturists attached to the Ontario Agricultural College. Bulbs for planting may be sent in lots of one hundred and less from each grower, and every care will be taken properly to plant and mark with the grower's name the exhibit sent. In this way all the bulbs that come from Britain will be maintained in one plot, and from other countries in a like manner. To ensure being included, bulbs must be in Guelph not later than May 24 next, and those coming should be addressed to Mr. J. E. Carter, Chairman, The Plot Committee, Guelph. The Society will be responsible for arranging the exhibit from these plots at the show in August, and every possible care and attention is promised in this regard. The promoters hope that many growers and hybridisers from these islands will send bulbs.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

CRINODENDRON HOOKERIANUM (M. M.).—Formerly this was treated as a greenhouse plant, but it will thrive outside in this country if planted in a fairly warm position and in a well drained soil. Our correspondent can obtain leaf-soil, peat and grit, and these ingredients should be added to the soil liberally if the latter is clayey, in moderate quantities if it is naturally of a light nature. The rooting medium must be made firm.

GROWING A WISTARIA PLANT IN A POT (A. M. G., Pitlochry).—The plant should be grown in a compost of light loam with a small proportion of peat, and potted firmly in a well drained pot. During the stage when growth is free several applications of diluted liquid manure will be beneficial. When growth matures the pots must be protected from frosts, and early in January the shoots must be cut rather hard back, somewhat similar to the pruning of Hybrid Perpetual Roses. The plant should never suffer from lack of water during the season of active growth.

ROSE GARDEN.

ABOUT PRUNING ROSES (A. G. M., Staffs).—It is rather late to prune Roses generally, but in our correspondent's county the work may be done now. Shoots which grew last year of the varieties named by our correspondent, viz., Lady Ashton, Edgar Page and General McArthur, must be cut back to four or five buds. This remark applies to similar varieties. The new shoots growing now will not bear fine blooms even if they escape late frosts. If the variety Hugh Dickson is in the collection, some of the strongest shoots may be pegged down, as very fine blooms will result from the majority of the buds.

FRUIT GARDEN.

NETTING STRAWBERRY-BEDS (E. M. J., Surrey).—A good way to protect the Strawberries from the birds is the one suggested by our correspondent. Birds can pass through quite small-meshed wire netting, so that, to be safe, the side wire netting should be half-inch mesh. Make this secure to the ground by pegging. In rows, 6 ft. from stake to stake, drive in sufficient to bear the string nets; the top of each stake should be covered with moss, hay or grass tied on securely. The string nets can be put on or drawn off then without being caught up and torn. These net-bearing stakes should be 1 ft. higher than the side wire netting to enable anyone to gather the fruit in comfort.

MISCELLANEOUS

NAMES OF PLANTS.—J. H., Bonchurch.—1, *Juniperus chinensis*; 2, *Enonymus pendulus*; 3, *Skimmia japonica*; 4, *Choisya ternata*; 5, *Pittosporum Tobira*; 6, *Hedysium Solerolii*.—E. C., Somerset.—*Salix alba* var. *vitellina*, "Golden Willow."—A. C., Kent.—*Corydalis tuberosa* alba (C. cana).

CATALOGUE RECEIVED.

Mrs. Grieve, The Whins, Chalfont St. Peter, Bucks.—List of Flowers for Bees.

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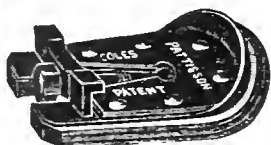
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**HORSE
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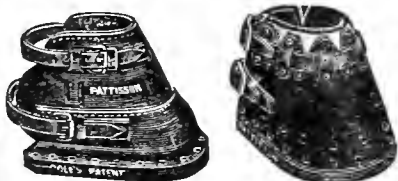


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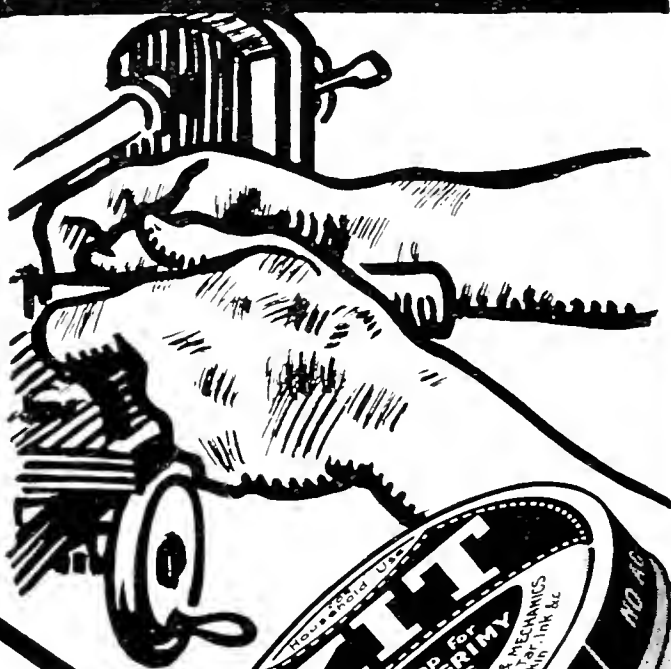
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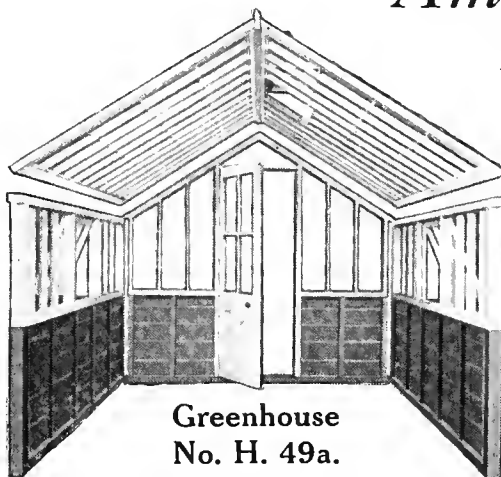
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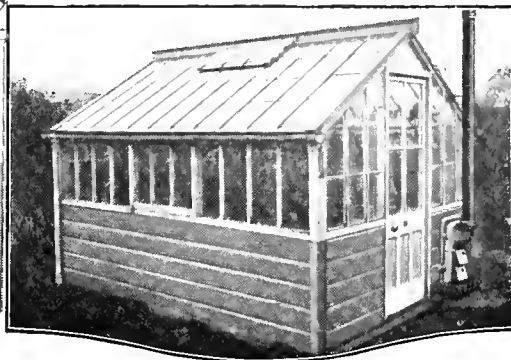
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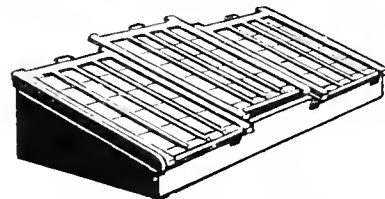


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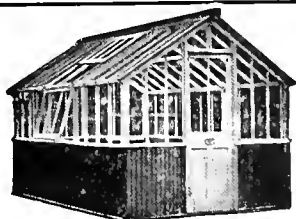
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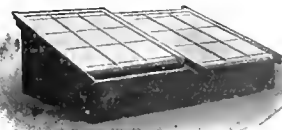
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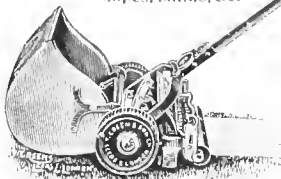
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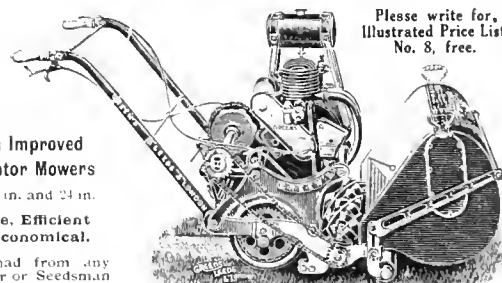
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(Continued from opposite page.)

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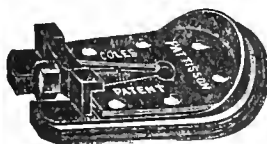


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[APRIL 28, 1923.]

PLANTS FOR THE HEATH GARDEN.

THE Swedish botanist Linnæus is said to have knelt in thankfulness to Heaven when his eyes first saw the glory of the Gorse in blossom on an English common. This joy of a secret communion with nature, a joy akin to tears, that touches the very strings of the heart, is well understood by those who return again to see the Heather on the Yorkshire moors or the purple hills of Scotland. People who have the Heather always with them love it for other qualities besides its long persistent blooms. They admire its sturdiness, its sober self-respect; in a word, its truly British nature. It is the home of the red grouse, which feed upon its seeds and tender shoots; of the mountain sheep, famous for their delicate taste of the Heather; and of innumerable honey bees. It is useful for building the walls and thatch of a shieling, and to make brooms and brushes and baskets. Its roots serve for a peaty fire, and its branches for a soft and fragrant bed.

On rolling ground, where the soil is a sandy peat, a garden can be furnished entirely with beautiful ericaceous plants. Azaleas near the windows will fill the house with sweetness. Shelter belts can be made of *Arbutus* and *Kalmias* and *Andromedas*, with *Rhododendrons* a little way off. Other plantings can be made of the *Gaultherias*, *Arctostaphylos* and *Vacciniums* with Heaths and Fings, some as shrubs of different sizes, others forming a carpet beneath the whole. Even where room cannot be spared for these extensive plantations there are many places in which Heaths can be used to advantage. Some are dwarf and compact enough to form edgings for beds. Others can be massed in front of shrubs or on the rockery, and taller-growing kinds behind or above them; while they are also useful for beds on the

lawn or where lawn and wood meet. At Kew they are planted in large masses beneath trees and shrubs of more than ordinary interest, which require a little protection while they are young. The branches of the Heaths give this protection, and neither is seriously incommoded by the other.

The first thing to consider when choosing a place for a heath garden is the nature of the soil. In a wild state Heaths are sometimes found on soils containing lime, but it is not easy to establish a plantation on such land, and even when new soil is brought in for the purpose the results are generally disappointing. They thrive excellently in sandy peat, but peat is not always necessary for their well-being, for they will often grow in light or even rather heavy loams, especially when leaf-mould is incorporated with the soil at planting-time. Heavy and wet clays are unsuitable.

Heaths may be grown either in full sun or in partial shade. Hilly or rolling ground forms the most appropriate foundation for an attractive heath garden, and on level ground a judicious mixing of the tall and low-growing kinds gives

an undulated appearance, which is so essential to the best results. Pine trees help materially in the production of a natural scene, and so do rocks or even large stones. When Heaths are planted on the outskirts of the garden proper, Brooms, dwarf Gorse, Scotch Roses, Common Juniper and other British plants may be allowed to approach and mix with the Heaths. Here the paths should be quite informal, and may consist of short grass with tufts of Heather or stepping-stones in places.

No elaborate preparation of the ground is needed by Heaths. The ground should be dug over, and jins. of decayed leaves or peat may be spread over the surface and lightly forked in. Should coarse weeds be present, such as Bindweed, Goutweed, Couch Grass or Nettles, they should be forked out carefully, for if they once become mixed with the Heaths they are most difficult to eradicate, and if some other crop can be placed on the ground for a few months before the Heaths are planted so much the better. Upon no account excavate beds 12ins. or 15ins. deep and fill them with unmixed peat. When this is done the peat

decays before the roots can take advantage of it, and then it acts as a poison. The most suitable soil of all is that formed by forking a little peat into light, rather sandy loam.

The planting may be done at any time in open weather from early autumn till late spring. Plants which have been put out in late spring require much attention in watering if the weather should be very dry during their first summer. If the cultivator does not mind the ground being rather bare for a year or two, plants may be placed 18ins. or 2ft. apart each way, and even that will be too close eventually, for the larger-growing kinds may spread over an area



SPRING IN THE HEATH GARDEN AT BROCKHURST, EAST GRINSTEAD.

The picture well shows the variety of outline obtainable.

of 6ft. or more, but it is better to thin out later than to plant very thinly at first.

The pruning takes the form of cutting the plants over just below the flower-heads as soon as the flowers fade. This is quite enough to keep the plants compact and healthy. It is no use to cut old straggling plants back into hard wood to induce new growth, but better to destroy them and begin again with young, vigorous stock.

Propagation can be effected in several different ways. All the distinct species can be increased by seeds, while both species and varieties can be grown either from cuttings or layers. Seeds may be sown as soon as ripe, or kept in a cool room until the following February. Should a small quantity of plants only be required, the seeds may be sown in a small pot or pan indoors, but if many are wanted they are sown in boxes or in a prepared bed in a cold frame. Provide good drainage, use sandy peat made very fine on the surface, sow the seeds thinly, and if they are covered with soil at all let it be by a very shallow layer. Water carefully and shade from bright sun until germination takes place. As soon as the seedlings can be handled, prick them out in, apart each way in boxes of sandy soil containing peat or in a bed in a cold frame. Thin the points of the shoots out now and then to induce a dense, bushy habit. Eventually place the plants in nursery borders until they are large enough for permanent places.

Layers are put down during spring or early summer. The branches are not cut like Carnation layers, but are weighted down with stones into sandy soil. They take about two years to become well rooted, and are then removed and planted in nursery borders.

Cuttings form better plants than layers, their growth usually being cleaner and more vigorous. Cuttings are taken from short side shoots during July and August. They are usually made from 1in. to 1½ins. long, the leaves being carefully removed from at least half of each cutting without injuring the bark. They are set in sandy peat either in pots indoors under bell glasses or in close propagating frames, or out of doors under cloches in a well prepared border. In the former case roots are formed in from four to six weeks. In the latter case they are slower, and are left undisturbed until the following spring. In either case the soil must be made very firm and the cuttings inserted quite firmly. A layer of silver sand placed over the surface of the soil before inserting the cuttings is an aid to rooting. When the cuttings are well rooted they are transplanted into cold frames or borders.

The Heaths include three genera—*Erica*, *Calluna* and *Daboecia*. All the hardy kinds are of European origin, and several are natives of the British Isles. *Erica* contains many species, *Calluna* and *Daboecia* only one species each, although there are numerous varieties.

Erica has a very extended flowering season, and it is rarely that one or more kinds cannot be found in flower in gardens where a full collection of varieties is grown.

As a guide to intending planters the various Heaths are here arranged in their seasons of flowering.

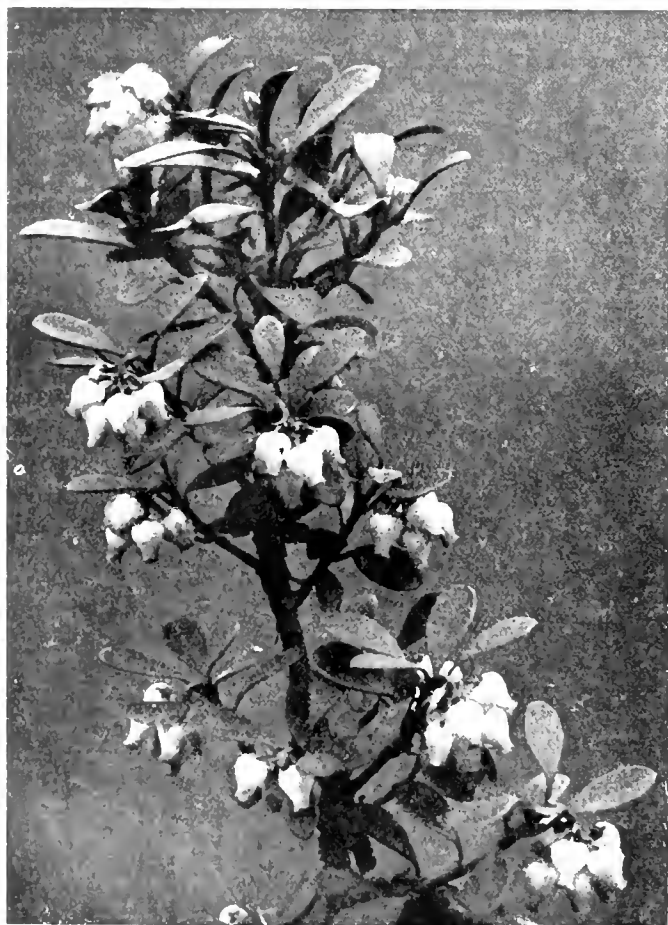
The early-flowering group contains kinds which bloom between the end of November and May, and includes *Erica arborea*, *E. australis*, *E. carnea*, *E. darleyensis*, *E. lusitanica*, *E. mediterranea* and *E. verticillata*.

The mid-season group, which flowers during June and July, consists of *E. ciliaris*, *E. cinerea*, *E. Mackayi*, *E. scoparia*, *E. stricta*, *E. Tetralix* and *Daboecia polifolia*.

The autumn-flowering kinds are *E. ciliaris* var. *Maweana*, *E. multiflora*, *E. vagans* and *Calluna vulgaris*.

Erica arborea is the White or Tree Heath of South Europe and North Africa. Its roots are used to make briarwood tobacco pipes, the wood briar being the French *bruyère*, or Heath. It usually grows between 6ft. and 10ft. in height, though under exceptional conditions, as in the famous gardens of Treco Abbey, it forms a tree 18ft. or 20ft. high. Its branches are spreading and plume-like, and are closely covered with tiny leaves. It blooms from early March until May, and the fragrant white flowers appear in small tuft-like clusters from the short growths formed the previous year. It has been known to withstand 20° of frost without serious injury, but it is wise to give it the protection of spruce boughs or bracken when more than 15° or 16° are registered. The variety *alpina* is of more plume-like habit than the type, although of somewhat stiffer outline. The leaves are a pretty shade of green, the white flowers are borne freely, and it is rather dwarfer and hardier than the type.

E. australis also belongs to the Tree Heaths, although it is of comparatively dwarf stature, rarely growing more than 4ft. or 5ft. high. It is of rather straggling habit, which severe pruning does not improve to any appreciable extent. Its large, red, cylindrical flowers appear in clusters on short shoots from end to end of the branches, and last from March till May. It is sometimes called the Spanish Heath, being a native of Spain



THE PINK-BELLED ARCTOSTAPHYLOS UVA-URSI MYRTIFOLIA.



A BEAUTIFUL "LILY-OF-THE-VALLEY SHRUB"—ZENOBIA SPECIOSA

and Portugal. Although introduced as long ago as 1760, it is not very common, and has been lost to English gardens more than once. Like other species from South Europe, it is injured by very severe frost, but is an excellent plant for the milder parts of the country.

E. carnea from the Alps of Central Europe is hardly everywhere throughout the British Isles. It rarely grows more than 6ins. or 9ins. high, but spreads widely and forms a dense carpet. The purplish red flowers are borne in profusion from February to May, during which time it makes a very pleasant picture, either naturalised in masses or grown as groups in the rock garden. The variety *alba*, with white flowers, blooms at the same time.

E. ciliaris is one of the least useful kinds for garden planting, owing to its long, wiry branches often becoming untidy. A native of south west Europe, it is found wild in many parts of the British Isles, where it inhabits commons and boggy land. It is sometimes quite prostrate and sometimes reaches a height of 9ins. or 12ins. Its thin, wiry branches and small ovate leaves, edged with fine hairs, make it easy to recognise, while its rather large, reddish flowers arranged in upright racemes are distinct. It blooms from June to October. The variety *Mawiana* is a very handsome Heath from Portugal which blooms a little later. It differs from the type in its rather close, upright habit and in its dense racemes of large, red, inflated flowers.

E. cinerea is the most useful of the summer-flowering group. It is found wild throughout this country, and known by the common names of Scotch or Grey Heath. It usually grows from 6ins. to 9ins. in height, though it sometimes attains a height of 15ins. or more. It soon spreads into a large mass and blooms profusely, the flowers being in upright racemes and reddish purple in colour. The seedlings vary considerably in colour, and several of them have been named accordingly, as *alba*, *coccinea*, *purpurea* and *rosea*.

E. darleyensis may be more familiar as *E. mediterranea hybrida*, but as it is a hybrid between *E. carnea* and *E. mediterranea*, it cannot very well be retained as a variety of one species. Growing from 12ins. to 18ins. high, it is of dense, spreading habit, and enjoys a remarkably long flowering period, for the blooms begin to open in November and are scarcely over by mid-May. The flowers are reddish in colour and the plant is perfectly hardy.

E. lusitanica, a species from south-west Europe forms a symmetrical tree 10ft. or 12ft. high, with plumose branches and bright green leaves, among which the cylindrical flowers, pink in bud and white when expanded, appear during spring. In mild winters some flowers are to be found from December onwards, but the best time is from February to late April.

E. Mackayi is a curious plant with affinities to *E. Tetralix*, some people considering it to be a hybrid of which *E. Tetralix* is one parent. It has, however, been found wild in more than one country. Of rather loose habit, it grows from 6ins. to 12ins. high, and bears its reddish flowers from the points of the shoots. The variety *flore pleno* has double flowers.

E. mediterranea is a large bush from Spain and the south of France which may grow to a height of 10ft., but is often less than half that height. Its red flowers are borne freely from early March to May. The variety *alba* has white flowers, *hibernica* has glaucous leaves and is found wild in Ireland, and *nana* is of dwarf habit. The Mediterranean Heath makes a very graceful bush, and needs little pruning. W. D.

(To be continued.)

THE SMALL OR SCALY-LEAVED EVER-GREEN RHODODENDRONS

This title may very well be given to a distinct group of Rhododendrons introduced from China within the last three to four decades. The flowers of some, in size and appearance, suggest Azaleas; though, unfortunately, they lack the powerful fragrance which is a delightful character of many Azaleas.

THE first of the Chinese Rhododendrons to reach our gardens during the period under review were *RR. racemosum*, *rubiginosum* and *yunnanense*. Seeds of these were sent to the Jardin des Plantes by the Abbé Delavay in 1889. Other collectors have since that date sent home seeds of these

France, as plants raised at Les Barres flowered in 1904. Most of our plants, however, are from seeds collected by Mr. E. H. Wilson during 1908 and 1910. *R. Augustinii* forms a much branched shapely bush, 4ft. to 6ft. or 8ft. high; eventually, we are told, up to 10ft. high. A line of hair along the mid-rib beneath the leaves is a character which



THE SOFT YELLOW RHODODENDRON LUTESCENS.

three and numerous other species of somewhat similar habit. As garden plants this group possesses several valuable characters. They are free in growth, produce quantities of blossoms, and are readily propagated by seeds, cuttings and layers.

It is easy to find positions for the plants in the garden, the spots to avoid being dense shade on the one hand and a dry, hot sunny exposure on the other. As lawn specimens or in beds, in the shrubbery border or in open woodland, these Rhododendrons are very effective, and in many instances young plants commence to blossom from seeds when only two to four years old. It is very noticeable when raising seedlings of these Rhododendrons, either from imported or home-saved seeds, how much the blossoms vary in size and colour. By careful selection it should be possible to produce a race of valuable evergreen flowering shrubs of great beauty.

The first I propose to mention is *R. AUGUSTINII* because, though not the first, it is certainly one of the most distinct and valuable introductions. It is a common Rhododendron in Hupeh and Szechuen. Professor Augustine Henry, in compliment to whom the species is named, collected specimens in Hupeh; Père Farges was apparently the first collector to send home seeds from Szechuen to

readily distinguishes this species when not in flower. The blossoms are borne in clusters of three to six or eight at the end of the shoots. They vary in colour from almost white to mauve, lilac and purple, the most desirable of all being the one with "blue" flowers, or at least most nearly approaching that colour at present of any Rhododendron. The colour figured in the *Boissacal Magazine*, tab. 8497 (lilac-mauve), with 2in. wide blossoms is also a desirable form. The flowering season is usually April, but this year there were many open flowers on the bushes the last week in March.

Another species which has variable flowers is *R. RUBIGINOSUM*, the colour varying from pale to rosy lilac, more or less spotted with maroon. Abbé Delavay sent home the first seeds from Yunnan in 1889, and we have also plants raised from seeds collected by Mr. E. H. Wilson and Mr. G. Forrest. *R. rubiginosum* forms a compact bush, invariably covered with blossoms each year during April. The best group of plants at Kew is well sheltered on the east side by thick planting, which affords a very desirable protection from spring frosts. The plants are now 4ft. to 5ft. high and about the same in diameter.

R. YUNNANENSE flowers at the end of April and during May. A bush in the Rhododendron Dell at Kew raised from seeds sent to the Jardin des

Plantes, Paris by the Abbe Delavay in 1880, is now 8 ft. high and rott. through. The flowers are bluish white, more or less spotted and blotched with brownish crimson on the upper side. Subsequent importations of seeds have introduced many plants of this species with inferior blossoms, which must be discarded in favour of the forms with flowers 2 ins. across, and richly blotched, which open in May.

The first species to flower, and one of the most profuse in the production of blossoms is *R. LUTESCENS*. Except in colour, which is yellow, we were not impressed at first by this species, because the flowers and early growths were usually damaged by frost. Later introductions, however, appear to be harder, and are certainly much freer to flower. There have been plants in flower at Kew for two months, from February to April. During that time at least three frosts ruined the

blossoms, but there were others still unexpanded which soon made good the damage. Sprays of this species are useful to cut for vases. I recently saw this and *R. Augustinii* (pale yellow and "blue") most effectively associated in Cornwall.

Another species with pale yellow blossoms, but which opens during April and May is *R. AMBIGUUM*. This was first introduced by Mr. Wilson in 1904 from Western China. It will doubtless not appeal to everyone, but among the seedlings of this species are plants with purplish shading, apparently natural hybrids of *R. conium*, a species it closely resembles, except in the colour of the flowers. Shapely bushes 4 ft. or 5 ft. high are distinctly attractive in a shrubbery border.

Another scaly-leaved species introduced by Mr. Wilson during his fruitful expedition of 1901 was *R. YANTHINUM* (syn. *Benthianum*). This has

purple flowers, some a pale colour, which should be discarded in favour of those with rich glowing red-purple blossoms, which are very distinct and pleasing on bushes 3 ft. to 5 ft. high. Ultimately, no doubt, this species will grow taller. The true *R. LONGISTYLUM* is a desirable white-flowered bush, which has, unfortunately, been confused with *R. micranthum*, seeds and plants of this species being often grown for the first named. With its larger leaves and blossoms and earlier flowering there need be no confusion among living plants.

R. DAVIDSONIANUM might at first be mistaken for *R. yunnanense*, but it flowers three weeks to a month earlier, and the underside of the leaves is very thickly dotted with dark scales.

There are other species of more recent introduction, but as they are not readily procurable from the trade descriptive notes would be of little value. A. O.

PRIMULA CORTUSOIDES AND ITS ALLIES

ALTHOUGH consisting of less than a dozen species, the section "*Cortusoides*" contains several ornamental plants of excellent garden value. They are natives of Northern Asia, China and Japan, with a closely allied species, *P. geraniifolia*, in the Himalayas. Speaking generally they are shade-loving plants, nearly all flourishing in shady or half-shady positions. They enjoy a rich loamy soil with plenty of humus, thoroughly well drained, especially in winter, when stagnant moisture is fatal to their well-being. Easy to propagate, as the plants make several crowns, these may be divided while they are at rest, and either potted up singly or planted out in the place where they are to flower. Seeds also are produced freely by most and are readily raised if sown in a little heat in spring. The seedlings, as soon as they are large enough to handle, should be pricked

off into pans in a compost of sandy loam and leaf-soil and grown on in a shady frame till they are large enough to plant out. Some of the members of this group, like *P. cortusoides* from Siberia, have been in cultivation in this country for a long period; others, like *P. Veitchii*, have been introduced comparatively recently from Western China.

P. CORTUSOIDES.—The true plant, although said to have been introduced into cultivation in 1794, is rare in gardens, other species like *P. saxatilis* doing duty for it. It is a native of Western Siberia, from the Urals to the Altai mountains and is readily distinguished by the very short pedicels, although similar in all other respects to *P. saxatilis*, which has very long pedicels. The leaves are large, softly hairy, cordate, lobed and wrinkled, on stalks 3 ins. to 4 ins. long. The flowers are deep rose coloured, borne in umbels on scapes 6 ins. to

8 ins. long in May. *P. cortusoides* var. *amurensis* is a synonym of *P. Sieboldii*.

P. GERANIIFOLIA.—The geranium-leaved *Primula* is a native of the Himalayas and was introduced into cultivation in 1887. It has spreading leaves, orbicular in shape and deeply cordate, hairy on both surfaces. The pale purple flowers are borne in a terminal umbel, with sometimes a whorl below the umbel, on scapes 6 ins. to 10 ins. high. It is a pretty little plant which flowers in May and requires rather more shade than the others of this group.

P. BEUCHERIFOLIA (syn. *P. Gagnepainii*).—This is a very distinct species, with orbicular, seven-lobed leaves, the lobes being again coarsely toothed and lobed. The leaves are about 3 ins. in diameter, thin in texture and borne on hairy petioles 3 ins. to 4 ins. long. The flower scapes rise to a height of 6 ins. and bear an umbel of violet-purple flowers



ONE OF THE BEST OF THIS SECTION, PRIMULA LICHANGENSIS.



A GOOD FORM OF PRIMULA SIEBOLDII.

in May. The flowers vary in colour, some being pale with a lighter eye, while others are dark purple with a darker zone near the mouth of the tube. Seeds of it were sent home from Western China by Mr. E. H. Wilson and it flowered in 1910.

P. KAUFMANNIANA.—A rare species in cultivation, this plant is a native of Turkestan, from

from Japan in 1865, of which there are many beautiful, large-flowered varieties. The type is distinguished from *P. cortusoides* and *P. saxatilis* by the very large calyx lobes, which suggested the name *patens*, one of its synonyms. The wild plant is found in Japan, as well as in North-eastern Asia and has a creeping rootstock. It has leaves like *P. cortusoides* with deep rose-coloured flowers in



THE SUN-LOVING PRIMULA VEITCHII.

whence it came in 1883. The leaves are orbicular and lobed, with a cordate base, softly hairy and borne on a long stalk. From 6ins. to 12ins. high, the flower stems bear one or two whorls of rich violet flowers in early summer.

P. LICHANGENSIS.—This is one of Mr. Forrest's introductions from Western China, when collecting for Bees, Limited. It is an ornamental plant with tufts of broadly ovate-cordate leaves, irregularly lobed, on long hairy petioles. The leaves are also hairy, especially on the under side. The large rose-red fragrant flowers are borne in umbels on hairy stems up to a foot in height and have brown calyces. Forrest says it grows in shady situations on steep, rocky slopes and ledges of limestone cliffs on the eastern flank of the Lichiang range. It flowers in May. It is distinguished from *P. heucherifolia* by the calyx, having a gibbous base instead of a tapering one.

P. SEPTEMLoba.—This is another of Forrest's finds in North-western Yunnan, where, in its native home, the plant favours shady and somewhat damp situations, at an altitude of about 10,000ft., in the forest and scrub clothing the side valleys of the Szechuen range. It is a graceful plant with slender flower scapes surrounded by clusters of bright green leaves on slender stalks. These leaves are orbicular in outline with, as the specific name indicates, seven distinct blunt denticulate lobes. Both the upper and under surfaces are covered with soft hairs, as well as the petiole. The flower scapes grow up to 1ft. high and bear umbels of small, reddish-purple, pendulous flowers in May. It closely resembles the Himalayan *P. geraniifolia*.

P. SIEBOLDII (syns. *P. patens*, *P. cortusoides* var. *amœna*), is a well known garden plant, introduced

April and May. The garden varieties bear flowers of larger size, and of colours varying from pure white to deep crimson and almost purple. Some of them have the corolla inside pink or white, and outside crimson or pale mauve. Although generally grown as a pot plant for the greenhouse, it is hardy in suitable sheltered situations.

P. SAXATILIS.—This plant has long been grown in gardens under the name of *P. cortusoides*, to which it is very closely allied. While the latter is found in Western Siberia, *P. saxatilis* is distributed over Eastern Asia, through Amurland, as far as Korea. It is an ornamental and very hardy plant, growing about 1ft. in height, with thin, hairy, lobed, ovate leaves and umbels of rosy purple flowers in April. As mentioned under *P. cortusoides* it is distinguished from that species only by the very long pedicels of the umbel.

P. VEITCHII.—A handsome plant which has proved quite hardy, this is one of Wilson's introductions from Western China, where it occurs at elevations of from 8,000ft. to 10,000ft. It is usually found on cliffs and dry banks and approaches the well known *P. cortusoides* in habit, but is a finer and more robust species. The leaves have a dark green, corrugated, slightly pubescent upper surface, and the underside is covered with a dense white tomentum. This at once distinguishes it from the others in this group. The flowers, produced in an umbel of from ten to twenty blooms, terminating a scape 12ins. to 14ins. high, are about an inch in diameter, of good form, deep rose-coloured, with an orange ring surrounding the yellow mouth of the tube. It received an award of merit when first exhibited by Messrs. Veitch and Sons at a meeting of the Royal Horticultural Society in May, 1905.

PANSIES AND VIOLAS

Failure from spring planting and its causes.

AT this season of the year a tremendous number of Pansies and Violas are purchased and planted and, judging by the frequency with which the remark is heard that "the flowers never retain the size and quality they had when first planted," a large proportion bring disappointment to their purchasers. Much of that disappointment might easily be avoided if a little forethought and consideration were devoted to what I will term "the reasons why."

To begin with the plant as purchased: it is, of course, grown with the set purpose of making it as attractive and saleable as possible. The commercial grower knows the benefits of a soil that is rich in humus, and also knows just when and how to apply a "last minute" stimulant to the plants so that the opening buds may receive a fillip that will develop their utmost size. If the plants thus treated were left undisturbed there would be no difficulty in maintaining their high standard; but, instead of that, the plants are lifted with fork or trowel and the tips of nearly all their roots are broken in the process. It is, of course, the tips that are the mouths of the roots by which the plant absorbs nourishment from the soil, and, consequently, just at the time when the maximum of nourishment is required for the development of blossoms, we rob the plant of its means of absorption from the soil. It follows that, in an effort to develop and support its blossoms, the plant exhausts the nourishment already stored in its cell reservoirs, and that is a process which, inevitably and rapidly, saps the vitality of the plant and renders it incapable of producing anything but inferior blossoms.

Despite these remarks it would be by no means correct to say that Pansies and Violas cannot be successfully transplanted after they have commenced to bloom, for if given a reasonable chance they are capable of very readily producing a fresh set of young roots, and then can go ahead little or none the worse for their shift.

That reasonable chance consists of first preparing a congenial rooting medium. The Pansy tribe delights in a soil that is rich in humus, and after a long and extensive experience in Pansy culture, during which I have experimented with a vast number of substances for soil improvement, I am constrained to say that Wakeley's Hop Manure is as reliable, safe and wholly efficient as any conveniently obtained article for the purpose of preparing a good rooting medium for Pansies and Violas. Dig the hop manure into the bed, mixing with the soil as thoroughly as possible. It is not the best plan to throw the manure into the trench by the shovelful and just cover it up, but it should be spread evenly over the surface and then forked in so that every particle of the bed is evenly permeated and the roots can quickly gain access to some without coming into contact with a solid mass.

The next thing is to pick off all open flowers and the largest buds from the plants, thus reducing to a minimum the drain of blossoms upon the nourishment until the roots have taken hold of the fresh soil. It will be only about ten days or a fortnight before the new root system is in full activity, and henceforward the plants will be quite capable of producing blossoms of first-rate quality. To prolong the period of full vigour and bloom all faded blossoms should be picked off before they have developed seeds, and after the first month a little chemical fertiliser may be sprinkled on the soil around the plants and hoed

m. We shall now find an additional advantage of the presence of the hop manure. If soil is deficient in humus, the chemicals in the fertiliser which will be dissolved by the first thunderstorm or heavy shower will be washed right through the top spit into the subsoil below. The hop manure, being of a spongy nature, absorbs a great deal of moisture and with it the dissolved chemicals, therefore the latter are held within easy access of the roots to be drawn upon as required.

There is still another point in regard to Pansies and Violas purchased at this season. Before the plants are lifted for sale the beds are saturated with water so that they may be lifted with soil adhering to the roots. This soil is pressed into firm "balls," but the plants may be several days before they are again planted, and in the meantime the ball has dried into a hard-surfaced lump. If this hard ball is buried in the earth it will remain a hard lump for an indefinite period, and the roots are imprisoned. The correct thing is to soak the ball before planting, and if it has become very compressed it should be gently squeezed until its outer casing is cracked. The roots will then have an easy means of outlet to the soil of the bed in which they are planted, and the plant will be maintained in health and vigour. When, as frequently happens from mid-summer onwards, an old stem becomes swollen, discoloured and partially bare of foliage, cut it right out to the ground level. New young growths from the base will thus be encouraged, the earlier ones to prolong the flowering season, the later ones



IN THE WOODLAND WILD AT HALLINGBURY PLACE.

to provide excellent cuttings that may be rooted during autumn to provide healthy young plants for next year.
A. J. MACSELE.

THE POLYANTHUS

THE spring garden would be rather a tame affair were it not for the Wall-flower, the Forget-me-not, the Primrose and its cousin the Polyanthus. Of the last two, most flower-lovers consider the former the more chaste, but there is no unanimity on the point. The Polyanthus is unquestionably the showier plant of the two.

The culture of the two plants is very similar and both are apt to deteriorate rapidly when

propagated vegetatively. A cool site with shade from the mid-day sun really suits them best, and marly soils are preferable to light ones, but if treated practically as biennials and grown to maturity in shelter, they will flower excellently in the open garden. These plants soon shew the effects of drought and heat, but will quickly recover when conditions improve, if not infested with red spider, which will almost always be found the case. Unless a specially fine form is

retained and propagated for seed purposes, it is better to discard all plants which have been bedded in sunlight after their first flowering. In shady positions they may well remain at least one other season.

If, when lifted for transplanting, at any stage of growth, a close inspection reveals the presence of the dreaded red spider, the plants should be completely immersed for a few minutes in a solution of good quality soft soap and water (2oz. to the gallon), or in a soft soap and paraffin emulsion solution of proportionate strength. If the soap is properly refined and the paraffin perfectly emulsified, neither will damage the plants at all.

Soils for Polyanthuses should be deeply worked and not deficient in phosphates or lime. Potash and nitrogen are also essentials, but may easily be overdone if quality rather than mere size is looked for. Floppy, out-of-character flowers are perhaps more readily produced on light soils than on those of heavier texture, but over-feeding will produce them readily enough in any soil. A deeply worked soil of moderate richness and shade from the south

or natural shade, so much the better—will produce results incomparably better than those given by a shallower soil chock-a-block with natural and artificial manures. Planting in the semi-woodland wild such as is seen in the illustration of Hallingbury Place is, of course, ideal where such a situation exists, since it not only suits the plants, but the setting greatly enhances their beauty. Many Primulas, besides the Polyanthus and the Primrose, are impatient of direct sun-heat and shortage of moisture. Those of the Candelabra section, for instance, are almost all bog plants by choice, but boggy conditions do not suit the Primrose or the Oxlip which, in nature, are often found growing on shady but very dry-looking hedge banks. The Polyanthus is, if possible, less of a bog plant than the Oxlip, and, planted out in autumn and, if necessary, thoroughly watered in, is very unlikely to suffer from drought until flowering is over the following spring. The lower illustration shews the splendid strain of this flower grown at Spetchley Park, Worcester. The wonderful Spetchley strain of Primroses, worked up by the late Mrs. R. V. Berkeley, will be familiar to many readers from the exhibits at Vincent Square.



A VERY FINE STRAIN OF POLYANTHUS AT SPETCHLEY PARK, WORCESTER.

THE LONDON DAFFODIL SHOW

FOLLOWING as it did so closely upon the customary fortnightly meeting, the Daffodil Show of the Royal Horticultural Society at Vincent Square on April 13 and 14 attracted more visitors than might have been expected.

The first impression on entering the hall was one of disappointment, for the first thing that caught the eye was Douglas's Auriculas. These excellent varieties, superbly grown as they were, had already been seen and admired on the previous days. It was Daffodils, particularly new Daffodils, that most of the visitors went to see, and although these occupied another and a more prominent position, Douglas's Auriculas were still Auriculas. Besides these there were several other general exhibits left over from the fortnightly show, so that the hall was filled with flowers.

The great trade collections of Daffodils, naturally, occupied the same positions as on Tuesday and Wednesday, but the exhibitors took advantage of the opportunity to display fresh varieties. Messrs. Barr and Sons added yet another gold medal to their large collection of the coveted award, and they included several vases of magnificent blooms of what one may well term the New Barrii Narcissi. Their distinguishing character is a decidedly larger, and often flattened, crown of startlingly vivid colouring which stands out in marked contrast to the perianth, which is more substantial and rounder than in the older Barrii varieties. At present these new sorts are, of course, expensive, but we confidently predict that in the not far distant future, when they can be sold at "competitive prices," these will be considered indispensable by all garden lovers. Of this gorgeous type Scarlet Cockade, with a large cupped corona, and Prince Fushimi, which has a beautifully frilled corona in which the yellow colour becomes merged into a broad orange margin, are delightful illustrations. Golden Apricot is also a most beautiful flower, and its frilled cup becomes a lemon orange tint towards the margin.

Messrs. Sutton and Sons removed their centre of coloured Freezias, and while these had been very interesting, the group was left more decorative than before. For the special Show the centre was filled with such beautiful sorts as Firetail, Cræsus, Kestrel and Will Scarlett. Several very good seedlings were included in the centre, as well as elsewhere. Mr. J. L. Richardson had a splendid collection of first-rate varieties, which included, in Marquis of Headford, a most desirable white Trumpet Daffodil. Great Warley, a double primrose-coloured variety, and some most promising seedlings of various types were also prominent.

The fresh varieties placed in the Donard Nursery Company's collection also included good seedlings. Market Glory, yellow perianth and large orange cup; Festive, a paler perianth, with a bright orange yellow corona; and the Chaste White Star are the names of only a few of the desirable sorts they set up so well. The value of some of the new sorts for massing was well illustrated by Mr. W. A. Watts, who tastefully arranged large baskets of Owen and Xenophon, a twin-flowered Poetaz with blooms almost as large as the Barrii varieties. Xerxes, a similar bright orange-cupped variety, is more formal, and so is recommended as a show flower. Nannie Ellicoat is very lovely with its rich salmon trumpet, which becomes yellow at the base. Jingle may well be termed a Will Scarlett Poeticus variety.

Messrs. J. R. Pearson and Sons added many excellent blooms to their attractive collection of Daffodils from home-grown bulbs, and these

included Beersheba, a very fascinating pure white trumpet of perfect shape and a paper white perianth, which was awarded a Preliminary Commendation.

THE OPEN COMPETITIVE CLASSES.

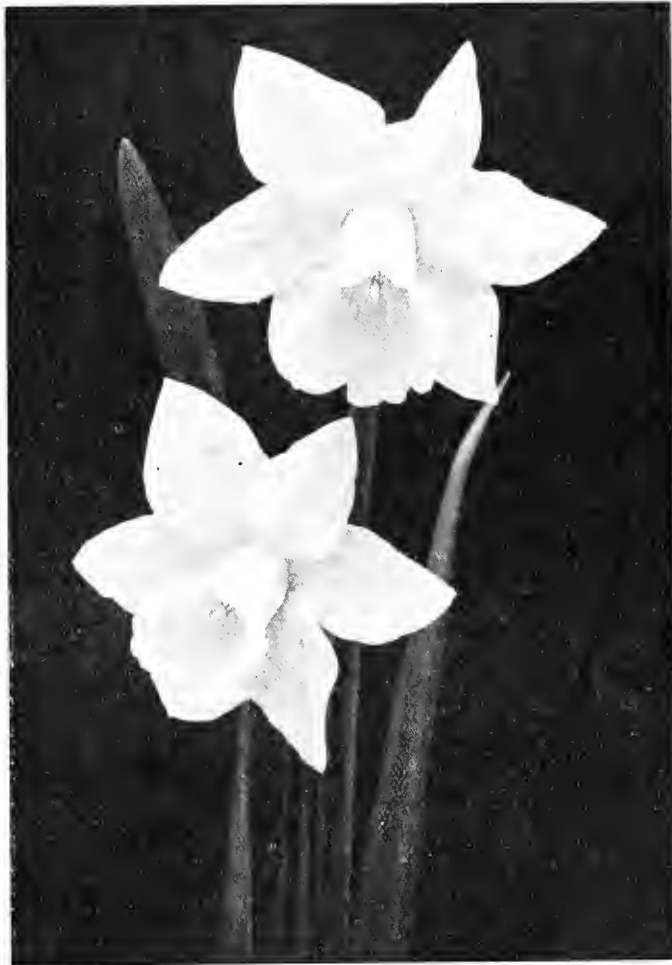
The best large Trumpet Daffodils were shewn by Mr. J. L. Richardson, who had twelve splendid vases. He included his new Miss Helen O'Hara, Lord Roberts, White Knight, Herod and some excellent seedlings. Dr. Lower, who was second, shewed mostly his very good seedlings. In the class for twelve Incomparabilis varieties Mr.

blooms of such as Raelurn and Valetta, with many of his excellent seedlings.

The first prize six self-coloured yellow Trumpet Daffodils were gloriously coloured, and Mr. W. B. Cranfield fully deserved his first prize. Seldom has such rich golden colour been seen as on his blooms of such sorts as Grenadier and Betty. Mr. Chapman was second with paler blooms, and in Cinema he has an especially large Trumpet Daffodil.

The six white Daffodils staged by Mr. Richardson were magnificent, and his first prize set included Miss Helen O'Hara. The best six bicolors by the

Rev. T. Buncombe were also of high quality, and he included Torrington, Pugilist and Beara. Mr. W. B. Cranfield, who was second, had a vase of immense blooms of Cranfield. In his first prize exhibits of six varieties of yellow and of bicolor Incomparabilis Dr. N. G. Lower had three especially beautiful seedlings, and Mr. Richardson, who came second in each instance, also shewed seedlings of great merit. Dr. Lower was also first with six yellow Barrii varieties, his vase of Crucible, which has a very broad fiery orange corona, was superb. In Devon, which has a large, flattish, pale yellow corona and a paler perianth, the Rev. T. Buncombe, who was second, has a most charming flower. There was no first prize set of bicolor Barrii blooms, but the large-cupped Leedsii blooms by Mr. J. L. Richardson were of great merit. They were mostly unnamed seedlings; but one that is named Lady Millicent Taylour is wonderfully beautiful. It has a widely expanded corona of pinkish buff colour. The best small-cupped Leedsii were



THE HANDSOME WHITE TRUMPET VARIETY BEERSHEBA.

W. A. Watts was pre-eminent with beautiful flowers of such as Peggy, Juniper and Stormer; while Mr. J. L. Richardson had to be content with second place, though his dozen included unusually good blooms of Lady Moore, The President and Great Warley.

In the Barrii class the judges found it impossible to discriminate between Mr. J. L. Richardson and Mr. F. H. Chapman, so they placed them equal first. Both included many seedlings with vivid coronas, and also a vase of Firetail. Mr. Watts was third.

The new section for small Leedsii Daffodils (*i.e.*, those which have the cup or crown less than one-third the length of the perianth segments) was not contested, and in the class for the larger section the competition was poor. Poeticus were few in numbers but of high quality, and Mr. Chapman was awarded the first prize for splendid

shewn by Mr. F. H. Chapman. Mr. W. B. Cranfield had six dainty and charming Cyclamineus varieties. White Coral, which has a serrated margin, is an example. Mr. W. F. M. Copeland was decidedly first in the class for six double Daffodils, and the very best were Silver Rose, Petronia and Orange Doubloon.

The Engleheart Cup, which this year was offered for the best twelve varieties not in commerce was won by Dr. Lower, who shewed mostly seedlings of great merit; while Delhi, an Incomparabilis with a large orange-shaded corona; Crucible, a Poeticus; and the new Beauty of Radnor were well worthy of note. Mr. W. A. Watts was a good second, and his outstanding blooms were Enid Dorothea, which has a large, crinkled, orange cup; Gladys Bibby, a chaste Leedsii with a pale lemon cup; and Jorrocks, a Barrii with yellow perianth and a small deep orange cup. The best

of the six new varieties with which Mr. Richardson won the first prize were seedlings; while Mr. Copeland, who was the most successful in the class for three varieties not in commerce, included Inez, a large self yellow *Incomparabilis*.

Dr. Lower, showing unnamed seedlings, won the gold medal offered for the best twelve varieties raised by the exhibitor.

In the class for six similar varieties Mr. P. D. Williams was first, and in Picador he had the most shapely *Poeticus* bloom in the Show. The class for three varieties raised by the exhibitor was very popular, but it did not contain any epoch-making blooms. Sir C. H. Cave was first. The novice class, open only to those who have never won a first prize for seedling Daffodils, was also very popular, and here Miss Hinchcliffe, who included Helga, a Leedsii with a white perianth and a large, widely expanded cup, had the best three seedlings.

There were many interesting blooms in the various classes for one bloom each of the different types, and in the annexe there were competitive exhibits illustrating methods of packing the best Daffodils in boxes for transmission to the markets.

In the amateurs' classes Mr. H. R. Darlington won the silver Flora medal with a noteworthy "collection of twenty-

four varieties representing the different divisions," and Miss Hinchcliffe was a very good second. Mr. Darlington also had the best six varieties of Trumpet Daffodils, of Tazetta and of double Daffodils.

Major G. Churcher, showing magnificent blooms of such as Prince Fushimi, Discus and Pedestal, won the silver Flora medal with the best twelve varieties.

In the open amateurs' section Mr. W. B. Cranfield had a particularly good collection of thirty-six varieties representing the various sections. Will Scarlett, Firetail and Dorosis of the Barrii, and The Doctor, King Alfred and Monarch of the Trumpets being equal to any others in the Show.

NEW DAFFODILS

Beauty of Radnor.—A chaste *Incomparabilis* variety which has a pure white perianth surrounding a lemon-coloured corona which is lightly margined with pale orange. Award of merit to Dr. N. G. Lower.

Dainty Maid.—A charming flower which may well be described as a *Poet's Narcissus* with a delightful lemon-coloured corona which has a buff-orange rim. Award of merit to Mr. W. A. Watts.

Dulcimer.—This should prove to be a very valuable *Poet's Narcissus* for all purposes. The stems are exceptionally long and stiff. The shapely milk-white flowers are borne at right angles, and they have dainty little scarlet-rimmed coronas. Award of merit to Captain Hawker.

Dinton Red.—The large milk-white flowers are well disposed on stout stems, and the flattish coronas are fiery orange in colour. Award of merit to the Rev. G. H. Engleheart.

Miss Helen O'Hara.—This splendid white Trumpet Daffodil was to be seen in several first prize exhibits. It ranks among the largest of



THE SPLENDID WHITE SHOW DAFFODIL MISS HELEN O'HARA.

its type, and has an unusually long, cylindrical tube which is gracefully rolled back at the mouth. Award of merit to Mr. J. L. Richardson.

Owen.—A graceful *Barrii Narcissus* which has a primrose yellow perianth and a warm orange corona which pales in colour towards the centre, merging into a greenish tinge in the middle of the flower. The great decorative value of this variety was evident in the generous masses of bloom, which supported the exhibitor's statement that it was exceptionally free flowering. Award of merit to Mr. W. A. Watts.

Red Guard.—A very uncommon *Barrii* variety of good form and star-like shape. The perianth is a pale buff orange in colouring, and the corona is a rich fiery orange. Award of merit to Messrs. R. H. Bath, Limited.

Red Rim.—A large *Poet's Narcissus* with a broad flattish yellow corona with a distinct red margin. Award of merit to Rev. G. H. Engleheart.

Wide Wing.—This might almost be termed a picotee-edged *Poet's Narcissus*, for the pale yellow corona has a distinct line of orange-scarlet around it. The large, shapely perianth is not so dazzling white as in the other novelties from the same source. Award of merit to the Rev. G. H. Engleheart.

FORTHCOMING EVENTS

May 1.—Cornwall Daffodil and Spring Flower Society's Show.—Royal Caledonian Horticultural Society's Meeting.

May 5.—Blackburn and District Horticultural Society's Meeting.

DAFFODIL NOTES

I AM wondering to-day (April 12th) what the Show in London will be like, and if, after an enforced absence of two years I shall see any advance at Birmingham next week. The season being on the early side, I fear there will not be as much at the last-named show as there would have been had things been normal. Two days ago I had a few lines from Mr. E. T. England of Exeter who said that to his great regret he was "over" for London and, of course, would have nothing for Birmingham. It was very disappointing, as his seed beds had given him some very good flowers. I saw those very same beds last year on the Saturday before Easter Day (April 15th), when there was practically "nothing doing." My own Daffodils have almost all gone down the eelworms' throats. Lady Moore is among the lucky ones that have escaped. Few varieties are more pleasing when grown in pots and given cool house treatment. The well defined broad red rim to the large yellow cup gives a note of distinction to the neatly shaped bloom. I find the bulbs seem to like a season in pots, for if they are well looked after when they have done blooming, and carefully dried off, they produce—even quite small bits—the next year when planted outside, excellent flowers; although, as might be expected, they are on the small side. I have, too, a few healthy looking buds of Firetail, which will open in two or three days. If only those delightful red cups and eyes did not burn in sunlight! One never knows what is in the lap of the gods, but this splendid variety bids fair to become one of the most popular of Daffodils. A lady friend of mine who was at one of the March shows of the R.H.S. thus wrote in the report of her visit: "I saw a real beauty named Firetail." It was the only variety she mentioned by name. I have been told by those who have grown it longer than I have that it does not burn quite so readily as most "red eyes."

Thanks to some good friends, Mr. P. D. Williams, Mr. P. R. Barr, Mr. Watts, Mr. Savery and Lady Philipps, I have been able to feast my eyes upon a few more than those wretched eelworms have left undevoured of my own. To single out a few, from Mr. Williams came a beautiful giant Leedsii of the very first water. From Mr. Barr I had Watteau, a new 1922 introduction with an ivory white, not-too-formal perianth and a well proportioned trumpet tinted with a delicate and unmistakable tinge of pink, and also Casimir, which is a variety of outstanding merit to grow in pots or to cut for house decoration. To myself I would describe it as a sort of glorified bicolor Frank Miles, but I fear so many of our old favourites are now back numbers like, say, George Vance, the dunce's-cap-shaped sugar loaves in grocers' windows and the giant decanters filled with coloured water in the chemists', that I had better say it has a yellow cup with pure white perianth segments—long pointed and graceful. Those old favourites were brought to my notice in early April by some blooms which came from Lady Philipps of Cosherton Hall, near Penbroke, with a request to name them. I did my best and I hope the majority of my names were correct, but one forgets when one has not seen them for years, although they were once all in all to us Daffodil enthusiasts. They came from the grass. It is to the grass we must go if we wish to renew our acquaintance with the flowers of other days. I could pick many in our churchyard here—Vanessa, John Bain, Maurice Vilmorin, Burlidgei, Crown Prince, Princess of Wales, Orphee and Ellen Barr. They must be but mere names to many and yet they were all staged in the big "fifty" class at the Midland Show at Birmingham in 1900.

From Mr. Savery of Silverton, near Exeter, I have had two most interesting boxes of his home-raised seedlings. He is unable to get to shows on account of his health and he sent them to me for an opinion. "It's an ill wind that blows no one any good," hence Mr. Savery's misfortune has been my gain. The second batch was especially interesting. To begin with I have never had such a whiff of spicy perfume from such a small box of Daffodils as that which came from this one. The letter of explanation that travelled with them told the secret. The blooms were all hybrids between Bernardino and Jonquilla simplex. Each one had a good scent. Two varieties were yellow selfs; the other four might have been small Leedsis, but the smoothness and rich texture of their perianths betokened an unusual origin. Mr. E. T. England visited Mr. Savery last year and expressed the opinion that the "colours were something quite new in Jonquil hybrids." I think I have seen pale hybrids, but they are very unusual. St. Asaph bids fair to become famous for something else besides her Archbishop. The Welsh Bulb Fields which immediately adjoin the railway station are taking a new lease of life now Mr. Watts has given up all his military duties and once more settled down into civil life. The Clwyd Valley which runs up from St. Asaph to Denbigh seems to be one of those spots which lend themselves to the growing of bulbs for commercial purposes. I do want all my fellow countrymen to encourage as much as they can the home production of Daffodils and Tulips. It does me good to

read in R. H. Bath's preliminary list that the firm has 60 acres of land under bulb cultivation and that they can say "We believe that we are the only firm in England growing the bulk of the bulbs offered in our catalogue." I wish more firms could say the same. I fancy Mr. Watts' firm will not be long before they can. Nothing impressed me more when I opened the large box of flowers that he sent me this April than the strength and vigour of the stems. Even Mr. Duncan Pearson would give them a "very good" mark, I am sure, and he is a hard judge in this matter. Some of the varieties were Mr. Watts' own raising and some were not. Of those which I think were his, none pleased me more than Melyn, a yellow-cupped Lord Kitchener, from a show point of view; and Phyllis Vansittart, from a decorative standpoint. It has beautifully smooth perianth segments and a rather long, narrow pale yellow trumpet. It lasted a long time in water and was strongly scented in the warmth of my study. The large, loosely-built, all-yellow Derwin was very attractive and if its constitution is all right it might even take the place of Frank Miles as a variety for cutting. Colwyn, a small Leedsii, another home-raised flower, is very nice, but it is not quite so graceful as Countess of Southesk.

JOSEPH JACOB.

Orchids. I would be grateful, too, for any hints of how best to naturalise Mosses.—L. a. D. GUTHRIE-SMITH, Killearn, Stirlingshire.

HYBRID GERBERAS.

HAVING drawn attention in an article on page 171 in the issue of April 7 to the colours that should be sought in Hybrid Gerberas—the colours having come into question—I should be glad if I may further remark upon form and size, because upon these features much of the beauty must depend. This is all the more necessary since at Cambridge a number of hybrids partaking too strongly of *G. viridifolia* were allowed to exist, and may still be seen no doubt. These have the ray petals much too short and much too straight, resulting in a stiff-looking flower-head. A flower-head may be very beautiful and too much should not be expected from a plant that is quite small, but to pass all criticism the size must at least be that of a good *G. Jamesoni*, and it can even be more graceful by the curving and length of the

CORRESPONDENCE

NOTES ON BULBS.

I HAVE read with much interest in the issue of THE GARDEN for April 14 Mr. Jacob's "Notes on Bulbs," and I much regret I did not meet him on Thursday at the R.H.S. Daffodil Show. I am sorry he is not successful with King Alfred. Here in South Devon I can assure him it thrives, and this year it has done better than usual. I have had stems of quite 18 ins. to 20 ins., and of course in colour and form it is far superior to Emperor. Now as to *Narcissus triandrus albus* and the triandrus hybrids, I find the former increases with me in grass by self-sown plants, and does not die out, unlike *N. t. calathinus*, which I cannot keep except by growing on from seed. I have a good number of triandrus hybrids grown in grass. They were given me nine or ten years ago by Mr. Engleheart, and seem to do quite well. They are charming as cut flowers. Cyclamineus also does well with me in grass and increases slowly.—H. G. HAWKER.

MAY-FLOWERING TULIP LA MERVEILLE

THIS is a splendid Tulip when it is good, but, unfortunately, with me it has a tendency to sport, and I should like to know the experience of other growers in regard to the behaviour of this variety. We grow a large number of May-flowering Tulips, but the bed of La Merveille for the last three years cannot be considered satisfactory, quite a large number of white Tulips putting in an appearance. If we grew any white Tulips I should feel inclined to think that they were mixed in some way at the time of lifting, but this is impossible. The first year they were fairly true, so I am wondering if this kind does sport or whether some small bulbs of other sorts were in the original stock which did not attain flowering size until a year or two later. Any information from readers would be appreciated.—CHEPSTOW.

A FINE LILIUM GIGANTEUM.

THE accompanying photograph, taken in the garden at Matai-Moona, New Plymouth, New Zealand, the residence of the late Mr. S. Percy Smith, F.R.G.S., illustrates a superb plant of this magnificent Lily. It attained the height of 12 ft. 8 ins., and bore nineteen fully developed flowers. The foliage was also exceptionally robust, large and perfectly developed. The climate of New Plymouth is very mild but humid, which conditions suit all species of the Lily Order. *Lilium auratum* and its splendid varieties attain to a height of 7 ft., and bear very large, perfect and richly coloured flowers. The plant of *L. giganteum* shewn in the illustration grew in a damp, narrow valley on the edge of a small area of native bush or forest.—W. W. SMITH, New Plymouth, N.Z.

SEEDS OF BRITISH WILD FLOWERS.

I AM interested in trying to naturalise the most beautiful of our British wild plants. I wonder if any of your readers could suggest where I could buy seeds or plants of any such, and also British



A WELL GROWN LILIUM GIGANTEUM.

ray-petals. This is shewn by Moon in his plate in Robinson's "Flora and Sylva," but the beauty of this group would be enhanced in the minds of many, I think, by a slight filling up of some of the spaces between the petals. Many of the flower-heads certainly do shew this regularity, which, however, is by no means a rigid stiffness. I am confident that it would be quite possible to fix the best colours and forms and to raise each

one true from seed, but, unfortunately, seed is not produced in great quantity. There may be one flower-lead to a hundred of *Cineraria*, with seed in proportion, but the selection and choice are made by limitation of number. — R. IRWIN LYNCH, V.M.H.

THE "POTATO TREE."

I AM sending you a photograph of a Potato Tree, *Solanum crispum*, that grows on the gardener's cottage here. It is the most beautiful shade of mauve. — (Mrs.) D. BURNALL, *Creagh Castle, Co. Cork*

COLOUR HARMONY IN THE ROCK GARDEN.

I WAS glad to see the question of colour in the rock garden referred to in *THE GARDEN* of April 14, for the subject had been on my mind for some weeks past. If, as the writer of the article states, the average rock garden is deficient in greenery at this time of year, this defect is certainly far too frequently seen in those of the exhibition type. Some that I have seen of late at various shows appear to have been examples of the "bedded-out rock garden," where a superabundance of blossom in all possible colours shouts to claim our attention. This riot of colour would perhaps last a month, after which the garden would be but an unornamental botanical collection. Although, as the writer states, we usually strive to "ensure harmony in the herbaceous border by the liberal use of plants with grey foliage and inconspicuous blossom," I think he gives us a timely and needful reminder when he writes "in the rock garden we shall do much better to concentrate on plants which give repose now with their foliage and will provide us with blossom at another season." The mention of grey foliage reminds me of the French Artichoke (*Cynara Scolymus*), not seen in our flower gardens and herbaceous borders anything like so much as it deserves, with its graceful fern-like silvery leaves. I never saw it used with finer effect than I did a few days ago in the new gardens surrounding the Pavilion at Bognor. Here, in early April, the plants were already nearly 3 ft. in height and formed a beautiful centre for beds of pink and crimson Tulips. The laying out of this piece of ground reflects the greatest credit on Mr. Oswald A. Bridges, C.E., the town surveyor.

In the article referred to in *THE GARDEN* the difficulty of harmonising the so-called pink with the misnamed blue *Aubrietia* is mentioned. As they are semi-tones, they distract the eye in precisely the same way as semi-tones of sound distract the ear, and should be kept well apart. Magenta is a grand colour if used rightly, and is most pleasing with shades of orange or brown. How exquisite the yellow and orange shades of *Azalea* or *Berberis* appear when grown with *Rhododendrons*! How charming the *darwinium* and *croceum* Lilies look when grown near the Tyrian purple *Geranium ibericum*! The magenta and purple toned *Aubrietias* might well be associated with *Fritillaria Meleagris* and planted against a background of the purple-leaved Plum in its spring dress of bronze. *Berberis Darwinii* and the newer hybrids with their deep orange blossoms and the stately orange flowered

Crown Imperials would here find their right place. The soft apricot-coloured flowers of Sir Thomas Moore Tulips might be grown close to, or above, the *Aubrietia*. This orange tone might lead on to drifts of *Narcissi* such as *Gloria Mundi* and *Lucifer*, with its glowing cup. The purple-leaved and crimson-leaved Japanese Maples would look most beautiful among them. One has only to recall the flowers of the *Cattleya* to perceive how superb is the effect of mauve and magenta with



SOLANUM CRISPUM ON A COTTAGE.

citron and orange. It might be worth trying to associate a light rose-coloured *Aubrietia* with *Muscari azureus* or *Myosotis* when one remembers the turquoise feathers in the warm grey wing of the jay. The planting of some of the Alpine *Dianthus* would soften down the pink colour with their silver grey leaves if needful. *Muscari* or *Myosotis* associated with the old brown Wallflowers suggest the colouring in the wings of the tortoiseshell butterfly. But there is no colour more precious in the early spring than rose. One would love to see a border planted at the back with the deep rose double Peach between bronze-leaved *Prunus* and, well in front of them, *Cynara Scolymus* and *Dicentra spectabilis*, groups of the richer, rose coloured *Megasea*, and in front of all a little dip planted thickly with *Primula rosea*, while on higher ground the graceful crimson-flowered *Corydalis* would add grace and colour to the picture. — H. H. WARNER.

NEWTON WONDER AS A KEEPER.

I WONDER if many, or any, growers are troubled as I have been with Apple Newton Wonder. I found it, at the beginning of February, brown at the core and quite unsaleable, yet I see it recommended as fit for dessert and to keep good till May. It may be that the sunless, wet autumn affected our crop, as, apart from the wet weather, we have a wet garden. The soil is a heavy, retentive loam, and when the river is in flood we get water into the garden. Other varieties of Apples we grow are not affected in the same way

as Newton Wonder, and we have over sixty varieties. — L'ALLEGRO, *Culshie*.

[This is an interesting point, and we shall be glad to receive readers' views. Rotting at the core is a well known failing of Bismarck in this country, but we have never seen such a condition in Newton Wonder. — Ed.]

PRIMROSES AND POLYANTHUSES.

IT was with pleasure upon a delightful spring afternoon a few days ago that I visited the interesting gardens of Mr. Frank Neave, Lingwood, Norfolk. Beyond the confines of his own county Mr. Neave's reputation has spread as a specialist in Primroses and Polyanthuses. The individual pips of the trusses of flowers of his large strain make a five shilling piece look small, and are not coverable by an ordinary-sized watch. The object of my quest was to see the great strides Mr. Neave is making with blue Polyanthuses. I well remember his first step from a Wilson blue Primrose to a Polyanthus. This was before the war. He has now got them carrying beautiful trusses of exceptionally large-sized blooms and in almost every shade of blue; and real blues, not magenta tinted. He is still hybridising for better results. I noticed also in other parts of the garden patches of a new cross that originated with him, viz., *Primula Julia* ×, an ordinary crimson Polyanthus. This has resulted in a very floriferous progeny, carrying bright crimson magenta flowers with the sturdy crinkled foliage of *Julia*—an ideal plant for spring bedding. Yet another novelty I espied; this was a batch of a new type of true Primroses with stellate flowers and in many colours. Here, again, Mr. Neave is working for something better. As I came home in the train I noticed the railway banks and hedgerows in the district covered with many thousands of wild Primroses. Verily, Primroses "were in the air." — H. P.

CLEMATIS-FLOWERED IRISES.

MR. DYKES in his notes on moisture-loving Irises, in your issue of April 7, refers to the origin of Irises of the type of the Bearded Iris *Clematis* in which all six petals reflex. So far as Bearded Irises are concerned, I. *Kämpferi* has certainly nothing to do with the appearance of this type. The parentage of *Clematis* is *Cordelia* × *Princess Beatrice*. It was the only one of the batch of seedlings of the cross which displayed this form. *Clematis* is the most perfect example of this type that I have raised, but the form in varying degree of perfectness has appeared casually from many other crosses of Bearded varieties. It is probably a teratological form—a freak. I should not be inclined to agree with the learned Professor of Innsbrück that this flat form of flower is the archetype of all Irises, since it is the standards that are modified from the normal form, and in assuming the position of the falls they not only take up the special colouring of the falls but also develop (more or less perfectly) a beard. That is, the transformation is from a simpler form of petal to a more highly specialised. If it was a reversion towards an ancient type, one would expect that the transformation would be, on the contrary, from a more specialised to a simpler form. Therefore it is much more likely that the *Crocus* or *Sparaxis* form of flower was the original and most primitive form of the first Iris. But these *Clematis* forms, furthermore, raise interesting questions in heredity, since they do not appear to transmit according to Mendelian laws and, indeed, are not constant, flowers of quite normal form often appearing on the same plant, and even on the same spike as the *Clematis* forms. — A. J. BLISS.

NOTES FROM A NORTH-EAST YORKSHIRE GARDEN

DAPHNE MEZEREUM and *D. Mezereum album* have flowered exceedingly well this year and much earlier than usual, as have so many shrubs and plants after the wet summer, autumn and winter, and in the absence of any severe frosts. *D. Mezereum album* comes into flower earliest and a darker purplish red form is the latest, but they were all over by March 31, when usually the type form is at its best, and one expects to see it about Easter or later in the country cottage or farm house gardens, where it is so prevalent, at any rate in the North. The flowers have a very powerful scent, a very pleasant reminder of their presence when received to the leeward carried by the breeze. It is, I think, especially strong towards evening, but the scent is much too powerful for indoors (at least to me personally). I have a considerable number of plants, and they carry on very well from year to year; although it is a shrub that resents disturbance, many that I have were getting too large and were pruned fairly hard back last summer, but only one resented the treatment. This shrub is included as indigenous to Britain in some Floras, and there are outlying places where it is possible that it may be indigenous, one locality in North-West Yorkshire being well away from habitations; but birds can convey the seed readily for a considerable distance, and it easily strikes. Some greenfinches usually strip the seeds off here, especially the yellow seeds of the white variety, and self-sown seedlings spring up in various parts of the garden. Poor, open soil seems to suit them best, my largest, a white one, being close up to a Box shrub and also adjoining a dwarf Ivy hedge. The bark of this *Daphne*, which is very acrid, seems to be used for medicinal purposes and, according to Nicholson, was imported in quantity from Germany. The lovely sweet-scented white *Daphne Blagayana* seems to be nicely established and making good growth at the lower part of my

heath bank, its roots being planted under the shelter of some of my more vigorous Heaths, stones being placed on the soil above them until they get thoroughly rooted. The flowers set very early and have been gradually opening out all the year, until now they are at about their best.

The *Cistus* family have made considerable growth this winter, and *C. purpureus* and *C. crispus* are, unfortunately, full of flower-buds, which a very little frost will probably kill, and thus delay the actual flowering period if nothing worse. *Prunus Pissardi* was in full flower very early in March, and the flowers and the coppery foliage looked very well against a background of Austrian Pines, alongside of which it was quite unintentionally planted. The early-flowering Heaths that I have, including various forms of *E. carnea*, *E. mediterranea hybrida*, etc., have been, and are yet, very fine. The earliest to come into flower is one received as *E. carnea fragilis*, which has more delicate foliage and beautiful rosy pink flowers, and is dwarfier and more prostrate in habit than usual, and the flowers, being fully developed in January, it is a most desirable form. *E. carnea alba* is just coming into flower, being one of the latest of the group, that is if it is true *E. carnea alba*, the foliage being stiffer and much more upright in growth than the other varieties that I have. These early Heaths, which flourish in quite ordinary soil and live up the garden at a time when colour is not plentiful, should be in every garden. The flowers are also attractive to any bees (that is if any remain in the district) that are tempted out by the early sunny days. [*E. carnea alba* (true) flowers earlier than the type.—ED.]

The beautiful *Hepatica angulosa* was in flower on January 1 and well out by the end of the month, and *H. triloba*, blue and white, commenced with the first week. How lovely these are at the dark time of the year! There is no flower to surpass them when fully expanded

in the sun, the purest white and various blues, some of the self-sown seedlings having deep and bright blue petals, and one plant has very large green bracts, especially noticeable when the flower petals are just developing, shewing like a green-petalled frill to the blue petals. The first *Aconite* opened out on January 8, *Iris histrioides* on January 26. *Iris reticulata* has flowered quite well, but about three weeks earlier than usual. *Tulipa turkestanica* was the earliest Tulip, opening out on March 13. Of three bulbs obtained the winter before last all reappeared (which does not always happen with Tulip species), but only one flowered, having two flowers on the single stem. It is very lovely when fully opened out in the bright sun, the narrow, pointed white petals being reflexed and the stamens with blackish anthers making a pleasing contrast. *Tulipa Kaufmanniana* commenced to flower two or three days later. This is another beautiful species from the wilds of Turkestan. It is delightful when fully opened out in the sun and merits its name of Water Lily Tulip. It is also fine when its creamy petals, often rose flushed, are folded. There is a vivid red form which is very dazzling. My only specimen of this form was worried to death by slugs, which are very partial to this species, and they require watching so soon as there are signs of the growth pushing up through the ground.

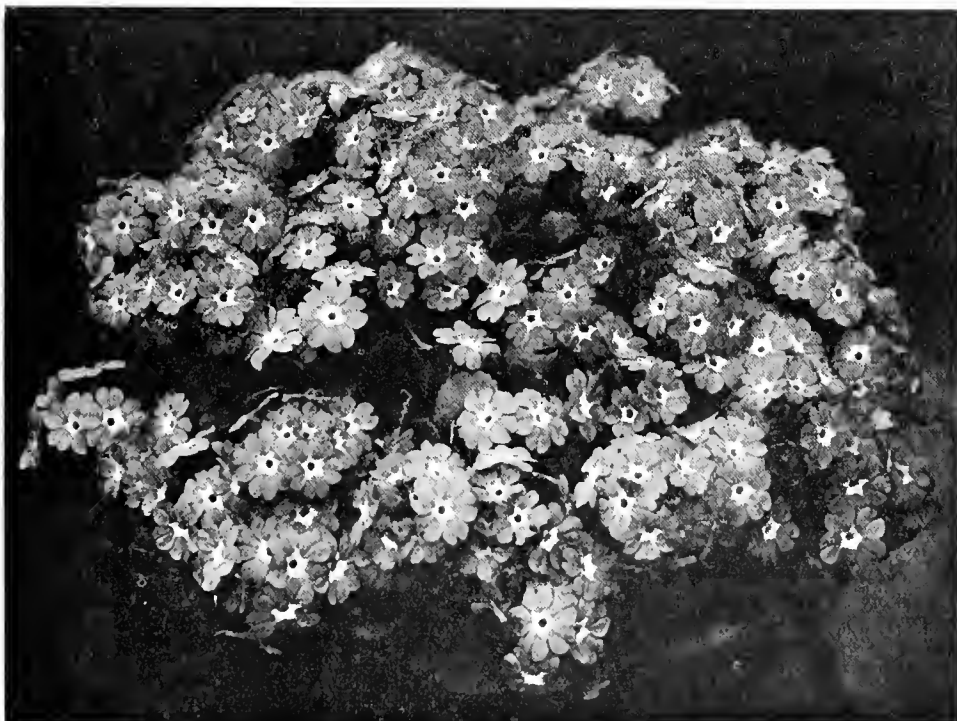
The white *Primula denticulata* is flowering exceedingly well this spring, and to me it is much the most effective of the group. I find it is also stronger and less susceptible to excessively damp winters than *P. cashmeriana*, which has a tendency to damp off at times. *P. hirsuta* and *P. pubescens* Mrs. J. H. Wilson are very brilliant and always happy; *P. marginata* is flowering well and the lovely yellow *P. Auricula alpina*, not the show *P. Auricula alpina*, which is very fine in its way, but not so decorative for garden purposes as this with its much more delicate petals. My plants were raised from a few slippings taken in a rectory garden in the hilly parts of North Yorks some years ago, where it was flowering in June. The clumps have a tendency to go off if not "soiled up" in the early autumn. This is usually done with broken mortar or old plaster. The true Oxlip, *Primula elatior*, is truly a gem with its chaste primrose umbels of flowers (very different to the *Polyanthus* hybrid so often called the Oxlip). I am just flowering it for the first time from seed received from a friend who obtained the plants originally from an English habitat.

Saxifraga (Megasea) *Stracheyi*.—This Himalayan species has developed its flower panicles with me for the first time; in previous seasons it has been frosted before full development. This species has the advantage of throwing up its flower-spikes before the leaves develop, and it is quite the best of the group, the whitish flesh-tinted flower panicles being especially beautiful.

Just a warning! Sometimes *Tussilago fragrans* (Winter Heliotrope) is recommended as a useful plant for winter flowering on account of being early and having heavily scented flowers. Recently I saw a mass of this plant with its large evergreen shiny leaves on a portion of a steep railway embankment on the Durham coast, where it had taken absolute possession of many yards and having reached the bottom was coming through the hedge into the arable field adjoining. Our native Coltsfoot *Tussilago Farfara*, very beautiful in flower, is a pest in the garden, but *T. fragrans* looks much worse. The flowers are powerfully heliotrope scented, but it is not a scent that many could stand indoors, being much too strong and, to me, sickly.

T. ASHTON LOFHOUSE.

Linthorpe, Middlesbrough.



"VERY BRILLIANT AND ALWAYS HAPPY," PRIMULA × PUBESCENS MRS. J. H. WILSON.

THE INTERNATIONAL HORTICULTURAL EXHIBITION AT GHENT

THE eighteenth exhibition of the Royal Agricultural and Botanical Society of Ghent was opened by the King and Queen of the Belgians on Friday, April 13, when the immense hall in which the exhibition is held was already crowded with visitors. The Ghent Exhibition is above all things spectacular, the chief feature being the masses of Azaleas in full flower, but when the Royal visitors arrived the crowd was so great that no view was obtainable of the exhibits as a whole.

Immediately after their arrival the King and Queen were conducted to the British Section, where they were received by Lord Lambourne, as President of the Royal Horticultural Society; Mr. Lobjoit, the Director of Horticulture in the Ministry of Agriculture; Mr. George Monro, Mr. J. S. Brunton and others responsible for the arrangement of the section. They then proceeded to examine the exhibits, of which the best were the Carnations of Mr. Engelmann of Saffron Walden and of Messrs. Stuart Low and Co. and the rock garden of Mr. G. G. Whitelegg of Chislehurst. Like all the other British exhibitors, Mr. Whitelegg had been disappointed to find on his arrival at Ghent that the exhibition authorities had been unable to carry out their promises of making preparation in advance and of providing him with suitable stone. However, he eventually obtained from beyond Brussels some limestone from the Ardennes, which closely resembles that which we obtain from Somerset, and did well to construct his garden in the short time at his disposal. It was planted with alpine and such other distinctive plants as *Iris arenaria*, a sand-loving species from Hungary, and the double form of *Caltha palustris*. Another rock garden, of what appeared to be reddish sandstone, was exhibited by Messrs. T. R. Hayes and Son of Keswick and planted chiefly with Heaths and dwarf shrubs.

The centre of the section was occupied by a grass oval, with small beds of Roses and Carnations, among which were noticeable some fine specimens of the bright pink variety *Edward Page*. It was difficult to judge what effect this variety would produce under ordinary circumstances, for the whole exhibition building was flooded with red light from deep red hangings suspended under the roof. The effect seemed to be to make the colours more vivid and often harsher than they would be in daylight, and in particular to obliterate the bluish shades in any pink flower.

Other beds were filled with Daffodils sent by growers in the Eastern Counties, and it seemed a pity that the varieties were not labelled, especially at there were no other Daffodils in the whole Show. They certainly seemed to appeal to some of the visitors, though, strangely enough, there was no sign of any *Narcissi* in any of the gardens we saw along the railway and on a drive to Bruges.

Mr. C. F. Bause of South Norwood filled a bed with the variegated *Dracena deremensis* Bausei, which has a broad stripe of silver down the centre of each leaf; while Messrs. Cragg, Harrison and Cragg of Heston sent a collection of variegated Crotons. East Lothian Stocks came from Messrs. Watkins and Simpson, and an interesting exhibit of dried specimens and photographs of Grasses from Mr. James Macdonald of Harpenden. Mr. L. R. Russell of Richmond exhibited Clematises with his usual skill, and the fruit resources of the Empire were demonstrated by a group of Apples, Pears and Cucumbers from this country; one of

Apples, Pears and Grapes from South Africa; and one of Apples from New Zealand.

The most important British exhibit was not in the British Section, for it was the group of Orchids sent over by Sir Jeremiah Colman and set up in the Orchid Section. It was awarded a special prize of an *Ouvre d'Art*, and was remarkable for the number of well grown specimens of rare or difficult species it contained, such as *Sarcochilus Fitzgeraldii*, with its small white flowers with purple spotted centre. Sir Jeremiah also received prizes for the best *Cœlogyne*, the best *Dendrobium* and the best *Lycaste* in the Show. The last of these three prizes was won with the very pale rose purple variety *Mrs. Hamilton Smith* of *Lycaste Skinneri*, though one might have thought that the judges would prefer the white *L. armeniacæ*.

On all hands it was agreed that no better display of Orchids has ever been seen at Ghent. Messrs. Charlesworth and Co. of Hayward's Heath had some wonderful white forms of *Odontoglossum crispum*, while close by was a group of *Odontoglossum eximium* var. *xanthotes* shown by M. Louis van Houtte, Père. In this the white flowers are flushed with pale yellow at the centre. The prize for the finest group of fifty *Cymbidiums* went to Messrs. Sander and Sons of Bruges and St. Albans, though MM. Bier and Ankersmit of Melle, near Ghent, shewed some wonderful specimens. The group exhibited by Mr. Charles Vuylsteke was confined to *Odontoglossum* hybrids and *Odontiodas*, and the King's prize for the most meritorious and varied group of all kinds of Orchids went to M. Firmin Lambaert of Brussels with the special congratulations of the judges. His group was remarkable for the number of white *Cattleyas* and *Brasso-Cattleyas*, and for a fine *Lælio-Cattleya* *Isabel Sander* with a deep purple lip edged with white, while *Miltonias* were also very prominent.

Messrs. Stuart Low and Co. of Bush Hill Park were also most successful exhibitors of Orchids. Their group was very varied and contained a large number of different species, including the curious green and black *Cœlogyne pandurata*, as well as a pure white *Cymbidium*.

English gardeners who were visiting the Show for the first time were surprised to see how many Ferns, Palms and foliage plants were exhibited, and it is astonishing to what a size they are grown. The remarkable collection of M. Louis van Houtte Père, filled the whole of one end of the chief annexe to the hall, and it is seldom that we see in this country such fine Cycads as those exhibited by Messrs. Sander and Sons.

Perhaps the most interesting exhibit of all was hidden away in one of the numerous side rooms opening off a gallery, but when at last I succeeded in finding it I also had the good fortune to meet the exhibitor himself, Dr. Attilio Ragionieri of Castello, near Florence. This Italian doctor has worked for years on an old strain of *Ranunculus*, and has now evolved a race with flowers 5 ins. or more in diameter and of the most varied colours. Some are as regularly double and as large as the finest show Begonias, and the exhibit came to us all as a revelation of the possibilities of a flower which is now little grown in England. Dr. Ragionieri was also showing his pale pinkish mauve Lilies of the Valley and some coloured Freesias.

Scarcely less remarkable were the large group of white *Hippeastrums* shown by Messrs. Warmenhoven and Sons of Hillegom, and Mr. Krelage's new Tulips, *Amber* (a pale *Clara Butt*), the white

Thémis and the deep orange *Victor*, all raised apparently by crossing early-flowering varieties with Darwins.

The middle of the hall was occupied by a huge oblong surrounded with white and mauve Lilacs, mauve *Rhododendrons* and blue *Cinerarias*. The centre contained pink *Cinerarias*, *Roses* and *Cyclamens*, *Begonia Gloire de Lorraine* and pink *Hydrangeas*, and the whole formed a very successful attempt at colour harmony. The plants were grown and arranged by the firms of the Dutch village of Aalsmeer, which has long been famous for its Lilacs.

This was flanked at either end by the Azaleas from the numerous nurseries in the neighbourhood of Ghent, and visitors from this side were amazed to see that there was no hesitation in placing the vivid orange scarlet of *Azalea indica* *Apollo* and *Spit Fire* next to the pale pink of *Mme. Louis van Houtte*. To our eyes it was intolerable, but many examples made it quite clear that such colours do not clash in Belgian eyes, and a bed of the variety *Magenta* was actually edged with another with bright scarlet flowers.

The Azaleas were simply marvellous. Groups of twenty-five or fifty plants of a variety all exactly alike and all simply smothered in flowers shewed how the nurseries have recovered from the effects of the war. The chief novelty seemed to be the variety *Albert Elizabeth*, with camellia-like flowers of white edged with red, though among the English visitors opinions were divided as to the artistic merits of this variety.

Examples of *Azalea mollis* seemed only to come from the Dutch growers at Boskoop, in the centre of whose group was the variety *Princess Juliana*, with yellow flowers slightly tinged with pink at the tips of the petals. With the exhibit were also two new *Rhododendrons*, a pale pink *Souvenir de Dr. S. Endz*, raised from *Pink Pearl* crossed with *John Walter*, and *Louis Pasteur* with white flowers shading to deep pink at the edge. Of this the parents were the varieties *Mrs. Triton* and *Viscount Powerscourt*.

The French Section was scarcely a success, and certainly many of the French exhibitors themselves were not satisfied. MM. Vilmorin, Andrieux et Cie of Paris shewed *Cinerarias* and other similar plants, but the French taste for art shades of colour does not tend to select varieties that please all eyes, though the pink *Hydrangea Triomphe* exhibited by Madame Fargeton of Angers was certainly a brilliant exception.

The P.L.M. Railway had transported from the Midi examples of all the good garden things that we associate with the Riviera, but when the Sweet Peas are mixed and shewn in the necks of wine bottles which are not hidden in any way, and the huge *Finocchi* or *Fennel* are piled up with giant *Broccoli* and purple heads of *Artichokes* without any attempt at arrangement, we cannot help thinking that the French are capable of better things.

Their Carnations, too, fine as they were, were nothing like as fresh as those in the British Section. The hybrids of *Gerbera Jamesoni* were, however, very fine and very varied in colour. It is a great pity that this fine cross is just not quite hardy enough to do well in any but the most sheltered and warmest corners in this country.

Nothing could have been more kind or more friendly than the welcome extended to visitors from this side by the Belgian authorities, and even though we were somewhat alarmed to find that it seemed to be necessary to play at least seven national anthems on every possible occasion and to make a lengthy speech before each one, we realised that it was being done in our honour.

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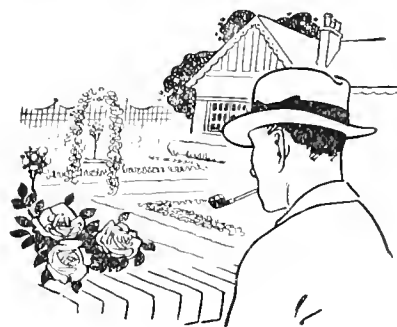
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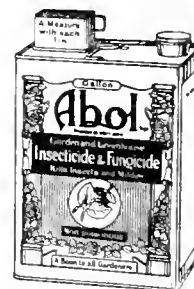


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GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Plums.—For any position on a wall few fruits can equal Plums and Gages and, moreover, they are easily grown in almost any garden. Very little disbudbing is needed, unless the shoots are exceptionally thick, and when such work is done it must be ascertained whether any young shoots are needed to fill vacant spaces. Fruit-spurs are formed on the main branches, and to this end the previous season's growths are cut back to within a few buds of their base at the winter pruning. During the summer the leading or extension growths may be allowed to develop, but all other shoots should be pinched when they are about roins. long and any additional growth stopped at the second leaf. If not already done, the roots should be mulched with manure, as this will not only keep the roots moist but will greatly assist trees that are producing a crop of fruit. When the fruits are set, a daily syringing will be beneficial when the weather is dry, and both green and black fly must be held in check or the young growths will be injured for the season. See that the root-run is kept moist, for trees growing near walls do not derive the same benefit from rain as those planted in the open.

Raspberries as a rule produce plenty of new growths, not only from the stools, but between the rows. Those between may be cut off with the hoe and the rest reduced to five or six of the strongest from each root. New plantations that were made during the winter may have the old canes cut down to ground-level and three or four new shoots left on each plant.

Vegetables Under Glass.

Tomatoes.—Plants that were raised early in the year will be setting their fruits, and will now need copious supplies of water. A top-dressing of loam will be beneficial, and when the roots have taken possession they may be fed with liquid manure or some fertiliser. The latter should be used sparingly, an occasional light sprinkling giving better results than a heavy dressing, which might easily be harmful. Admit plenty of air during bright weather, and remove all side growths as they appear. The main stem should be securely but not too tightly tied to stout stakes or wires stretched along the roof.

The Kitchen Garden.

Beet.—A further sowing of Beet should be made in drills 15ins. apart, selecting a plot which has been deeply dug and not manured. Small, richly coloured roots are preferred and Dell's Crimson is still one of the best in this category. The turnip-rooted varieties may also be sown.

Dwarf Beans.—It is not yet advisable to make a large sowing of Dwarf Beans, but if a warm border is chosen, the chances are that the crop will be a success. Overcrowding is often evident with the beginner, but to secure strong, healthy plants capable of producing a heavy crop they should be given 2ft. between the rows and 15ins. from plant to plant. Canadian Wonder is still a most reliable variety.

General Work.—The seed-beds should be examined to ascertain if there are any failures, and where any of the Kales or Broccoli have been destroyed by birds, fly, etc., a further sowing should be made without delay. Cabbage should be sown, and so may Chervil, Fennel, Hyssop, Chicory, Spinach, Mustard and Cress, and Radishes. Hoeing will be necessary among such crops as Peas, Cabbage and Beans to keep down weeds, which will be making their appearance in all parts of the garden. Clear away non-productive plants, such as Winter Greens, Spinach and Brussels Sprouts, as they not only exhaust the soil but take up valuable space which should be prepared for other crops. Where possible this ground should be trenched and given a liberal quantity of manure, but dull weather or early morning should be selected for such work. Keep a watch for the growths of early Potatoes, and where they are through the soil draw a little of the latter over them as a protection against early morning frosts.

The Flower Garden.

Hardy Ferns.—Now is a good time to transplant or divide and top-dress Ferns, but in doing so avoid any damage to the crowns. The Royal Fern, *Osmunda regalis*, will succeed by the water-side, and others enjoy partial shade, such as dells and near woodland walks. The *Scolopendrium*

and *Polypodiums* appreciate a little lime rubble in the soil, and for top-dressing a mixture of loam, leaf-mould and peat is recommended.

Auriculas.—When these have passed the flowering stage the plants may be lifted, divided and then replanted, keeping the leaves well down to the soil. If a new site can be provided, so much the better, but if not add a little fresh loam to the soil. Select a somewhat moist and shaded spot.

Staking and Tying.—Many of the tall growing herbaceous plants need supports of some description, and whatever method is adopted it should be carried out early before the growths are bent and twisted. The supports should be as inconspicuous as possible, and ordinary pea-sticks will be found as good as any.

Transplanted Trees and Shrubs ought to be examined occasionally to ascertain if they are loose in the soil. If so, they should be made firm and given a stake if necessary. A mulching of manure will be beneficial.

Hoeing.—All borders and beds will benefit by an occasional hoeing to keep down weeds and conserve moisture.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Cheltenham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—Plants raised from seed sown under glass in January should now be planted out without delay. Hoe between the lines or autumn-sown stock, after having given a light dressing of some approved fertiliser.

Cauliflowers raised under glass should now be planted out in lines 2ft. apart, allowing a distance of 18ins. between the plants. Place a ring of soot, lime or sand round each plant to ward off slugs.

Broad Beans.—As soon as a fair crop of pods has set, pinch out the growing points, for by this means the crop will come to maturity earlier and it will prove a preventive against the attacks of the "fly." Draw some earth to the plants of the succession sowing.

Early Potatoes.—These will now be showing above ground, so if there is any likelihood of a late spring frost, draw a little dry earth close up against the tender young growth, for Potatoes, once damaged by frost, never fully recover. Run the Dutch hoe between the rows. This advice applies to young crops generally.

Rhubarb has turned in considerably in advance of the normal period, so will now be showing flower stems freely; cut these over promptly as they appear, as they take a good deal out of the plants if allowed to develop.

The Hardy Fruit Garden.

Raspberries.—As the plants usually send up more canes than it is desirable to retain ultimately, any number in excess of six, or seven at most, should at once be cut away, retaining the most vigorous as a matter of course.

Loganberries.—The young shoots of these should promptly be tied up as they develop, since they are apt to get trodden on if left sprawling on the ground. Those who have adopted the double trellis system will now be convinced of its advantages, making for tidiness and giving both the old and the young shoots the maximum amount of light and air.

Strawberries.—Cut away all runners as they appear, except such as are wanted for young stock. Run the Dutch hoe between the plants and after the lapse of a few days to ensure the death of all weeds, "bed" the plants with clean straw.

The Pleasure Grounds.

Walks and Drives.—This is an opportune time for treating these with weed killer, and the maximum of benefit is likely to be obtained if the operation is undertaken soon after a slight fall of rain, that is to say, when the gravel is in a moderately moist condition. It will readily be understood that on walks edged with Box or other plants with spreading roots, the weed killer should not be applied within less than a foot of the edging. The various brands of weed killer are accompanied by directions as to the strength at which the liquid should be applied. Weed killer may be had in the dry form and is handy for those who have only a small area to deal with.

Forsythia suspensa.—This attractive April-flowering shrub, whether in the shrubbery or grown as a wall plant, should be pruned as soon as it goes out of bloom. As it flowers on the wood formed the previous season, the shoots should be well thinned out to make way for the young wood. *Jasminum nudiflorum* requires similar treatment and, if the pruning was not attended to in course, it should be taken in hand forthwith.

The Flower Garden.

Antirrhinums.—Now is the time to plant, in drifts, clumps or whole beds or borders. Plant about 1ft. apart. A moderately rich soil suits these plants best.

Mignonette.—Plants raised under glass, either in pots or boxes, should now be planted out, from 6ins. to 8ins. apart. Treated thus and duly pinched they will form fine bushy plants, which will produce large spikes of flower in quantity. If the plants are in boxes be careful in lifting them and endeavour to retain as much soil about the root as possible.

Biennials.—All kinds of hardy biennials should be sown within the next fortnight. It will be understood that some plants which are best treated as biennials, such as Sweet Williams, are not strictly biennials, so under this designation come Wallflowers, Sweet Williams, Hollyhocks, Canterbury Bells, *Myosotis* (Forget-me-nots), Sweet Rockets and *Coreopsis grandiflora*. With the exception of Canterbury Bells—which are best raised in boxes in a cold frame—all may be sown in the open in fine soil, care being taken that the seeds are not covered more than ½in. to ¾in. deep. Although the seedlings are to be planted out in nursery lines in due course, beware of sowing too thickly.

CHAS. COMFORT,

Formerly Head-gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.

GREENHOUSE AND CONSERVATORY.

Lindenbergia grandiflora, from the Himalayas, is nearly hardy and is a very pretty plant which flowers in autumn and winter. It is very easily propagated at this season by means of cuttings, which root readily in a close case in a cool house. The plant's subsequent cultivation presents no difficulty as it only requires an unheated greenhouse during its growing season.

Leonotis Leonurus is a native of South Africa and is a very showy plant which flowers in autumn. The orange-scarlet, sage-like flowers are extremely pretty. It is easily propagated at this time by means of cuttings, which root readily under a bell glass in an ordinary greenhouse. It is a quick-growing plant and should be stopped frequently to induce a bushy habit. This plant grows freely in any ordinary potting compost and should be potted on as it requires it. The plants should be allowed to flower in an 8in. or 9in. pot. In its younger stages the plant may be grown in a cold frame and during the summer months stood in the open, receiving careful attention as regards watering, as it is very subject to attacks by red spider.

Leptospermums are very useful for the cool conservatory and, unlike many other hard-wooded plants, their successful cultivation presents few difficulties. They may be readily propagated at this time by means of small, twiggy, half-ripened shoots, dibbing the cuttings into pots containing sandy peat and standing them under bell glasses in a cool greenhouse. The plants grow freely in good light loam with a little peat added to the compost. *L. scoparium* is an old garden plant which produces its small white flowers very freely. In recent years the two colour forms, *L. Nicholii* and *L. Chapmanii*, from New Zealand, have been very popular; the foliage is also attractive, being reddish-purple in colour. In the West these plants are all more or less hardy and make large specimens in the open. *L. Boscaweni* I find in some ways the best for pot cultivation as it flowers with wonderful freedom in quite small pots. In their younger stages these plants are best grown in a cool house or cold frames and larger plants should be stood outdoors during the summer months.

Leucadendron argenteum.—In South Africa this small tree is confined to a portion of the Table Mountain. It is a very beautiful plant, but its successful cultivation is by no means easy. Like many other members of the Proteaceae it resents disturbance at the root, especially as they get older, young plants for a number of years presenting little difficulty. This plant must be raised from seed, and before sowing it is just as well to file through a portion of the rather hard seed coat. The seed pots must not be kept too

wet, as the seeds are very apt to rot. The plants are best grown at all times in a light sunny greenhouse. The pots should always be well drained and water applied carefully.

Jacobinia floribunda (syn. *Labonia floribunda*) is an old garden plant which was at one time very largely grown for flowering in winter. It is a very neat plant and naturally of a tree branching habit, and in its season flowers with wonderful freedom. It is easily propagated at this time by means of cuttings of young shoots, standing the pots in a close case with slight bottom heat. When rooted the young plants should be potted on as they require it, 5 in. or 6 in. pots being a suitable size to flower them in. During the summer months they may be grown in cold frames, keeping them well syringed during bright weather, as they are rather subject to attacks by red spider. If it is desired to grow on old plants they should be partly pruned back and started into growth in an intermediate temperature. When in flower this plant is best stood in a warm greenhouse. In the immediate neighbourhood of London it suffers very much from fogs.

Rhododendron (Azalea) indicum.—As the plants pass out of flower, they should be placed in an intermediate temperature and by frequent syringing during bright weather should be encouraged to make free growth. Any repotting that requires to be done is best carried out just as the plants are starting into growth. The potting compost should consist of good fibrous peat and sand, although a little light sandy loam may be added. As the plants are usually small, care must be exercised in repotting, firming the compost well down to the bottom with a large label or thin potting stick. Although they are usually grafted, many of the varieties root quite readily from cuttings of half-ripened shoots dibbled into pots of sandy peat and plunged in a warm propagating case. Two of the newer varieties—both in beautiful shades of pink—Daybreak and Bridesmaid, root readily and flower with wonderful profusion in 60 or 48 sized pots.

Royal Botanic Gardens, Kew. J. COULTS.

BOOKS

THE PRIMULAS OF EUROPE.

DR. MACWATT is an acknowledged authority on the *Primula* family, and the volume now issued on the European species (which has been delayed in the press by the binders' strike) will be the standard work on this section of the genus.

Much of the matter in such a work as this must, necessarily, be technical in the extreme, and some of the pages can hardly be described as light reading, being, indeed, intended principally for reference, yet there is also a great deal of very interesting and occasionally extremely amusing matter. How many gardeners, one wonders, know that the colour in our florists' strains of *Primroses* is due to *Primula Sibthorpii*, the Caucasian form of *Primula acaulis*. Another very interesting note about *Primroses*—the double varieties this time—we take the liberty of quoting: "Several new double varieties have been raised, and we may confidently anticipate the appearance shortly of some handsome varieties with double flowers and more vigorous growth than the older favourites. Much of the improvement effected has been due to the consideration and adoption of the Mendelian system, by which, in the third generation, double flowers are produced from single varieties fertilised by the pollen of double *Primroses*." Another paragraph about double *Primroses* shows that Dr. Macwatt is not wanting in a sense of humour. He goes to considerable pains to describe suitable treatment for these beautiful but, in many cases, for from easy plants, winding up with "thus managed, double *Primroses* should thrive." He then advises his readers, if the treatment given does not prove successful, to "plant them in stiff soil among the Gooseberry bushes where the shade is dense and it will be found that they not only grow but flourish."

Every kind of florists' *Primrose* and *Polyanthus* is described, as well as the *Auriculas*, and there

are even recipes for cowslip wine! It is, however, for its decisive placing and careful description of the species and natural varieties, together with its very complete bibliography, that the book will be chiefly valued by those really interested in the genus.

The illustrations are numerous and admirable. More than forty species and varieties are illustrated in half-tone, and there are eight excellent colour plates. The general get-up of the book is first-rate, and no misprints were noticed in it, it is to be feared, a rather hurried perusal, but it is a little unfortunate that specific names which should be in the lower case have through some inadvertence "got upstairs" in the "List of Illustrations." Such things as "*Primula Officialis* var. *Macrocalyx*" annoy many who cannot be accused of being pedantic. It is only fair to state that in the body of the book the naming is unexceptionable.

"The *Primulas* of Europe," by John Macwatt, M.B.; published by "Country Life," Ltd., 20, Tavistock Street, Covent Garden, W.C.2, at 12s. 6d. net.

A Fragrant Honeysuckle.—*Lonicera syriaca* is a deciduous Honeysuckle of easy culture almost anywhere. It is a most adaptable plant, doing equally well against a wall, as a rock garden shrub or when trained up a pillar. Though it has few claims to beauty, the habit being somewhat loose, thin and straggling, and the emerald-green foliage scanty, its flowers are extremely fragrant. These are a bright lilac in colour, much like those of a *Daphne* in shape, and a few of them will pervade the garden with the sweet perfume of a Dutch Hyacinth.

A Noble Marsh Marigold.—*Caltha polypetala* might be described as a greatly magnified edition of the Marsh Marigold, *C. palustris*, and it is an imposing plant for any shallow water or pond margin. Where there is room enough for its long arms to spread (or float) and the soil or mud is to its liking, this giant *Caltha* will cover several square yards with its succulent branches and big, bronzy green leaves. It is, like most of its tribe, an early bloomer, and the first of the clear yellow flowers are often open in March, that is, long before the plant has attained its full dimensions. These blooms are normally rather more than 2 ins. in diameter, which means that they are somewhat small as compared with those of the native Marsh Marigold and hardly proportionate to the size of the plant. Notwithstanding, this *Caltha* is a fine and hearty species, and one that appears to be quite hardy and able to "carry on" indefinitely without attention. It is a native of the Alps of Eastern Europe.

A Beautiful Mertensia. The *Mertensias* belong to the Borage family, and number about twenty species. They vary in habit, but it is here desired to call attention to the charming *M. primuloides*, which has been really lovely during the last few weeks. It forms dense tufts of leaves, reminding one somewhat of the delightful *Omphalodes verna*, and the flowers are borne in racemes on leafy stems from 4 ins. to 6 ins. high. When first they open the flowers are magenta-purple, but change to a deep blue colour which is most attractive. They retain their beauty for several weeks. *M. primuloides* is a native of the Himalayas and is not fastidious in regard to soil or situation, but where possible it should be provided with a cool, moist, partly shaded spot on the rock garden. *M. primuloides* produces a number of underground stems, so it is advisable to place a little broken stone in the soil to prevent it becoming too hard, when the roots would have some difficulty in penetrating and extending. Where the soil is of poor quality it should be replaced with a light peaty loam. This plant

may be increased by division or from seeds, but where possible specimens should be left alone for several years to form as large a patch as possible, when the beauty of this choice species is further enhanced.

A Dutch Dahlia Show.—From September 14 to 23 next the Amsterdam division of the Dutch Company of Horticulture and Botany will hold a great horticultural exhibition in honour of its Golden Jubilee. In union with the Exhibition Committee the Dutch Dahlia Society will hold a great international Dahlia competition. The following prizes will be given specially for exhibitors living outside Holland: First, the most beautiful group of cut Dahlia flowers, new and old sorts, first prize, gold medal and f100; second prize, silver medal and f100. Second, the most beautiful group of cut Dahlia flowers entirely of newest sorts, first prize, gold medal and f50; second prize, silver medal and f50. Those wishing to exhibit in these special classes should write to the Secretary, Mjnhr J. G. Ballege, Witte Singel, Leiden, Holland.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

LILIUM CANDIDUM ATTACKED (D. M. G.).—The Lily is badly attacked by bulb mite at the base, which is quite rotten. Were they newly planted bulbs? The trouble may have been introduced by the bulbs or have been already in the soil. Does the soil contain lime or lime rubble or chalk?

RAOULIA AUSTRALIS (Folsted).—This plant is a native of New Zealand, where it grows in dried-up river courses. It requires a sunny position planted in well drained gritty loam. Plenty of coarse shingle or gritty sand should be mixed with the soil. As it is liable to damp off in the winter, a reserve should always be kept in pots in a cold frame where it can be protected against wet.

MIGNONETTE UNSATISFACTORY (A. C. Kent).—The Mignonette may die off through several causes. The soil may not be firm enough, the plants may be overcrowded, or a fungus may be present in the soil which kills the plants, affecting the stems just below the soil level. Fairly light loam well drained and enriched with some rotted manure and leaf-soil is an ideal rooting medium. Try this compost, thin out the plants while small to 6 ins. apart and firm the soil round them afterwards. Mignonette will grow in gravel paths. A few seeds may be sown on a path, where the plants would not be disturbed, as an experiment. Yes, an Orange tree grown from a seed will flower and fruit. The seeds germinate best in a frame or a mild hot-bed.

TREES AND SHRUBS.

AZALEA ATTACKED (R. E. Row).—The Azaleas are attacked by the Azalea gall fungus, *Exobasidium japonicum*. The removal of the galls as soon as they become apparent is usually sufficient to keep the trouble in check.

FRUIT GARDEN.

GRAPES UNSATISFACTORY (C. L. C. Yorks).—The Muscats have apparently not formed sufficient roots to supply all the water the plants require now leaves are developing. Probably the drainage of the border is not all it should be.

KITCHEN GARDEN.

RHUBARB SEEDING (W. W. F.).—The flower-stems must be cut before they develop much. To allow them to remain uncut would result in considerable weakening of the roots. Surface mulch with rotted manure and also apply frequent doses of diluted manure water.

MISCELLANEOUS.

INSECTS AND PRIMROSES (M. F. Cheshire).—The insects are probably spring tails, but they may merely be feeding on the *Primrose* plant because part of it is dead. They are usually most abundant when the soil is sour, and this is probably the condition which prevails in our correspondent's garden. The addition of chalk would doubtless improve matters considerably. Our correspondent may safely fork in a little naphthalene about infested plants. Do not manure or lime *Lithospermum prostratum*. There are plenty of examples of plants which like lime but whose relatives do not. Thorough drainage, a and lime free soil with leaf-mould to suit *Lithospermum prostratum* well.

NAMES OF PLANTS.—E. C. C.—*Narcissus odorus*, "Campanel."—S. B. S., France.—*Leucojum nigrans*.

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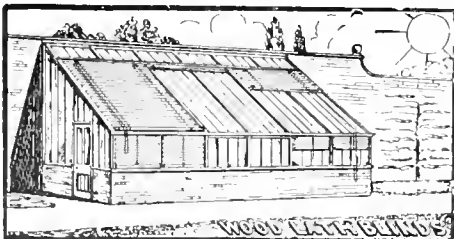
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THE great genus *Prunus* contains many species and varieties of great ornamental value in addition to many sorts rightly highly esteemed for their edible fruits. As regards the ornamental Cherries, their culture in this country is greatly prejudiced by the grafting of the beautiful Asiatic, particularly Japanese, forms on alien European stocks. The result, too frequently, is that the trees make no effective growth at all. If they do get away, however, there is a very real danger that quite a moderate wind will snap off the trees at the graft while they are still young in years. Strangely enough, the trees imported into this country by a well known Japanese nursery firm seem no better in this respect than those worked in European nurseries. That a certain number of trees are worked on suitable stocks is certain, and it is worth a big effort to procure these.

The type of the Japanese Cherry, *Prunus serrulata*, is not definitely known, but double forms of it have been cultivated by the Japanese certainly for centuries. There are quite a number of varieties now in commerce in this country, of which the most remarkable is perhaps the form called *flore luteo pleno* with semi-double greenish yellow blossoms. If remarkable, this variety is also very beautiful and effective. There are double blush and pure white forms, a rosy pink one called *Veitchiana* or (more often in nurseries) *James H. Veitch*, and a deep rose, almost soft crimson, one with handsome bronzed foliage now usually listed as *New Red*. There are several weeping forms, mostly with Japanese names, but the variety called *Cheal's Weeping* is a specially good one. In colouring it lies between *Veitchiana* and the *New Red*, and the growth is exceptionally graceful.

Most, if not all the varieties, are listed under Japanese names as well as the English ones given, and there is some confusion among the varieties in nurseries. This is the season to see the trees in blossom in nurseries and to select varieties. It is not wise, however, to rely altogether on one's own judgment: the nurseryman can speak with some authority on the vigour and growth of the tree. It is very seldom that the forms of *P. serrulata* grow taller than 20ft. or so in this country, but *New Red* is very vigorous and shows signs of easily passing this limit. The "yellow" flowered form is also rather a strong grower, whereas *Veitchiana* and some of the weeping forms are much less robust. *Prunus Watereri* is closely related, and is provisionally placed by Bean under *P. pseudo-cerasus*. *P. Sieboldii* is also classed as a form of the same species. *P. Watereri* is a handsome double-flowered Cherry with white blossoms deeply tinged with rose. It makes a good standard, but is perhaps rather a slower grower than most of the forms of *P. serrulata*. Another Japanese species is the Rosebud Cherry,

Prunus pendula, a specimen of which is illustrated on this page. This species is said ultimately to attain a height of 50ft. or 60ft. in Japan, but in England it is usually seen worked on a European Cherry stock, and specimens above 15ft. or so in height are all too uncommon. Even these dwarf specimens, however, are exceedingly picturesque and make inviting "bowers" in summer for those who have no dread of creeping things! The flowers, which expand a little before English cherry-time, are rather small—about $\frac{3}{16}$ in. across—and not very widely expanded—they open a bright rose, but lose colour very rapidly. A tree in blossom is, none the less, a sight to be remembered, for the blossom is produced in extraordinary profusion. A western exposure is desirable to minimise the risk of damage to growth and flower by spring frosts. It is to be found in catalogues under some extraordinary names, such as "*P. sinensis rosea pendula*."

Prunus subhirtella is another species of the same section; indeed, there are those who consider *P. pendula* merely a variety of this species. There are, however, many points of difference apart from habit of growth and *P. pendula*, at any rate, reproduces itself from seed. The blossom of *P. subhirtella* is similar in colouring and appearance to that of *P. pendula*, but the tree is of upright habit and, apparently, a smaller grower than the last named. It is a very beautiful species, but not yet grown to any great extent—it was not introduced to Kew until 1895—and appears to be less subject to damage by spring frosts than *P. pendula*.

Closely related again to *P. subhirtella* is *P. microlepis*, often listed by nurserymen as *P. Miqueliana* or *P. subhirtella autumnalis*. The flowers of this species in the form we have in this



A YOUNG TREE OF PRUNUS PENDULA.

country, which was distributed by Mr. Tom Smith of Newry, are double, pinkish white in colour and produced with considerable freedom in November and December. No other *Prunus* flowers in those months, and it is exceedingly valuable owing to the scarcity of blossom at that season.

Of the European Cherry species the *Gean*, *Prunus Avium*, is perhaps the most beautiful. It is admirable on the edge of woodland. For the garden the splendid double-flowered form is even more beautiful. Both, in time, make trees of considerable size. *Prunus Cerasus* is a lowlier species, which spreads freely by underground suckers. It has no garden value, but the double form, sometimes known as *Prunus* (or *Cerasus*) *emmeniflora*, is valuable.

Prunus Padus, the Bird Cherry, is a tree often planted, but it can scarcely be called effective when in flower, though the fine form *Watereri* is quite effective. Here again, however, the double form is the showiest and most attractive. There are many more species of the Cherry kindred, but the best have probably been mentioned.

Turning now to the Plum section of the genus, few species are more beautiful when in flower than the Blackthorn, *Prunus spinosa*, and the splendid double form is worthy of a place in every garden. There is now a pink-flowered variety with purple foliage known as variety *purpurea*. The Myrobalan or Cherry Plum, *P. cerasifera*, is very beautiful when in flower in March. The pure white blossoms are produced in extraordinary profusion. Well as this species is known to gardeners, it is probable that its purple-leaved variety *Pissardi* or *atropurpurea* (*Prunus Pissardi*

of catalogues) is even better known. This is an excellent small tree, less showy than the type with its rather nondescript coloured flowers, but useful for its deep purple foliage. It has, unfortunately, been greatly overplanted in some gardens. This does not now represent the best type of the purple-leaved Myrobalan, both *Bhrejana* and *Moseri* with doubled flowers being much superior in form and colouring.

The Japanese Plum, *P. triloba*, is an ornamental tree not very dissimilar to the Myrobalan. Neither is of commercial value in this country for the fruit. *Prunus dasycarpa*, the Black Apricot, appears to lie between the true Plums and the Apricots. It seldom fruits in Britain, but the beautiful "crimped" snow-white flowers are very lovely in March.

With *Prunus Mume*, the Japanese Apricot, we come to a species which unmistakably belongs to the Apricot section of the genus. This species has been taken in hand by the Japanese florists, so that, in addition to what we have come to regard as the typical shell pink form, there are single and double pure white varieties, a double rose one and an attractive weeper.

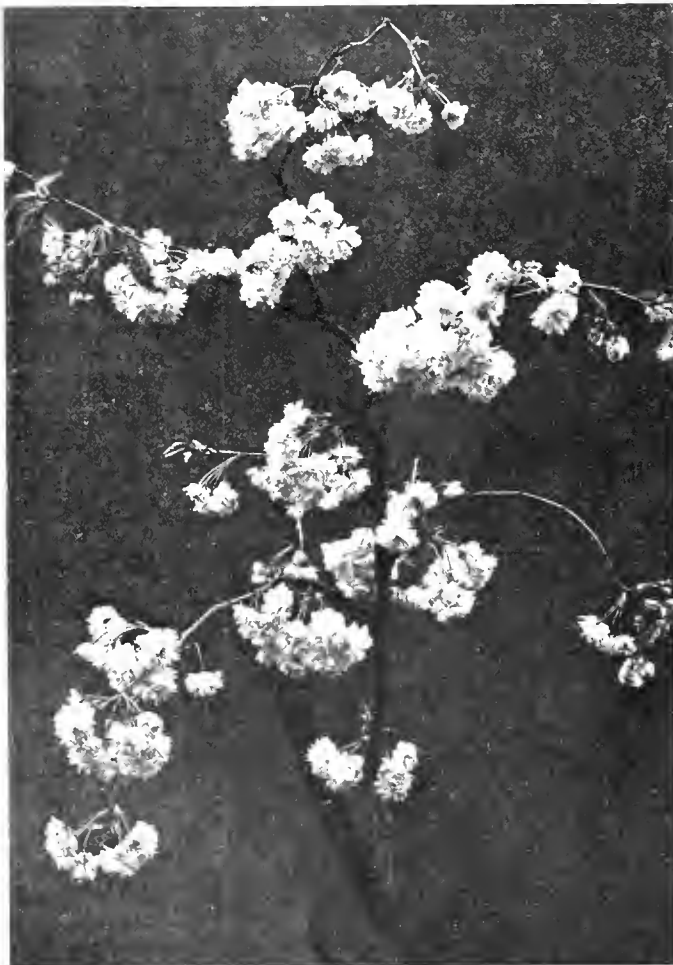
The Peach section of the family is not a large one, but such species as there are are practically all of great decorative value. The beauty of the Almond needs little stressing. There is little to choose between the Bitter and Sweet varieties as far as floral beauty is concerned, but the variety *præcox* is worth planting because it extends the flowering season. In favourable seasons it is usually in flower before February is out.

The Peach is a particularly beautiful but not

very hardy tree which is, unfortunately, rather short-lived, especially when grafted upon the Plum, which is the stock usually employed. Many of the varieties are so lovely, however, that few of us are prepared to dispense with them. The double red, double rose and double white are all splendid, but perhaps the finest of all is the huge-flowered double crimson called *magnifica*.

The Dwarf Russian Almond, *Prunus nana*, is a very beautiful shrub, seldom growing more than 1 ft. tall and readily increased by layering. The flower-buds are a brilliant rosy red, but the expanded blossoms rapidly fade to pale rose. The variety *georgica* is taller growing, but equally effective, and there is a form with larger flowers called *Gossleriana*, which is perhaps best of all. The pure white variety is quite effective in a different way. This species flowers with the Lilacs and Barberries, but is beautiful enough to hold its own even at that season.

Prunus Davidiana is quite different, for it forms a slender-growing, rather small tree with fairly large white or (in the variety *rubra*) rosy blossoms which often expand in January. It should, naturally, be given a sheltered position, but the flowers withstand the weather well. *Prunus triloba* is best represented in gardens by the very beautiful double variety, which wreathes itself in fully double soft rose blossoms. It is usually worked upon a Plum stock, and is thus not so popular as it should be, for, apart from the constant trouble with suckers, *P. triloba* is not long-lived upon the alien stock. Plants propagated from layers, however, are hardy, vigorous, free and lasting.



AN EXCELLENT ORNAMENTAL CHERRY, *PRUNUS SERRULATA* CHEN'S WEEPING.



A TYPICAL SPRAY OF FLOWERING PEACH, *PRUNUS PERSICA* VAR. CLARA MEYER.

THE GARDEN SPIRÆAS

THIS heading, while including a large number of delightful border plants, is not intended to embrace the shrubby varieties. Not that these are one whit less beautiful, but they are suited to an entirely different kind of planting, and I propose to-day to deal with those of a herbaceous character, which should find a home in some part of every garden.

And this brings us to the question of where to plant—an extremely elastic one, as we shall see. Widely as they differ in character, one and all share the same love for a moist and cool position, where the roots are never exposed to anything like drought. In many gardens, then, we must plant in semi-shaded places, for it is here that they are likely to suffer least in this direction. But (let us get this quite clearly) shade does not mean overhanging tree boughs; the *Spiræas* detest these and cannot acquit themselves well when exposed to the inevitable winter drip that falls from the branches. The addition of some rough peat to the soil is a great advantage, as this acts as a sponge and holds the water for an extended period. Where one is sufficiently lucky to have a stream passing through the garden or a small pool from which moist banks slope gradually upwards, one need not consider the question of shade at all, the *Spiræa* simply exults in the ever-damp loam and quickly forms great clumps of noble foliage, crowned in the flowering season by splendid panicles of feathery plumes in pink, cream and white. Never do the *Spiræas* flower so gloriously as under such conditions as I have sketched, and whenever such a sunny swamp garden can be arranged it is beyond question the site *par excellence* for their cultivation.

During the growing season they love to be dewed overhead on the evenings of warm days, and when drought is persistent enough water should be poured upon the ground to saturate it twice a week. No plant shews distress by drooping its foliage more than the old-fashioned *Spiræa* (*Astilbe japonica*), while a certain amount of protection is also advisable for this in cold districts in early spring or the foliage is apt to be badly cut by frost.

The newer pink developments in this variety are simply wonderful as garden plants, and by massing in really bold groupings splendid pictures are achieved in June and July. An interesting variety of this that is very well worth securing, is the variegated *aurea reticulata*, every leaf of which is picked out in golden yellow veinings. Two other very handsome varieties that shew a

similar peculiarity are found in our common Meadow Sweet (*S. Ulmaria*), an ideal plant for streamside planting. These are known as *aurea*, white with golden foliage, and *variegata* in which the leaves are green and white.

If a vote were taken, I think that *S. Aruncus*, the Goat's Beard, would probably be found to



THE GOAT'S BEARD, SPIRÆA ARUNCUS.

head the list, with its great creamy white plumes in June and July that make it one of the most conspicuous plants in the whole garden. A variety of this, *S. Aruncus Kneiffi*, with graceful feathery plumes and finely divided fern-like foliage, would probably run it fairly close, and is capital for a small garden, as it is a foot less in height, at 3ft. The Dropwort is best in its double form—*filipendula* fl. pl.—but it is a plant for masses, and never looks well except in large clumps. Silver Sheaf, 2½ft. tall, is a particularly fine *Spiræa* in May and June, and if well supplied with water makes a noble border plant. *S. gigantea*, synonymous with *camtschatica*, is only suitable where space is ample, for it not only grows tall, but spreads widely in addition. The leaves are large, handsome and palmate in form, while at a height of 6ft. to 8ft. the flowering stems are crowned with immense heads of pure white flowers. Particularly charming is *S. venusta*, which requires bog to grow it successfully, and few finer plants can be found than this for planting in peaty loam, where the moisture overflows the bank from time to time. Much depends upon the available supply of moisture and the length of time it has been planted as to what height the growth will reach,

for it is anything between 3½ft. and 8ft., the feathery plumes at the top being a lovely rose pink.

S. palmata, again, is a bog lover, native of Japan, that is suitable for gardens of medium size, as it does not exceed 3ft. in height and is restrained in habit. The leaves are large and handsome, with deep red stems surmounted at the top with large heads of crimson blossom that are extremely attractive. *S. rivularis major* is a vast improvement upon the typical form, and bears splendid branching plumes of flower at a height of about 4ft. during June and July.

In growing the *Spiræas* it should never be lost sight of that they are surface-rooting plants which make a close compact mass of crowns right on the surface of the soil, therefore it is no use to place a quantity of manure deep in the ground. Dig deeply before planting and never omit to mulch to a depth of 3ins. each spring with old manure.

H. W. CANNING-WRIGHT.

EAST LOTHIAN STOCKS

THE short period necessary to bring them to flower has bestowed an undue popularity on the Ten Week varieties of Stock, and has had a detrimental effect on the splendid East Lothian strain. I admit that these latter are more trouble and "on hand" for a longer period and that they have to be given the protection of a frame in most parts of the country to bring them through the winter, but, with it all, they are worth it for the magnificent display of massive fragrant heads that they bear in June, July and August. Seeds should be sown in May ready for the following year, for it is only by a long season of steady growth that those grand, many-branched, 2ft. tall specimens may be ensured.

Make a bed of light yet rich soil in a shaded cold frame and sow the seeds thinly and evenly in shallow drills and keep moist without much watering until they are well through the ground, when plenty of air should at once be admitted. When well in growth more water will be necessary, for it is important that the plants never hang fire nor stand still. As they become large enough to handle easily, the little plants should be potted off singly, using a similar soil to that in which the seed was sown and standing the plants outdoors on an ash bed in an open, sunny position. Here, beyond regular watering, they will demand but little attention until November, when they should again be placed within the shelter of a cold frame.

The plants are very nearly hardy, so that they must not be made soft by coddling. Give plenty of air and water rather sparingly. Indeed, the main point in placing in the frame during winter is to keep them dry, especially as regards the foliage, and while in this condition they will stand considerable cold with impunity.

The beginning of the following April preparations should be made where the plants are to flower and for this thoroughly prepared beds or borders are essential. Harden off the plants by exposing to the weather both night and day for some time previously, and see that the soil has been both deeply dug and well manured. The richer the soil the greater the space that should be allowed between the plants; 18ins. being none too much for vigorous specimens. When well growing again mulch the surface and see that the plants never suffer from want of water. The colour range is as wide and comprehensive as that found in any other strain of Stocks and the heads are simply immense, individual flowers being as large as a Carnation.

CROYDONIA.

PLANTS FOR THE HEATH GARDEN

(Continued from page 207.)

EERICA MULTIFLORA, a native of Southern Europe, is closely allied to the Cornish Heath, *E. vagans*, but is rare in cultivation. Of spreading habit, it grows from 1ft. to 2ft. high, and bears rosy red flowers in autumn.

E. scoparia, a native of Central and West France, grows 10ft. high with thin, wiry, secondary branches and inconspicuous greenish flowers borne in early summer.

E. stricta.—Although often found between 2ft. and 5ft. high, this South European species may reach a height of 10ft. It is of bushy habit and bears its rose-coloured flowers freely in July. The flowering period is shorter than that of most Heaths.

E. Tetralix, the Cross-leaved Heath, is a spreading plant about 12ins. or 15ins. high, found wild in many parts of Europe and in the British Isles. The leaves are in whorls of four which roughly represent a cross. The flowers are urn-shaped, and borne in clusters from the points of the branches during summer and autumn. The varieties *alba* and *mollis* have white flowers.

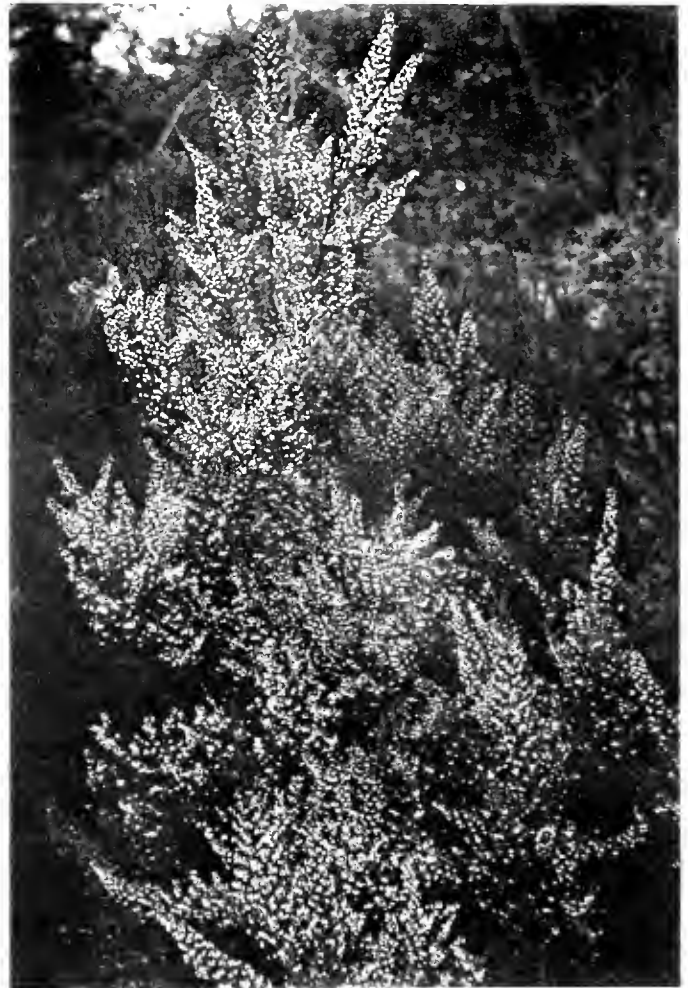
E. vagans, the Cornish Heath, is found wild in Cornwall and through South-West Europe. It grows about 1½ft. high, and forms a wide spreading mass, bearing cylindrical racemes of pinkish flowers from August to the end of October. This is an exceedingly attractive and free-flowering kind, and its colour varies in its forms *alba*, *grandiflora*, with very fine reddish flowers, and *rubra*. Finest of all is var. *kevernensis* with brilliant salmony blossoms.

E. Veitchii is a hybrid between *E. arborea* and *E. lusitanica*. It forms a large bush and bears white flowers with great freedom in spring.

Calluna vulgaris is the Ling or Heather of our commons and hillsides, where it is often found in company with *Erica cinerea*. Although it may grow 2ft. or 3ft. high, it is usually less than

18ins., and sometimes scarcely rises rim. above the ground. It can be distinguished from the true Heaths by its opposite leaves, arranged in four distinct rows. The flowers are borne from one side of a long, upright terminal inflorescence during August and September. They are pale reddish purple in colour, but many shades of colouring may be found on one hillside, including plants with white blossoms. Among the many named varieties are *alba*, *alba minor*, *alba pilosa*, *alba punula*, *alba Serlei* and *Hammondii* with white flowers; *Alportii* with purplish blooms, *coccinea* with crimson flowers, *hypnoides* and *tenuis* with purple blossoms, *aurea* with golden foliage, *cuprea* with copper-coloured leaves, and *Foxii* and *minima* of dwarf moss-like habit.

Daboecia polifolia, St. Dabeoc's or Commemora Heath, is a small shrub which grows from 1ft. to 2ft. high, a native of Western Europe, and also found wild in Ireland. The urn-shaped flowers are reddish purple in colour and are borne in long, upright, one-sided racemes. An early crop of



THE SPRING-FLOWERING ERICA VEITCHII.

flowers appears in June, but the principal flowering period is from the middle of August to the middle of October, when the plants are quite covered with blossoms. There are several varieties, of which *alba* has white flowers, *atropurpurea* richer coloured flowers than the type, and *bicolor* bears red and white flowers, or red and white striped blossoms on the same stem. A very distinct form with a more spreading habit of growth and rounded bells, much larger than the type, is known as var. *globosa alba*. No globose form with the rich purple colouring of the typical St. Dabeoc's Heath is known, but an infinite variety of shades of rose and lilac can be obtained by crossing the purple form of the species with *globosa alba*. This species is one of the most useful dwarf shrubs we possess, and when planted in large masses it is difficult to imagine anything more beautiful.

No part of the grounds is likely to provide more interest throughout the year than the Heath garden. Not only may blossom be found there throughout the year, but the immense variety of foliage lends perennial interest. To take the Ling as an example, what an immense and effective contrast is provided by planting in juxtaposition the varieties *Alportii* and *Serlei*, for example, the former with dark grey, almost black, foliage and the latter with leafage of a vivid, all but emerald green! The rather "fox-tailed" foliage of *Erica stricta*, too, is always interesting and beautiful and the curious ruddy brown of the long-dead flowers adds to, rather than detracts from, that beauty in the dull days of winter. The mossy-looking varieties *Foxii* and *minima* are equally attractive.

W. D.



SPRING IN THE HEATH GARDEN, GRAVETTYE.

THE SPRING ROSE SHOW

THE Spring Show of the National Rose Society cannot, in the nature of things, be so interesting as the autumn fixture, to say nothing of the great Summer Show in Regent's Park. This notwithstanding, there was quite an interesting display awaiting the crowd which at midday surged into the Royal Horticultural Society's Hall on Friday, April 20. There really was a crowd, so that it was difficult to inspect the exhibits as thoroughly as one would wish. If the Society could allow a few minutes for the Press to inspect the exhibits before the public are admitted, it would unquestionably be doing itself a service.

In the class for a group of pot Roses not to exceed 100 square feet in area Mr. W. E. Chaplin of Waltham Cross was placed first. Noteworthy on his exhibit were Mrs. Tresham Gilbey, which will be found described under "New Roses," the new Rambler called The Beacon and the brilliant Queen Alexandra Rose. Mr. Elisha Hicks was second. On his exhibit a standard Ellen Poulsen was very effective, so were the beautiful golden species Hugonis and that admirable "poly-pom," Coral Cluster, which bids fair to become one of the most profitable Roses to force, either for decoration in pots or for cut flower. The third prize was awarded to Messrs. W. Cutbush and Son, Barnet, who had a very showy exhibit, largely featuring the Polyantha varieties, including masses of Ellen Poulsen. On close inspection many of the blossoms in this exhibit were seen to be rather the worse for wear, but certainly the Polyantha varieties make the best display in pots

at this season. The buttonhole Roses, if the term may be forgiven, are admirable for cut-flower when forced; however, they are altogether too leggy to be effective on the plant.

In the other class for plants in pots—six pillar Roses—the placings were reversed, Mr. E. J. Hicks easily securing the first place with six very good plants of Dorothy Perkins, Shalimar, Scarlet Climber, Minnehaha, Exeelsa and Lady Gay. Mr. Chaplin's second prize group was noteworthy for a splendid plant of the new rosy crimson Beacon. This is evidently a multiflora variety, and the colouring as shewn now was a shade deeper than that of American Pillar as grown outdoors. If grown outdoors it might probably be described as an improved Carmine Pillar.

In the big open class for cut flowers Messrs. Benjamin Cant and Sons were placed first and Mr. George Prince of Oxford second. On the exhibit of the Colchester firm Paul's Scarlet Climber was shewn in exceedingly good form, so was the old and beautiful Noisette mis-named Fortune's Yellow. Sovereign was also well shewn, and a nice bit of colour was supplied by Padre and The Queen Alexandra Rose. A fine bit of golden colour proved to be Rev. F. Page-Roberts, and Covent Garden was also in good form. On Mr. Prince's exhibit, among many fine groups, Coral Cluster and Souv. de Claudius Pernet attracted attention, together with a fine grouping of the Austrian Copper, which appeared to be new to many visitors!

Competition, unfortunately, was not keen in the classes for bowls and vases. Miss Ethel

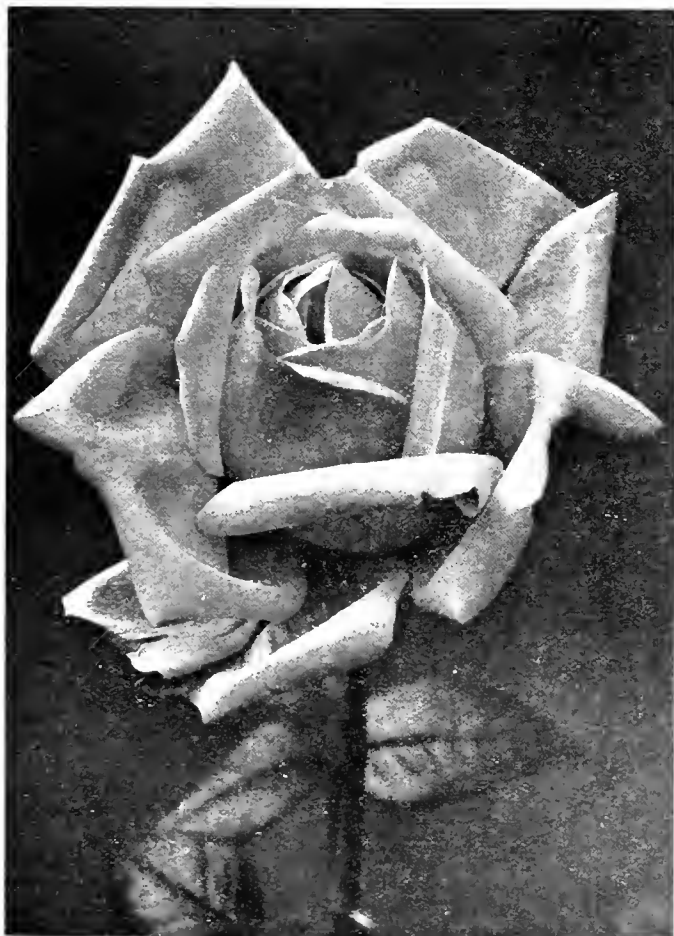
James of Abingdon secured the first prize for a bowl containing some excellent blooms of the bright crimson Richmond. Mrs. Colston Hale was second.

Mrs. Courtney Page received a first prize for a vase of the popular Ophelia. Mrs. Charlton of Viewsley was second with some good blooms of Mme. Butterfly. In the nurserymen's class there were only four entries, and Mr. Elisha Hicks was first with a bowl containing some superb blooms of Lady Hillingdon. Mrs. Tisdall was second with Melody, the blooms of which are of a deep saffron yellow with primrose border.

For a collection of cut blooms Mr. Holland was awarded the first prize. This was the only entry in this class. The blooms were exceptionally good, but, unfortunately, the exhibitor had no labels attached to the various varieties. The arrangement, too, was susceptible of improvement. Such lack of naming is unfortunate, because it is little use for a visitor to admire a Rose if he cannot readily ascertain the name. Even for the expert it is sometimes difficult to identify with certainty blooms that have been forced under glass, as, of course, these had been. That remarkable species Rosa Moesni was well shewn in this collection.

In the class for twelve blooms of any varieties, Mr. Goodwin was first with Marechal Niel. Mr. Elisha Hicks was a good second with Mrs. H. Winnett.

In the class for twenty-four blooms, in not less than eighteen varieties and not more than three blooms of any one variety, Messrs. Ben. R. Cant and Sons were first with exquisite blooms of such well known varieties as C. V. Haworth, Souv. de Geo. Beckwith, Mrs. Foley Hobbs and



A GLOBULAR PINKISH BLOSSOM OF MRS. TRESHAM GILBEY.



FRAGRANT BLOSSOMS OF THE ODDLY-NAMED DECEPTION.

their new Rose Captain F. S. Harvey Gait. Mr. Elsha Hicks was second with such sorts as Earl Haig and Mrs. Elsha Hicks.

For an amateur's collection of twelve blooms in a box, consisting of not less than six distinct varieties, Mr. E. J. Holland was first. He had some excellent blooms, and the following are a few of the good things shown: Mrs. Foley Hobbs, Silver Medal, Mrs. Edward Mawley, Victory and a superb bloom of Mrs. J. Welch. Mr. G. A. Hammond was second with such excellent sorts as Mme. Melanie Sompert, Mrs. Myles Kennedy and Mrs. Foley Hobbs.

In the class for six blooms of any one variety, Mr. E. J. Holland was again placed first with excellent blossoms of Mrs. Foley Hobbs. Mr. G. A. Hammond was the runner-up with good flowers of Mrs. Amy Hammond.

In the basket class for nurserymen Mr. A. T. Goodwin of Maidstone was first. He showed that "good old stager" *Maréchal Niel*. Messrs. Bees, Limited, were second with Evelyn Thornton.

For three baskets of cut Roses, three distinct varieties, Mr. Elsha Hicks was first with excellent blossoms of Lucile Barker, Evelyn and Mrs. H. Winnett.

Turning now to the "basket" classes for amateurs, Mr. G. A. Hammond was the only competitor in the class for a basket of mixed blossoms, but his contribution was a very effective one, and he well deserved the first prize awarded. In the class for a basket of one variety, Mr. E. J. Holland was first with a very good basket of William Shean. All the blossoms were large and some of remarkable excellence, others a little soiled. Mr. Hammond was second with very bright and good blossoms of Mrs. Amy Hammond.

The table decoration classes were, as usual, confined to lady members. In the amateurs' class Mrs. Courtney Page secured the first prize for a delightful arrangement. The blooms employed were Mme. Butterfly—the "favourite" in this section. Mrs. Colston Hale of Warminster was a good second. In the nurserymen's class Mrs. Bide was awarded the first prize for a charming arrangement, also of Mme. Butterfly. Mrs. Tisdall of Woodford Green was second, and here again the same popular variety was employed. Competition was fairly keen and the arrangement of the blossoms, generally speaking, was excellent, as, of course,

Roses, rose bowls, vases and a multitude of other things likely to gladden the heart of the keen gardener. Abol, Limited, shewed and demonstrated their world-famed syringes and insecticides. Messrs. Prentice Brothers exhibited fertilisers.

One hardly expects the rose-growing fraternity to be able to fill the R.H.S. Hall at this early season with Roses. Assistance was rendered by Messrs. Allwood Brothers, Mr. Englemann and Messrs. Stuart Low and Co., who brought up Carnations, and Messrs. J. Cheal and Sons who shewed Dahlias, including *Crimson Star* and *Yellow Star*. They also staged many forms of the great *Pyrus* and *Cytisus* families, also well flowered sprays of *Berberis stenophylla*. Messrs. John Waterer, Sons and Crisp had an interesting collection of alpinists, including *Primula Munro*, *Irises pumila* and *cyanea*, *Trillium grandiflorum*, well flowered plants of that little gem *Morisia hypogaea* and *Erythronium Pink Beauty*.

NEW ROSES.

Deception (H.T.).—This is a Rose which would appeal to our old friend the Rev. Joseph Jacob, and which evidently attracted the judges, for they awarded it the coveted "gold." It is a rose-coloured variety of more than average size and by no means thin. The petals, too, are fairly substantial, and the flowers, which would have been considered shapely three decades ago, are rather clumsy according to modern ideas. It appears to be a good grower, however, and has one merit which it is hard to overvalue—the possession in abundance of the true old-rose scent. The name does not appear a happy one. Gold medal to Messrs. G. Beckwith and Son.

Geraldine (H.T.).—It was impossible to find a normal colour for this variety, for there were no two flowers alike. The prevailing colour, however, appears to be buff, and this apparently

always tinted—either with pink, blue or salmon! The foliage is fairly stout, but the flowers are small and rather undistinguished. Shewn by Mr. W. E. Chaplin.

Hypatia (H.T.).—A rather small variety, the blossoms pink, suffused copper and very bright in their early stages. As shewn it scarcely seemed any improvement upon Mrs. A. R. Waddell, which it certainly calls to mind. Shewn by Messrs. Bees, Limited.

Joan.—Another variety shewn by the same firm, this time a dwarf Polyantha. The flowers are large for this section, rather floppy and apparently not too freely borne. This did not strike us as at all an attractive variety.

Lady Charmian (H.T.).—This is a very pleasing variety of medium size with reflexed pointed petals. The colour is rather difficult to describe, but cerise with a hint of vermillion cannot be far wrong. In colouring, at any rate, this variety recalls the glorious *Lady Inchiquin*. Certificate of merit to Messrs. Bees, Limited.

Mrs. Beckwith.—This would appear to be first-rate for under glass. The colouring is cream or ivory, centred bright lemon yellow. The flowers are large-petalled and of good size and, if the petals are rather spade shaped, by no means inelegant. An attractive and quite pleasingly—but not heavily-scented variety. Certificate of merit to Messrs. G. Beckwith and Son.

Mrs. Tresham Gilbey.—This is a large Rose of rather globular conical outline, and reminds one somewhat of *Dean Hole*. Thin-petalled and, as shewn, very variable in colour—some of the blooms were shell pink with a hint of salmon and others salmon buff with more than a hint of carmine—the one really good flower must have made a big impression on the judges, for they awarded the gold medal. Shewn by Mr. W. E. Chaplin.

THE MIDLAND DAFFODIL SHOW

THE Annual Show was held as usual in the Botanical Gardens at Birmingham, on Wednesday and Thursday April 18 and 19. Although the space occupied by the exhibits was not as extensive as usual, there were plenty of

Dutch-raised trumpet *Fantini Latour*—undoubtedly a very striking flower. *St. Nicholas*, a pure white-perianthed *Barrii* with an orange eye edged rich red, and *Caedmon*, with its pretty recurved-like perianth, also shewed up well. Messrs. J. R. Pearson and Sons, whose connexion with the Society is pre-natal, going back to the time when the "Midland" was without form and void—to those far-away days when the shows were held by the authorities of the Botanical Gardens themselves and when our modern varieties had not come into being—occupied, as usual, one of the frontages of the Curator's house. After their miss last year it was pleasant to see them again with a good silver-gilt medal assortment of flowers new and old. I always like the "Poet" *Acme*—I am not quite sure if it is not my favourite "Poet." There were two vases of it in excellent condition which shewed the charming soft dull red colouring of the perfectly flat eye to perfection. It is, of course, a tremendous contrast in size to the superb *Poet Grand Opera* staged in the "single bloom" competitive class by Mr. Herbert Chapman, but it is a most charming, *chic* and fairly cheap flower. In this group I also noted that very handsome *Poet*, *John Masefield*, which is distinguished by a slightly reflexing perianth and an attractive red-edged eye. There were one or two good vases of *St. Iorio*, which is a grand late-flowering *Barrii* with a white perianth and the palest yellow cup imaginable, edged pinky buff. Another silver-gilt collection was put up by Mr. Guy Wilson from Ulster. He was the only representative from the Emerald Isle to put up an exhibit, as the Donard Nursery Company had to scratch



MRS. COURTNEY PAGE'S PRIZE-WINNING TABLE DECORATION.

one would expect under the deft fingers of the ladies.

Among the "sundries" proper Mr. R. Pinches of Acme label fame brought up many good things useful to the Rose enthusiast. Here were to be seen labels suitable for all kinds and classes of

good flowers scattered among the exhibits. Messrs. Barr and Sons filled their accustomed place at the end of the annex with a highly meritorious group, which was awarded a gold medal and which included, bang in the centre, a grand bit of deep yellow colour in a few blooms of the massive

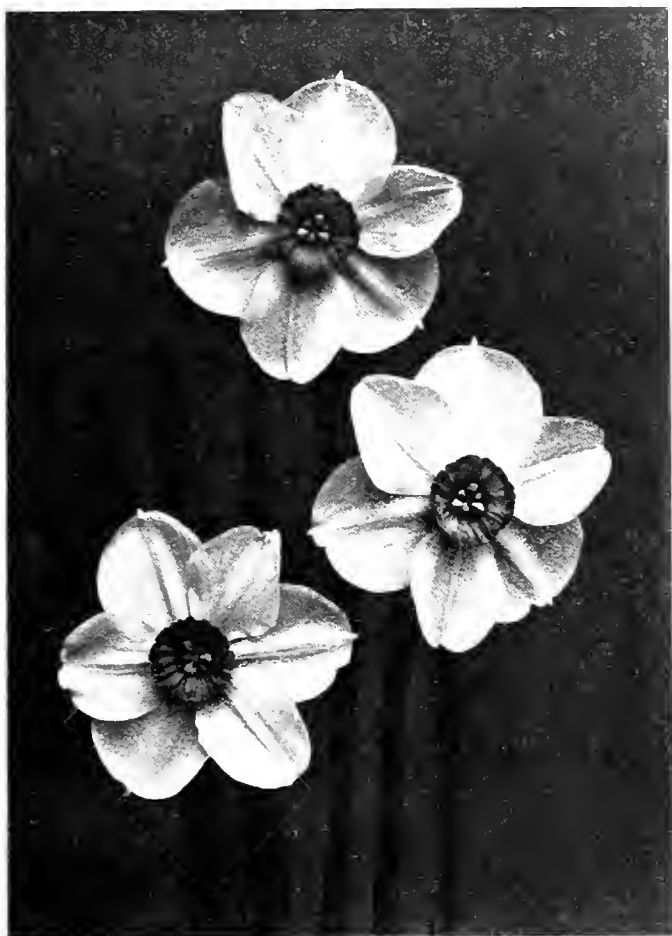
at the last moment; and although Mr. J. L. Richardson from the Southern Free State arrived about midday, I am sorry to say he had left his tail behind him. I hope he will not have to do it again. We want as many flowers as we can get from Ulster and the Irish Free State, for, however many things divide them, they have this in common—they can both grow wonderful Daffodils. Mr. Wilson's flowers amply proved this as far as Ulster is concerned. Not only did he put up a fine group, with a bold mass of the splendid Giant Leedsii Tenedos in the centre, but out of five entries in the competitive classes

likely to assist in the quest for that *doubtfully desirable* guest—the Red Daffodil! The italics are mine. It is a fact that these strange newcomers leave many of us cold. We ask ourselves the question that most likely my New Zealand friend did, "Should we really like a red perianth if we got one?" and we, as he did, answer "It is doubtfully desirable." I have very little doubt that had that patient alchemist, Mrs. R. O. Backhouse, been granted a longer life she would have given us something in perianths akin to her big red cups or bowls—I cannot call that huge bit of redness that one saw in one of the exhibits

days, taken off in, hat in its presence. You are before a real lady.

To add variety to the exhibition there were excellent exhibits of Azaleas and various other plants from Cuthbert's, Hewitt's and Bakers', and also two round baskets of the famous Spetchley Polyanthus, one of mixed colours and the other all yellows and whites. I do not think any strain in the world can beat them for size. A few "pips" with diameters from 2ins. to 2½ins. make a fine big head.

SPECIAL FLOWERS. "Which is the best flower in the Show?" was a question I was asked several



OPERA, A WHITE PERIANTHED BARRII. AT FOR THE SHOW BENCH.



JESSIE, A WHITE PERIANTHED BARRII OF IMMENSE SIZE.

The two pictures are to the same scale.

he secured four firsts and one second. I thought his six yellow "trumpets" were exceedingly good. They included Golden Flag, a flower of great refinement and with a beautifully smooth texture; and Bulwark, a golden yellow of a rather paler shade and with a perianth of 4½ins. diameter set at right angles to the big bold trumpet.

The Welsh Bulb Fields were represented by an interesting group, which, like their printed list, contained a goodly percentage of home-raised seedlings. The feature that more especially attracted my attention was the small collection of four varieties of pinky perianth blooms, which shewed that the wonder flowers, illustrated in the R.H.S. Daffodil Year Book of 1913, are becoming more numerous—Dr. Lower had a fifth in his "thirty-six" group—and more highly coloured. In a review of the above-mentioned book by Mr. A. E. Lowe of Tai Tapu, Christchurch, New Zealand, reference is made to the picture in these words: "This will no doubt point the camel's hair pencil towards pollen that will be

for the Cartwright (Dr. Lower's, I think) anything else. These cups were the distinguishing feature of both the London and Birmingham shows of 1923. A visitor to either who wanted to know who Mrs. Backhouse was and what she did might truly be answered by the well known quotation from Wren's epitaph in St. Paul's, "Si monumentum requiris circumspecte." The firm of Cartwright and Goodwin have undergone various vicissitudes of late years, but it is taking a new lease of life under the present ownership, and as a result a good and pleasing exhibit was staged. I did like the great big yellow trumpet Ben Alder. It may not have the beautiful symmetry and lovely texture of Dr. Lower's Royalist, but, like King Alfred, it is a flower that will appeal to a wide circle of admirers with the delicious twist of its inner segments and the bold recurve of its massive trumpet. As a contrast I would mention two exquisite vases of the old type Leedsii, Hypatia. It is refinement itself. I have, ever since I first saw it in my middle-age Daffodil

tunes when note-taking on the nice quiet second morning of the Show. At breakfast I had been told a tale of a Sunday School teacher who had been talking to her class about "Crowns of Glory." To see how far her lesson had been assimilated by the children she presently asked "Who do you think will have the largest Crown?" A sharp child at once answered, "Hum, with the biggest head." It is nothing like so simple to say which is the best flower. I did not give myself away, and I am not going to do so now, for I am taking refuge in numbers and describing several. Then "you pays your money and you takes your choice."

Opera is a white-perianth daffodil of almost faultless form, substance and symmetry, but it might be considered too much on the small side by those who burn incense before the great god Size, for its diameter is but 2½ins., which is a poor measurement compared to that of the massive Jessie, which is the next flower on my list. "The light of the body is the eye." The light of Opera is

its lovely eye of green and yellow margined with a sharply defined edge of Will Scarlet red.

"Have you seen old Mallender's Jessie?" was one of the first remarks addressed to me on my arrival on the evening before the Show. I accordingly expected something out of the ordinary, and I was not disappointed when I saw the flower in the flesh. It is an immense flower with a diameter of about 4½ ins. to 5 ins. and with a pure white, perfectly flat, well imbricated perianth surrounding a 1½ in. yellow cup margined by a divided and overlapping red edge. Its fault was that of Cassandra. The cup seemed hardly large enough for the size of its perianth. Otherwise it was "top hole."

Brimstone attracted many of us for the same reason that we all tumbled over each other to get hold of dear old Walter Ware's Queen of the West, viz., its colour. Not only can I remember those tantalising exhibits of this divine flower before (to use an old florist's term) it was "let out," but I can go much further back and call to mind Captain Nelson and John Nelson with their beautiful soft pale yellow colouring. The old brigade was wont to speak of a Nelson Yellow; but as this has no meaning, most likely, to our new recruits, may I explain that Brimstone is just a wee bit darker in shade than flowers of sulphur? It is a great bold bloom with a massive trumpet on the short side, and a slightly hooded perianth with pointed, overlapping segments and a diameter of well over 5 ins. If Brimstone's chief claim to distinction resides in its uncommon colouring, that of Royalist is its wonderful smoothness of texture combined with a flatness of surface that is extremely uncommon. I would have liked to have had Mr. P. D. Williams with us and to have heard what he would have said. Now my good friend Parson Bourne is no longer with us, there is no one whose opinion I value more than his. "Gladstone's up" and "P. D. has got some flowers" are parallel ejaculations. If in the one case the call was to hear, in the other it is to see. From all I heard at Birmingham and the testimony of two letters which were waiting for me on my return, I feel sure that had I been at London I would have had no more difficulty than the sharp Sunday School scholar had over the Crown of Glory in singling out the superb six blooms staged by "P. D." as the sight of the Show. Royalist is a medium yellow in colour, on the small side as modern trumpets go (e.g., Beersheba, Ben Alder and Bulwark), but of faultless form and proportion. Four varieties—Honey Boy, Tenedos, Alban and Opera—received awards of merit and one—Brimstone—since but three blooms were put before the Committee—had a preliminary award. I have already written about Brimstone and Opera. Naturally, readers will want to know something about what I think of the others. Tenedos I put first. It is a very fine Giant Leedsii of what I call the new starry type, in contradistinction to the old rounder shape of Lord Kitchener and Empire. It has a diameter of nearly 5½ ins. in well-grown specimens. Its segments have much substance and a very flat—non-fluted surface. It has a long cup which, after opening a pale primrose, becomes an ivory white. Mr. J. I. Richardson, whose first list of choice Daffodils for sale is before me as I write, has chosen it as a suitable illustration wherewith to puff his wares. Honey Boy—one of the many good things that Mr. Guy Wilson has given us—is a very gentlemanly looking flower. It is a yellow trumpet with a slightly hooded perianth and smooth, rather pointed segments which are inclined to incurve along their edges.

"He nothing common did, or mean,
Upon that memorable scene."

Alban is the last variety to be mentioned in my present pow-wow on the Midland Show, not that it exhausts either my notes or the good flowers that were there. Acting on a hint from our Editor, I have some more up my sleeve which I hope to talk about before very long. To go back, however, Alban is, like Tenedos, a Giant Leedsii, but of a

totally different aspect. The flowers droop slightly. The corona is more of a bowl shape than we usually find in this class. As exhibited the whole is very white, and the general appearance striking and massive. I know many other visitors were as much struck with it as I was myself.

JOSEPH JACOB.

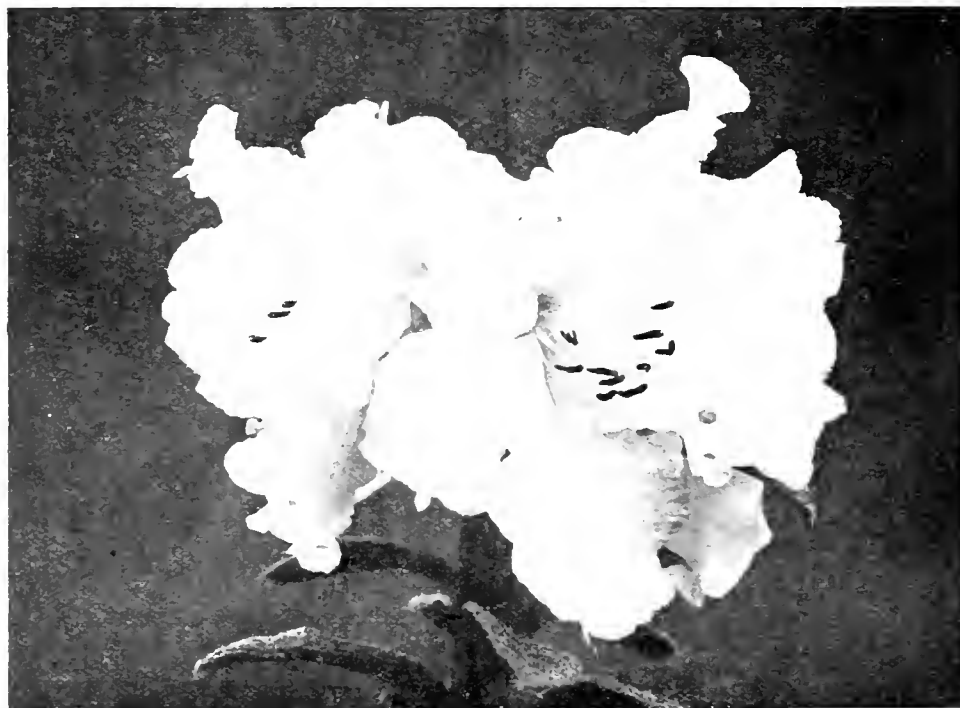
RHODODENDRONS AND AURICULAS AT VINCENT SQUARE

BESIDES the customary Show of the R.H.S. on April 24 and 25, it was the occasion of the Annual Shows of the Southern Section of the National Primula and Auricula Society and of the Rhododendron Society. Many of the Rhododendrons were exceedingly beautiful, though quite a number of the varieties were suitable only for the mildest parts of the country. Mr. T. H. Lowinsky sent some of his large pot plants in full bloom, but as they were submitted to the Floral Committee, the general visitor did not have an opportunity of admiring their grace and beauty. The principal Rhododendron exhibitors in the hall itself were Lady Aberconway, Sir John Ramsden, Colonel Stephenson Clarke, Lieutenant-Colonel Messel, Mr. L. de Rothschild, Mr. G. L. E. Loder and Mr. E. J. P. Magor. The great majority of their blooms were hybrids of Aucklandii, Thomsoni, arboreum and campanulatum, and they were of singular charm and beauty in the size of the individual flowers and their rich or delicate colouring. Quite a number of the rare little species were included in the collections, and of these it was the blue-flowered varieties that seemed to attract most attention. These varied in size from the tiny dark blue *R. rupicolum*, the slightly larger and paler *R. intricatum*, *R. hippophaioides* and *R. fastigiatum*, to the larger (but still small for the genus *R.* *Benthamianum* and *R. Augustinii*. But showiest among all the blue Rhododendrons was the branch of

R. campanulatum hybrid in the group by Messrs. R. Gill and Sons. This was a delightful spray, and in Mr. L. de Rothschild's collection there was a nearly similar hybrid, though a trifle paler in colour.

The Auricula Show was quite a small affair, and this section of the Auricula Society seems to be dwindling away. In the open classes Mr. James Douglas was almost the only exhibitor, and was awarded all the available first prizes. In the few amateurs' classes Mrs. Groves won a couple of first prizes, and there was an occasional second and third prize. The object of the classes was left to the imagination of the visitor, as the information vouchsafed on the entry cards was of a meagre description. Mr. Douglas' Show Auriculas included excellent plants of Petite, Curious, Pink Ground and Mrs. Groves, an uncommon buff-yellow with a well defined white eye, which was the premier Fancy in the Show. His Alpine premier was Annie Roxburgh, and other noteworthy plants of this type were Rosy Morn, Prince of Tyre, Admiration, Black Self and Argus. It was fully evident from the greater proportion of this type which Mr. Douglas so well arranged in his non-competitive collection and from the remarks of the visitors, that the more easily-grown Alpines are much more popular than the Show varieties.

In the classes for Primroses and Polyanthus Mr. G. W. Miller was practically the only exhibitor, and was awarded all the first prizes. His single



GLISTENING BLOSSOMS AND DISTINCTIVE FOLIAGE OF RHODODENDRON BULLATUM, FARRER'S VARIETY.

Primroses included splendid plants of Jack (a large white), Blue Bird and The Bruce (a deep crimson bloom). Among the magnificent Polyanthus the orange-coloured Wallace was pre-eminent.

Daffodils were still in great beauty, though not in such variety as at previous shows. The falling off was chiefly in the brilliant Barri and the large Trumpets. Poeticus varieties were, naturally at this season, shewn in great numbers and of considerable excellence. Messrs. Barr and Sons had lovely blooms of Comus, Caesar, Socrates, Glory of Lisse and Epic. Messrs. Sutton and Sons had many in their decorative group, where also the chaste, pale-eyed St. Olaf, Hera and Queen of the North were conspicuously beautiful. Messrs. Barr also had in a goodly collection some Darwin Tulips of uncommon lavender shades of colour which fascinated many visitors. The large collection of Tulips so well arranged by Messrs. R. H. Bath, Limited, provided glowing masses of colour. Of the pink sorts Sarah Bernhardt, Ibis and Fabiola, with Artus, Couleur Cardinal and Le Grandeur, of the deeper shades of colour, were delightful.

Although the Spring Show of Roses was held so recently, Messrs. B. R. Cant and Sons, Mr. Elisha J. Hicks, Messrs. Paul, Limited, and Messrs. William Cutbush and Sons were able to make very attractive displays, and the chief Carnation people also set up their customary collections of fresh and fragrant blooms. The most noteworthy of the indoor exhibits was probably the collection of winter-flowering Sweet Peas shewn by Mr. J. D. Botterill of Colne Park. He sent excellent vases of Sunrise (pink), Winter Blush, Christmas King (white), Cantab (blue-lavender) and Yuletide (deep pink).

Among the collections of general shrubs were flowering sprays of Cornus Nuttallii, Drimys Winteri, and Ceanothus thyrsiflorus in Messrs. Cheal's group; hardy Rhododendrons and Daphne Cneorum in splendid quantities by Messrs. Wallace and Co.; excellent standard Brooms, Cherries and Lilacs shewn by Mr. R. C. Notcutt; and Magnolias, Berberis in variety and Ceanothus rigidus shewn by Messrs. Waterer, Sons and Crisp. The handsome, purplish young leaves of Photinia serrulata were very showy in the stand of Messrs. Hillier and Sons, who also had a plant of the rare Cotoneaster horizontalis variegata.

Messrs. G. Bunyard and Co. had several small plants of the beautiful double pink flowers of Pæonia Moutan Elizabeth, and displayed early fibrous rooted Irises, particularly Peter the Great, Snowcup and Zwanzburg. Gentiana acaulis in generous quantities and of glorious colour was shewn by Mr. Clarence Elliott and Mr. W. Wells, jun. The latter also had the yellow Gem montanum. Androsace sarmentosa primuloides in the stand of Messrs. Carter Page and Co., and Cardamine lilacina plena in the collection of Messrs. B. Ladhams, Limited, were very pretty.

NEW AND RARE PLANTS.

Anemone St. Brigid Crowley's White.—One is so accustomed to the bright and varied colours of the St. Brigid Anemones that at first sight this variety appears cold. But it is a good variety, fully equal in shape and substance to the others and, no doubt, will be useful for many purposes. Award of merit to Mr. S. Crowley.

Cerasus Hukon.—Although this is a very free-flowering species, it seems to be inferior, for garden purposes, to Cerasus serrulata luteo pleno. The fairly large abundant "semi-single" flowers are slightly pendulous and have a buff flush which gives a dirty white appearance. The

young foliage is purplish, but not so much so as in some other varieties. Award of merit to Mr. R. C. Notcutt.

Clematis macropetala.—A neat-habited climbing species belonging to Atragene section which seems to flower freely at an early stage of growth. The stems and flower-stalks are very wiry, and the foliage is small. The pale blue, double flowers are made up of pointed petals and, although not more than about 2 ins. long, are large in proportion to the growths and foliage. Award of merit to Messrs. Ingwersen and Jones.

Narcissus Intensity.—A shapely Poeticus Narcissus with a very white perianth and a small deep orange corona which is slightly darker at the margin. Award of merit to the Rev. G. H. Engleheart.

N. Mainsail.—A Poeticus Narcissus with very white perianth and a yellow corona which has a narrow, serrated rim of scarlet. Award of merit to the Rev. G. H. Engleheart.

N. Opera.—This fine Poeticus variety has a distinct eye of greenish yellow which merges to scarlet at the margin. Award of merit to Mr. W. B. Cranfield.

N. Roland.—A large Poeticus variety with pure white perianth and a broad green corona which merges to fiery orange at the serrated margin. Award of merit to the Rev. G. H. Engleheart.

Rhododendron bullatum Farrer's variety.—Quite a wonderful little plant was shewn. It was hardly more than 9 ins. high, and yet was crowned by a truss of large, substantial, widely expanded, short-stemmed, white flowers with light yellow flushed centres. The short, stout stalks are somewhat woolly, and are flushed with pink. The small, leathery leaves and the stem have a brown tomentum. The flowers are delicately fragrant. We question its hardiness, but it would be a delightful plant for the cool greenhouse. Award of merit to Mr. T. H. Lowinsky.

R. Euphrosyne.—A "hybrid seedling" which produces a good truss of large, widely expanded flowers of rich pink colour, that are lightly spotted with dull crimson towards the base. The handsome flowers quite hide the leaves. Award of merit to Mr. Lionel de Rothschild.

R. ficto-lacteam.—This Chinese species is one of the large-leaved Rhododendrons, and in many ways is suggestive of R. argenteum. The very large, deep green leaves have a brownish tomentum and are surmounted by a good compact truss of white flowers. Award of merit to Mr. G. Reuthe.

R. Gilian.—This is a very richly coloured hybrid, probably between campylocarpum and Aucklandii, which bears quite a good truss of drooping, trumpet-shaped flowers of dusky cardinal

colour. The uncommon roundish calyx and the stalks have the same colour as the outsides of the flowers. The interiors are very bright. Award of merit to Mr. E. J. P. Magor.

Rhododendron Penjerick.—The pink campanulate flowers of this variety are delicately



THE NEW SOFT BLUE ATRAGENE CLEMATIS MACROPETALA.

veined with deeper pink and have a recurving rim. The truss is loosely formed and the leaves are deep green above and pale green beneath. Award of merit to Lady Aberconway.

Trillium undulatum.—A very pretty and uncommon American Wood Lily. The flowers have a crimson lake base and the trifoliate leaves are flushed with purple. Award of merit to Messrs. Waterer, Sons and Crisp.

Tulipa Tubergeniana.—There was a good vase of this exceedingly showy dwarf Tulip. During the morning the large flowers opened widely disclosing to the full their gorgeous scarlet colouring. Shewn by Mr. W. R. Dykes.

Brasso-Cattleya Apollo var. majestica.—A splendid flower. The sepals and petals are a sparkling mauve bluish, and the large, widely expanded lip is prettily fringed, lined with rosy mauve and has a golden yellow centre. Award of merit to Messrs. Cowan, Limited.

Odontoglossum Fabia var. Biddy.—A stout, erect spike well furnished with large, shapely flowers which are regularly spotted with chocolate. About rim of the lip is tipped with white. Award of merit to Mr. C. J. Lucas.

In our report of New Plants at the London Daffodil Show we, by inadvertence, attributed Narcissus Dainty Maid to Mr. W. A. Watts. This was raised and exhibited by Messrs. R. H. Bath, Ltd., of Wisbech, and to them the A.M. was given.

CORRESPONDENCE

DIANTHUS NAPOLEON III.

HOW scarce this fine old hybrid Pink has become! I am without it myself just now, and it figures in but few catalogues of the present day. It is an old favourite which was even more appreciated in bygone years, largely, perhaps, for the reason that, although there were many lovely Pinks of other classes in those days, there was really less variety in the race than we have now. There were a fair number of hybrids, or "Mule Pinks" as they are still called, but Napoleon III seemed to be the most select of its kind. Only about 6 ins. high, with stems bearing numerous double deep crimson flowers, and of superb habit and appearance, it came first in the estimation of many of the old florists. It is not difficult, however, to diagnose the cause of its scarcity nowadays. It makes but little grass and exhausts itself by tree flowering, and this means regular propagation by cuttings of the side shoots, which are not freely produced except in plants prepared for the purpose. This means a little self-sacrifice, as it is desirable to cut down a plant to near the base before the flower-stem has grown much, so as to induce it to throw out side growths, which may be struck under a bell-glass, hand-light or frame in very sandy soil. It will be a pity if such a good plant should ever be lost to cultivation, but I fear this is not improbable, unless a few more are induced to add it to their gardens and so to encourage the trade growers, who cannot afford to propagate and stock plants for which there is little or no demand. —S. ARNOTT.

ABOUT FREESIAS AND NORTH BORDERS.

MR. JACOB'S Freesia notes on page 169 open with the question of "duds." I wrote to him and also mentioned in THE GARDEN, March 17, page 137, that I had got the better of the trouble and without having to resort to the hot water cupboard. No; he did *not* get any duds from me. As to his remarks on the yellow varieties, Golden King and Goldfinch I know have small tubular flowers, but for colour they are the best in commerce, and for cut flowers they have been given a very high character by one of the biggest florists in London. Daffodil, with me, is certainly bright yellow with an orange lip. But Apogee, Buttercup, Daffodil and Treasure, though not very distinct in colour are very distinct in size, shape, habit and season, and if room permits I would grow all four varieties. I gather that Mr. Jacob's idea of yellow is what I, and I think most people, call orange, for I have a few blooms sent to me by him to shew the colour, and they are, to my mind, rich orange. They are of very good size and shape, very rich colour, and a wonderfully strong scent, but not *yellow*, Mr. Jacob, surely! If I had the same quantity of any of those he sent as I have of Golden King or Goldfinch, I should certainly discard them both, but I imagine Mr. Jacob has not many as yet.

"Breaking."—Conquest, which is mentioned, has so far kept its colour. Rosa Bonheur I find too weak in the stem. Bartley Rose I am discarding. I have better varieties than this now. I find in pinks and similar colours that all the richest colours appear on the smallest flowers. Large flowers do not seem to carry nearly so much colour. All manvies, lavenders, blues, pinks and roses seem to be much more liable to break than the yellows; in fact, I do not think I have seen a broken yellow, and in my opinion "breaking" spoils 99 per cent. of the varieties.

I read with pleasure Mr. Jacob's notes on bulbs, page 187, and heartily agree with him on his opinion of Crocus Maximilian. I think it is the best of all. And on page 186, "A Successful North Border." I have tried the planting in a cool, shady position of hardy Cyclamens, spring and autumn varieties, with Anemone nemorosa blue varieties, as Mr. Hadden has done. Anemone Alleni is, I think, the finest. A. blue Bonnet is quite the latest. A. cornubiensis is good and the first to open. AA. Celestial and Royal Blue are very bright, but not so large as the others. Mr. Hadden has not tried these last, I presume, nor A. Robinsoniana, which is paler, but a very good doer and increases quickly. As the lawyers advertise, if Mr. Hadden will communicate with me, he may hear of something to his advantage.—G. H. DALRYMPLE, Botley, near Southampton.

THE MEDITERRANEAN CRESS.

WHEREVER anything like a collection of alpinists are grown there is always something in flower to attract the eye, and during April and often in May the very charming Morisia hypogæa



THE MEDITERRANEAN CRESS, MORISIA HYPOGÆA.

is in full bloom. It is said to have first flowered in Britain in 1834, but it is still not too common in gardens. It hails from the mountains of Sardinia. A cruciferous plant, it is sometimes called Mediterranean Cress, and the foliage certainly somewhat resembles the Cress known in gardens. The whole plant does not exceed 3 ins. in height, and it forms small, flat tufts of glossy leaves 2½ ins. in length, and the bright clear yellow flowers, borne singly on short stems, are about 1 in. across. The blooms rise just above the foliage, and a healthy plant with upwards of sixty flowers open at one time is most attractive. This choice little alpine is quite hardy, and it will succeed if planted in well drained, deep sandy loam with a liberal sprinkling of grit. A south aspect on the rock garden is preferred, and although it enjoys plenty of sunshine, it will not thrive if given a

dry, hot position where it is roasted with the sun. M. hypogæa can be increased by careful division and from seeds. It is said to bury its seed-pods in the soil, and, in my case, a number of seedlings have appeared near the old plants. The seedlings are approaching flowering size, and will be very welcome. This year I shall watch for the seed-pods and try to raise this choice alpine in quantity. —T. W. B.

EARLY-FLOWERING SAXIFRAGES IN THE ALPINE HOUSE.

ALTHOUGH most alpinists thrive well if treated according to their special requirements in the alpine or cool greenhouse, not all of them flower so freely as they would in their more natural homes on the rockery, and this is true in many cases as regards the early-flowering Saxifrages, most of which are of Burseriana type. Saxifraga Burseriana and S. B. crenata are both well worth growing, especially crenata, as it is one of the first to open its blossoms. The white flowers are displayed just above the greyish green rosettes of leaves, which by the time the plant is in full blossom are practically hidden. S. Burseriana Gloria in my experience does better on the rockery, although in some districts it might delight its owner with a wealth of glorious flowers inside.

In any case, it is well worth trying for a season. S. apiculata and S. a. alba are both good flowers, but preference should be given to the type, because there are really sufficient white species and varieties of much better quality for inside work. S. Elizabethæ is another good yellow, but S. Haagei is, in my opinion, the best of the yellows; it is such a good deep colour and the shape of the flowers is so distinct. A real gem among early-flowering Saxifrages is S. Irvingii, which should be in every alpine house. The pink colouring makes a vast difference to the appearance of the flowers, which are produced quite profusely and last for a considerable period, especially if care is taken when using the watering-can. Of the oppositifolia section, oppositifolia alba and o. major are my favourites, especially major because of the colour. Red flowers are

very rare in late winter or early spring, and this variety produces them quite freely on good-sized plants. SS. Paulina, Petraschii and Salomonii are, I think, best outside, especially the last named, which only produces a flower or two inside and those very small compared with some on a plant which flowered on the rockery. Another plant well worth mentioning and certainly well worth growing is *Morisia hypogæa*. At the time of writing it is flowering profusely for the third time, and there is yet another succession of buds appearing to prolong the glorious display which has lasted for quite three weeks. — R. C. JOLLIFFE, *Oxford*.

GLADIOLI: NOTES AND NOTIONS.

IS it not a fact that most folk who grow Gladioli lift the corms in late autumn to plant them again in spring? Do not most of us look upon them as too tender—and in the case of some, at least—too expensive to leave in the ground all winter? I ask these questions because in April I saw several groups of the old scarlet *breuchleyensis*, well above ground, that had been left, inadvertently, last October, and seemed none the worse for having remained in the soil. Mentioning the matter to a friend who is interested in Gladioli, he told me that he does not lift his corms every year as, owing to his light, well drained soil, there is no necessity so to do. Personally, I should not care to run such a risk, especially with some of my varieties, which include White Giant, Maréchal Foch, L'Immaculé, Pink Beauty, Mrs. Francis King and Corri; moreover, by lifting corms, one is able to plant in spring in succession and so have flowers over a much longer period. Has any reader ventured to leave corms in the ground throughout the winter, and if so, would he report his experience? Is *breuchleyensis*, probably the oldest known variety of *Gladiolus*, hardier than others? It would almost appear so, yet I have been brought up with the idea that it is unwise to take risks with any varieties, just in the same way that it is safest to lift for the winter and store bulbs of the Cape Hyacinth, *Galtonia candicans*. — W. LINDERS LEA.

[We have had no really testing winters for a long period, but there is little doubt but that the *primulinus* hybrids are the hardiest of all the sorts in commerce, hardier even than the *Colvillei* section, which must be planted in autumn. — ED.]

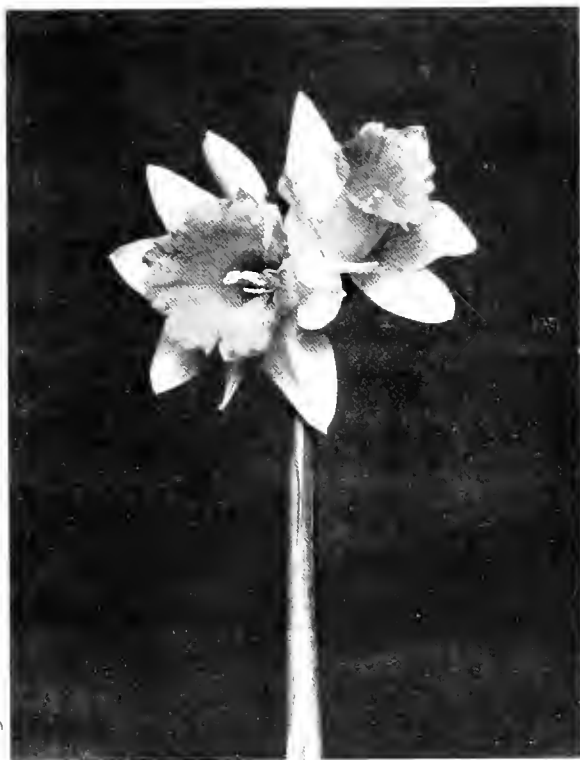
DIANTHUS CÆSIUS AND MICE.

AS you state in your issue for April 21 that the views of readers on the above point would be of interest, I venture to send you my experience in two different localities. On more than one occasion my rock garden has suffered severely from the raids of field mice during the late autumn and winter. Indeed, on one occasion when I had just completed the planting of a new rock garden, covering an area of about 50 sq. ft., not only was there hardly a plant out of a large collection that the mice did not eat down to the ground (mercifully they went no lower!). They made the rock garden their headquarters for several months; but on no occasion have I found either *Dianthus cæsius* or any of my other small Pinks touched. The plant especially enjoyed was *Gypsophila repens*, and in this case

the mice went well into the roots of every one that they could find. — F. W. LACE, *Hever, Kent*.

FASCIATION.

I ENCLOSE a rather curious fasciated inflorescence of an Empress Daffodil. You will notice that there is a curiously formed "leaf" running



THE FASCIATED DAFFODIL.

down the stem, as well as the double flower, or really more than double, as one flower has eight petals. I know you occasionally have drawings of these flowers and hope this may be worthy of such fame. — (Mrs.) A. C. CHARRINGTON.

[The large flower, which had a fasciated pistil, had ten complete perianth segments and another partially formed adherent to the trumpet, which was split from top to bottom and partially overlapped itself. — ED.]

KALE AND "CLUB."

IS Kale immune from the disease of club root, or is it less susceptible to it than other Winter Greens? My own experience prompts me to say that it is practically exempt from the scourge. A few weeks ago my attention was drawn to a quarter of Brussels Sprouts which had failed because of their having been attacked, yet only a few yards away was a flat of A 1 and Asparagus Kale in the best of condition, which were not affected in the least. Most of the Asparagus Kale had been raised—not from seed as is the general practice—but from cuttings and the theory advanced as to their immunity from club root was that the cuttings were too tough for the disease to become established. I have certainly seen Kale growing on land which had previously been occupied with an "affected" crop, and shewing no signs of disease, but I question the wisdom of ground devoted to any of the Brassicæ one year being occupied by Kale the year following. — CLAREMONT.

[If Kale is immune to attack by club root, a proposition which needs clearing up! it is certainly anything but immune to the cabbage gall weevil, which is often mistaken for "club." — ED.]

SPRAY YOUR ROSES

THE pruning knife and the secateurs have been busy among the Roses, and many an ardent young rosarian is patting himself on the back for having been courageous enough to cut away strong, vigorous-looking branches to the third prominent and outward pointing bud a few inches from the base. So far, so good; "prune hard for quality" is sound doctrine. There is, however, another matter that should demand attention, but which, alas! is all too often postponed until visible signs impress upon the grower that something is wrong, and then what might have been a simple task proves to be laborious and only moderately successful. The matter referred to is that of taking preventive measures against diseases and insect pests.

It is somewhat strange that, with all our knowledge of the life-history of the fungoid diseases and insect pests that ravage our Roses, the error is still common of waiting until damage is visible before an onslaught is made upon the enemy. In this respect fruit growers, except for a small proportion of obstinate sceptics who refuse to believe in spraying, have seemingly advanced at a more rapid pace than the rosarians, and we have become familiar with the use of caustic winter washes for fruit trees as well as the lime-sulphur, arsenate of lead and various other fruit sprays of early spring and summer.

My contention is that the rosarian has equal need of winter and early spring sprays, and that reliance upon the soft soap and quassia, petroleum emulsion and summer washes in general is almost equivalent to leaning upon a bruised reed, because by the time these remedies are applied many of the foes we would fight are securely entrenched beyond the reach of our weapons and ammunition.

The present is the period of reawakening of our enemies. Let us consider for a moment what this means. A fungoid disease, whether it be common mildew, downy mildew, black spot or the fungus known as rose leaf scorch, goes through a three-stage metamorphosis, the spore or unit of growth, the developed parasitical growth, and the pustule or fruit which is a bag or bladder filled with spores which under favourable conditions will burst, liberating the spores to fulfil their purpose of reproduction. The pustules and spores are produced outside the plant, but the spore, immediately it breaks into activity, sends out a minute thread that finds its way through the pores of the foliage into the inner tissues of the leaf or young bark, and there the parasite spreads in a position that cannot be assailed by chemicals without damage to the plant. Obviously the opportunity to gain mastery over a fungoid disease is while the spores are still outside the plant. A fungus fruits at intervals during the summer, consequently by spraying with suitable washes at frequent intervals during summer we may check the progress of disease by destroying the newly ripened spores before they have opportunity to develop. There are, however, also winter forms of pustules or fruit bags which remain dormant during winter and release their spores when conditions are favourable in spring. Thus it happens that young, healthy shoot may become covered with spores so minute as to be invisible, which will remain dormant until the correct balance of temperature and moisture enables them to burst into activity. Fortunately, there are chemicals which, if properly applied so as to form a thin film over every part of a plant, will prevent the spores from gaining access to the tissues of the young growths.

Sulphide of potassium is an excellent and safe fungicide, the only disadvantages being an evil

smell, rendering the spray obnoxious for use near a dwelling-house, and the fact that it discolours white paint, and must therefore be used with caution in or near glasshouses or other painted woodwork.

To prepare a suitable potassium sulphide spray for Roses rib, of the chemical will make 30 gallons of wash. First boil the sulphide in half a gallon of water, using an enamelled pan for the purpose. When the chemical is completely dissolved stir into a tub containing 30 gallons of wash. It will be wise to boil the sulphide in an outhouse or somewhere removed from the dwelling-house because of the vile smell.

A copper or tinned spraying machine should be used, and a fine spray nozzle is necessary in order that the fluid may be distributed in a fine vapour like spray to cover completely every particle of the plant. Much may also be written to shew the wisdom of early spraying as a deterrent to insect pests.

The first batches of rose aphid or green fly hatch out very early if we get a day or two of warm spring sunshine from eggs laid by the oviparous females of last autumn. These eggs

are laid on the undersides of the stems, in the cracks of the old bark, among the lichen or mossy growth on the trunks of old standard Roses, or in any harbour conveniently situated for the young brood to gain access to the tender, succulent shoots of the Roses.

Many excellent proprietary insecticides are available which require no more preparation than dilution according to the directions supplied with the goods, but the great power of nicotine prompts me to recommend that either a nicotine spray should be used or that a few drops of pure nicotine should be added to each gallon of other spray fluids. With nicotine we may combat caterpillars, the frog hopper and rose leaf hopper, the stem maggot and other gnawing insects, but the great thing is to spray early rather than wait until the pests are numerous and have already done much damage. One other point is that it is infinitely better to spray twice within a short period with a wash of moderate strength than to endeavour to make a drastic onslaught by using greater strength of chemicals. The latter may prove to be harmful to the tender young growth.

A. J. MACSELF.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Fruit Under Glass.

Vines.—In some gardens, especially where a lot of fire-heat is not used, the Vines will be in bloom, and if Muscat Grapes are grown, it should be borne in mind that they do not set their fruit freely if left to themselves. In addition to tapping the rods with the hand about midday, the bunches may be gone over lightly with a rabbit's tail. A circulation of air is necessary, and during the time the Vines are in bloom the atmosphere should be kept on the dry side. A night temperature of 65° should be maintained, and by midday it can rise to 85° or 90° with sun-heat, and no harm will accrue. When the berries have set, the house should be closed early in the afternoon, and the floors and walls sprinkled with water to create a moist atmosphere. Ventilation will need attention, and a little top air must be admitted sufficiently early to prevent the foliage from scorching. The front or bottom ventilators need not be used at this stage. The thinning of the berries ought not to be proceeded with until it can be ascertained which berries have been properly pollinated, i.e., contain stones.

The Hardy Fruit Garden.

Vines in the Open.—Occasionally these are found growing in the open on a south wall, but it is only at rare intervals that the fruit develops sufficiently to be of any use. Now is the time to disbud. First remove the weakest shoots and finally reduce the number to one on each spur. The growths should be pinched two or three leaves beyond the bunch and the laterals at the first leaf. Red spider is sometimes troublesome, but if the roots are kept moist it is less likely to appear. Mildew is often present, but Bordeaux mixture or flowers of sulphur sprinkled over the foliage will keep it in check.

Newly-Planted Trees. Apples, Pears, Plums, etc., that have been planted rather late in the season must be watched carefully if the weather proves dry, and particularly if we experience anything like a drought. The surface soil should be lightly pricked over and a good soaking of water afforded, afterwards giving a liberal mulch of partly decayed manure. The stakes and ties must also be made secure. A heavy syringing with clear water late in the afternoon will benefit transplanted trees considerably.

Grafted Trees.—If any grafting has been done this season, it will be necessary to examine the grafts at intervals to ascertain if the surrounding clay is still in good condition. Dry winds will cause it to crack, when it should be made moist and the cracks filled by rubbing the hand several times around the clay.

The Flower Garden.

Roses.—The rose garden and borders should be hoed occasionally to keep down weeds and to aerate the soil. Briar suckers will also appear

Instead of cutting these off with the hoe, they should be traced to their base and removed quite close to the main root.

Propagation.—May is a busy month in the flower garden, and preparations must be made for filling the beds next autumn. Many plants are increased by division, such as Arabis, Polyanthus and Violas, and they should be planted in lines 1 ft. apart in the reserve garden.

Wallflowers.—Although it is often recommended to sow seed of these as late as July, I always prefer to sow during the present month. The seed should be sown in lines 6 ins. apart, and if the soil is dry the drills may be well watered a few hours previous to sowing. When the seedlings are large enough to handle, they should be transplanted 1 ft. apart and the centre of the plant pinched out; no further stopping is required. We generally give these plants a good position for the summer, usually where the early crop of Potatoes has been removed. Keep them free of weeds and by frequently using the hoe fine sturdy specimens will be available for the beds and borders next autumn. For early flowering Yellow Phoenix should be chosen; this has been more or less in flower throughout the winter and spring; while for a general display Fire King, Blood Red, Cloth of Gold and Orange Bedder are to be recommended.

The Kitchen Garden.

Potatoes.—Complete the planting of the main crop varieties, and where the earlies are pushing through the soil a little earth should be drawn around the shoots to protect them from frosts. A few evergreen branches will suffice for those further advanced in growth.

Marrows. Make another sowing of Vegetable Marrows and place the pots in a cool greenhouse, gradually hardening them off when germination is effected. Seeds may also be sown in the open ground where the plants are intended to fruit, but it sown now a hand-light ought to be put over the spot where the seed is sown.

Broad Beans.—A small sowing may be made for a late crop, but on hot, sandy soils it should not be attempted. Where the soil is heavy and of a retentive nature and the season proves cool and moist they will succeed.

Parsley.—The bed that has passed through the winter will need the old decayed leaves and flowering-stems removed, and plants from an early sowing should be thinned to 6 ins. Another sowing may now be made.

Sage.—Where the plants are getting old, cuttings should be inserted eventually to take their place. A partially shaded position should be chosen, and the cuttings set out in lines 18 ins. apart.

Brussels Sprouts. If plants were raised early, they will now be ready to transfer to their final quarters. Plant them in rows 30 ins. apart and

about 2 ft. between the plants. They enjoy a rich soil, and must be kept moist at the base until the roots are established.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Turnips.—The main crop of Swedes should now be sown, also a fair breadth of Golden Ball, with another small sowing of Extra Early Milan to succeed the April-sown batch. The distances between these kinds, respectively, should be 21 ins., 18 ins. and 15 ins.

Kidney Beans.—A sowing of a quick-maturing variety, such as Ne Plus Ultra, may now safely be made on a south border. A compact variety like the above mentioned will have sufficient space if sown in lines 15 ins. apart with 6 ins. between the seeds.

Runner Beans.—The full crop of these should be sown within the next ten days. Germination is made more sure if the seeds of both Dwarf and Runner Beans are soaked in water six or eight hours immediately prior to being sown.

Early Potatoes.—Slacken the soil between the drills with the aid of a fork preparatory to earthing up the crop.

Brussels Sprouts that were raised under glass in early spring and have been pricked out in a frame should now be planted in rather firm soil in lines 2 ft. apart, allowing 1½ ft. between the plants in the line.

The Flower Garden.

Chrysanthemums.—These popular autumn flowers should be planted out with as little delay as possible, it being understood that the ground has been duly prepared for their reception. If they are to be fitted into a scheme, it will be advisable to reserve a proportion of the stock for furnishing cut flowers, planting them in a less prominent position, even in the kitchen garden if need be. If they are to be planted from boxes, an effort should be made to lift each plant with as much soil adhering to the roots as possible.

Half-Hardy Annuals.—The hardier members of this class may now be planted out. These will include Stocks, Asters, Marigolds, Sunflowers and Lavateras, and the tall Larkspurs if they have been raised under glass.

Herbaceous Plants.—The more precocious of these will now demand staking and tying. The character of the stakes must vary with the character of the plants, from the stoutness of a dahlia stake down to a slender cane or twiggy branchlet. For the more vigorous plants nothing equals binder twine, being soft and of sufficient strength; for the lighter plants raffia is unexcelled. Beware of tying too tightly.

Fruits Under Glass.

Late Vines that were started early in February will be shewing flower within the next week or so, when a rather dry and buoyant atmosphere should be maintained to facilitate the proper dispersion of the pollen, and in order further to ensure the process of impollination, each rod should be sharply tapped daily about midday until the fruit is set. Under these conditions it is all the more necessary to see that the Vines do not suffer from lack of moisture at the root.

Figs.—Trees that were started early will now be making wood quickly, and any surplus shoots should be cut away, and those retained should be tied into position as growth advances. The first crop of fruits will be swelling towards full size, so that close attention should be given to the state of the roots, for if the plants are allowed to suffer from lack of water it will mean badly finished fruit with every likelihood of a portion of the crop dropping off. Trees in pots demand still closer attention as to watering, and they should receive assistance by occasional applications of weak liquid manure until the fruits commence to ripen, when drier conditions should prevail.

Melons.—The fruits of the early batch will now be swelling quickly, therefore the plants will require abundant moisture at the roots with bi-weekly applications of weak liquid manure. Keep a watch for red spider, and if it appears, syringe the plants twice daily; but if the pathways and walls are damped twice daily there is little danger of this pest appearing, and syringing of the plants should then be unnecessary.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Main, Midlothian).

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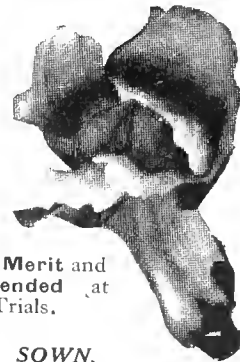
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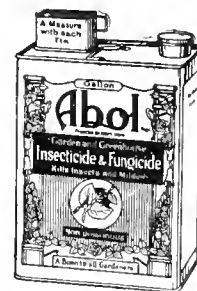
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GREENHOUSE AND CONSERVATORY.

Fuchsias raised from cuttings inserted last September should now be well grown plants some 2ft. or more in height and ready for their flowering pots, which may be 7ins. or 8ins. in size, according to the strength of the plants. These plants enjoy a rich compost, which should consist of three parts good turfy loam, with the addition of some leaf-soil, or old Mushroom bed manure and sand, adding a bin. potful of bone meal to every bushel of soil. They enjoy liberal feeding, with guano, soot and liquid manure, when the pots are well filled with roots. To get well furnished plants the side shoots should be stopped, up to about a month before they are required for flowering. Such plants, if kept well fed, will last in flower for a long time and are very useful for furnishing the conservatory during the summer months. Younger plants, rooted early in the current year and grown on in the same way, will make a useful succession for late summer and autumn flowering. Where it is desired to grow them as standards, all side shoots should be rubbed out until the desired length of stem is reached, when the tip of the leading shoot should be pinched, afterwards stopping the laterals frequently to form a good foundation for the future head of the plants. Fuchsias grown in this way last year and started into growth early this year, with frequent stopping have now made good heads and may be allowed to flower in about a month's time.

Primulas.—Where successional batches of the *suensis* type are required, seed may now be sown, followed later on by other sowings, according to requirements. For decorative purposes the stellata varieties are most suitable, not only for their light elegant effect, but also for their length and freedom of flowering. The variety Coral Pink and the "blue" varieties make a very effective colour combination, as also do the red and white varieties. The seed should be sown in a light, rich compost, and may be germinated in slight warmth. Germination is generally very irregular, thus the seed pots should not be discarded too soon. During the summer months the young plants should be grown in low pits or cold frames. The plants should be watered carefully at all times and kept shaded during the hottest part of the day. They enjoy a light, rich compost to which some old mortar rubble should be added. By growing them on a second year very fine specimens can be obtained, and for this purpose plants should be selected from a sowing made rather late last year. A bunch of stellata varieties grown in this way has been in flower for close on six months in the conservatory at Kew, and at the time of writing are still a mass of flower.

Cinerarias.—Where it is desired to have these plants in flower towards the end of the year, a pinch of seed should now be sown. For decorative work, preference should be given to the intermediate types, of which many good selections can now be obtained. Some of the blue strains are very fine and worthy of more general cultivation. The seed should be sown in a light, rich compost and germinated in a cool house, as cool conditions at all times are essential for the successful cultivation of Cinerarias. During the summer they are best grown in cold frames or in low unheated pits. They are very subject to attacks by green fly, which should be prevented by frequent light fumigations.

Aster fruticosus.—This shrubby species is a native of South Africa, and is worthy of more general cultivation for the cool greenhouse. It makes a neat, bushy specimen some 2ft. in height and produces its starry blue flowers in great profusion during April and May. Good examples can be grown in 6in. or 7in. pots. This plant is easily propagated at this time by means of young shoots, inserted in pots of sandy soil and stood under a bell glass in a cool greenhouse.

Auriculas.—Cold frames or a small unheated house are necessary for the successful cultivation of Auriculas. Good named varieties are rather expensive, but good results can be obtained by raising them from seed, which may be sown any time during spring or early summer. From seed it takes about eighteen months to grow them on to flowering size. Old plants should be repotted every year, the best time being when they have finished flowering. They should be shaken out and a portion of the old root stock cut away to allow them to be potted down to the bottom leaves. This is important, as they throw out fresh roots from the upper part of the stem. Before repotting, the roots should be cleansed of woolly aphids. After repotting, stand in cold frames and water carefully until the roots get a hold of the fresh compost.

Royal Botanic Gardens, Kew. J. COULTS.

Awards of the Dutch Bulb-growers' Society

THE Dutch Bulb-growers' Society of Haarlem has made the following awards:

FIRST-CLASS CERTIFICATES.

Franshis Tubergenii, soft yellow, very large flowers, a cross between *E. cilicica* and *E. hyemalis*.

Narcissi:

Ducon City (Ajax), uniform dark yellow with a long, somewhat notched trumpet and wide, well shaped petals.

Golden Harvest (Ajax), self-coloured dark yellow.

Red Cross (Incomparabilis), soft yellow perianth of good shape, with large dark yellow cup, bordered orange, very strong grower.

Eten (Poeticus), pure white well shaped perianth with orange red cup.

AWARDS OF MERIT.

Narcissi:

Gertruida Carlsen (Ajax), uniform golden yellow with widely opened, very much notched, shapely trumpet.

Golden Giant (Ajax), self-coloured clear golden yellow perianth, regularly formed, trumpet large and fantastically notched.

Hortulanus E. Th. Witte (Ajax), uniform golden yellow, widely opened trumpet.

Lord Wellington (Ajax), self-coloured dark yellow, very strong grower.

Eyebright (Barrin), pure white perianth of a good form, with orange-red cup, very large.

Lady Moore (Barrin), creamy-yellow perianth with citron yellow widely opened cup, bordered bright orange red.

Sanguine (Barrin), white well shaped perianth with uniform deep orange-red cup.

Pera (Barrin), shapely white perianth with small deep orange red cup.

La Fétale (bicolor), white perianth with very soft yellow trumpet, small flower.

Stromboli (double), petals sulphur yellow with vivid orange red.

Corinna (Incomparabilis), perianth white and shapely, cup soft yellow.

Bonne (Incomparabilis), perianth citron yellow, well shaped; cup deep orange red, large and frilled.

Orange Glow (Incomparabilis), perianth soft yellow, shading to white, with deeply notched cup bordered orange yellow.

Love-nest (Leedsii), white perianth, with creamy-yellow cup, passing at the edge to light apricot.

Mrs. R. O. Backhouse (Leedsii), perianth white, trumpet apricot rose.

White Wind (Leedsii), white perianth with small creamy yellow cup, somewhat frilled.

Aenophon (Poeticus), citron yellow perianth with large deep orange cup.

Cheerfulness (double Poeticus), perianth creamy white, crown double, white with citron yellow; strong stem, about five flowers on a stem.

We are also informed that the Certificate of the Haarlem Trial Garden has been awarded to *Double Blue Hyacinth President Grant*, dark violet blue.

FORTHCOMING EVENTS.

May 8.—Royal Horticultural Society's Fortnightly Meeting (two days).—National Tulip Society's Exhibition (two days), to be held in conjunction with the R.H.S.—Jersey Gardeners' Society's Meeting.

May 9.—East Anglian Horticultural Society's Meeting.

Rhododendron punctatum is a low-growing, spreading shrub with slender and elegant branches sparsely furnished with evergreen, elliptic leaves in a fresh, glossy green. It is admirable for the larger rock garden, the margins of shrubberies, or woodland banks over which it can trail, preferably in semi-shade. Almost any non-calcareous loam or peat will suit *R. punctatum* and, being a North American species, it is perfectly hardy. The flowers are borne in clusters at the ends of the branches in spring. Individually they are about 1in. across and of a lively rosy pink which is peculiarly effective against the bright green foliage. This species is sometimes listed as *R. minus*.

The Davidia.—*Davidia involucreata* is one of the most remarkable and striking trees of recent introduction and its story no less interesting than the unusual flowers and bracts for which it is valued. Happily it has proved to be hardy in England and it flowers freely owing to the fact that it ripens its wood so well in autumn. The growth somewhat resembles that of the *Lime*, with leaves 3ins. to 5ins. long, rather heart shaped at the base and drawn down to a long, fine point, while they are much toothed along the margin. From the buds of the previous year's shoots, the flowers are produced in May at the end of a drooping stalk. The actual flower is quite insignificant, consisting of no more than a tuft of brush-like stamens, but these are surrounded by two enormous white bracts, hooded, oblong and pointed in form, the lower one being by far the larger of the two. The upper bract stands over the flower like a canopy and the effect of a good plant covered with these immense white "butterflies" has to be seen to be fully appreciated. As the stamens fall, the surrounding bracts become greener and greener until they are scarcely to be distinguished from the leaves. Interest is not dead yet, however, for large, pear-shaped fruits soon begin to form and are ultimately covered with a purplish bloom. Now for the interesting story of the introduction of the tree to European gardens. A native of Central and Western China, it was named after its discoverer, the Abbé David, in 1860. A packet of seeds was sent to M. Maurice de Vilmorin in 1897 and one of these grew. Only as recently as 1902, Wilson sent thousands of ripe seeds home and it is from these that the plant has been distributed.

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.

CROCUSES DISEASED (E. G. H.).—The Crocus corms are completely rotten and have made no roots. From their appearance we should suppose them to have been diseased when they were planted.

NAMES OF PLANTS.—B. C. F., Wilts.—*Fritillaria pyramica*.—W. P. M., Oxford.—*Tounerum fruticosum*.—"Padgate".—*Santolina Chamaecyparissus*.—"Lavender Cotton".

CATALOGUES RECEIVED.

The Donald Nursery Co., Newcastle, Co. Down.—Choice Narcissi.

Messrs. Frank Cant and Co., Braiswick Rose Gardens, Colchester.—New Roses.

Messrs. J. Cheal and Sons, Limited, The Nurseries, Crawley, Sussex.—Pachias.

FOREIGN.

Messrs. Cayeux and le Clere, 8, Quai de la Mégisserie, Paris.—Flower and Vegetable Seeds.

Messrs. Peter Henderson and Co., 35 and 37, Cortlandt Street, New York.—Flower and Vegetable Seeds.

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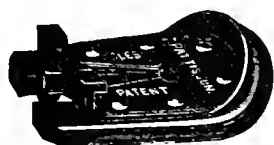


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FIG. 2 (Wetted Pattern). FIG. 2 (No Wet Pattern).
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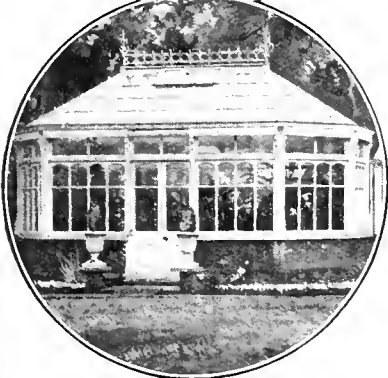
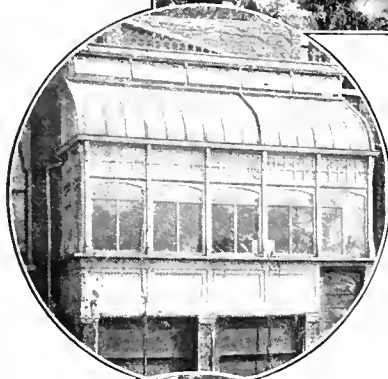
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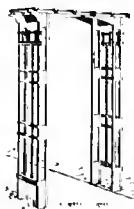
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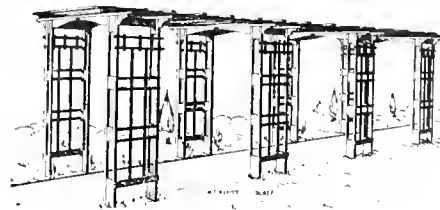
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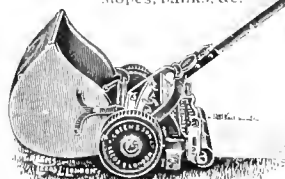
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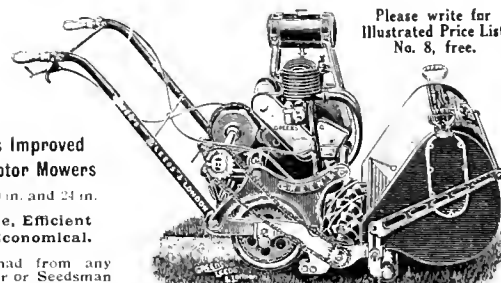
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Vol. LXXXVII.—No. 2686.

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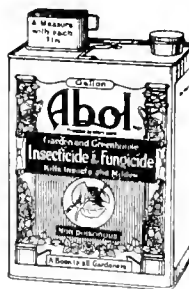
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No. 2686.—VOL. LXXXVII.]

[MAY 12, 1923.]

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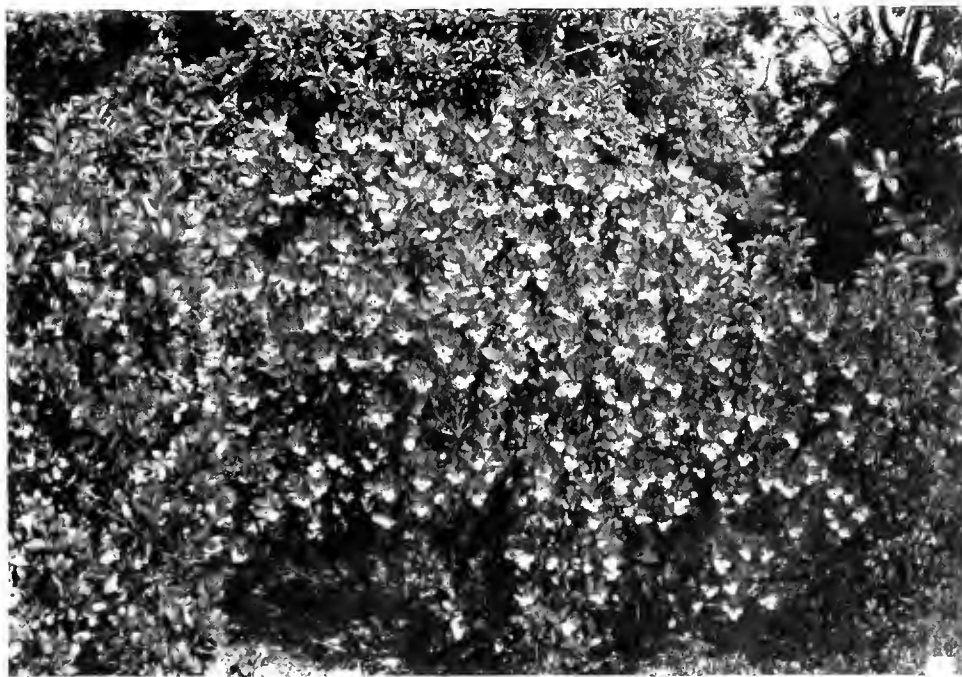
Evergreens must not be planted indiscriminately about a garden, for nothing is more hideous than the continued repetition of three or four sorts of evergreens at regular intervals in shrubberies. To make the matter worse, such shrubs are sometimes clipped into quite close and compact balls or globes, and thus lose all their individuality. When a dozen shrubs in four different kinds are to be planted, it is usually far wiser to make four distinct groups of three plants each, than to allow each plant a separate position. Then specially attractive evergreens should be put into prominent places and those of greater vigour but less beauty may be used to block out undesirable objects, in places where choicer shrubs would have little chance of success. Variegated-leaved plants should be kept to the more formal parts of the garden, and not used where the garden breaks away into park or woodland. Even in the

garden proper, plants like the variegated Aucubas and Privets must not be used too freely, otherwise a spotty effect will be produced. The Aucuba is excellent for planting in shady places, but it can be overdone. Bamboos, again, are plants which can very easily be placed so that they ruin the landscape effect at a certain period of the year. From February to the end of June the natural decay of their foliage gives them a very untidy appearance, which is accentuated by the cold winds of spring. Their proper place is a garden to themselves, or if a few plants only are grown, a corner which is screened from the direct view of the house windows or other vantage points. Evergreens have a considerable value for clothing the ground beneath the branches of trees where grass will not grow. Perhaps the Ivy is the best of all plants for this purpose, but Euonymus radicans and its varieties are also useful. Where taller plants are required, the Common Holly, *Berberis Aquifolium*, *Rhododendron ponticum*,

Common Laurel and Oval-leaved Privet may be used. Among British evergreens the Common Holly (*Ilex Aquifolium*) is a very beautiful and useful tree or bush, whether growing in the garden or as a wilding in the woods. Its leaves are always bright and cheerful, and it is a first-rate fruiting tree. Neither do its virtues end with its leaves and berries, for it is happy almost anywhere, in sun or shade, in light or heavy soils, planted singly or in masses, as a specimen tree or a dense, closely-clipped hedge. Then it has produced so many varieties and hybrids that fifty or more kinds can be selected with quite distinct leaves or habit. The leaves may be prickly or smooth, broad or narrow, green or variegated with gold or silver. The variegations themselves sometimes occur in the centre of the leaves and are sometimes confined to the margin. Some are trees and others dwarf bushes. Some only bear male flowers and others only female. Some of the exotic Hollies, too, are very attractive. *I. Perado*, from the Canary

Islands, and *I. balearica*, a native of the Balearic Islands, intercrossed with each other and perhaps with the large-leaved *I. platyphylla* from Madeira, have produced a race of large-leaved hybrids, of which such kinds as *attaclarensis* and *Hodginsii* are worthy representatives. The American *I. opaca*, the Himalayan *I. diphyrena*, the Japanese *I. crenata* and the two Chinese kinds, *I. cornuta* and *I. Peryi*, are all worth growing as specimen bushes.

As companions of the Holly, the Yew and Box complete a trio of exceedingly useful native trees. All are very hardy and free-growing and are good for hedges, as they stand clipping



A GIANT COUSIN OF OUR NATIVE BEARBERRY—ARCTOSTAPHYLOS MANZANITA.

well. The Yew, however, is not suitable for massing on an extended scale on account of its sombre foliage. The British flora also contains good dwarf evergreen shrubs, such as the Common Juniper, the Red Whortleberry (*Vaccinium Vitis-idaea*), the Common Bearberry (*Arctostaphylos Uva-ursi*), the Crowberry (*Empetrum nigrum*) various Heaths and the Spurge Laurel (*Daphne Laureola*). Ivy is often found carpeting British woods and is the best of all evergreen climbers. For the milder parts of the country the exotic Heaths offer us a number of very beautiful flowering evergreens, some of which grow into fine bushes, 8ft. or 10ft. high.

Allied to the Heaths are the Rhododendrons, other one-flowered evergreens. They have one disad- vantage in winter, for a little frost causes the leaves to curl and they have a very woebegone appearance until a thaw sets in, when they soon regain their normal shape. The Arbutuses, again, are excellent evergreens, which form large bushes or small trees. Like most other members of the Erica family, they dislike lime. *Pernettya mucronata* is a pretty, compact evergreen and is good for beds on the margins of lawns. Its white flowers in May and its bright coloured fruits in autumn are alike beautiful. The Holm or Evergreen Oak (*Quercus Ilex*) forms a very fine tree in the south and south-west counties. It stands sea air well and it may be used for shelter or specimen trees. In a few places it has been tried as a hedge plant with satisfactory results, for it stands pruning well. There are also other Evergreen Oaks, such as *Q. auta*, *Q. cuspidata* and *phillyraoides*, all of which are useful plants. Another noteworthy

evergreen tree is the Golden-leaved Chestnut, *Castanopsis chrysophylla*. This is a Californian species with leaves very like those of the common Evergreen Oak in outline, but golden on the reverse side. Its fruits are edible, but require fifteen months to mature. Its proper use is as an isolated specimen in a rather sheltered position. *Nothofagus betuloides*, a neat leaved evergreen Beech from South America, is a rare and ornamental tree and is hardy in the South of England. The genus *Escallonia* offers several very beautiful evergreens for the milder counties, the best of all being *E. macrantha*, for it is valuable alike as a bush or hedge plant. Where this succeeds, the New Zealand Veronicas may also be expected to thrive, and in Devonshire, Cornwall and South Wales they are among the most useful of flowering evergreens. *Camellia japonica* and its varieties is far hardier than many people imagine, and it forms a fine bush in the open ground in the South of England.

Among the Barberries are a number of good evergreens, very notable ones being *B.B. Darwinii*, *stenophylla*, *japonica*, *Aquifolium*, *Hookeri* and *candulula*. They should be represented in every garden, and in *B. stenophylla* we have perhaps the best of all-round hardy shrubs for general planting. *Cotoneaster* is another family which produces useful evergreens, with the additional attraction of bright red berries. *C. buxifolia* is a vigorous bush, 10ft. or 12ft. high, of wide spreading habit, and *thymifolia* and *microphylla* are neater plants, growing a foot or two high in the open, or as much as 15ft. against a wall. Laurels, Portugal and Common, have been

over-planted and maltreated. With their branches clipped hard back each year they form stiff and hard banks in many gardens, and as such are an eyesore, but when allowed to grow freely they develop into remarkable ornamental specimens, and are then among the finest of all evergreens. Such varieties of the Common Laurel (*Prunus Lauro-cerasus*), as *magnoliifolia*, *Ottom* and *Latifolia* are among the most worthy of notice. The Sweet Bay (*Laurus nobilis*) though often grown as a clipped bush, forms a very fine bush or tree in some parts. In South Wales there are specimens over 40ft. high and as far through. Evergreen Privets are found in *Ligustrum lucidum*, *L. japonicum* and *L. coriaceum*, in addition to the common oval-leaved kinds. The *Phillyreas* are closely allied to the Privets. *P.P. media* and *latifolia* grow into bushes 15ft. or more high, while *P. decora* and *angustifolia* are usually 5ft. or 6ft. in height. For moist, shady places in peaty soil *Gaultheria Shallon* is an excellent bush, 5ft. or 6ft. high; while *Kalmia latifolia*, *K. angustifolia*, the *Ledums*, *Peris* and *Lencothoe Catesbaei* are other good peat-loving shrubs.

Among the *Vibernums*, the *Laurustinus* *V. Tinus* is a very well known and favourite shrub, its waxy white blossoms expanding during winter and early spring. Then we have the new *V. rhytidophellum*, a very remarkable bush, with oblong wrinkled leaves a foot long, which well deserves a sheltered position. Several kinds of *Eleagnus* command attention as vigorous bushes 6ft. to 12ft. high and as far across. *E. macrophylla* has silvery leaves and *E. pungens* green leaves. The last-named has, however, a number of very



MOST GLORIOUSLY COLOURED OF BARBERRIES, *BERBERIS*

DARWINII.

One of the hardiest shrubs in cultivation.



AMONG THE HANDSOMEST OF RHODODENDRONS, *R. NUTTALLII*.

Hardy only in favoured districts.

pretty variegated-leaved varieties of which *Simoni* and *S. aureo-variegata*, with golden marked leaves, are specially worthy of note. *Trochodendron aralioides* is a handsome evergreen bush or small tree from Japan, with bright glossy leaves and curiously shaped yellow flowers. It well deserves a sheltered position and good loamy soil, to which a little peat has been added.

Magnolia grandiflora is one of the finest of all evergreens, both by reason of its large, leathery leaves and its fragrant white flowers, which are as much as 9 ins. across. In the southern counties it

grows into a shapely bush or tree 15 ft. to 20 ft. high in the open, but elsewhere it is usually grown against a wall. The newer *M. Delavayi* has also very handsome evergreen foliage, but it is less hardy. The Ivy has already been mentioned as a suitable plant for clothing the ground beneath trees, but its uses are innumerable, and perhaps it is never seen to greater advantage than when it has covered a large tree, and its branches have assumed the flowering or adult stage. It then develops as a bush rather than a climber. By propagating from these bushy forms a distinct race of bush or tree

Ivies has been obtained, which are excellent for beds and borders. The leaves of these have all the different colours and the gold and silver variegations for which other Ivies are renowned. *Daphniphyllum macropodum* is a large-growing evergreen from China and Japan, with decorative bluish-green leaves, which have red stalks. Its flowers, however, are of no account. *Euonymus japonicus* gives excellent results near the sea, while *Olearia Haastii*, a neat evergreen with white flowers, may be planted quite close to the sea, and also flourishes in many inland gardens. W. D.

WATER AND BOG GARDENING

V.—Plants for Streamside and Bog.

NOW, after a somewhat extended excursion upon the surface of the water (see pages 117 and 139, THE GARDEN, March 10 and 17) we come ashore again, to be faced with a vista of bare earth, turf and sloping bank. Ashore, it is true, but not upon dry land, for we have purposely arranged the overflow of our water garden so that it is surrounded by a belt of bog and semi-boggy earth that will always remain consistently moist and thus enable us to provide a happy home where we may group a large number of Ferns, Grasses and flowering plants that only succeed when in the neighbourhood of water. If our task in selection has been a complicated one before, it certainly does not become easier when we deal with the margin.

Nature has been lavish in the water, prodigal in its vicinity, and from among the vast array of plants available we must select those of suitable stature and character to conform with the remainder of the garden. Space being ample, one can use masses of Bamboos, Pampas Grass, *Gunnera*, *Arundo*, *Iris*, *Spirea* and so forth; but if restricted to a few square yards or feet, equally beautiful plants are waiting to serve us in the *Cimicifugas*, *Funkias*, *Helonias*, *Primulas*, *Monkey Musks* (*Mimulus*), *Parnassias* and *Sarracenias*, to name but a few. Suitable material is there and only awaits our use. A distinction should be made between those that love the really wet conditions, right at the margin of the water itself, where the stream or pond overflows its banks and the numerous kinds that appreciate rather less boggy conditions in soil which is never absolutely dry. In most cases the natural soil of the garden—with the addition of some manure—will be found good enough; in others the making of special "beds" of peat or loam is abundantly repaid by the health and happiness of the plants.

Let us follow a similar grouping to that which we adopted in a former article and deal first with species that are suited to the small or medium-sized water garden, following with the more vigorous later on. By the way, it is not at all a bad plan to let a few—say a couple—of the "big" growers escape from the latter list and take a place beside the medium-sized water garden. It must not be overdone, of course, for it is a question of very careful proportion, and one must never allow one over-large plant to "dominate" the whole.

Where it is a question of the moderate-sized water garden, there are some things that must be ruled out absolutely. *Gunnera manicata*, for instance, is so immense that in three or four years' time it would be larger than the "garden" itself; but there are others that are still commanding in their proportions and yet do not spread so vigorously as to swamp everything else in their

neighbourhood. A useful large grower that is not too overpowering is to be found in *Acanthus candelabrum*, a very stately specimen, with glossy leaves between 2 ft. and 3 ft. in length, that rapidly

its foot-tall umbels of lilac flowers, should not be overlooked for spring flowering. Grouped in small colonies in moist, peaty soil, the American Cowslips or Shooting Stars (*Dodecatheons*) in variety make



THE QUAINLY BRACKETED SAURURUS LOUREIRI.

makes a splendid clump. Bamboos provide the small water garden with some magnificent material for judicious grouping, and prefer a not too light soil and one that is never flooded. Among the best dwarfs are *Arundinaria Fortunei* fol. aur. variegata, 1½ ft. high and charmingly striped yellow and green; *Arundinaria Veitchii*, good for making broad green carpeting masses, 1½ ft.; *Bambusa disticha*, with slender green stems and narrow leaves, 2 ft.; *Bambusa pygmaea*, one of the smallest Bamboos in cultivation, a very rapid grower and, where kept in check, useful for even the smallest garden, as it does not exceed 1 ft. in height. *Phyllostachys ruscifolia* is slightly taller, reaching 3 ft., with slender brown stems and erect green foliage, very useful where space is somewhat more ample. The Marsh Marigolds, especially *Caltha palustris flore pleno*, the double Golden Kingcup and *C. monstrosa plena*, a very strong-growing giant form, are grand right down on the margin of the water, and can scarcely have too moist a place; while the double Cuckoo Flower, *Cardamine pratensis* fl. pl., with

a gorgeous display in early summer, when their long, naked stems, terminating in heads of as many as twenty to thirty cyclamen-like flowers, are fully expanded. Among Ferns, *Onoclea sensibilis* and various *Osmundas*—especially the Royal Fern, *Osmunda regalis*—are grand; but should only be planted to a limited extent unless space is ample, for both are large growers, while *Onoclea sensibilis* spreads very rapidly, where it is happy, by means of creeping rhizomes. Both will grow and do well close to the water in semi-bog. All the *Funkias* are splendid if the smaller growers are chosen, *F. Sieboldiana* with its glaucous foliage and *F. ovata marginata* being especially worth consideration.

Few hardy Grasses fail to do well, and one might mention an enormous number without exhausting the possibilities; but around the moderate-sized garden the following should supply a sufficient choice: *Carex gallica* fol. var., with tufted foliage and golden variegation, 8 ins.; *C. Morrowii*, also prettily variegated, 1½ ft.; *Eriophorum angustifolium*, the quaint little Cotton

Grass with dark green leaves and small wads of fluffy white cotton on the top of the flowering stems; and *Glyceria aquatica* fol. var., which will grow where its roots are almost continually submerged and forms a beautiful tuft of pink, white, yellow and pale green variegated leaves, 1½ ft. high. I have referred to the immense size of the Gunneras, which uts them for the large lake margin, but there is one species of these, *G. magellanica*, a little plant from Chili that, while duplicating the form of its immense brethren, does not exceed 2 ins. in stature, and so can be "fitted in" to even the tiniest rock pool surroundings with perfect harmony. *Helonias bullata* makes a business of flowering early, and so produces

its blooms in April, forming, indeed, one of the showiest plants of its season. Put this among the spongy peat lovers and you will reap a rich reward in the beautiful spikes of rosy flowers that rise from rosettes of shining deep green leaves.

Saururus Laurei is most distinctive and striking with sturdy, upright stems and green foliage, each stem terminating in a short spike of flower, while the two leaves immediately below the flower-spikes are pure white. It is the two upper leaves, with their snowy whiteness, that give the plants such an extremely striking appearance, and the whole effect throughout the summer is quite unique.

H. W. CANNING WRIGHT.

(To be continued.)

FLOWERS AT THE MIDLAND DAFFODIL SHOW

ALTHOUGH, compared with what I have seen in the past, there was nothing like the same space occupied by the competitive exhibits in this year's Show, there were a large number of good flowers, but before I deal with any in detail I would like to make one or two remarks. With regard to the red cups raised by the late Mrs. R. O. Backhouse, I think we shall have a look upon them rather as flowers for decoration or market, than for show. They cannot help "hitting one in the eye," they are so wonderful and so far removed from Nature and from all the earlier efforts of the

hybridists; but when they are put in the scales against the weights used by judges at a show they are found wanting, taking them as a whole, in the matter of their perianths. That wonderful red bowl which was to be seen on the top tier of Dr. Lower's exhibit for the Cartwright Cup, and to which I alluded in my last notes, was surrounded by six very uncouth perianth segments. The question for a judge to consider is whether such a grand cup, or bowl as I called it, is of sufficient importance in itself to cover the deficiencies of the perianth? I can well imagine there is very likely a marked difference of opinion about it, just as

there once was in the Tulip world between the southern florists who put the shape of the cup and the purity of the base before the regularity of marking insisted upon by their brethren of the North. The consequence was that a bloom which would rank high in Surrey was of only second rate value in Lancashire. So it may be with our modern Daffodils. We have two or three questions to ask and answer when we are judging. First: Am I judging from a show standpoint or from a garden or market standpoint? The Narcissus Committee of the R.H.S. has answered this for us, inasmuch as it differentiates its awards. Secondly: Is the corona a more or less important factor in the making of an ideal flower than the perianth? And, as a supplementary question, Can novel colouring outweigh defects in either the perianth or the corona? This is where judges differ. While on this subject I would like to point out that an award for garden purposes and an award for market or cutting are by no means interchangeable honours. To me nearly all red cups and red edges are disappointing in the garden on account of the short time they last without burning. The owner of a beautiful bit of colour at Birmingham said to me, "A couple of hours of bright sunlight does for it." On the other hand, if a red cup be protected in some way or if the bloom be gathered in a half unfolded condition and opened in water, then its colour is preserved. All these points are sometimes overlooked by those who know comparatively little about Daffodils, with the result that disappointment ensues when the flower is planted in their gardens. If the object of a purchase is the "show-ster," then everything is quite different. To continue my list where I left off in the issue for May 5th. I



SILVER RUPEE, A FINE WHITE GIANT LEEDSH



SOLARAFT, A JONQUIL HYBRID WITH AN ORANGE YELLOW CUP.

would mention first of all Beersheba, which may well be what its raiser, Mr. Guy Wilson, claims for it, the largest white trumpet Daffodil in existence. In his extremely well grown lot which he put up for the White Daffodil Trophy, it looked immense. White Emperor and White Knight looked very small people beside it. The perianth was a good 5½ ins. across and the segments were well imbricated and set at right angles to the trumpet, which was slender and well proportioned. The flower was an ivory white. Not so white that is as Mrs. Lower when they were placed side by side.

Silver Rupee is a fine white giant Leedsii, raised, I think, by Mr. Duncan Pearson. It has a nice smooth perianth of which the three inner segments come a little forward. It is one of those flowers in this class so near to being a trumpet that only careful measurements decide its place. It looked very white among its neighbours in Messrs. J. R. Pearson and Sons group, but I did not put it beside any other variety. If Silver Rupee might almost have been a white trumpet, Sollaret, if its parentage were unknown, might be classed as a yellow self Incomparabilis. It is, however, a Jonquil hybrid. The cup is almost an orange yellow, while the perianth is a little paler. The flower is well proportioned and its texture rich-looking and good; not "cotton backed" as they would say in Holland. Delhi, which was raised by the late Mrs. Backhouse, was to me the most pleasing of all the big red cups at the Show. The ivory white perianth was a little thin looking, but the large cup, which measured 1½ ins. across the top, was a beautiful soft, almost scarlet red. It looked so bright and pretty. Another rather captivating bloom was the soft red, flat eyed Pembury, a seedling of Mr. W. F. Mitchell's. It is a white perianthed Barrii and the eye, which has a diameter of 1½ ins., is somewhat curiously fluted from the centre to the edge. In Dinkie, a seedling of Mr. Chapman's, we have a small but remarkable flower. It was easily first in the single bloom, yellow perianthed, Barrii class and is distinguished by the curious greeny tone of the yellow which is the same shade in both cup and perianth, relieved only by the narrow clean rim of red round the cup. Dinkie, I am told, means something "all right." Understanding this, we see the appropriateness of the name for the small beauty. The whole flower is very smooth. Hexagon, which was raised by Mr. Guy Wilson, is a most attractive Giant Leedsii with flat pointed segments and a long pale lemon cup which, when you look down it, is seen to have a greeny base in contradistinction to the usual more or less yellow. Another of the same class that a good many of us thought highly of was Sea Shell, which won the first prize in the Giant Leedsii for Mr. Cranfield. It had quite the look of an Incomparabilis, for the cup was a decided yellow. The perianth had a diameter of 4½ ins. and was very smooth and white. One cannot pass over Lady Superior, raised by the late Mrs. Backhouse. It is a bicolor Barrii, very flat and with a pale yellow cup, edged red. Somehow I do feel proud to think that one of us Daffodil people was the author of that great war hymn "The Supreme Sacrifice." I was uncertain if it was *our* Mr. J. S. Arkwright until I asked him the question at Birmingham. He put up a capital lot for the "thirty-six" open class and among them my eye caught at once a fine bicolor Barrii with a particularly white perianth and a bright and striking yellow and red cup. It is named Crucible. Corona is a good "Poet," distinguished by its dark wide red edge to the eye. Is Kukri a wrong way of spelling Kuckri? or is Kuckri wrong and Kukri right? or are both right? As I do not know in the least what it is or what it means, could some one tell me? I do wish our good friends would go in for more easily understandable names than we

are frequently regaled with. Think of this little selection, Cerimon, Tortrix, Swanbilda, Matamax and Thordis! They seem to an ignoramus like myself very weird. My immediate point is that Kuckri in the R.H.S. Book (1923) is put down as a yellow trumpet, while Kukri, as I saw it at Birmingham, is an incomparabilis.

Gold Mohur, raised by Dr. Lower, is an excellent example of a bunch flowered Jonquilla hybrid. The individual flowers remind one of Buttercup, both in shape and colour. Of those with pinky

segments John Peel has a very effective, almost scarlet eye, but the perianth segments are not sufficiently imbricated for a show flower. This variety and June, which was mentioned in my last notes, are probably the best of the coloured perianths.

I had not seen the beautiful pure white trumpet Mrs. Lower before. I can well believe that it was the most beautiful flower in the 1922 Show. Without any doubt it is one of the very best of its class in existence. JOSEPH JACOB.

NOTES FROM THE EDINBURGH ROYAL BOTANIC GARDEN

APRIL began to shake out her skirts very early this year, and I have never seen so many flowers out in Scotland at this time. With the first days of the month the rockery here seemed to be full of interesting flowers; many Primulas, for instance, some uncommon Barberries, a large

prostrate in habit. Large masses of white can always be achieved this month by the Perennial Caudytutts, which are represented here by such kinds as *Iberis Jordani* from Asia Minor; *I. Pruiti* from Sicily, with very conical flower-heads; *I. pinnata* and *I. coraeifolia*, both from South Europe and both of decided dwarf, creeping habit.



THE FRAGRANT WHITE BLOSSOMED OSMANTHUS DELAVAYI.

number of Rhododendrons, also some less rare plants which need never be despised. We might do well to make a note of some of these more ordinary plants so that we may grow them ourselves for the excellent colour effect they produce.

For such useful purposes one may choose *Saxifraga Paulinae*, a very free-flowering hybrid between *Burseriana* and *Ferdinandi-Coburgi*, bearing large, pale yellow flowers. At Edinburgh it seems so healthy and showy on a high ledge that it carries out its reputation of being one of the easiest to grow. The well known *S. sancta* is now a sheet of yellow blossom—it is delightful to see its energy and vigour. Clinging and foaming over a rock *Anthemis macedonica* may be seen, a rounded mass of pleasant ferny foliage from which spring the white, daisy-like flowers. It is a plant that will bloom over a long period, for all the *Anthemis* tribe are most continuous bloomers. *Achillea ageratifolia*, from Greece, is a rather similar plant, but smaller and more

Where the tiny little Sea Thrift, *Armeria caespitosa*, will "do" there is no more charming little rock plant, for it gives the softest and daintiest shade of pink. In the Edinburgh rock garden it has been persuaded and gently led into establishing itself along some crevices between big boulders, and little colonies have dripped over and formed those happy pictures that are occasionally achieved when art and nature agree to walk hand in hand. *Lathyrus vernus albus* and *Achusa myosotidiflora* are both growing under the shade of trees. In spite of their long names they bear really charming flowers of uncommon colour, and both grow about 8 ins. high. The former is of unique creamy apricot shade; the latter bears panicles of that pale true blue colour that is so rare and so pleasant to see. If more vivid colouring is desired, there is *Berberis stenophylla corallina* to satisfy one with its orange and coral flowers, small but so numerous that they light up the dark rock face down which they

hang. I saw it here first in 1921 and it is still a small and slender shrub.

Erythronium Johnsoni, in a shady nook, with its handsome pink flowers is worth remembering as one of the best of the Dog's Tooth Violets; and *Pulmonaria alpina*, though its label states it only to be "of gardens," will nevertheless be found as a nice tufted plant about 10 ins. high, literally covered with fine bells of intense blue—that rich, strong shade that is so satisfying. There are two other Barberries worthy of mention in *B. verruculosa* from China and *B. Gagnepanii*, both about 2 ft. high and bearing pretty little pale yellow bells.

To anyone who loves *Rhododendrons*, the rock garden is worth visiting to see these alone, and how many suitable species have now been introduced. At Edinburgh the scale is so generous, the boulders so huge, that even such kinds as *R. Jacksoni* look in proportion. But we will consider the average rockery, and for such the following *Rhododendrons* are suitable, being of dwarf habit, yet bearing showy flowers in April. Besides *intricatum* there is *Edgarianum*, of the same blue-mauve colour and of very neat habit. Among the smallest of all to be seen are *Valentinianum* and *impeditum*, both from the Yunnan and both only some 6 ins. or 8 ins. high, forming the dearest and quaintest of little rounded bushes, the former having yellow and the latter mauve flowers. A little taller comes that lovely hybrid *glaucum* × *ciliatum*, which I have seen doing well here since 1921, always a gay sight from April till late May, with quantities of large pink bells, growing only 2 ft. high at most. *RR. racemosum* and *ciliatum* are well known nowadays, but it

is interesting to see how splendidly *ciliatum* thrives on a high, exposed ridge, flowing over it in a sheet of pink, proving both effective and hardy in this curiously difficult position. A shade taller again are *Ponastylum* from West China, the pale yellow flowers produced on upright 2 ft. bushes with nice bronzy foliage, and *Lippophiaoides* from the Yunnan, perhaps taller, with mauve flowers. *Rhododendron multiflorum* reaches 3 ft. in height and has comparatively large bells, white tinted with pink in a very charming way. I think this short list might safely be taken as a good selection for anyone who admires these shrubs and wants neat-growing kinds with small foliage and showy blossoms.

Out of many *Primulas* blooming in April two call for special remark. *P. glaucescens* is really distinctive in its stiff pointed leaves and in the richness of its red-mauve flowers, which are big for the size of the plant—a little gem only 2 ins. or 3 ins. high. I see it called *P. calycina* in some

books, and that it likes shady, well drained situations. *P. apennina*, from the Alps or Piedmont, bears auricle-like flowers of a lovely shade, a curious claret-orange that is unique; added to which it blooms freely and continuously. It likes shade and a limestone soil for preference. *Clematis alpina alba*, which has been out here since the end of March, would appeal to many people for the pretty way it creeps over rocks, covering them with trails of soft green foliage and pretty little nodding bells, which are white tinted purple. *Pimelia Traversii* is an interesting dwarf shrub from New Zealand, very like a miniature *Veronica Traversii*, with the same symmetrically arranged leaves, but the tiny white *Pimelia* flowers are in clusters at the ends of the shoots, these being some 12 ins. or 14 ins. high. A large and healthy group of *Osmanthus Delavayi* occupies a rocky spur. It appears to be perfectly hardy even in this cold climate, and its small white flowers are showing freely.

M. E. STEBBING.

"BREAKING" OF TULIPS AND MOSAIC

SOME years ago, in 1913 I think, articles appeared in *THE GARDEN* on the "breaking" of Tulips, the occasion being a report by Mr. G. W. Leak on "breaks" to the extent of 30 per cent. in some varieties, whereas the percentage of broken flowers had in other years been very small—as low as two per thousand. Mention was made of the great desire of the old-fashioned florists of seventy years ago, in the halcyon days of Tulips and seedling raising, to obtain fine specimens of broken

or rectified flowers, and the efforts they made to induce the break. One garden authority commended "taxing the resources of the bulb, weakening its energies and reducing its strength," instanced by "allowing its seed pods to ripen on the plant," as likely to produce the desired effect of rectification or break, the florists of those days looking upon the self or breeder stage as a preliminary to a finer development.

In the case of Mr. G. W. Leak the breaking was deplored, Darwins and Cottage Tulips being very much preferred in the self colours. In the case of the old florists, however, the breaking was desired and the merit of the flower judged by its form, its colour and its marking, whether beautifully feathered or grandly flamed. It may be said the English Tulip was bred to break, and the treasured bloom had form, colour and marking.

In these modern days, when fewer individual garden flowers are specially studied and their natural development worked out, the main desire of the Tulip grower is to keep his flowers in the self or breeder stage. All Tulips

will break some time or other, that is to say, all Tulips that have the anthocyanin pigment under the skin. There are, of course, true selfs, yellow and white without this colour pigment, but they are few in number. We are concerned at the moment mainly with coloured Tulips.

This breaking may occur in a year or two years after the seedling Tulip has bloomed as a self or breeder, or it may happen any time forty years hence perhaps. We saw florists' Tulips bred for their breaking properties still in the breeder stage—as shewn last year—though they were raised as seedlings sixty years ago. This fascinating feature of the Tulip has always been a mystery.

Recent correspondence from Washington, D.C., ascribes the breaking of Tulips to the mosaic disease. In the United States Department of Agriculture Bulletin No. 797, it is stated "all the classes of bulbs—Hyacinths, Narcissi, Tulips—are more or less affected with mosaic disease," and suggests the aphid as the main carrier.

While admitting that "the cause of breaking has not been demonstrated," Bulletin 108 of October 19th, 1922, refers to broken stocks of bulbs as "these mosaic varieties," and further says "the real cause of mosaic diseases in other plants has not been demonstrated though extensively studied."

The report of the Potato Conference, R.H.S., 1922, states that a living parasite is the cause of mosaic, and that the disease may occur in other plants besides the Potato, Tobacco and Tomato.

An American correspondent informs me that the breaking of Tulips is caused by mosaic, a protozoan disease the carrier of which is the aphid, whose life-history has not been worked out.

The American experiments (*vide* Journal of Agricultural Research, Vol. XIX, No. 7) establish the transmission of the mosaic disease of Irish Potatoes and seem to indicate that infection does not result from growth in soil that produced mosaic Potato plants the previous season, but points to aphids as carriers. This I learn is the deduction drawn from British experience; but the cause of mosaic is not yet known.

It may be that Tulip bulbs and plants are subject to this disease, but it by no means follows that mosaic is the cause of breaking, whatever be the controlling factor in the incidence of the break; it may be apart from mosaic, even though the Tulip be subject to that disease in addition.

In reading old records of "Tulip disease" one frequently finds the reference "like Potatoes."

Hale, Cheshire.

CHARLES W. NEEDHAM.



THE LILAC-TONED PRIMULA GLAUCESCENS.

HARDY FUCHSIAS

THE hardy Fuchsias are of simple needs and requirements, and their easy cultivation makes them ready to befriend both amateur and beginner. Furthermore, hardy Fuchsias can be confidently recommended to those who have need to economise the labour bestowed on the garden, for, when once established, these plants demand but a minimum of attention. Also, in addition to these convenient advantages, hardy Fuchsias are exceedingly beautiful and valuable garden plants. Their beauty is not of the showy or ostentatious kind, but they appeal to the senses in the modest manner of the Lavender or Rosemary. Doubtless, also like Lavender, much of the fascination of hardy Fuchsias is due to their inseparable association with old-time and quaint surroundings. It is as well to bear this point in mind when selecting their position. If there is not an Old English or sunk garden, it may yet be possible to locate the plants near a quaint flight of steps, a sundial, arbour, or perhaps an old-fashioned retaining wall.

Their very lengthy flowering period is a point much in their favour. Hardy Fuchsias are in blossom for several months during summer and continue well into autumn. Therefore, the stronger growing kinds can be utilised to brighten a shrubbery at a season when flowering shrubs are scarce. For this purpose *Fuchsia Riccartoni*, and its varieties, are the most suitable. The majority of hardy Fuchsias are cut to the ground, or nearly so, by frost each winter and have to make fresh growth the following year, but *F. Riccartoni* is a notable exception and is seldom touched by frost. Consequently it attains a far greater height than the majority of species. Under normal conditions it will grow 5ft. or 6ft. high and in favoured localities on the South Coast it will grow yet taller. In some districts *F. Riccartoni* is much used for hedges, etc. Its flowers are red and purple in colour. There are several good hybrid forms of this species. Of these *F. R. "Enfant Prodigue,"* with large semi-double flowers, is probably the best.

F. macrostemma, better known as *F. gracilis*, is, as the latter name implies, an exceedingly pretty and graceful species. It has arching stems and freely produced long-shaped flowers. In an ordinary border its height is about 3ft., but plants double this height can be grown in sheltered corners or by planting them at the foot of a south wall. There is an effective variegated form of *F. gracilis*, with white and green leaves and new shoots prettily shaded pink, but this variety is much less hardy than the species.

F. corallina, sometimes called *F. exoniensis* is a very distinct species. It is rather uncommon and deserves to be more extensively cultivated. The flowers, red and purple in colour, are handsome and almost as large as those of the greenhouse varieties. It grows about 18ins. to 2½ft. high. When planted in a suitable position in a rock garden it is particularly effective, for its drooping flowers when displayed over a projecting ledge of rock are seen to full advantage. *F. punila*, a pretty miniature species not more than 9ins. high, is also suited to rock gardening.

F. globosa, about 2ft. high, with scarlet globular flowers, and *F. myrtifolia*, a very free-flowering species, are worthy of note.

These hardy Fuchsias are easily increased by means of cuttings inserted in a shady, cool frame during summer. When rooted, they may be transferred singly to small pots and may be grown on in an airy cold frame, or plunged in ashes or sand in a sheltered spot in the open. The following spring they will be ready to put in their permanent quarters.

Planting is best done in spring, in order that the bushes have time to become thoroughly established before the following winter. In some rather exposed localities it is advisable to mulch the

ground round the plants with leaf-soil or cinders during winter as a protection from frost. This mulch may be removed in spring and is seldom required by old, well established specimens. L. G.

THE DOUGLASIAS

BELONGING to the *Primula* family, the genus *Douglasia* is closely allied to *Androsace*, and in general habit and appearance the species in cultivation at the present time very much resemble many of the members of that choice genus of alpine plants. There are five known and recognised

D. nivalis.—This species was in cultivation in this country early in the last century, but is not, as far as I know, at the present time. It is a taller-growing plant than the former, with rosettes of linear, obtuse, hairy leaves. The pink flowers are produced in sub-umbellate clusters on stems 3ins. to 4ins. high. *D. nivalis* is found



DOUGLASIA LAEVIGATA, A DENSE-GROWING TUFTED ALPINE WITH ROSY PURPLE FLOWERS.

species of *Douglasia*, one of which (*D. Vitaliana*) is found on the European Alps, while the others have their home on the mountain ranges of North America. All the American plants have rosy purple flowers, the European one alone having yellow blooms. The following three species are, or have been, in cultivation.

D. LAEVIGATA.—A recent reintroduction, this plant was originally in cultivation in the year 1888, seeds having been sent over by Dr. Gray in 1886. Plants flowered, and the species was figured at that time in the *Botanical Magazine*, t. 6996. It evidently died out again and was lost to our gardens till it was again introduced by Mr. A. R. Bulley early in the present century. He exhibited plants in flower at the meeting of the Royal Horticultural Society on April 1, 1913, when it obtained an award of merit. It is a dense-growing, tufted little alpine, with closely packed rosettes of narrow, pointed, green leaves, forming a compact cushion. The rosy purple flowers, each one-third of an inch in diameter, are borne in clusters of two to five together on stems about 1in. long. It is a beautiful little plant, and under suitable conditions grows freely, quickly forming tufts several inches across. Preferring an open, sunny situation, it should be planted in a mixture of peat and gritty loam, while the roots need plenty of moisture during the growing season. A native of the Alps of Oregon in North America, this plant is usually found growing in the clefts or fissures of rocks near the summits of the mountains.

on the Rocky Mountains at an elevation of about 12,000ft., and is a charming little plant well worthy of reintroduction.

D. VITALIANA.—Also known in gardens under the names of *Androsace Vitaliana* and *Gregoria Vitaliana*. It is of low-growing, tufted, stoloniferous habit, forming a carpet of grey-green foliage, studded during the early summer with rich yellow flowers. It is somewhat variable in appearance, and there are two well marked forms in cultivation, both with similar flowers to the type. *D. V. var. cinerea* has longer leaves of an ash grey colour, while *D. V. var. pratutiana* is more compact in habit, with shorter, blunter leaves of a silver grey shade. *D. Vitaliana* is found on the granitic Alps of Central Europe and in the Pyrenees at an elevation of 6,000ft. to 9,000ft., where it is usually met with growing in a shady mixture which contains little soil, but which gets abundant moisture from the melting snow. In the rock garden, planted in well drained, gritty peat and loam, the plant grows freely, but does not always produce its flowers so abundantly as one would desire. It prefers an open, sunny situation on a rocky ledge, providing there is plenty of moisture during the growing season, while it is an excellent plant for the moraine. Like the other two species, *D. Vitaliana* may be propagated by means of division after flowering, and from cuttings inserted in sandy soil and placed in a close frame in July. They are also readily raised from fresh seeds sown in spring. W. L.

GRAPES

The Importance of Early Thinning

ACCORDING to my diary, on the tenth day after the first flower opened thinning was commenced with the Black Hamburgh, and the most forward berries measured three-sixteenths of an inch in diameter. Seven days later the size was doubled, *i.e.*, three-eighths of an inch, and on the twenty-first day they measured half an inch. They then continued swelling till the twenty-fifth day, when the berry stems had commenced to harden in the centre, and two days later the seeds had also commenced to do so at the portion nearest the stem. They now measured eleven-sixteenths of an inch. Twenty-six days after this they had only added another one-sixteenth, making up three-quarters of an inch, and colouring had commenced. During colouring most of the berries increased to 1½ ins. We thus see that it is very desirable to have the thinning completed as far as possible within three weeks from the commencement of flowering, because in twenty-five days from that date there were visible signs of the hardening of the berry stems and swelling had almost stopped for the next twenty-six days.

The bunches had been reduced to the desired number almost as soon as they were visible, and all unnecessary shoots were rubbed off as soon as they appeared.

The Vines, up to the time of the hardening of the berry stems, had shewn little globules of extravasated sap on the stems of the laterals, also on the leaf-stalks and the back of the leaves. These then dried up, leaving black specks the size of a pin's head, such as the minitiated sometimes take to be insects. Weakly Vines do not shew these globules, and vigorous, well fed ones tell us by the drying up of them that they have nothing to throw away.

Another sign of hard work is that there are very few new growths made during the stoning process, and older growths almost cease to extend.

So we see how necessary it is for the roots to have full steam on at this juncture, with no unnecessary dependents, and for us to be sure that all is right in the commissariat department. But this requires some knowledge and careful attention on the part of the cultivator, for the Grape Vine, unlike other fruit-bearing plants, does not commence root extension, nor presumably root feeding, with the exception of water, till some of the leaves have attained more than half their natural size, so that the time is very limited between the roots starting foraging and the great strain in process during the stoning of the berries.

When the roots do make a start is clearly indicated by the leaves, which up to this time are a pale yellowish green, but now patches of an almost blue colour may be seen in those which first expanded. This gradually mixes with the lighter shades and thus produces the desired colour of green, shewing that all is in working order. Anything which will tend to retard the actions and signs mentioned must be avoided. If the soil is sour, unduly wet or too dry; if strong nitrogenous manure has been applied just before the time for the roots to start; or anything has been done which will interfere with the infantile progress of the roots, the leaves and fruits will very soon give signs that they are not happy.

When a nitrogenous stimulant is necessary in the spring, as it sometimes is in a non-retentive soil, it should not be applied much before the leaves indicate that root extension has commenced. Nitrate of soda, sulphate of ammonia or nitrate of potash (saltpetre), one pound to the perch, will be suitable, supposing there is no

deficiency of phosphates, potash, lime or decomposing organic matter in the border. The nitrates are quickest in action, and the sulphate holds out the longest. If the soil is non-retentive and takes much water, either of these may need replenishing before colouring commences, because without active nitrogen the other food constituents are useless.

When a prepared concentrated manure has to be depended on, it is very important not to exceed the quantity prescribed, but it is often desirable to add a little of one of the quick-acting nitrogenous manures I have mentioned during the stoning period, because the nitrogenous portion of the ready-made mixture is the most quickly exhausted, and when this happens, as I have already said, the other ingredients cannot act. On the other hand, too much nitrogen is the cause of many failures, because it produces

gross growth composed of large unfurnished cells, which collapse at the time of ripening and leave flattened instead of cylindrical growth. It is one of the causes of shanking and also of shrivelling in fruit when reaching maturity. The cells during their progress need to be tensely filled, and this cannot be when they grow faster than the supplies.

It is difficult in large establishments to finish the thinning in the time I have shewn to be the most suitable, but if it can possibly be done before the berry stems commence to harden, it will be much easier, for one need not be particular about cutting them clean away at the base, because any portion left will shrivel up, whereas later on one must be careful to cut them clean away, as the fruit is liable to be injured by them, especially when it has to travel.

WM. TAYLOR.

AN INTERESTING PERENNIAL

THAT old-fashioned perennial, *Dictamnus Fraxinella* (albus), is very interesting. Both the purple and the white varieties are well worth growing. It is a pretty flower and a neat growing, shrub-like plant, which gives out a sweet scent and diffuses an inflammable essence. On a still, hot summer

and only in very warm and dry weather is enough distilled to break into flame. On account of this peculiarity, which, so far as I know is not shared by any other plant, it is sometimes known as the Burning Bush. The *Fraxinella* ripens seed freely, but I have never found a self-sown seedling, the reason I think being that the young shoots even

of mature plants are greedily attacked by slugs, and young seedlings probably never get a chance of shewing themselves above ground. The plant quite dies down in the winter, and when the first sprouts appear the slugs are very likely to destroy the plant altogether, or, at any rate, injure it so that it will not flower, if it is not protected in some way. I use a zinc collar for this purpose.

The method by which this plant distributes its seed is most interesting to observe. On a sunny day the ripe seed vessels open one by one and the glossy black seeds are shot into the air with the force and sound of a tiny explosion—if one should happen to hit the observer in the face he will be astonished at the force of it. And these seeds are winged away in little shell-like vessels resembling the miniature bivalves one picks up on the seashore and, as with the real shell, one may find the two halves open but still joined.

Hard and shiny though the seed of the *Fraxinella* is, it loses its vitality if kept and, because of this, I have found bought seed quite useless, but it germinates readily if sown straight from the plant. It is probably because of the slight difficulty in increasing the stock that this interesting plant is so seldom seen.

RUTH BICKERSTETH.



SEED-PODS OF THE FRAXINELLA, *DICTAMNUS FRAXINELLA*.

day this scented vapour hangs over the plant and may be lighted with a match, when it bursts for a second into a crackle of blue flame. I have several times tried this experiment, but only once with success, and that was with a large plant of *Dictamnus albus* in a garden in Norfolk. The slightest breath of wind blows away the essence

the seed of the *Fraxinella* is, it loses its vitality if kept and, because of this, I have found bought seed quite useless, but it germinates readily if sown straight from the plant. It is probably because of the slight difficulty in increasing the stock that this interesting plant is so seldom seen.

CORRESPONDENCE

PLANTS FOR THE HEATH GARDEN.

SURELY one could hardly describe the flowers of *Erica australis* (page 206) as red. To my mind it is a deep pink of a lilac or mauve shade. In the case of *E. darleyensis*, too, I think red is wrong—pale pink, deepening in colour with age is more the colour of this variety. As regards *E. mediterranea* this is very similar in colour

light, so that the pictures are not as good as one could wish for. I did not take measurements, but the girth of the Crowhurst Yew is said to be 3ft. 8ins., 4ft. from ground. The trunk has been hollowed out and when this was done a cannon ball was found embedded in the trunk and this is still lying within the tree. Formerly, I believe, there were benches and a table within and it

bear but little resemblance to the *Antirrhinum* generally grown; indeed, it might almost be mistaken for some hoary-leaved *Campanula*, but the flower is quite of the familiar Snapdragon form. In addition to positions on walls, this plant is well adapted to cultivation in fairly dry pockets on the rockery, and in shallow pans it makes a very effective plant. It is not sufficiently hardy to withstand full exposure in bleak wind-swept spots, neither will it survive where the soil is surcharged with stagnant water, but in



THE YEW TREE IN TANDRIDGE CHURCHYARD, SURREY.



THE ANCIENT YEW IN CROWHURST CHURCHYARD, SURREY.

to *E. darleyensis* (*mediterranea hybrida*) and hardly red.—G. H. DALRYMPLE.

[There is always a difference of opinion about the colouring of Heaths, but most people would describe *E. australis* as some shade of red. Personally, we should describe *E. darleyensis* and *E. mediterranea*—they are much of a colour—as soft mauve pink, deepening with age to deep purplish rose.—Ed.]

THE SALPIGLOSSIS: A BEAUTIFUL, BUT NEGLECTED ANNUAL.

ONE of the most charming of our hardy annuals—the *Salpiglossis*—appears to be losing favour as it is rarely seen grown to any extent to-day. In the average garden one seldom meets with it, and in houses where once it was prized as a pot plant it is a stranger. It is curious that a flower so beautiful in its veinings and so lavish in its output should be neglected. As we all know who grow it, it is a lover of the sun and is never seen to greater advantage out of doors than when located in a south aspect. In the way of culture it needs no more than what is usually accorded to *Petunias*, a light sandy loam suiting it to perfection. It is as a plant for greenhouse and conservatory decoration, however, that one is able to appreciate it the most, and for grouping purposes it is worthy of greater attention.—CLAREMONT.

TWO GRAND OLD YEWS.

THINKING that pictures of the ancient Yew trees in Crowhurst and Tandridge churchyards, Surrey, might be of interest, I paid a visit to each on Easter Monday with the camera and enclose photographs taken. I was, however, compelled in both cases to work against a bright

light, so that the pictures are not as good as one could wish for. I did not take measurements, but the girth of the Crowhurst Yew is said to be 3ft. 8ins., 4ft. from ground. The trunk has been hollowed out and when this was done a cannon ball was found embedded in the trunk and this is still lying within the tree. Formerly, I believe, there were benches and a table within and it

is said fourteen or fifteen people could seat themselves with ease. Picnic parties used to hold carousals here, but this sacrilegious practice has long been stopped and the tree is now tended with the care it deserves. A door is fixed at the entrance and this is kept locked, but admittance is readily given to anyone wishing to enter. The age of this tree according to some authorities far exceeds a thousand years.

The Tandridge Yew has a girth of over 30ft. and has an immense spread of branches, many of which rest on the ground and are still in vigorous growth. The tree appears to have been broken at a short distance from the ground in early life and grown on with three leaders. I do not know the computed age of this tree, but for antiquity it cannot compare with the Crowhurst specimen, yet both are well worth travelling many miles to see.—H. C. WOOD.

A USEFUL ANTIRRHINUM FOR WALLS.

THE homely and old-fashioned Snapdragons, varieties of *Antirrhinum majus*, are so well known—indeed, so universally popular, that they need no word of description or recommendation. However, *Antirrhinum Asarina* is quite a different plant, and is a very charming little thing that deserves to be much grown where conditions are favourable to its well-being. Some of the healthiest and most floriferous plants I have seen were growing on the face of an old stone wall, a position which was evidently exactly to their liking. Being of trailing habit, the stems hung down over the stones, draping them with festoons of soft green, woolly foliage, and for the greater part of the summer goodly numbers of comparatively large creamy flowers with yellow throat were to be found pushing up between the leaves. The latter

sheltered, well drained places it will do well. A point in its favour is that seeds germinate freely, and the young seedlings quickly attain to flowering size.—A. J. MACSELF.

THE CULT OF THE ZINNIA.

TO those unaccustomed to *Zinnias*, disappointment sometimes dogs their footsteps when growing them for the first time. To the uninitiated they are somewhat of an enigma, an annual which gives one the impression that they are robust, when, in reality, they are not; and if planted out too soon are frequently retarded. They love a rich, light soil, and above all a sunny position. I have found they do best when planted out on a wall border having a south aspect. In the summer of 1921, with its weeks of drought, *Zinnias* held their own and bloomed more freely than many other annuals, some of which succumbed. Most people are anxious to complete their garden arrangements before May is out, but one has to remember that it is a month, not infrequently, of extremes of temperature and unless quarters similar to those described can be selected for the plants, it is better to allow them to remain in frames a week or two longer. *Zinnias* continue in bloom longer possibly than any other annual, so that it is unwise to hurry them out of doors before genial weather conditions prevail.—W. L.

[Many *Zinnias* are spoilt each year because the seeds are sown too soon. The *Zinnia* is extraordinarily fast growing and greatly resents being drawn or becoming root-bound. The middle of April is plenty soon enough to sow the seeds and those sown in May quickly form good bushy plants.—Ed.]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Fruits Under Glass.

Melons.—Where plants were raised early, the fruits will be shewing signs of maturity, and at this stage a slight modification in the treatment is desirable. An excess of moisture, both at the root and in the atmosphere, must be avoided, or the fruits will split and decay at the stalk. On the other hand, excessive dryness, especially at the root will prevent a fine finish to the fruits. A little more top air than is usual will regulate matters fairly well. Plants being grown for succession will need tying to the wires, and the female flowers will require setting when ready. The house should be closed early in the afternoon, the plants well syringed and the floor sprinkled with water. A night temperature of 60° to 65° should be maintained.

Vegetables Under Glass.

Cucumbers are now growing freely and producing fruits in quantity. Prevent overcrowding of the shoots and when the fruits have attained a reasonable size they should be cut or the plants will soon be exhausted. When the roots appear freely on the surface, a top-dressing of fibrous loam and manure from an old mushroom bed may be given. Keep the roots well supplied with water and the atmosphere moist by frequent dampings. The young shoots must be pinched at the second joint. Vapourise the house occasionally in order to keep green and white fly in check.

The Hardy Fruit Garden.

Strawberries.—Plants that have been used for forcing purposes and duly hardened off, may be utilised for making a new plantation in the open ground. The roots must be thoroughly soaked with water a few hours prior to planting and if the foliage is infested with red spider the plants will need a thorough cleansing with some reliable insecticide. The soil should be deeply dug and well manured and the plants set out 2 ft. apart. Give a mulching of manure, and if the weather is dry an occasional watering will be needed until the roots are established. Established beds must be kept free from weeds, and when the fruit is set the plants may be assisted with a little artificial manure. Superphosphate at the rate of 2oz. to the square yard, and watered in, is sometimes given, but a light sprinkling of Thomson's or Le Fruitier is recommended. It ought not to be sprinkled on the foliage or fruit. Spring-planted Strawberries should have their flower trusses removed because it is not advisable to allow them to produce a crop the first year. Cut off all runners, unless a few early plants are required.

The Flower Garden.

Bedding Out.—All plants destined to occupy the flower beds and borders must be gradually hardened off, removing the lights from cold frames both day and night when the weather is favourable. Antirrhinums, if well hardened off may be transferred to their flowering quarters, to be followed by Phlox Drummondii, Stocks, etc. Keep Pelargoniums in the frames until danger of frost is past. May-flowering Tulips have made a bold display and directly they are past their best they may be carefully dug up and placed in lines in the reserve garden or wherever suitable until they have dried off. Daffodils and early-flowering Tulips will be approaching the resting stage and if they are in beds they may be dug up and planted elsewhere or dried off in boxes. Dig over the beds and if the soil is dry, give a thorough soaking a day before planting is contemplated.

Vases and Tubs.—These should be prepared for the summer occupants and both must be provided with ample drainage and filled with a mixture of loam and leaf-mould, with a little manure from an old hot bed. Ivy-leaved Pelargoniums, Fuchsias and Marguerites are excellent plants for these receptacles.

Dahlias.—To secure really fine plants with a wealth of good blooms, the Dahlia must be provided with a moderately rich soil, and where a border is devoted to them it should be manured and dug deeply without further delay. When the plants are put out, protect the young growth from slugs by sprinkling a quantity of soot around each plant. Stakes will be needed and these ought to be in position before the growths fall over. Each shoot will need a separate tie and fairly stout stakes will be necessary. Dahlias may be planted out during this month.

The Kitchen Garden.

Runner Beans.—In every garden and allotment this is a most important crop and now it is quite safe to make an ample sowing. If the ground was dug and liberally manured during the winter months, drills may be drawn 7 ft. or 8 ft. apart and the intervening space cropped with Spinach, Lettuce and Radish. Double drills are usually made about 9 ins. apart, but if this method is not practised a large flat hoe or spade should be used for preparing the drill. Prizewinner and Hackwood Park are two reliable varieties. The French climbing kinds do not require so much space and Tender and True is still a profitable Bean to grow. A further sowing of Canadian Wonder may be made, where dwarf Beans are appreciated.

Peas.—If pods are needed about the middle and end of July a sowing of a main crop variety is advised. The seeds should be placed thinly in a wide drill. The drills ought to be several feet apart, when other dwarf crops can be planted between them. Peas sown early in the season should have been staked and those for succession need similar attention.

Cabbage.—A few lines of plants should be put out directly they are large enough, selecting, if possible, showery weather. A sowing of Coleworts and small-growing Cabbage made now will furnish nice heads late in the year.

Cauliflower.—If the weather is dry afford water to the roots of Cauliflowers. Transfer plants from cold frames to their final quarters.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Thinning Crops.—Attention should be paid to the thinning of the different root crops as they become fit to handle, for if this operation is unduly delayed the plants become drawn and weakened, a condition from which they never fully recover. In the case of Carrots, early thinning acts to some extent as a preventive against the carrot fly. Early Turnips need only be partially thinned, as they can be fully thinned by using them when only partly developed. If there are any blanks in the rows of Beet they may be made up by carefully transplanting thinnings.

Potatoes.—Earlies may now be earthed up and if some quick-acting fertiliser is sprinkled alongside the stems it will increase the yield. Maincrop varieties should be forked between the rows soon after they appear above ground.

Tomatoes.—Early crops that have set most of their fruits should continue to receive assistance to swell them by bi-weekly applications of liquid manure of moderate strength. Later crops, whether in glasshouse or frame, should have the laterals pinched out at an early stage, the main stems should be tied in to the stake or string as they advance. Tomatoes require liberal supplies of water. The atmosphere, on the other hand, should be kept rather dry and buoyant.

The Flower Garden.

Half-hardy Annuals.—The sooner these are planted now the greater will be their chance of doing well, as it enables them to get a thorough hold of the soil before the heat of summer sets in. If the soil is rather dry at planting time, the plants should be watered, to settle the soil about the roots.

Bedding Plants.—All other bedding plants should now be fully exposed, but in the event of a late spring frost occurring, protection must be given over night, especially to the more tender plants, such as Dahlias, Begonias and Heliotropes. A sheet of newspaper will ward off any frost that may occur now.

Forsythia suspensa.—This April-flowering shrub produces its flowers on the previous year's wood, so should be pruned promptly after flowering by removing a good proportion of the shoots which have just borne flowers.

Clematises of the Jackmann type which were cut down to about one third of their normal height will now be making rapid growth and should be nailed in or tied in as the shoots develop.

The Hardy Fruit Garden.

Stone Fruits, especially Apricots and Plums, often set far more fruits than they can fully develop or than is desirable from the point of view

of the tree's welfare. In such cases gradual thinning of the fruits should commence at an early stage and should continue until the fruits on an average are from 2 ins. to 4 ins. apart, such advice may not be popular, but practical experience has proved the wisdom of it.

Gooseberries.—Young, partly grown bushes often set heavy crops of fruit, which if left on the bushes would militate against their development. Severe thinning of the fruits must therefore take place. Part of the operation may be delayed until the fruits are fit to pick for tarts, and if at this stage the whole of the remaining fruits can be utilised for cooking, it will be for the future welfare of the bushes if they are entirely cleared of them.

General Work.—The Dutch hoe should be kept going pretty freely among all fruit trees and bushes, for not only does this treatment make for the better aeration of the soil, but it assists in the eradication of pests. If a dry spell occurs, watering may have to be resorted to, especially on light soils, with a porous subsoil. If this attention is not given, especially to stone fruits, dropping of fruits is likely to take place, with more or less arrested development among those remaining on the trees.

CHAS. COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

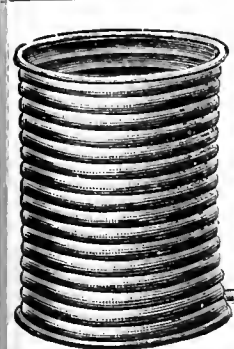
Pimeleas are beautiful greenhouse shrubs, the best known species being *P. spectabilis*, *ligustrina*, *Gnidia*, *ferruginea* and *rosea*. These may be planted out in a well drained border in the cool conservatory, where they will flower during April and May. The flowers are produced on the tips of the shoots made the previous year. After flowering the shoots should be partly shortened back. *P. ferruginea* (syn. *P. decussata*) is the best species for pot cultivation, as it is naturally of a close, compact habit, and produces its rosy red flowers in wonderful profusion. This plant flowers freely when quite young, but at this stage the blooms should be pinched off to induce the plant to make plenty of growth. Pimeleas are easily propagated at this time by means of the young twiggy shoots, selecting cuttings about 2 ins. in length and dibbling them into pots containing sandy peat. Stand the pots under bell glasses in a cool greenhouse. When rooted the young plants should be potted off into small pots containing a compost of sandy peat. As the plants get larger a little light loam may be added to the potting compost. Pimeleas are free rooting plants and require plenty of water at the root when growing freely.

Philesia buxifolia is a pretty plant which bears small lapageria-like flowers, but unlike the Lapageria it makes a small compact bush. It is a native of Chili and is hardy in Ireland and in favoured situations in the south-west. In the colder parts of the country it requires cool greenhouse treatment, and like the Lapageria requires cool, moist conditions. This plant enjoys a compost of rough fibrous peat and sand, with the addition of a little good fibrous loam. Like the Lapageria it should be increased by means of layers or by the suckers which it sends up from the base. Fine specimens may be grown in pots, but this plant requires less attention when planted out in a cool position in the conservatory.

Philageria Veitchii is a hybrid between *Philesia* and *Lapageria* and is intermediate in habit between the two parents. This plant has never been common in gardens and I doubt if there are many plants in cultivation at the present day.

Mitraria coccinea is a native of Chili and likes cool, moist conditions. It is hardy in west-country gardens, but in the colder parts of the country requires to be grown indoors. It is seen at its best when planted out in a cool conservatory in a well drained bed in a compost consisting of sandy peat, with the addition of a little light loam. It is of a somewhat scandent habit and should be kept neatly tied up to stakes. Grown in pots it makes a neat, compact bushy plant and is best given a cool, partially shaded position. It is easily propagated by means of cuttings any time during spring or summer, the cuttings rooting readily in sandy peat in a close case in a cool house.

Sarmienta repens is a plant which likes cool, moist conditions. It is a slender, creeping plant and is best grown in a pan or orchid basket in a compost of soft, fibrous peat, mixed with Sphagnum, sand and charcoal. It succeeds best when kept well up to the roof glass in a partially shaded position in a cool, moist house. It is a very dainty little plant and is worth some trouble to grow successfully. It is propagated by means of cuttings.



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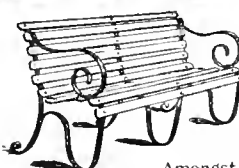
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Arsenata of Lead (Paste) for destroying all leaf-eating
insects, 2/5 per lb., post free. 1 lb. sufficient for
20 gallons of water. 20 lbs., 26/8 carriage paid.

Extract of Quassia Insecticide.—1 gallon, 5/-;
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PLANT PESTS AND PARASITES.—A useful
booklet on garden troubles by HORACE J. WRIGHT is to be
obtained from the Offices of "COUNTRY LIFE," LIMITED, 20,
Ravistock Street, W.C.2; 11d., post free.

Coleus thrysoides is undoubtedly one of the finest blue-flowered plants that we have for flowering in the greenhouse during the winter. If large specimens are required a start should now be made to propagate plants either by means of seed or cuttings. Next month will be quite soon enough to propagate smaller plants for the stages. Cuttings root easily in a close propagating case with slight bottom heat. In its earlier stages this plant enjoys an intermediate temperature, giving it slightly cooler treatment as the season advances. This plant should be given generous treatment and large specimens will require to be grown on into eight and ten-inch pots. One cannot say that this plant is easy to grow, as sometimes it lulls for no apparent reason. Watering should be done carefully, and the plant seems very susceptible to sudden changes of temperature, and sometimes moving it from one house to another is enough to give it a check. In its younger stages it should be pinched several times to induce a bushy habit. J. CUTTIS.

Royal Botanic Gardens, Kew.

OBITUARY

J. W. M'HATTIE.

WE regret to record the sudden death of Mr. John Wilson M'Hattie, superintendent of Edinburgh City Parks, which took place on Sunday, April 29. Mr. M'Hattie had been in ill-health for some time, but latterly seemed quite recovered and was attending to his usual duties the week before his death. He rose as usual on the Sunday morning, but soon after collapsed and expired. His death is much felt by the people of Edinburgh. He was for long a prominent man in Scottish and other horticultural affairs. He had been for about thirty years superintendent of Edinburgh Parks, and previous to his appointment was gardener to the Marquis of Lothian at Newbattle Abbey, having previously been in some important appointments in the south, including those of gardener to the Duke of Wellington and Mr. Whitaker Wright. A native of Banffshire, where he was born about sixty-five years ago, Mr. M'Hattie has had a career of note in horticulture, and was held in high respect by all with whom he came in contact in the exercise of his duties and in the various horticultural movements in

which he was interested. He did yeoman service for the Royal Caledonian and other horticultural societies, and his unflinching courtesy and kindness made him much esteemed. Although Mr. M'Hattie was so shortly to retire, his passing away so suddenly has cast a gloom upon the city in which he was so deservedly held in such high esteem. Much sympathy is felt for Mrs. M'Hattie in her great loss. His only child, a son, predeceased him.

A Pretty Alpine. Though a lowly and familiar plant, *Hutchinsia alpina* (*Noceca alpina*) must take high rank among alpine crucifers, for its white flowers are of a quality and texture not common in its tribe, and few are more attractive when sheeting some cool, half-shady place in which this species loves to grow. Ease of culture is also a recommendation that can be claimed by *H. alpina*, and the rich glossy green of its mats of minute leaves affords the best possible background for its broad milk-white flower-heads. These latter, appearing in April and continuing throughout the spring, are held on slender 3m. stems, but there is another member of the genus, *H. brevicaulis*, in which the stems are so short that the flowers scarcely rise above the foliage. This is no less delightful a plant for such situation as the above, and the tiny leafage, differing slightly in structure from that of *alpina*, is glossed with an iron-blue polish which makes the whiteness of the comparatively large flowers even more striking.

A Useful Carpeter. For covering the ground between shrubs, for holding in place the crumbling soil of dry banks, for wall culture and associating with Ferns and other woodland plants there is much to be said on behalf of the common *Waldsteina trifolia*. The three-fold leaves of this carpeter are a rich green throughout the year, but the young foliage and fresh runners which are put out in early spring are a glossy bronze tinted with red. These are soon followed by orange-yellow blossoms about the size of Buttercups, a succession of which is maintained the greater part of the season. Though a free and robust grower that will fend for itself almost

anywhere in sun or shade, *W. trifolia* need never be a nuisance and can easily be rooted out when it is no longer wanted.

A Beautiful Anemone.—One of the most delightful and distinct of its race is *Anemone narcissiflora*, a lover of cool, half-shady place in garden or woodland. Early in the spring sends up to the height of rather less than a foot an elegant cluster of very silky, deeply cut leaves which might be taken to be those of some hard Geranium. In the centre of this soft green ruff the flowers appear in April or later, and they half a dozen or more in number, are saucer-shaped and of an exquisite apple blossom pink and white. This charming Anemone is liable to disappear during winter in cold, ill-drained soils, but given a free-rooting medium with some leaf-mould or chopped turves, it will prove long-lived and indeed, increase in beauty year by year for many seasons. There are several forms of this plant, one with a single flower to the stem and other which show differences in the form and hairiness of the foliage, but none of them is common.

Ranunculus aconitifolius.—Though an old plant, this is not seen in gardens as often as might be, for it is of the easiest culture in a fairly good border soil that is not too dry, and is as beautiful in foliage as it is in flower. A herbaceous species, it appears in early spring and makes a bold clump some 18ins. high of rude angular stems and smooth deeply divided leaves. These are followed (April-May) by a galaxy of white blossoms about 1in. across of remarkable purity and elegance. There is a double for our old friend "Fair Maids of France," Bachelor's Buttons, in which the blossoms are each congested into tight little wads of white which are not comparable to those of the type where beauty of form is a consideration, though they may last longer. This double variety nevertheless, the one more commonly seen in cultivation.

Kew Guild.—The annual general meeting will be held at the Imperial Hotel, Russell Square, W.C.1, on Wednesday, May 30, at 6.30 p.m. The president-elect of the Guild, Mr. John Master Hulmer, will preside at the annual dinner, following the general meeting, at 7.15 p.m.

The Ghent International Exhibition. Further reports which have come to hand as to the above exhibition shew that the breakdown in the arrangements for the supply of suitable stone not only put the English nurserymen who were exhibiting rock gardens to very considerable inconvenience, but very much minimised the effectiveness of the display. Mr. Whiteleg exhibit has already been mentioned, but Messrs. T. R. Hayes and Son of the Lake District Nursery also had a very creditable exhibit which overruled the proper stone to have shewn the many visitors to the exhibition what English firms can do in the way of rock gardens. Spring-flowering Heaths, Encrusted Saxifrages, Candelabra Primulas and *Azalea roseiflora* were some of the most effective plants employed, and these were associated with suitable dwarf conifers. The neatest of Mossy Saxifrages, too, *S. muscoides atropurpurea*, was very attractively shewn.

FORTHCOMING EVENTS.

May 14.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardener Society's Meeting.

May 15.—Winchester Horticultural Society's Meeting.

May 17.—Bath and West and Southern Counties Society's Show at Swansea (five days).

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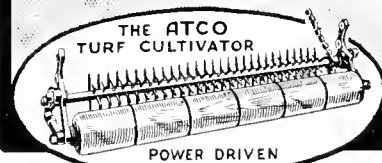
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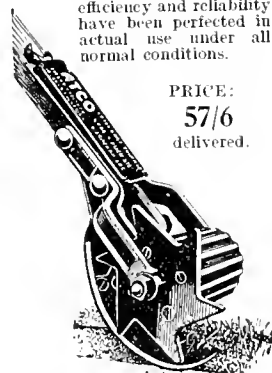


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Agrostemma, crimson, 6, 16. *Alyssum* Gold Dust, 6, 16; *montanum* rare alpine, 3, 16. **Alpine Pinks**, white or pink, creeping, 4, 14; mixed colours, 6, 14. *Anchusa* *Dropmore*, blue, 4, 14. *Alstrœmeria* (Peruvian Lily), 3, 16. **Alpine Wallflowers**, dwarf, summer flowering, bright yellow, golden and mauve for borders, old walls, rockeries, etc., 12, 14. *Antirrhinum*, autumn sown, transplanted, bushy plants, all the new colours, separate or mixed, 12, 3; autumn sown, not transplanted, mixed, 12, 16. *Anemone* japonica, pink or white, 3, 16. *Anthemis* *Kelway's* grand-flora, golden, 4, 14. *Aquilegia*, *Kelway's* lovely hybrids, 6, 14. *Aubrietia*, rich purple, 6, 14. *Auricula* alba, 4, 16. *Aster* (Maiden's Daisy), best large-flowering, beauty of colour, Perry's White, Climax, Nancy Ballard, *Ida*, etc., 3, 14. *Balm*, fragrant, 4, 14. *Brompton Stocks*, scarlet Giant and mixed, year old, transplanted, 6, 16; not transplanted, 12, 16.

Campanulas, dwarf, for rockeries, etc. or tall, for borders, etc., blue or white, 3, 16. *Campanula* *macrantha*, large mauve, 4, 14. *Campanula* *pyramidalis*, chimney bell flower, blue or white, two years old, 3, 16. *Canterbury Bells*, large year old plants, double, white, blue, pink, 6, 16; single, white, blue, mauve, pink, 12, 19. *Candytuft*, perennial, 3, 16. *Carnation* *Grenadin*, brilliant scarlet, 6, 19; *Margaret*, fine new type, crimson, scarlet, white, yellow grounds, 6, 19; good border, mixed doubles, 6, 16. *Catmint* (*Nepeta*), mauve, rockeries, etc., 4, 14. *Cerastium* (Snow in Summer), 6, 14. *Cheiranthus* (Siberian Wallflower), yellow, golden, mauve, 12, 14. *Chelone* (Lobster Flower), coral red, 4, 14. *Christmas Roses*, large roots, 1, 14. *Chrysanthemum*, rooted cuttings, all colours, early, mid or late, 6, 19. *Chrysanthemum* maximum, single hardy white *Marguerite* Daisies, very large blooms, Mrs. *Lothian Bell*, King Edward, California, Market Favourite, etc., 6, 16. *Chinese Pinks*, double and single, bright colours, 6, 14. *Cistus* (Rock Roses), lovely colours, charming for rockeries or border, 6, 16. *Commelina* *coelestis*, heavenly blue, 3, 16. *Cornflowers*, *Kelway's* blue, 12, 16. *Crucianella*, heads, pink, for rockery, 3, 16.

Daisies, grand new bedding varieties. *Monstrosa*, intensely double enormous blooms, pink or white, 12, 14; mixed, 20, 16. Large double crimson quilled, 12, 14. *Delphiniums*, best named varieties and lovely hybrids, 1 year old, 3, 16; 2 years, 9d. each; 3 years, 1/- each. *Dianthus*, charming bedder, double or single, all colours, mixed or separate, 12, 19. *Dianthus* *Lancifer*, intense orange scarlet, double, 6, 16; *Heddwedii*, chinensis, imperialis, laciniatus, equal to good *Carnations*, 6, 14. *Dianthus*, rockery varieties, *Cheddar Pink*, cruentus (blood red), *deltoides* (creeping), bright pink, 6, 16.

Erigeron *Mauve Marguerite*, 4, 14. *Erigeron* *Quakeress*, 3, 16. *Erysimum* *Golden Gem*, border, rockeries, old walls, etc., 20, 16. *Evening Primrose* *Afterglow*, large yellow, medium, 4, 14; tall yellow, 6, 16.

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Francoa (Bridal Wreath), 3, 16. *French Honeysuckle*, red flowers, 4, 14. *Fuchsia*, hardy *Crimson Bush*, 3, 16. *Funkia* (Corfu Lily), white scented, 2, 14.

Gaillardia *grandiflora*, 6, 16. *Galega*, mauve or white, 6, 16. *Geum* Mrs. *Bradshaw*, large double scarlet, large 2 and 3 year old plants, 1/- each; *Gloria*, fine double scarlet, 3, 16; *coccinea*, semi-double, bright scarlet, splendid for rockeries, 4, 14. *Gladiolus*, best large-flowering, large bulbs, 12, 19. *Gypsophila* *paniculata*, 4, 14; *glabrata*, dwarf for rockeries, 12, 19.

Helianthemum (Sun Roses), bright colours, 4, 14. *Hemerocallis*, hardy *Lily*, large yellow, orange and tawny blooms, very free-flowering, 3, 16. *Hollyhocks*, *Kelway's* double, 3, 16; single, 4, 14. *Hydrangea* *paniculata*, enormous heads bloom, quite hardy, large plants, 14 each. *Hypericum* (St. John's Wort), large golden flowers, evergreen foliage, 4, 14.

Iceland Poppies, *Excelsior* strain, 6, 16. *Incarvillea*, large bell-shaped flowers, rich carmine, yellow throat, 3, 16. *Indian Pinks*, various colours, 6, 14. *Inula* *glandulosa*, large, golden yellow, 3, 16. *Iris*, Japanese, large flowers, 3, 16; large flag, splendid large-flowering, white, mauve, yellow, blue, purple, separate, 3, 16; mixed, 4, 16; hispanica (Poor Man's Orchid), 6, 14.

Kniphofia (Torch Lily), tall orange scarlet, 3, 16. *Lilies*, hardy *Tiger*, double or single, 3, 16. *Lily of the Valley*, strong flowering crowns, 6, 16. *Linum* *perenne*, blue Flax, 6, 16. *Linaria* *dalmatica*, spikes yellow, blotched red, 6, 16. *Lobelia* *cardinalis*, spikes rich scarlet, 4, 14; *Queen Victoria*, claret foliage, 3, 16. *Lupin*, Tree, yellow or white, 3, 16; *polyphyllus*, large spikes, blue, white, etc., 6, 14; pink flowering, 4, 14. *Lychnis* *chalcidifolia* scarlet *Salmon Queen*, 3, 16; *cotinaria* silvery foliage, crimson flowers, 6, 16. *Malva* *moschata*, pink or white, 4, 14. *Mimulus* *cardinalis*, hardy scarlet *Musk*, 4, 14. *Montbretias*, spikes, brilliant colours, 12, 19.

Onopordon, tall, handsome *Thistle*, 3, 16.

Pansies, best large-flowering exhibition varieties, 12, 16, separate colours for bedding, blue, white, yellow, red, purple, golden, 12, 16; *Coquette de Poissy*, charming for bedding, lovely rosy mauve, 12, 19. *Papaver*, Oriental and *Salmon Queen*, 3, 16; orientale, crim-on and scarlet, 6, 16. *Pentstemon*, large scarlet *Southgate Gem*, Middleton *Gem* and large *Excelsior* strain, 3, 16; *gentianoides*, blue shades, 6, 16. *Periwinkle*, large blue, 4, 14. *Pulmonaria*, *Jerusalem Blue Cowslip*, very rare, large plants, 1/- each. *Physalis*, giant Chinese Lantern, 6, 16. *Pinks*, old-fashioned fragrant double white, 6, 16; Mrs. *Sinkins*, 3, 16; double, semi-double and single, all colours, very fragrant, 12, 19.

Potentilla, 4, 14. *Primulas*, lovely hardy varieties for borders, rockeries, hous, assorted, 4, 14. *Polyanthus*, best large-flowering, one year old plants, 6, 14. *Primrose*, blue and purple shades, 6, 16. *Primula* *denticulata*, large heads, blue; *rosea*, very bright pink; *corticulosa*, rosy purple; *japonica*, large heads, rich colours; *cashmeriana*, large purple heads; *ultravivida*, rich crimson flowers on stout stems; *sikkimensis* (Himalayan Cowslip), fragrant yellow flowers, shade and moisture, 3, 16. *Phlox*, large-flowering, best named, all colours, 3, 16. *Pyrethrum*, *Kelway's* hybrids, 4, 16. *Perennial Sunflowers*, Miss *Mollish*, rigidus, 6, 16. *Pyrethrum*, double pink, white, crimson, large clumps, 2, 16; *James Kelway*, large scarlet, 2, 14.

Rose Campion, bright crimson, 6, 16. *Rudbeckia* *Newmanii* *spedosa*, 3, 16.

Salvia *argentea*, silvery leaves in large rosettes, pinkish white flowers, 4, 14. *Saponaria*, trailing pink flowers, 6, 16. *Sweet Scabious*, lovely colours, dwarf or tall, 6, 14. *Scabiosa* *caucasica*, large, exquisite mauve flowers, one year old, 3, 16. *Shasta Daisy*, 4, 14. *Sedums*, 4, 14. *Silene*, pink, compact, 12, 16. *Solidago* *Golden*, 3, 16. *Solomon's Seal*, 6, 16. *Stachys*, 6, 16. *Sweet William*, new scarlet, pink and crimson *Beauty*, 6, 14; double white, 6, 14; double and single hybrids, 12, 16. *Thistle* *Queen of Scots*, 3, 16. *Thalictrum*, hardy *Maidenhair*, 3, 16. *Tritoma* (Red-hot Poker), 3, 16. *Tussilago* (Winter Heliotrope), 3, 16. *Tunica* *Saxifraga*, dwarf, edging or rockery, 6, 16.

Verbascum, tall, yellow, 3, 16. *Valerian*, crimson, 6, 16. *Veronica* *spicata*, tall blue, 4, 14; *gentianoides*, dwarf blue, 4, 14. *Viola* *cornuta*, masses of small blooms, lovely for rockeries, etc., mauve and purple *Queen*, white and blue *Perfection*, 12, 19. *Violas* from seed, Bath's bedding, yellow, white, purple, blue and mixed (all colours), 12, 16; good bedding, mauve, from seed, 12, 19; from cuttings, best large mauve, yellow and white, 12, 26.

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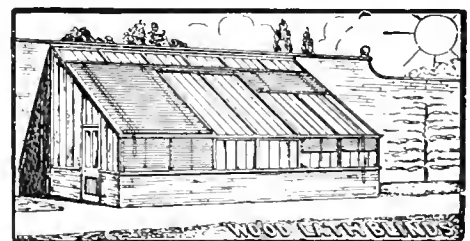
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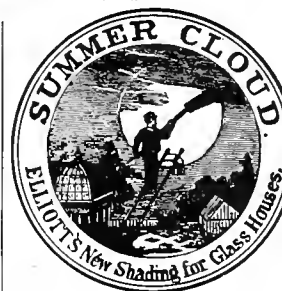
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Francoa (Bridal Wreath), 3, 1/6. **French Honeysuckle**, red flowers, 4, 1/4. **Fuchsia**, hardy Crimson Bush, 3, 1/6. **Funkia** (Cortin Lily), white scented, 2, 1/4.

Gaillardia grandiflora, 6, 1/6. **Galega**, mauve or white, 6, 1/6. **Geum** Mrs. Bradshaw, large double scarlet, 2 and 3 year old plants, 1/- each; Glory, fine double scarlet, 3, 1/6; coccineum, semi-double, bright scarlet, 4, 1/4. **Gypsophila paniculata**, 4, 1/4; glabrata, dwarf for rockeries, 12, 1/9.

Helianthemum (Sun Roses), bright colours, 4, 1/4. **Hemerocallis**, hardy Lily, large yellow, orange and tawny blooms, 3, 1/6; new double orange red, 2, 1/6. **Hollyhocks**, Kelway's double, 3, 1/6; single, 4, 1/4. **Hydrangea paniculata**, enormous heads bloom, quite hardy, large plants, 1/4 each. **Hypericum** (St. John's Wort), 4, 1/4.

Iceland Poppies, Excelsior strain, 6, 1/6. **Incarvillea**, large bell-shaped flowers, 3, 1/6. **Indian Pinks**, various colours 6, 1/4. **Inula glandulosa**, large, golden yellow, 3, 1/6. **Iris**, Japanese, large flowers, 3, 1/6; large flag, splendid large-flowering, white, mauve, yellow, blue, purple, separate, 3, 1/6; mixed, 4, 1/6; hispanica (Poor Man's Orchid), 6, 1/4.

Kniphofia (Torch Lily), tall orange scarlet, 3, 1/6.

Lilies, hardy Tiger, double or single, 3, 1/6. **Linum** perenne, blue Flax, 6, 1/6. **Linaria dalmatica**, spikes yellow, blotched red, 6, 1/6. **Lobelia cardinalis**, spikes rich scarlet, 4, 1/4. **Lupin**, Tree, yellow or white, 3, 1/6; polyphyllus, large spikes, blue, white, etc., 6, 1/4; pink flowering, 1, 1/4. **Lychnis chalcedonica**, scarlet or Salmon Queen, 3, 1/6; coronaria, silvery foliage, crimson flowers, 6, 1/6.

Malva moschata, pink or white, 4, 1/4. **Mimulus cardinalis**, hardy scarlet Musk, 4, 1/4. **Montbretias**, spikes, brilliant colours, 12, 1/9.

Pansies, best large-flowering exhibition varieties, 12, 1/6; separate colours for bedding, blue, white, yellow, red, purple, mauve, golden, 12, 1/6. **Papaver**, Oriental and Salmon Queen, 3, 1/6; orientale, crimson and scarlet, 6, 1/6. **Pentstemon**, large scarlet Southgate Gem, Middleton Gem and large Excelsior strain, 3, 1/6; gentianoides, blue shades, 6, 1/6.

Pulmonaria, Jerusalem blue Cowslip, rare, large plants, 1/- each. **Physalis**, giant Chinese Lantern, 6, 1/6. **Pinks**, old-fashioned fragrant double white, 6, 1/6; Mrs. Shirkins, 3, 1/6; double, semi-double and single, all colours, fragrant 12, 1/9.

Potentilla, 4, 1/4. **Primulas**, lovely hardy varieties for borders, rockeries, bogs, assorted, 4, 1/4. **Polyanthus**, best large flowering, 6, 1/4. **Primrose**, blue and purple shades, 6, 1/6. **Primula denticulata**, lilac; rosen, bright pink; cortusoides, rosy purple; japonica, rich colours; cashueriana, purple; pulverulenta, rich crimson flowers; skinkunensis (Himalayan Cowslip), fragrant yellow flowers, 3, 1/6. **Phlox**, large flowering, best named, all colours, 3, 1/6; **Pyrethrum**, Kelway's hybrids, 4, 1/6. **Perennial Sunflowers**, 6, 1/6. **Pyrethrum**, double pink, white, crimson, large clumps, 2, 1/6; James Kelway, large scarlet, 2, 1/4.

Rock Roses, trails bright flowers, 6, 1/6. **Rose Campion**, bright crimson, 6, 1/6. **Rudbeckia** Newmanii speciosa, 3, 1/6.

Salvia argentea, silvery leaves in large rosettes, white flowers, 4, 1/4. **Saponaria**, trailing pink flowers, 6, 1/6. **Sweet Scabious**, lovely colours, dwarf or tall, 6, 1/4. **Scabiosa caucasica**, large, exquisite mauve flowers, one year old, 3, 1/6. **Shasta Daisy**, 4, 1/4. **Sedums**, 4, 1/4. **Silene**, pink, compact, 12, 1/6. **Solidago** Golden, 3, 1/6. **Solomon's Seal**, 6, 1/6. **Sweet William**, new Scarlet, Pink and Crimson Beauty, 6, 1/4; double white, 6, 1/4; double and single hybrids, 12, 1/6. **Thalictrum**, hardy Maidenhair, 3, 1/6. **Tritoma** (Red-hot Poker), 3, 1/6. **Tussilago** (Winter Heliotrope), 3, 1/6. **Tunica Saxifraga**, dwarf, edging or rockery, 6, 1/6.

Verbascum, tall, yellow, 3, 1/6. **Valerian**, crimson, 6, 1/6. **Veronica spicata**, tall blue, 4, 1/4; gentianoides, dwarf blue, 4, 1/4. **Viola cornuta**, masses of small blooms, lovely for rockeries, etc., Mauve and Purple Queen, White and Blue Perfection, 12, 1/9. **Violas** from seed, Bath's bedding, yellow, white, purple, blue and mixed (all colours), 12, 1/6; good bedding, mauve, from seed, 12, 1/10; from cuttings, best large mauve, yellow and white, 12, 2/6.

STRONG TRANSPLANTED GREENHOUSE AND SUMMER BEDDING. **Agapanthus**, blue African Lily, two year old, 2, 1/4. **Agatha**, blue Marguerite, 6, 1/6. **Aralia** (Fig Palm), 3, 1/6. **Arum Lily**, one year, 3, 1/6. **Asparagus Fern**, erect or trailing, 3, 1/6. **Asters**, double or single, 12, 1/-; **Ageratum**, blue, 12, 1/-; **Balsams**, double, 12, 1/4. **Begonias**, evergreen, perpetual flowering, 4, 1/4. **Beauty Stocks**, fragrant, 6, 1/6. **Cannas**, Crozy's hybrids, strong two year old, 3, 1/6. **Celsia cretica**, spikes yellow and mauve, 4, 1/4. **Clarkia**, 12, 1/4. **Cobaea scandens**, handsome, rapid climber, large purple flowers, 3, 1/6. **Cyclamen**, choice climber, large purple flowers, 3, 1/6. **Collarette**, Colossal strain, 3, 1/6. **Dahlias**, Peony-flowered, Colliette, Colossal, single, Cactus, double, etc., 4, 1/4. **Deutzia gracilis**, 1 for 1/4. **Echeveria**, glaucous rosettes trailing red flowers, 4, 1/4. **Eucalyptus** (Blue Gum), 4, 1/4. **Fuchsias**, choice sorts, 4, 1/8. **Francoa** (Bridal Wreath), 4, 1/4. **Gloxinias**, large erect blooming, lovely colours, 2, 1/4. **Heliotrope** (Cherry Pie), 3, 1/6; bedding, 4, 1/4. **Heliotrope** regale, enormous heads of bloom, 4, 1/4. **Ivy Geraniums**, double pink, 3, 1/6. **Larkspur**, 12, 1/4. **Lobelia cardinalis** Queen Victoria, daret foliage, spikes scarlet flowers, 3, 1/6. **Lobelia**, rooted cuttings, best blue, 20, 1/6. **Marguerite** Covent Garden White and large yellow and sulphur, 4, 1/4. **Nemesia**, 12, 1/-; **Nicotiana**, white or crimson, fragrant Tobacco, 4, 1/4. **Passion Flower**, 2, 1/6. **Pentstemon**, grand bedders, 6, 1/6. **Plumbago**, blue, 1, 1/4. **Primula obconica**, new giant, lovely colour, 3, 1/6; Kewensis, yellow, 4, 1/4. **Rehmannia**, large pink trumpet flower, greenhouse perennial, 3, 1/6. **Salvia coccinea**, scarlet, 4, 1/4. **Saxifrage** Mother of Thousands, 4, 1/4. **Schizanthus**, new hybrids, 12, 1/6; Pink Pearl, 6, 1/4. **Smilax**, trailing, 4, 1/4. **Streptocarpus** (Cape Primrose), new hybrids, 3, 1/6. **Stocks** (Ten Week), 12, 1/4. **Sweet Peas**, 20, 1/6. **Verbenas**, 12, 1/4. **Zinnias**, 12, 1/4.

Tomato, strong transplanted, best varieties, 6, 1/6.

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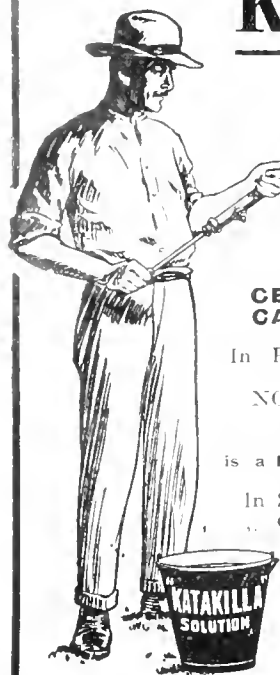
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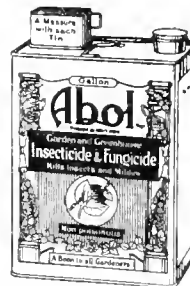
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No. 2687.—Vol. LXXXVII.]

[MAY 19, 1923.]

SOME GEMS OF THE ROCK GARDEN

THE period which may be said to synchronise with the flowering of most of the Mossy Saxifrages and the gradual awakening of the Encrusted ones—this year about mid-April with us—is one of the most interesting of the rock gardener's year. Yet its peculiar attractiveness does not, to my mind, arise from the fact that during that period those same Mossy Saxifrages make so brilliant a show, nor yet because it is at that time the gallant Aubrietias have made such wonderful masses of colour. Those few weeks are most precious because it is during them that so many of one's favourite plants come into flower.

These may not be among the newer things; often they are comparatively common. Nor are they, as I have suggested, always the most colourful of their time. A good many of them are simply well tried, faithful friends, as often as not having a quiet fascination which is beyond analysis, as it is certainly beyond the comprehension of those non-gardening, but quite polite, visitors who would, you feel sure, be so much happier at the Crystal Palace among the scarlet Geraniums and cement than studying the unfolding of *Vancouveria hexandra*.

Always to be counted among the elect is little *Erodium chamaedryoides* (Reichardti) from the Balearic Islands. There is something inexpressibly sweet about the cold white flowers and dark green leaves of this tiny treasure, something which has not been imperilled in the least degree by the arrival of the much rarer pink form (rosea) now a-bloom close by it. *E. chrysanthum* is another April bloomer in this genus which is by no means a showy plant. Yet there is an elegance in the lax and drooping flowers of pale primrose yellow that is not less charming than the exquisite delicacy and softness

of the silvery leafage. *Androsace Lagerri*, one of the forerunners of its race, must also be mentioned. If it is not a very free bloomer here, there is a satisfaction in the few stems which rise above its cushion of lively green, each bearing its rosy pink bell, which is not always vouchsafed by plants of bolder ambitions. Also after its kind, but more glaucous of foliage, is *Douglasia* (*Androsace*) *Vitaliana*, which yields but shyly on short, slender stems in early April its lovely citron-yellow blossoms.

Alsine (*Arenaria*) *laricifolia* also succeeds in winning its way into one's select list, not perhaps for any special beauty in colour or form, but probably because of its irrepressible cheerfulness, for it breaks out into the sappiest of grassy greens before most things have heard the call of spring, and flops over the rock face with a heartiness of some lusty weed, just in time to open its white flowers to April's most genial hours. Very different is *Silene acaulis*, albeit a gem of the first water. There are some happy people who are said to have been satiated with the loveliness of its pink-starred carpets on alpine heights—others, possibly

no less happy, will frankly tell you the thing is not worth fourpence and that to admire it is merely a form of madness. To me it recalls some good days on the stony ribs of the Rockies, and there are many things in the April rock garden less worth looking for than those wee red crosses on their pads of moss. But as their colour is not a fast dye you must see them before the sun has stolen their flush of youth.

Arenaria montana cannot be praised too highly. It is so content to make its own way, to fit itself in with whatsoever it happens to have seeded among that it remains one of the most cherished objects of the spring garden. The form known as *A. m. grandiflora* is much the best, and whether this has claimed the companionship of Heaths, creeping *Cotoneasters* or native Ferns, mounting their branches or fronds like a climber, or whether its milk-white moons are lying in garlands amid the glorious purple of *Viola gracilis* it is equally charming. Not less independent by nature, and certainly not less lovely, is the double *Lady's Smock*, *Cardamine pratensis*, which will bring to any cool place its generous drifts of clear lilac and perpetuate itself by leaf-layers for ever.

Of quite a different temperament is the entrancing *Mertensia primuloides* with its forget-me-nots of velvety violet and turquoise and old gold. But if this, like its bewitching sister *virginica*, is inclined to think our garden treatment hardly worthy of such a priceless gem, we can at least be grateful for such flower spikes as it is willing to unfurl, without the necessity of inflicting upon it or ourselves the deception of an artificial moraine.

Veronica satureioides is a very prostrate, carpeting species of woody growth and leathery leaves, which justly can claim a place among the chosen. The fuzzy little cones



THE SPLENDID GENTIANELLA, GENTIANA GENTIANELLA.

THE ADMIRABLE WHITE FORM OF *VIOLA GRACILIS*.A CHARMING WOOD-SORREL, *OXALIS ENNEAPHYLLA*.*PHLOX SUBULATA LILACINA* (G. F. WILSON).

of pale purple, speckled with crimson anthers, it presents like a patch of rich colour among certain of the more lowly Sedums and other things of not too hot a slope. *S. Nevii* is one of the choicest of these and it is now breaking into flower with the larger *S. ternatum* and the almost shrubby *S. confusum*, which holds aloft its bold heads of gold. Harebells, also, is a very lovely little annual *Veronica*, not more than 2 ins. high, with large Speedwell blossoms, 1 in. across, in a most intense lobelia blue with a white eye. This delightful stray arrives every April, to come up in all sorts of unexpected places, in masses and singly. It is especially attractive among the Sedums and has a partiality for seeding among some dwarf and rather sparse carpets of *Aubrietias variegata aurea* and *argentea*, which seldom have many flowers of their own. Two more *Veronicas* which claim notice here are *V. pectinata*, whose large bright blossoms, in both blue and pink, are now beginning to adorn its drifts of downy verdure, and *V. cinerea*, with flowers of a luminous pale blue on a foliage of ashen grey.

Among the many Alpine *Phloxes* one is half fearful of doing an injustice to those which do not deserve it, by leaving them unnamed while making special allusion to the favourites of the hour. These latter must include *P. subulata*, "G. F. Wilson," unsurpassed in the cold electric blue of its generous flowers, the wonderful little "Vivid" and the snow-white "Nelsoni" (hybrid). Then there is the downy, trailing species, *P. verna* (reptans or stolonifera) in a very fresh rose-carmine, and the frail but erect *P. amana*, with very large drooping blossoms of a bold rosy lilac. There are others, as I have said, lots of them, which might justly claim inclusion here, but of those now in flower I think I have selected the most appealing.

Gentiana Gentianella, still one of the most strikingly beautiful of its race, retains its hold upon one's affections despite the crush of rivals. But its trumpets are so big, so bold and so blue that they never, when the plants are grown alone, seem to give the effect that one feels they ought to give. For example, we have one planting of this *Gentian* with which was incorporated a quantity of spring Crocuses and another in which the plants are the sole occupants of the place allotted to them. Now the former, in which nearly 300 fully expanded blossoms have just been counted, is incomparably more satisfying, with the splendid velvety-blue flowers standing amid the arching "grass" of the Crocuses, than those others which have the plot to themselves. Incidentally, I may add that some clumps of *G. verna* which were simply "stuck-in" near these *Gentianellas*, the poor, stony soil having had no special preparation, are crowded with magnificent blooms, while those in a bed most carefully prepared for them are puny and miserable!

Though my space is running-out, there are still more claimants for this list. *Dryas octopetala* is one of these and no better rock plant was ever introduced. For years we were unable to satisfy this hardy alpine, but since it has been abandoned to the mercy of encroaching companions—*Thymes*, *Hypericums* and what not—it has gone ahead with the utmost heartiness. However, there are good and bad forms of this pretty trailer, just as there are of the superbly beautiful *Oxalis florbunda* which is yet another of one's indispensables. A bold clump of this latter about a foot high and as much across, with flowers nearly an inch in diameter, all shimmering like rosy red satin in the noonday sun, is an object worth living for. The little pink Wood Sorrel (*O. Acetosella rosea*) is also one of those plants which one would miss at this season. As for *O. enneaphylla rosea*, we have not yet been able to realise Mr. Clarence Elliott's appreciation

(page 196) of it since it is evident we have not got the really rosy form of that excellent plant. That being so, I must plump for *O. adenophylla*, with the dark crimson-purple eye, a flower of the rarest beauty and of which the unfolding leafage is even

more quaintly pretty than that of *O. encephylla*, though both are modelled on the same pattern. *O. encephylla*, I may add incidentally, spreads rapidly in this garden, a characteristic which, as Mr. Elliott says, is not common. A. T. JONSSON.

A SELECTION OF DWARF SPRING-FLOWERING SHRUBS

TWO little shrubs in the rock garden are mainly responsible for this contribution, one being *Berberis Irwinii* and the other *Cytisus Ardoini*. The former is one of the *B. stenophylla* hybrids and might be fairly described as a minute *Darwinii*. In leaf and bud and flower it closely resembles that gorgeous species, and that I think will be recommendation enough for most people. A specimen we have had for some years has not yet attained the height of gins, and every April its somewhat drooping branchlets are heavily clustered with their large orange-yellow blossoms. An ideal shrub for a ledge on the level of one's eye. As for *C. Ardoini*, the intense golden-yellow of the fragrant flowers which throng its 6in. stems is one of the most conspicuous patches of colour in the spring garden. This hearty bushling delights in any dry, sunny spot.

From *C. Ardoini*, crossed with the White Spanish Broom, came the elegant *C. kewensis*, whose lax and trailing stems, bearing ivory-white flowers, often larger than those of either of its parents, do not rise more than a few inches above the soil or rock face. Yet another for which we have, in part, to thank *C. Ardoini* is *C. Beani*, the slender, whippy shoots of which are more erect than those of *C. kewensis*, as their flowers are more golden. *C. decumbens* is also a first-rate dwarf shrub, one that will hug the surface of a rock with a veil of wiry green branches which blaze into yellow before the spring is half-way over.

Genista hispanica's glowing mounds of colour, often as symmetrical as an old-time beehive, are always welcome. This is a lowlier, more compact and refined plant than *G. germanica*, which comes on later, and it provides us with a very diminutive form which has its uses in large gardens no less than in small. Though *G. anglica* and *tinctoria*, both natives, are sometimes not seen in flower until full summer, they often give colour much earlier and this year we have them out in May. The former is, perhaps, most generally adaptable for associating with the lesser Heaths, but the double form of *G. tinctoria* is a really attractive little rock plant with an almost prostrate habit and a dense mass of dark glossy-green foliage. It is curious to note how the tips of the old shoots in this *Genista* are leafless and hardened almost to a spike, this giving the plant a bristly appearance. From which we may assume that a thousand years hence *G. tinctoria* will be armed with a formidable array of spines and that unless the epidermis of the rabbit's nose has by that time also been evolutionised so as to enable it to attack the tender shoots which hide behind those defences, the said rodent will perforce have to seek other fare. *G. anglica*, the Needle Furze, has already wisely averted extinction in the manner suggested.

However, this is by the way. *G. sagittalis* may be omitted from a select list, which promises to be too long for one's space, and *G. pilosa* and *radiata* may also be excluded, but with more regret. I suppose most people would not hesitate to give *Daphne Cneorum* a foremost, if not the first, place among the dwarf shrubs of the April-May rock garden and I would not quarrel with their choice.

For where a bold, pure colour, refinement, grace and a delicious fragrance are desired in combination, *D. Cneorum* will give them in abundance. This glorious plant, we are happy to say, grows with the utmost freedom in our light loam, yet it is one of the most disheartening plants imaginable in the gardens of a neighbour whose conditions



THE JUNE-FLOWERING LEIOHYLLUM BUXIFOLIUM.

appear to be identical with ours. *D. Cneorum* major is even more sumptuous in all its parts and there is a pretty white form.

Very attractive against the thick-set, dull green foliage of *Leiohyllum buxifolium* (*Ledum Lyoni*) are the clusters of bright red buds which now appear on this little American shrub. This is a delightful plant for any cool soil, the said buds breaking into a multitude of tiny silvery-white blossoms. The pale lettuce-green of *Spiraea decumbens*, which blooms rather later, makes a pleasing contrast with the above and another good and somewhat similar species is *S. Hacquetii*.

Teucrium fruticosum (*latifolium*) must also be included here, though as a wall shrub it will often exceed the limitations of a dwarf. This is a fairly hardy plant and the large pale azure blossoms which appear among its silvery leaves towards the end of April in specimens not cut back, will be maintained in succession the season through. Of somewhat similar habit is the lovely *Veronica*

Hillebrania, whose semi-trailing branches are now terminating in those wonderful sprays of cool lavender.

Among the earlier *Cistuses*, *C. Gauntlettii* (almost a crimson) must be given high rank and the silvery-pink *C. creticus* is another lowly species of quality. *C. rosmarinifolius*, when it is not something else! is a choice little upright shrub, whose pure white flowers are afforded such an admirable background in the dark green, rosemary-like foliage, and both *Cistus* (*Heliathemum*) *formosus* and the variety *unicolor* are always among the first of the yellows.

With these latter opens the season of the Sun Roses of garden origin, whose hue range of colours, elegance and freedom of habit have won for them so much popularity. There is sufficient choice among these pretty things to satisfy the most exacting tastes, and there are one or two which I

should not like to be without. They are *H. Chamæcistus*, Miss Mould, *tomentosum*, *Fireball* and a very silver-leaved variety with larger flowers than any other (*i.e.*, nearly 2ins. in diameter) in a most delicate wild rose pink.

A rather remarkable little shrub among the Heaths at this season is *Bryanthus erectus*, said to be a blend of *Rhododhamnus* and *Kalmia*; but it has so much in common with *Bryanthus empetrifolius* that one cannot help thinking it is related. Seen growing side by side, *B. erectus* suggests an upright form of *B. empetrifolius* with foliage of a rather darker green and flowers of the same size and vivid rose colour, but differing in one notable particular, which is, that they open wide like those of an *Azalea*.

Rhododendron glaucum still holds its own among the inrush of Japanese and other kinds and it will have to be a shrub of parts that can rival this little Himalayan in shapeliness, slow growth, regular flowering and the cheerful apple-blossom

pink and white of its pendent clusters of wide-mouthed bells. Being an evergreen it is the more valuable in the rock garden than its contemporary, *R. (Azalea) Vaseyi*. The pinky white flowers of this latter are now very lovely in the shade of the woodland, where also flourish *AA. ledifolia alba* and *narcissifolia*, whose very double flowers are a delightful shade of lavender purple. And so one might go on to *AA. viscosa* and *nudiflora* and *Rhododendron punctatum*, a loose-habited, semi-trailing species, with neat little clusters of silvery pink blossoms, and many others.

A good word for the early and very fragrant *Lavandula dentata*, for *Calceolaria violacea*, just shaking out its dainty cowbells in violet and white and gold, and for *Thymus comosus* must complete a somewhat incomplete list. Of the last-mentioned I am not quite sure. It came here under that name, grows nearly a foot high, and throughout April and May its grey-green branches are a mass of comparatively large rosy lilac flowers. N. W.

THE TREE PÆONIES

UNTIL the introduction some few years ago of two shrubby species of Pæony from China, the only one grown in gardens in this country was the well known *P. Moutan*. The large handsome flowers of this plant in many beautiful forms both single and double, are familiar to most garden lovers, and as a decorative plant for sheltered situations it is unsurpassed for producing an effective display.

With the exception of certain favourable localities Tree Pæonies do not flower so freely as may be desired, and they frequently suffer from the effects of spring frosts on their tender shoots. A partially sheltered situation should be selected for these plants, either in a corner between walls or houses, or in a shrubby border not exposed to the east winds. After the plants have commenced growth in spring it is advisable to protect the young

bare for two-thirds of the actual height, and crowned by a mass of finely cut, light green leaves, very graceful in appearance, with the flowers often at, or near the base of the foliage. The flowers range in size from 2½ ins. to 4 ins. in diameter and are semi-pendulous; the petals being very fleshy, shining, of a deep, almost blood crimson, with golden or greenish yellow anthers. *P. Delavayi* has been established in many places in this country and has proved easy to cultivate and is fairly free-flowering.

P. LUTEA.—This species was also found by the Abbé Delavay in 1883 on the limestone mountains east of the great Tali Lake. It grows to a height of 3 ft. to 4 ft. and is found in similar situations to *P. Delavayi*. It flowered for the first time in the Jardin des Plantes at Paris in 1887, having been raised from seed sent home by the Abbé Delavay. Seeds were also sent home by Wilson and Forrest,

It has branching stems and deeply cut leaves. The flowers are very large, variable in colour, and there are both single and double forms, blooming out of doors during the month of May. The best plants I have seen were grown in the sheltered angle of a high wall at the end of a greenhouse, with a south-western exposure. Here it used to flower freely, producing its huge double flowers in abundance. A few of the many beautiful varieties in cultivation are: *Athlete*, rose; *atro-sanguinea*, deep blood red; *Comata*, white; *Dr. Bowring*, rose pink; *Emperor Alexander*, rose tinged with lilac; *Flora*, pure white; *fragrans maxima plena*, salmon red; *Leopoldi*, carnine; *Madame Stuart Low*, salmon red; *Reine Elizabeth*, rose pink; and *Zenobia*, dark maroon.

PP. Delavayi and *lutea* are readily raised from seed and soon make good flowering plants. They are also propagated by grafting on the usual stocks used for the purpose in the case of the finer double forms of the Tree Pæony, *P. Moutan*.

W. L.



A TYPICAL BLOSSOM OF A SINGLE VARIETY OF PÆONIA MOUTAN.

shoots with a covering of some sort while there is danger of frost. For Pæonies to flower at all freely the wood must be thoroughly ripened after growth, so that a sunny place is essential. They prefer a rich, deep loam, which should be well trenched before planting, while plenty of manure should also be added. Tree Pæonies may also be grown in pots for flowering under glass, and may be had in flower early in March, but they require a very rich soil.

P. DELAVAYI.—This species was discovered by the Abbé Delavay, after whom it is named, in the year 1884, on the Lichiang Mountains of Western China. It was growing on the limestone at an elevation of from 10,000 ft. to 12,000 ft. It is not, however, confined to this range of mountains, as, during recent explorations, it has been found fairly abundantly in most alpine regions of Western China and Tibet. Forrest says that these Pæonies are plants of the open Alps, but are at their best where a certain amount of shelter from wind is afforded by scattered scrub and bracken. Generally they are found on a southern or eastern exposure, in light, rubbly, well drained loam. There they often reach a height of fully 6 ft. The stems are generally

who met with it in their travels in the Yunnan region. It has proved quite hardy, and although the stems sometimes get cut down to the ground in winter, fresh shoots are sent up in spring. The leaves are large and glaucous and divided into a large number of segments. The flowers in the type are a clear, deep yellow, 4 ins. across, semi-double and of good substance. Their chief fault is that they are pendulous and often hidden beneath the foliage. Good forms of this plant have been selected and sent out under the names of *grandiflora* and *L'Esperance*, both with larger and more erect flowers. In his journey Forrest met with many colour variations, from sulphur to a deep canary yellow, while others were blotched with deep crimson at the base, or flushed with dull brownish orange. *P. lutea* flowers in June, two or three weeks later than *P. Delavayi*, and while in the latter the new growth comes up close to the old stems, in *P. lutea* shoots come up often 18 ins. or more away from the main plant.

P. MOUTAN.—This species is widely cultivated in China and Japan and was introduced into this country as long ago as 1789. Of shrubby habit, it grows up to 5 ft. or more in favourable situations.

GREENHOUSE ACACIAS

THE genus *Acacia* comprises 420 species at a moderate estimate, but others have been discovered since this estimate was made. They are spread over the warmer regions of the Old and New Worlds, but occur most abundantly in South Africa and Australia. All the best greenhouse species come from some part of Australia or the neighbouring island, Tasmania. Strange to say, not a single species is native to New Zealand, though *AA. decurrens* and *dealbata* have become naturalised in some places, as a result of planting them for tanning purposes. The allied *Albizia lophantha* has also got naturalised in a similar way.

The Acacias are members of the Pea family, though they have small, regular flowers crowded into dense globose heads or spikes, totally unlike the flowers of a Pea, and not to be confused with *Robinia*, often called *Acacia* or *False Acacia*. They are sometimes named *Mimosas*, especially those that are brought from the South of Europe, where they bloom in the open, for sale in the London markets during winter. Except along the southern and western seaboard of Britain they must be regarded as greenhouse plants in this country. They do not require much heat, however, so long as frost is excluded, and will be happy at anything between 40° and 50°. They are just the shrubby plants for the heated greenhouse of the amateur, while at the same time they are fitting plants for the greenhouses of a king.

They are of the easiest cultivation at all times of the year, and make their best growth, plump up their flower-buds and flower most profusely when stood on a bed of ashes in the open air from May or the beginning of June to the beginning of October, when they should be taken indoors again. They may be grown in pots or tubs, according to size, but do not require a great deal of root room. Their flowering period, under the above conditions of temperature, ranges from February till June, though most of them bloom between March and May. Their flowering may be hastened by keeping the temperature a little higher than it need be. A few plants may be put into heat at a time to secure a succession, but it is well not to allow the temperature to rise above 55° with sun-heat, giving air at the same time to make the flowers more durable. These plants should be put in a cool conservatory as soon as they are fairly in bloom.

The bushes or trees may be pruned into shape as soon as they have done flowering, and repotting may be done then if a larger pot is required. The best compost consists of loam and peat in equal proportions, with a good sprinkling of silver sand; but leaf-mould may be used instead of peat if more convenient. The new soil should be rammed in fairly firmly with the potting stick to make it bind with the old material. Being evergreen, these plants should not be hard pruned, and will flower all the better if only trimmed into shape. Some of the smaller ones, like *AA. Drummondii* and *pulchella*, will stand more pruning than the taller ones, especially if they are kept in the greenhouse to start them freely into growth before being put outside.

All of them may be increased by means of seeds when obtainable. *A. dealbata* and *Albizzia lophantha* (usually named *Acacia*) are more often raised from seeds than any others, and seeds are readily obtainable. The others may be increased in summer by means of cuttings of half-ripened wood, removed with a heel and inserted in pots in equal parts of peat and sand. Press the compost firmly into well drained pots, cover it with silver sand, insert the cuttings firmly, and water them well through a fine rose to settle the soil. After the cuttings have dried they may be placed under bell-glasses or hand-lights and shaded from bright sunshine till rooted. Never allow them to get dry. As soon as the cuttings are rooted they should be potted off singly. The after-culture consists in stopping the bushy types occasionally to get branching bushes for small pots. Tall-growing species like *AA. dealbata* and *longifolia* should be allowed to run up like little trees without stopping. Being evergreen, none of them should be allowed to get dry at the root, even in winter; but during warm and dry weather in summer they should be given an abundance of water to favour a liberal growth of young wood, for upon this depends a profusion of flowers.

ACACIAS WITH LEAVES.—Most, if not all, *Acacias* produce true leaves in the seedling stage, but lose them in a great many cases after they have made a little growth, the functions of leaves

being afterwards performed by the leaf stalks, which are flattened on both sides, more or less widened and named phyllodia. True leaves are mostly twice divided and the leaflets very small. The best known of this group is *A. dealbata*, often grown as a climber in conservatories, but brought to this country from the South of Europe in great abundance during the winter in the cut state. It is the Silver Wattle of the settlers in Australia, so named from the grey undersurfaces of the leaves. The large panicles of bright yellow flowers are very handsome and last long in the dried state. A more recent introduction is *A. Baileyana*, of more slender growth, with smaller leaves. When first introduced it was considered a finer thing and likely to supersede *A. dealbata*, but so far this has not been confirmed. There is room for both. The tall-growing *Albizzia* (*Acacia*) *lophantha* is greener in foliage and generally grown in the flower garden during summer. The beautiful

Acacia Drummondii with its long, cylindrical spikes of flowers is a most useful plant in the greenhouse, because it can be flowered at any height, from 1ft. to 10ft. *A. pulchella* varies from 2ft. to 3ft. in height, and has two taller-growing varieties usually regarded as distinct species in gardens.



ACACIA LEPROSA, A TYPICAL SPECIES WITH PHYLLODIA.

One of these is *A. grandis* with longer pinnae and one or two heads in the axils of the leaves. The other is *A. hispidissima* with white, globular heads, a very unusual colour among *Acacias*. Small plants of all three can always be had by rooting cuttings occasionally.

ACACIAS WITH PHYLLODIA.—This form looks as leafy as the other type, and the phyllodia are regarded simply as leaves by most gardeners. The peculiar structure of the leaf-stalk is a natural device to counteract the heat and drought of a dry climate. The leaf-stalk is flattened vertically so that the sun strikes it on the edge chiefly. Both surfaces are of identical structure and colour, as in an adult *Eucalyptus*.

A. leprosa, though introduced in 1817, never became widely disseminated in private gardens while *Acacias* were popular, so far as my observations went, but it is one of the most handsome, with its broad leaves and long branches laden with large bright yellow heads. One could wish it were more common now. A narrow-leaved variety, *A. l. tenuifolia*, was introduced in 1883. The pale yellow *A. Rieana*, on the contrary, used to be in almost every greenhouse. Its long, twiggly branches and small leaves resembled cataraacts of drooping spray when in bloom, and the plant has been compared to a Weeping Willow. No *Acacia*, perhaps, was more widely circulated forty years ago than *A. armata*, with its upright habit, densely leaty twigs and single heads of bloom, thickly produced all over the branches. Pot plants for the conservatory were indispensable. It was often raised from seeds, and the varieties *A. a. angustifolia*, *A. a. microphylla* and the weeping *A. a. pendula* are still in cultivation.

Not many years ago the graceful, twiggy and upright shoots of *A. haetulata*, laden with small pale yellow heads along the greater part of their length, might frequently have been seen at the



ACACIA BAILEYANA, WITH TRUE LEAVES.

meeting of the Royal Horticultural Society. The species rejoined in a number of other names, including *A. cordata*, *A. cordifolia* and, perhaps, *A. ovata*. Another handsome and beautiful species is *A. linearis* with branching spikes of flowers and long, narrow leaves clothing the twiggy branches. Smaller in every way is *A. diffusa*, seldom exceeding a height of 2 ft. If contrast is wanted in the form of these flattened leaf-stalks, it can be found in *A. cultorumis* with its curved and hooked organs, resembling a sort of knife though scarcely run in length. Those of *A. glaucescens* are sickle-shaped.

As far as I have seen, *A. platyptera* is unique, inasmuch as the broad leaf-stalks run down the

twigs in the form of broad green wings, totally unlike any other. It flowers freely and recalls *Genista sagittalis*, but grows 2 ft. to 3 ft. high and stands perfectly upright. It is a great curiosity, besides being ornamental. *AV. verticillata* and *juniperina*, on the other hand, resemble long-leaved Junipers, with their narrow, sharply pointed leaves arranged somewhat in whorls round the twigs. They may be grown in pots, but make handsome bushes planted out in the cool conservatory and allowed to grow into pyramids 6 ft. to 10 ft. high. At one time *A. longifolia* was very popular on account of its bold habit, long leaves and profusion of flowers. Four varieties were named floribunda, magnifica,

micronata and *Soploren*, and testify to the esteem in which it was held. *A. melanoxylon* is similar in habit, but sometimes bears true leaves at the ends of the branches.

Fortunately, all of the above are still in cultivation or were so until quite recently, and green-houses and cool conservatories would be greatly enriched by their more extensive cultivation and dissemination in private gardens. Few of the stove species are now grown and, perhaps, none of them get outside botanic gardens. The Bull's Horn *Acacia* (*A. spherocephala*) is the most interesting, because the old and broken spines get inhabited by ants in its native country protecting it against leaf-eating insects. J. F.

TULIPS AT VINCENT SQUARE

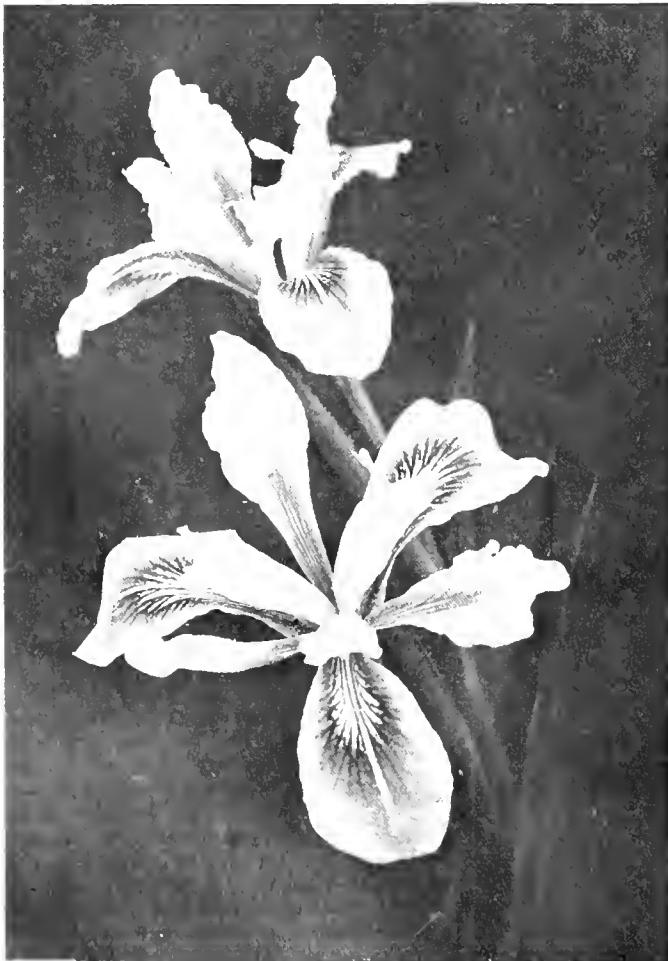
THE height of the May-flowering Tulip season generally coincides with the Great Spring Show at Chelsea, but with a rather later date for the Show than usual and an early season it is more than probable that the fortnightly meeting of May 8 and 9 at Vincent Square provided the Tulip feast of the year. It was also the occasion of the annual Show of the National Tulip Society, but as that body has resolutely set its face against the Tulip as a garden flower, it gains no glory from the wonderfully gorgeous displays of Darwin, Cottage and Parrot Tulips that were arranged around the hall. The exhibits of the special society were set out in the annexe, and could

comfortably have been displayed on a fair-sized dining-table. Although the enthusiasts show their fancy flowers—the flaked and the feathered blooms of the hyblomems, the bizarres and the roses—cut short in the stems and on exhibition boards, yet these “refined” blooms have a certain and distinct value in the garden, and when shewn would fascinate many visitors if only the blooms were set up in a natural manner.

To those, whom one may call the non-florists, who know nothing of the “points” of the fanciers’ flowers, it would be the class for Breeder Tulips that would attract most attention. The four exhibits of six blooms of this type were all especially good, and the flower of *Gleam*, which was the

premier Breeder in the Show, in Mr. C. W. Needham’s first prize exhibit would, for its beautiful rose colouring and perfect shape, delight anyone. One could not help longing, however, to have seen it in a vase and on a stalk of nature’s length. *Alcestris* was another beautiful bloom in this class. Mr. Needham also had the best three Breeders, and here a bloom of *Goldfinger*, somewhat like *Gleam* in colouring, was superb. Mr. J. W. Bentley was second in the six class and Mr. C. J. Fox won the other second prize.

The best twelve rectified blooms were shewn by Sir D. Hall, whose collection included *Attraction*, the premier bizarre bloom, *Athos* and *Garibaldi*, feathered bizarre, and *Elvira*, flamed



THE LILAC AND PURPLE IRIS DOUGLASIANA MERTON



RICH ROSY PURPLE, IRIS TENAX PURPUREA

rose, were also nearly perfect. Mr. J. W. Bentley was second, and his board contained, in a lovely bloom of Sam Barlow, the premier byblömen. The best six were set up by Mr. Bentley, and the flamed bizarre Stockport was his very best. Sir D. Hall was second, and he included a good example of Sam Barlow. In the class for three feathered blooms, and in that for three flamed as well as for one bloom of each, Mr. Bentley won the first prizes.

Although one could find a certain amount of interest in the formality of these florists' Tulips, the big groups of long-stemmed Darwins and others in the hall certainly gave much more satisfaction, and these were so good that two gold medals were awarded. Messrs. Dobbie and Co. and Messrs. Barr and Sons were the honoured exhibitors. Their collections were quite distinct in character. The former was a most glorious display of magnificent Tulips arranged boldly and to great effect. Messrs. Barr staged a surprising variety, and seemed to aim at making a collection rather than at illustrating the decorative effect of massed blooms, yet when the blooms opened the general effect was decidedly good.

In Messrs. Dobbie's group one felt compelled first to admire the gorgeously coloured Parrot Tulips, which were shewn more largely than is usual. The chief varieties were Chamoise Brilliant, Perfecta, Fantasy, Mark Graal and Sensation. There were also many Darwins and a large vase of golden blooms of Walter T. Ware. Of Messrs. Barr's almost innumerable varieties those of mauve shades seemed to predominate, and they ranged from the very pale Suzon through Rev. H. Ewbank and The Bishop to the darker Hippolyte and The Giant. Along the front there were a number of vases of particularly good Florists' (or Old English as they are often termed) Tulips, but they did not have the colour value of many of the pink and rose pink Darwins.

The "Black Tulip" always fascinates visitors, and good examples were to be seen in many collections. La Tulipe Noire is still the darkest of these dark-hued Tulips. Negro and Zulu in Barr's group, The Sultan and Le Nigre as shewn by Messrs. R. H. Bath, Limited, were only a shade lighter. Artemis, the lily-shaped Tulip of rich carmine colouring, and the green-flowered blooms of viridiflora attracted considerable attention.

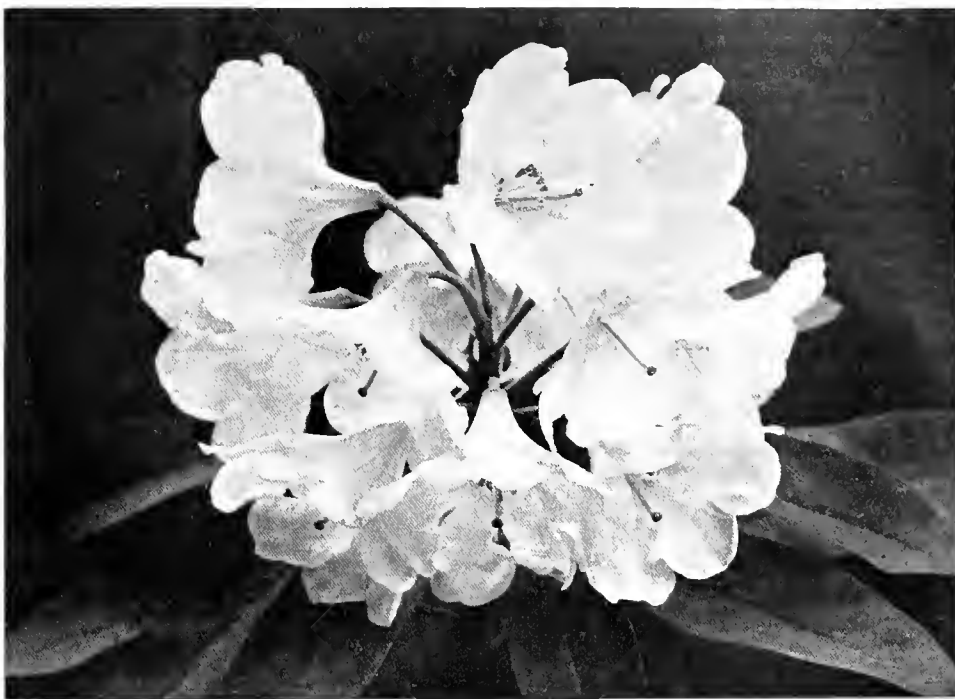
Those who love colour schemes in flowers had a splendid opportunity among these gorgeous Tulips, for nearly every possible shade of colour was represented. Messrs. J. R. Pearson, Limited, shewed how well several of the yellow and orange shades will go with pink, and their association of the mauve-coloured Erguste with the shining bronze Domi Pedro was very delightful. In Andromarque they shewed one of the richest-coloured Tulips in the Show, but its vivid deep rose cerise is a difficult tone.

The graceful shape of Tulip Gesneriana and its varieties was to be seen in most collections. Messrs. G. Bunyard and Co. had a large stand of the variety spatulata, which was greatly admired and was in harmony with the lilac shades of Melicette. The purple and golden Turenne was represented by many quite gigantic blooms. In the annexe Mr. B. Pinney, who during the earlier spring has shewn excellent Violets, had a pleasantly arranged collection of Darwin Tulips with Aquilegias and a large bunch of very fragrant Lily of the Valley undoubtedly gathered in the open. The Welsh Bulb Fields, too, had a goodly group of fine blooms in such sorts as Moralis, Marcella, Orange King and Loveliness. Some good judges thought it worthy of a gold medal. The very late-flowering Narcissus Idris was well shewn here.

Among the other flowers Rhododendrons, Roses and Carnations were very prominent. The outstanding Rhododendrons were the seedlings shewn by Mr. J. H. Lowinsky, and these illustrated really great improvements in compactness of truss and colouring. Needless to say, they received a deal of attention from all lovers of trees and

The fruits were both on the plants and as dishes of gathered fruits, and mostly of The Duke, which is strongly recommended for all purposes. The varieties Lord Beatty and Sir Douglas Haig were also there and are very desirable Strawberries.

Messrs. Sutton and Sons had one of their collections of high-class vegetables, which included



ALMOST PLATTER-SHAPED BLOSSOMS OF RHODODENDRON DECORUM MRS. MESSEL.

shrubs as well as the special Rhododendron people.

In his group of Roses Mr. Elisha J. Hicks gave the central position to a large quantity of his new variety David Lloyd George, and it was wonderfully effective. Among the greenhouse plants the profusely flowered specimens of Acacia pulchella and Erica Cavendishiana shewn by Messrs. Stuart Low and Co., the giant Streptocarpus by Messrs. J. Peed and Son and the Zonal Geraniums (Pelargoniums) by Messrs. Jarman and Co. were very good indeed. Mr. Philip Ladds staged two bedding "Geraniums." Gloriation, a single-flowered scarlet with large trusses, should be very useful.

Pansies and Violas were set out in fair quantity, and the strain of giant Pansies displayed by the Chalk Hill Nursery Company was fine in form, colouring, size and freedom. Their Cheiranthus hybrids of C. Allionii type contained many desirable shades of colour.

There were many alpine exhibits, and among them we noted the double-flowered Welsh Poppy near the blue Himalayan (Meconopsis Pratii). The orange-coloured Geum Borisii in Mr. Amos Perry's group was very showy.

Irises, chiefly seedlings of the Bearded types, were staged in goodly quantities by the Orpington Nurseries Company, and some excellent new seedlings were on view. The clear primrose-coloured Yellowhammer was particularly attractive. Their seedlings of Regelia-cyclus Irises were beautifully marked, while crosses between Bearded Irises and other sections were interesting and some of them beautiful.

Messrs. Wallace and Co. had some specially well flowered bushes of Rhododendron Pink Pearl, Mrs. C. C. Sterling and Hugo de Vries with their Tulips and other flowers.

Laxtons of Bedford brought some forced Strawberries of most delicious appearance and aroma,

almost all possible sorts. There were early Carrots, Lettuces, Mushrooms, Broccoli, Cabbage Sutton's Harbinger (which had the appearance of melting tenderness) and Vegetable Marrow Pen-y-byd, so round that at a little distance they might have been taken for Melons.

NEW AND RARE PLANTS.

Cytisus Cornish Cream.—An erect-habited, free-flowering Broom of, apparently, moderate size. The creamy white flowers have, when at their best, a deep orange throat. This very beautiful variety was raised by Mr. P. D. Williams of St. Keverne. Award of merit to Mr. R. C. Notcutt.

C. Donard Seedling.—A sturdy, erect-branched, free-flowering Broom bearing flowers suggestive of those of C. Dallimorei, but of more rosy colour and without the yellow. The standard petals are paler inside, and this gives a pleasing soft pinkish effect. Shewn by the Donard Nursery Company.

C. Dorothy Walpole.—The richest and deepest coloured of its class, and the little group of plants shewn with the general exhibits were exceedingly effective. The stems have a graceful disposition. The keels of the flowers are a rich velvety crimson and the standards are coloured dull cardinal on the outsides, which shews as pale rose colour on the interiors. Award of merit to Messrs. W. Watson and Sons.

Hydrangea Marechal Foch.—A very uncommon and distinct variety of Hydrangea hortensis. It is of good habit, and the compact heads are made up of deep red flowers which often have blue centres. Award of merit to Mr. H. J. Jones.

Iris Douglasiana Merton.—Said to be a Californian Iris, this is a pretty little plant about

a foot high. The pale lilac flowers have rich purple markings and white rays. Award of merit to the raiser, Mr. W. R. Dykes.

I. tenax purpurea.—Of similar size and type to the foregoing, but of rich rosy purple colouring with golden rays. A very graceful species. Award of merit to Mr. W. R. Dykes.

Polemonium carneum.—This is an uncommon "Greek Valerian" apparently of dwarf and compact habit, though no information concerning it was available. The flowers are unusually large and of a pale mauve shade of colour. Shown by Mr. A. C. Bartholomew.

R. Sargentianum.—One of the dwarf little evergreen Rhododendrons which are of value for planting in the rock garden and as edgings or borderings to collections. The small trusses are creamy white in colour and the tiny ovate leaves are deep green. The flowers are scented, but we should not call them fragrant! Award of merit to Lady Aberconway.

Rhododendron decorum Mrs. Messel. A most delightful pure white variety which possesses the delicate fragrance of the type. The large trusses are made up of good-sized blooms which are curiously flattened, giving it a quite distinctive appearance. The flower-stems are covered with delicate pale buff hairs. We imagine that, like the type, this variety will thrive best if grown where it receives plenty of light but is shaded from the direct rays of the sun. Award of merit to Lieutenant-Colonel Messel.

Rose David Lloyd George.—This well formed Hybrid Tea variety should have a great future as

an all-purposes Rose, and the only additional attraction one could wish would be more of that precious gift of fragrance, though the faint perfume may probably be more pronounced in blooms grown out of doors. The flowers are good in all stages of development, they have long stout stems and are of a deep satiny pink colour. Award of merit to Mr. Elsha J. Hicks.

Rose Muriel Wilson.

This is also a first-rate Rose. It is a creamy white Tea variety of large size, excellent shape and pleasantly fragrant. The flowers have splendid stems and will be valued by exhibitors.

Tulip Alcamene. A magnificent Darwin Tulip of moderately good form and gorgeous, deep rosy cerise colour. Award of merit to Messrs. R. H. Bath, Limited.



NEW HYBRID TEA ROSE, DAVID LLOYD GEORGE.

Viola hybrida Haselmere.—A very pretty, free-flowering Viola of compact tufted habit and bearing plenty of medium-sized, golden-edged lilac flowers. It is of quite uncommon type, and should be in great demand for spring bedding purposes. Award of merit to Messrs. Thompson and Morgan.

Odontioda Naomi.

A magnificent spike bearing fourteen roundish flowers was shown. The colour is a rich glowing deep orange shaded with mauve. The flowers are lightly edged with white and have a golden crest. First-class certificate to Mr. R. Gerrish.

Odontoglossum Gorizia Imperial Purple.—A study compact spike of large roundish flowers of blue colour lightly spotted and edged with the palest blush. Award of merit to Mr. J. J. Bolton.

O. Tagus. Gerrish's Variety.—An Orchid of uncommon but by no means pretty colouring.

The general effect is blue-purple. The very large star-shaped flowers are of dusky maroon colouring broadly tipped with pale purple. The lip has a distinct white band and there are golden lines at the crest. Award of merit to Mr. R. Gerrish.

VIOLET CRESS

Though not at all well known, *Ionopsidium acaule* is a rock plant of distinctive character and considerable merit. It is a diminutive plant not exceeding a height of 2 ins. to 3 ins. The tiny, prettily shaped leaves and flowers are borne singly on slender stems radiating from a central crown. Thus they form little cone-shaped plants like small rosettes. The foliage is light green in colour and consists of small, lobe-shaped leaves on stems about an inch in length. The flowers are of a soft lavender shade. In shape they clearly denote that the *Ionopsidium* is a member of the natural order Cruciferae, being typically characteristic of this family. Fortunately this little plant has an unusually long flowering season. It may be seen in blossom in the open from April till October, and if young plants are put into pots (or preferably shallow pans) in autumn and given the protection of a cold greenhouse, they will continue to flower well into the winter months. Thus it is much appreciated in the alpine house at a season when other blossoms are scarce. *I. acaule*, commonly called Violet Cress, is a native of Portugal. Though an annual, it will, when once established, continue to reappear from self-sown seedlings. These set themselves in crevices, etc., giving a pretty and natural effect. Other plants with this characteristic one usually hesitates to introduce into a rock garden, lest their newly produced seedlings eventually become weeds, which will prove detrimental in overgrowing rarer favourites. This little plant, however, is so miniature and slender that this danger need in no way be feared.



A SPLENDID LATE-FLOWERING GOLD-CUPPED NARCISSUS, N. IDRIS.

FRAGRANT FOLIAGE—I

SOME little time ago occasional notes appeared in *THE GARDEN* on the subject of hardy plants with fragrant foliage, notes all too short as it seemed to me, who have a special affection for these sweet-smelling things. A full list of hardy and easily procurable plants with fragrant foliage must be useful, one would think, to all who are concerned for the sweetness of their gardens. Not that fragrant leaves can take the place of fragrant blossoms. We all agree with Bacon that "the breath of flowers is far sweeter in the air (where it comes and goes like the warbling of music) than in the hand." Of course it is; but, for myself, I confess to a scarcely less warm regard for those unobtrusive things that part with their perfume only when they are "trodden upon and crushed"—the Balms, Mints, Marjorams, Thymes and other plants which do not thrust their fragrance on the passer-by, but nevertheless are ready with it when he happens to want it. I hope I may, without seeming to boast, claim to possess a catholic sense of smell, which can tolerate, if not enjoy, scents regarded by the organs of my more fastidious neighbours as too obvious and rank. They cannot abide, for instance, the Crown Imperial, because, they say, it smells like a fox. I do not myself know how a fox smells; but if Crown Imperials smell so, there is a spot in my garden that smells at this moment strongly of foxes, these Fritillaries being now in supremely fine feather; though it is the root rather than the flower that emits the characteristic odour. I would not venture to maintain that the Crown Imperial odour is exactly pleasant—it certainly suggests the animal rather than the vegetable—but, coming as it does from such a quarter, I find it easily possible to tolerate this scent, if not to welcome it. It has at least none of that fetid quality which we associate with some of the Arums and Stapelias.

No doubt various philosophers have, at one time or another, dealt with the psychology of smell, as with that of the other sensations; but I have forgotten, if I ever knew, what they say on the subject. No other of the five senses (of my own five, at least) is more subtle in its suggestions than the sense of smell, or more unmistakably reminiscent of a time and state in which one was something else, and possibly something better. "Shades of the prison-house begin to close about the growing boy." So they do; but one would fain believe that they never close so completely round boy or man as to prevent his having, now and then, some hint of the light, or melody, or perfume that never was on land or sea. Now and then—all too rarely, perhaps, but yet occasionally—a breath of Eden (not necessarily from any flower garden, but from any chance quarter, a hayfield as likely as not, or a bean-field, or a wayside Briar bush) touches the olfactory of the worldling and he says to himself, "The poet was right after all. Our birth is a sleep and a forgetting, for that was sure a trail of the incense I used to smell in heaven." Crusted as I am myself with time and the world, I sometimes have my "intimations"—not so often as I could wish, but sometimes. There, for instance, is the perfume of Box on a summer morning. Curiously enough, no one seems to understand me when I speak of that subtle fragrance which is the floating spirit of the Box tree. Bacon's "dying Strawberry," I regret to say, leaves my sensories untouched, possibly because I have never chanced on Strawberry leaves at precisely the right stage of their mortality. Nor is the Box, any more than the Strawberry leaf, too lavish of its scent. It

does not make itself cheap. You may pass a Box hedge 360 days of the 365 and smell nothing; but, given a certain blandness in the air, with the proper amount of hot sunshine, and there is an unmistakable something, not perfume exactly, as we understand the word when we speak of the perfume of the Rose or the Sweet Briar, but an incense rather, qualified perhaps with a hint of acidity, such an aroma as Pan might have sniffed with relish, if that deity had a mucous membrane to his nostrils.

Fragrant foliage is found, I think, mostly in plants of low herbaceous growth, less frequently in shrubs, and least frequently in trees. Besides conifers, so many of which diffuse a pleasant and wholesome resinous smell, I can remember no trees of common occurrence that have foliage of a pronounced fragrance, except the Walnut tree and the Balsam Poplar. The leaf of the Walnut, which in its earlier and more tender stage has a fruity fragrance suggestive of ripe Pippins, is what Bacon terms "fast of its smell"; that is, it does not give off its perfume except under pressure; whereas the Balsam Poplar saturates

the air with fragrance, this proceeding, I suppose, from the gum which is secreted so plentifully when the leaf-buds are bursting. Shrubs of the Escallonia family, in the early stages of growth, have also a viscous and more or less fragrant foliage, *E. macrantha* in particular emitting a fragrance similar to that of the Balsam Poplar and almost as powerful. The Birch also is slightly gummy and aromatic when it first bursts into leaf. The Sweet Briar, on the other hand, the fragrant shrub by pre-eminence, owes its perfume to the numerous scent-glands with which its leaves are provided. The Myrtle family contains a considerable number of shrubs and trees with foliage more or less aromatic. Besides the Myrtles proper (*Myrtus*) their Australasian congeners, the *Leptospermums* and the *Eucalypti*, emit a strong perfume, which, however, in the Gums at least, is not always pleasant. There is also a New Zealand *Olearia*, the specific name of which I have forgotten (*moschata* probably) which smells more strongly of musk than the Musk plant itself, and in consequence is called by Dominionists "the Musk tree." SOMERS.

THE PASQUE FLOWER

An Account of it as a Native Plant.

I PRESUME nearly every gardener or garden-lover is acquainted with the Pasque Flower, but I cannot help wondering how many know this plant as a British wildling, studding in untold thousands a chalky hilltop trampled into regular foot-high terraces by generations of sheep which have reduced the grassy sward to lawn-like shortness.

I have known the Pasque Flower since my earliest childhood, and vividly remember first seeing it on an elevated ridge of heather-clad moorland. The rapture with which I gathered a few of the rich purple silky and golden tasselled flowers! The pride with which I took them to my dear mother, who told me the name of my find! and made an annual pilgrimage for the

next few years each March or April whenever I could coax leave from my teachers for the time needed for this long botanical ramble. Since those days I have met the Pasque Flower in many lands and have cultivated it in its various forms (and its near relations also) and am thrilled anew by it each season when the first flower-buds emerge from the finely slit, silky, silvery grey covering that protects them from the sudden changes of our early spring months.

The plant grows stalwart under cultivation, and forms huge clumps carrying sheaves of enlarged flowers, and the leaves almost keep time with the developing blossoms, while in the wild state the flowers are produced mostly singly on inch-high stems looking bravely up to the sky and



THE PASQUE FLOWER, ANEMONE PULSATILLA.

expanding their petals and baring their golden hearts to every passing glint of hftful sunshine from March onward.

The localities for this plant in England are few and far between and, I believe, chalky pastures in every case, as often as not in the vicinity of Roman earthworks, which no doubt accounts for the widely spread belief that this plant was introduced by the Romans. A keen botanist friend assures me, however, the plant is truly native and, judging by its almost circum-polar distribution in one form or the other, I believe him to be right.

I know of three such localities, but the richest is undoubtedly the one I visited recently with my son, and our only regret is that the camera was left behind which might have provided us with a permanent record of the wonderful sight. A little while ago a friend and I had enjoyed the privilege of a visit to the famous gardens of Miss Willmott at Warley Place, Essex. The myriads of *Crocus vernus* in the parkland were out, an unforgettable sight, pictures of which appear annually in the horticultural Press; just such another sight in deep Tyrian purple was provided for us on the rounded dome of chalk above the old earthworks of the past invaders. It had meant a long cycle ride for us with a sky threatening rain, and our way was uphill and laborious, but the scenery was grand in its early spring greens; we had glimpses of the sun and the nightingales cheered us on our way from every roadside copse. The day was young and our time our own, so we "took it easy," and were amply rewarded for our labours when we had reached some five hundred feet elevation and turning round a pine wood corner saw the range of rounded chalk hills.

Then the question arose, which of these headlands is the Pulsatilla Hill? We had been well informed that only one of these hills was the home of our plant, and on a previous visit had sadly missed the spot and had searched the hills on the opposite side of the road in vain. However, this time luck is with us, and presently, having separated, I hear my son's shout, and hurrying towards him, breasting the steep slope, I find him gazing with awe and wonder at the unbelievable glory spread out around us for many acres. Millions of deep Tyrian purple cups, each with its golden central boss turned up to the sky, where the sun has now appeared, and the fast-travelling cloud-shadows passing over them dulled the colouring temporarily. There and then I realised why the country folks in certain parts of the Continent and again in North America call this plant "Crocus." The short stem, the almost absent foliage, the upstanding cups of intense colour, must recall to the lay mind the *Crocus*, a resemblance not noticeable in the laxer, more nodding forms of richer formations abroad and the altogether more lush habit of these plants under cultivation.

A keen search for colour variations proving fruitless, we rest ourselves among the flowers and note that they share the sod with *Cnicus acanthis* (the stemless Plume Thistle), *Bee Orchis* (*Habenaria conopsea*), *Thyme*, small *Hieracium*s and the whole gamut common to our chalk downs. We wonder how soon the sheep will be brought here and whether the plants will have time to ripen and distribute their feathered seeds before the sheep eat them. I fear it must be rare that seeds are distributed freely, or surely the surrounding hills, which appear equally suitable, would be as freely covered as this one. Careful search, however, reveals only one solitary outlier on a precisely similar knoll, and securing about a dozen roots for our garden of association we remount our cycles and with the gradient in our favour begin our long homeward journey well satisfied with our day's outing. WALTER E. TH. INGWERSEN.

CORRESPONDENCE

GLADIOLI: NOTES AND NOTIONS.

I AM inclined to agree with the Editor that the *primulinus* hybrids will prove to be harder than the Colvillei section. Although I have had bulbs in the ground undisturbed for two winters, there has not been a real testing winter to enable one to form a decided opinion on this point. Yet, even if the parent bulbs died, I think it would be found that some of the spawn would start growing in the spring. With the Colvillei section experience shows it is safer to lift the bulbs and replant in the autumn, otherwise it left in the ground they start into growth too soon, and should heavy frost occur many of the bulbs will succumb. I have *primulinus* hybrids which have been in the ground during the past two winters and another lot which were not lifted last autumn; all are growing, but the growth is not so far advanced as on those lifted and replanted last month.—G. C.

FROST IN SOUTH DEVON.

ON my return to South Devon after a fortnight's absence I was astonished to notice the damage done by frost in my garden. The winter here has been exceptionally mild, and, in consequence, everything was unusually forward. When I left home *Rhododendrons* *Augustinii*, *rubiginosum* and *yunnanense* were in full bloom. On my return I find all the blooms quite spoilt, and also many on my plant of *R. campylocarpum* and the

and I fancy the damage was done on that date and the 23rd. *Meliosma cuneifolia* also suffered badly.—H. G. HAWKER.

KALE AND "CLUB."

THE Editor's footnote to "Claremont's" query, page 229, issue May 5, is very near the mark. Undoubtedly the cabbage-gall weevil does a lot of harm to plants of the Brassica tribe, and the result of its ravages is often mistaken for true "club." But Kale is subject to "clubbing" more in some soils than in others. Real "club" generally begins while the plants are in their seed or nursery quarters. I have seen very bad cases where seedlings have been raised in the same quarters year after year—a wrong thing to do. I have experienced "clubbing" in all kinds of winter greens and effected a cure. In my case the greens had to be grown on the same quarter each year—about one acre—and this course had been taken for about seventy years. My first experience with the garden in question was disappointing, as the summer was abnormally hot and the plants suffered terribly. The following spring we applied 2 pecks of lime and 1 peck of agricultural salt per square rod when digging and manuring the ground. Result: much less "club." After the second year's application scarcely any "club," and none after the third. Through the gardening Press I made this known, and have had much evidence since, both locally and from widely

different parts of the country, that the treatment had proved satisfactory. I do not know whether it would answer in the case of the gall weevil referred to by the Editor.—GEORGE GARNER.

FASCIATION.

I NOTICE in the issue of THE GARDEN for May 5 an illustration of a fasciated *Empress* Daffodil. I found one this year of the variety *Victoria* with three flowers on one stalk which is so uncommon that I photographed it and enclose a copy. The photograph is taken with the aid of a mirror to shew front and back of the specimen. I also found a double in the same variety. The Daffodils here have given a remarkably fine show, and this, following a cold wet summer, rather upsets one's theories about the thorough ripening of the bulbs; last season's fine show being attributed to



A FASCIATED VICTORIA DAFFODIL—FRONT AND SIDE VIEWS.

new growth on *R. Mrs. Butler*. All my *Primula pulverulenta* are spoilt, but *PP. japonica* and *helodoxa* are uninjured. *Gunneras* and *Osmundas* are also badly touched by the frost. I should be interested to hear of other people's experiences in Devonshire. We had a sharp white frost at Haslemere, where I was stopping, on April 22,

the effects of the drought of 1921.—H. C. WOOD, *Lingfield, Surrey*.

WINTER GARDENS.

"WHY do people so seldom indulge in a winter garden?" Mr. Thackeray Turner asked this question in a recent issue of THE GARDEN

(page 99), and when one comes to think of it it is certainly remarkable how seldom one has seen a garden devoted exclusively to the flowers of winter and earliest spring. There are many gardens in which the rock garden that one finds, though convenient for cultural purposes, looks quite inappropriate to its surroundings, but where the enclosed winter garden that one does not find would look perfectly in keeping. I feel sure that if more gardeners had seen winter gardens as delightful as Mr. Thackeray Turner's, there would be more attempts to follow his example; I once saw the carpet of *Iris reticulata* and *Crocuses* that he refers to and often think of its rare beauty as a garden picture when I hear people talk about making "a blaze of colour all the year round." Is not that one answer to Mr. Turner's question? So many gardeners either lack the opportunity or lack the wish to make any sorting out of their plants according to flowering season. The winter-flowering plants that Mr. Turner mentions are in most good gardens; but they are seldom brought together into one place where they can make a concerted effect of floweriness at the least flowery time of year. It requires planning to bring, say, *Rhododendron præcox* into company with *Erica darleyensis*, and even if one has the wish to avoid this haphazard mixture, some gardens do not lend themselves easily to division into convenient units. The principle of sorting out plants more or less according to their season of beauty, which Mr. Turner (and to so notable a degree, Miss Jekyll) has applied, is surely the best, though it does not suit everybody.

Another reason why one does not more often see winter gardens is, I imagine, that the necessary shelter and enclosure is often difficult or costly to secure. The delightful walls which keep Mr. Turner's winter flowers unbroken in the gales and make the seat a pleasantly warm place on the first mild February days involve a considerable outlay in these post-war times, and walls are better for this purpose than hedges, though, of course, a hedge will serve. I see Mr. Turner speaks of *Erica carnea* as the carpet to bushes of *Rhododendron præcox*. I wonder whether he has tried *E. darleyensis* (*E. mediterranea hybrida*); to my mind, though *E. carnea* is good with *R. præcox*, this cooler-coloured Heath is even better.

One other question. Among the shrubs permitted in the small enclosure of Mr. Turner's garden, does that beautiful little plant, *Corylopsis paniculata* find a place, as it deserves? Perhaps it flowers a little too late.—A PAINTER.

COLOUR HARMONY IN THE ROCK GARDEN.

WHEN writing in THE GARDEN of April 28 on the happy association of orange colour with the *Aubrietia* and flowers of a magenta tint, I quite intended to have mentioned *Cheiranthus Allionii*. Mr. St. John Irvine recently wrote that he considered "G. K. Chesterton was sent into this world for the exclusive purpose of saying the opposite to Bernard Shaw. He has to restore the balance which Mr. Shaw so vigorously disturbs." Be this as it may, it certainly seems that this Siberian Wallflower, with its dwarf habit and peculiarly penetrating tone of deep orange, was sent into the world to restore the balance which a magenta *Aubrietia* so vigorously disturbs! In passing, may I say that never have I seen *C. Allionii* and other Wallflowers in all their various tints used with finer effect than they are on "the front" at Eastbourne at the present time. They are superb, and a fine tribute alike to the seed raisers and planter, for there is not a rogue among them in all the separate colour groups. Here and there among them a patch of *Aubrietia* is grown, appearing like an amethyst and accentuating their rich warm tones. From some gardens,

Lunaria biennis is now excluded, but to my mind the use of Honesty is the best policy when it can be associated with its relatives the Wallflowers, particularly those with blossoms of the brown shades. The flowers of our old friend with the satin seed vessels then become not only bearable but pleasing, and the combination recalls that which we find in the wings of the Peacock butterfly. If I may just refer once more to trees bearing pink flowers to be used as a background for a pink portion of a rock garden, the introduction of the early-flowering Almond, the deep rose flowering Peach, the exquisite pink double Cherry with its graceful hanging clusters of blossom and bronze-tinted leaves and a late-flowering Apple will provide a pink-toned background for a long period.—H. H. WARNER.

RHODODENDRON

FALCONERI.

I ENCLOSE a photograph, taken in my garden in Ross-shire the other day, of a plant of *Rhododendron Falconeri* bearing eighty-nine flower trusses.—WM. R. T. HANBURY.

THE COLIN-PULLINGER MOUSE TRAP.

I WONDER how it is that your correspondent who wrote some months ago was so successful with the Colin-Pullinger mouse traps. I have tried them since seeing his letter in every possible position, where mice are swarming round, but have never succeeded in catching one, though I have tried other forms of bait as well as the aniseed. Last night they even ate through the cork to get at the linseed in a large tin, though the trap was baited with it.—(Mrs.) B. K. GOTT.

[The Editor had one of these traps placed at his disposal by the makers, but was not successful with it. The idea is sound, but in the sample under test the balance did not seem to be sufficiently delicate. There is no doubt whatever that traps of this pattern have given splendid results, but especial care is necessary in manufacture.—Ed.]

PELARGONIUMS WITH BEAUTIFUL FOLIAGE.

LOOKING back on the days when Pelargoniums with beautiful foliage were grown with a certain amount of enthusiasm (fifty years ago!), recalls to my mind varieties that are now seldom heard of, much less seen. They were employed for bedding in public parks then, but did not leave cold frames much before the middle and often not before the end of June. Then it was the practice to bury the pots, the reason for this being that the growth of the plants was so slow and the plants themselves more valuable than the usual run of "bedding-out" stuff, so that no risks could be taken with them. More than once, I remember, they were hurriedly lifted in mid-September and taken back to the warmth of the greenhouse. Some enthusiastic cultivators of these fancy-leaved sorts grew them solely for indoor decoration, and under glass the richness of the foliage was greatly enhanced. About the time of which I write—the early 'seventies—my father was very much

enamoured of many of the sorts and devoted one side of his greenhouse to them. The curious thing to me, as a lad, was that he would not allow any to bloom, but pinched out the buds as they appeared, telling me that "the leaf was the flower"; a practice, I afterwards learnt, that was followed by others who grew "tri-color Geraniums." The names of some of the sorts occur to me now,



A FINE PLANT OF RHODODENDRON FALCONERI.

though the majority I have not seen for many a day. They are: *Silver tricolors*: Prince Silverwings, Dolly Varden, Mrs. Laing; *Golden tricolors*: Mrs. Pollock, William Sanday, Macbeth; *Bronze bicolors*: Maréchal MacMahon, Black Douglas; *Golden edged*: Golden Chain, Crystal Palace Gem. Then came sorts like Cloth of Gold, mostly yellow leaved and white edged varieties, such as Bijou and Flower of Spring, the last named being in vogue to-day.

I have a distinct recollection of seeing a collection of Bronzes and Tricolors at a show which excited a deal of admiration because of their highly tinted leaves, but there was not a single flower among the whole of them. Greenhouses were not quite so numerous fifty or more years ago, so that the fancy-leaved Pelargoniums did not come within the scope of the ordinary amateur, as the Carnation and Chrysanthemum do to-day, for instance.

One sometimes wonders whether these beauties of bygone days will ever be revived? The last time I saw any quantity of them bedded out was in the Arboretum at Nottingham and that is a long time ago. "Pearsons of Chilwell," famous about the time mentioned for Zonals, grew the "fancies" also, but not, I think, to the same extent. So far as Zonals were concerned their name in the Midlands was a household word and their nursery within a few miles of Nottingham was visited by members of the fancy.—W. LINDERS LEA.

THE SEA MILKWORT

NOT often does one see a note in the journals devoted to gardening matters on the tiny little plant called *Glaux maritima*, and yet it is a sweetly pretty little plant which has its uses, and possesses merits peculiarly its own. It is, of course, a seaside weed, and when seen at all (in a wild state) it is in far-reaching masses that carpet the ground for a great distance. It is not upon the sandy beach or rocky cliffs the Sea Milkwort grows, but upon the moist, boggy marshes over which the tide flows at intervals and ebbs again, to leave the roothold of the plant in a sticky,

muddy condition. It is therefore apparent that the plant likes two things—moisture and salt. What can be more useful for covering the mud around the verge of a pond, or what will so charmingly clothe the sundry bare spots in the little home-made bog garden? A plant with slender, prostrate stems as green as grass, closely set with

tiny stemless leaves, relieved by starry blossoms of a delicate rosy lilac hue. Whether or not the salt shall be provided is largely a matter of choice, but I have found an occasional slight sprinkling thereof puts vigour and life into the plants. It will spread and increase rapidly when once a start is made.—A. J. MACSELF.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Fruits Under Glass.

Peaches and Nectarines.—The fruit in the early houses is approaching the ripening stage, a remark that applies both to pot trees and those planted out. The amount of atmospheric moisture should be reduced and the fruit exposed to full sunlight, which can usually be done by removing a few of the leaves near the fruits. The roots should be kept moist and air admitted more freely whenever the weather is favourable, an inch or so from the top ventilators being left on throughout the night. Work in the later houses consists of disbudding and tying in the young shoots.

The Orchard-House.—In this structure a miscellaneous collection of fruit trees is generally grown. For the centre of the structure pot trees, such as Peaches, Nectarines, Plums, Apricots and Cherries are usually selected, and now they are swelling their fruits freely the roots must be kept moist and liquid manure given three or four times a week. When the fruits begin to colour this should cease, and at this stage, careful watering is essential or the fruits may split. When the weather is hot the trees will need syringing freely twice each day, once in the morning and again in the afternoon, but no spraying will be needed when the fruits approach maturity. Keep the trees free from insect pests, but fumigation is not recommended when the fruits are ripening.

The Hardy Fruit Garden.

Morello Cherries.—These are invaluable for a north wall, and they invariably bear a good crop if the trees are properly treated. It is during the summer months that a foundation is laid for next year's crop, and it should be borne in mind that, as with Peaches and Nectarines, the fruit is produced on the shoots that are made this season. Disbudding must be resorted to, and the observant grower will see where shoots are wanted to replace those that have borne fruit and if any growths are needed to furnish a blank space or extend the tree. Disbudding must be done gradually, and the growths that are left must not be overcrowded. Keep the trees free from aphides.

Strawberries.—In many gardens this is one of the most important fruit crops. The beds must be cleared of all weeds and a liberal dusting of soot or lime sprinkled between the rows and around the plants. It will to a certain extent check the ravages of slugs. Afterwards clean straw should be used among the plants to protect the fruits from being spoilt with soil during heavy rains. Preparations ought also to be made to cover the bed with netting, and the best plan is to arrange it in such a way that the fruit can be easily picked without removing the netting. A few stout poles will generally suffice to hold it in position. Fish netting will be found most suitable for the top and wire netting for the sides.

The Flower Garden.

The Iris Border.—In course of time the German and allied Irises become overcrowded and, in consequence, they do not bloom, while the growth is very weak. Where such is the case, the present is a suitable time to overhaul them. When the flowering season is past, lift them and divide into double crowns and transplant, in a fresh piece of ground if possible, about 1 ft. apart. Otherwise the same spot should be trenched and a quantity of rotten manure provided. The winter-flowering Algerian Iris (*I. vernalis*) has proved disappointing this year, very few blooms have appeared, and they were somewhat later than usual. It should be planted at the base of a south wall or in any warm corner, and it can be increased by taking pieces from established plants at this season. Old beds may be divided and replanted where necessary.

Bamboos.—These may be transplanted or divided at this season, and if the roots can be afforded water for a few weeks there is little fear of their failing to establish themselves. Small

pieces may be potted up and placed in a cool greenhouse where they can be syringed occasionally. These will make useful specimens for planting out next year. Bamboos are not particular as to soil, and most gardens contain suitable positions for them.

The Rose Garden.—The plants must be watched for aphides, and directly any are seen the sprayer must be employed and a weak solution of insecticide used, or the young shoots will be ruined. The grubs are also busy, and these are best destroyed between the thumb and finger. Disbudding should be resorted to if really fine blooms are required. Single Roses do not need this attention.

The Kitchen Garden.

Tomatoes.—If it is intended to grow Tomatoes in the open, it is time the plants occupied a cold frame to harden them off. Give them plenty of space and remove the lights on every favourable occasion, both day and night. An ideal position is under the shelter of a south wall, but with a warm season they will thrive in other parts of the garden if fully exposed to the sun. They should be grown to a single stem, securely staked, and when several trusses of fruit are set the centre of the plant removed. A space of 2 ft. should be allowed between the plants and 3 ft. from row to row.

Seakale.—Thongs that were planted out some weeks ago will need disbudding, selecting the strongest crown and removing the remainder. Keep the plantation free from weeds.

Spinach.—In a dry season the summer Spinach is almost a failure, and a good substitute is the New Zealand Spinach, which can be sown now in lines 2 ft. apart. Thin the seedlings when large enough.

General Work.—Peas will need staking, all crops to be kept free from weeds, and the hoe used at every opportunity. Sow seed of Turnips at fortnightly intervals, also Lettuce, Radishes, Mustard and Cress and summer Spinach, while Potatoes must be earthed up as they become ready.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.).
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

New Zealand Spinach.—This plant makes a very good substitute for the ordinary Spinach. It comes in just as the latter is becoming worthless owing to the persistency with which late sowings run to seed. A well enriched south border suits the New Zealand Spinach best. As it spreads out rapidly, the plants—which may now be put out—should be planted about 2 ft. apart. When cutting it for use, only the thick, fleshy leaves should be taken; the stems should not be cut.

Broad Beans.—The plants obtained from the second sowing should now have some earth drawn up to the stems, and a sharp look-out should be kept for the black fly, which is partial to the tender, immature leaves. If this pest appears, the plants should be sprayed either with a solution of quassia chips or one of soft soap at the rate of a good handful of soft soap to an ordinary bucketful of water.

Cabbages.—Autumn-sown Cabbages that were planted out in March will now be making considerable headway, and should have some earth drawn up to the stems to prevent them from being loosened at the neck by high winds. If time permits, it will be well to have the quarters forked over—or dug if necessary—to be ready for the reception of spring-sown Cabbage and other members of the Brassica tribe in the beginning of June.

Asparagus.—Beware of cutting the plants too severely or too long. It should be kept in mind that every shoot cut means taking a liberty

with the plant, and it is only by cutting in moderation, in conjunction with liberal feeding, that the plants can be maintained in health and vigour for a prolonged period. Asparagus should always be cut with a proper "asparagus knife," for when cut with an ordinary knife, unless great care is taken, there is grave risk of damaging the roots. Another moderate dressing of agricultural salt applied in showery weather within the next two or three weeks will greatly benefit the plants.

The Flower Garden.

Tulips.—Early Tulips in beds should be lifted as soon as they pass out of bloom and be laid in by the heels thickly, so that, after ripening, the stronger bulbs may be retained for another season. The beds should then receive a moderate dressing of some light short manure and be dug over ready for the reception of summer bedding plants. The blooming period of May-flowering or Darwin Tulips may be prolonged by stretching tightly over a portion of the stock some tiffany or other light material. Cotton treated with linseed oil will be waterproof.

Early Chrysanthemums should be pinched to ensure a bushy habit. Run the Dutch hoe through them every fortnight, and it green fly attacks them dust them over with tobacco powder.

Pyrethrums.—These attractive June flowers require more than ordinary attention in the matter of tying, especially the doubles, of which the heads prove too heavy for the stems. Very light tying material, however, should be used for this work, as anything of a heavy nature looks very clumsy among such slender-stemmed flowers.

Hardy Annuals.—As soon as these are fit for handling they should be judiciously thinned, and the stronger-growing plants, such as Lavateras, Clarkias and Godetias should be thinned out to 6 ins. apart. Weaker plants, such as Nemophila, Nicotiana and Phacelia, may be left at from 2 ins. to 3 ins. apart.

Lawns.—If such strong weeds as Dandelions or Plantains make their appearance, they should be cut out with a knife and a little sulphate of ammonia or weed killer should be dropped into the spot in order to destroy the root. Little patches of Daisies should also be treated with either of the above, and the dead plants may be removed in a few days, after which a little sand should be dropped into the hole.

Fruit Under Glass.

Early Vines. The fruits which are on the eve of ripening, should receive a good supply of water at the root to carry them on until the crop is cleared. The atmosphere should be kept drier than was advisable earlier in the season, with more liberal ventilation.

Late Vines.—The work of first thinning should, if practicable, be finished before the work of planting out the summer bedders commences. The size of the bunch should not be reduced in thinning. Leave the berries at as uniform a distance apart as possible and beware of injuring the footstalks of the berries retained.

Melons in frames should be trained somewhat differently from those grown in a melon-house. Instead of training up a single stem the main stem should be pinched at an early stage to induce the plant to send out several leaders, and these should be encouraged to ramify over the "light" until sufficient female blossoms are developed simultaneously or within three days of each other.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Begonia manicata.—Cuttings of this fine greenhouse Begonia should now be secured. They root readily in a close case with slight bottom-heat. This Begonia is best grown in an intermediate temperature. During their first season the plants should be grown on into 6 in. or 7 in. pots, when they will be useful for furnishing the stages in the conservatory. However, they are really at their best when grown on for a second year and potted on into 10 in. pots. They will then make specimens when in flower some 5 ft. in height. A group of such plants has now been in flower in the conservatory at Kew for four months. To attain such results the plants must be given greenhouse treatment whenever the flowers show signs of colour. This fine Begonia is nearly always spoiled by giving it stove treatment when in flower. Under such conditions it is over in six weeks' time, while the flowers are poor and pale in colour compared with the deep pink of the cooler-grown plants. Considering that this Begonia was introduced in 1842, it is surprising how seldom it is seen in gardens at the present day.

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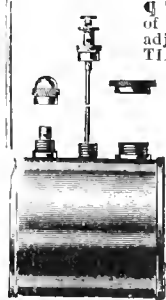
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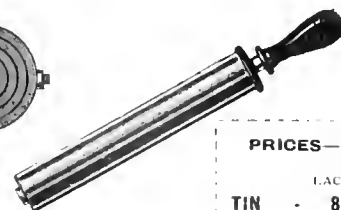
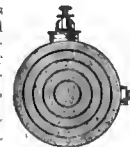


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Begonia coccinea was introduced the same year as the above, and is also a very fine Begonia for the greenhouse. It belongs to the suffruticosa section and may be propagated at any time by means of cuttings of the short side-shoots. While young this plant may be used for furnishing the stages, but is seen at its best when grown on as a large specimen into 10in. or 12in. pots. It then throws up great stout cane-like shoots 6ft. to 8ft. in height. It may also be planted out and trained up a pillar or rafter, which it will clothe to a height of 10ft. to 12ft. and flower more or less all the year round.

Berberidopsis corallina.—This beautiful plant, although hardy on a wall in the West, is ideal for planting out in a cool conservatory or greenhouse. It may be trained up a back wall or even on a rafter. A cool position is preferable, as it is somewhat subject to attacks by red spider. This plant grows quite well in any good potting compost, and can easily be propagated at this time by means of half-ripened twiggy side shoots dibbled into pots of light sandy soil and stood under a bell-glass in a cool greenhouse.

Eupatoriums are very useful greenhouse plants, which should be propagated towards the end of this month. Plants of *E. Rafinii* in 6in. pots that have been used for the stage make fine large specimens for standing on the ground if they are grown on into 8in. or 10in. pots, or they may be planted out in a bed or border in the cool conservatory. *E. macrophyllum* may also be treated in the same way. *E. lanthum* is a smaller and slower-growing plant, which is at its best during its second year. All those mentioned produce large heads of bluish purple flowers and remain in flower for a long time. They are easily propagated by means of short lateral shoots, placing the cutting pots in a close case with slight bottom-heat. They are best grown in a temperature of 50° to 55°. The following species produce white flowers, and are best grown in a somewhat lower temperature. *E. grandiflorum* is rather slow growing, and is best during its second year. *E. petiolare* is a beautiful fragrant species which, if propagated at this time and grown on into 8in. or 10in. pots, will make fine large specimens for winter flowering. If small plants are desired for the stages, they may be propagated as late as August. For this purpose good examples may be grown in 6in. pots. *E. riparium* is an easily-grown species with slender drooping shoots. *E. Weinmannianum*, generally known as *E. odoratum*, is a shrubby species which is very useful for autumn flowering. By pruning it hard back early in the year and growing it on, the same plants can be grown for a number of years, and in time make fine specimens. This species is easily propagated by means of cuttings of the young shoots during the spring months. The young plants should be stopped several times to induce a bushy habit. Such plants grown in 5in. pots are very useful for furnishing the stages during the autumn. They are best grown in cold frames during the summer, while the larger plants should be stood on an ash bottom outdoors.

Begonias of the tuberous-rooted section raised from seed this year should now be planted out in cold frames. Later on, when they have made good growth, some of the strongest plants may be lifted and potted up for autumn. Such plants make a good succession to the plants grown from old tubers. They enjoy rich free compost, and should not be potted too firmly.

Royal Botanic Gardens, Kew. J. COUTTS.

OBITUARY

F. JORDAN.

EXHIBITORS at the Royal Horticultural Society's Hall, Westminster, will learn with regret of the death of Mr. F. Jordan, caretaker of the hall from its erection in 1904 until 1921, when he retired owing to failing health. He was always a willing worker, and ready to assist exhibitors and visitors. He died at Crofton Park, S.E., where he resided, and was buried at Ladywell Cemetery on May 3.

CATALOGUES RECEIVED.

Mr. Elisha J. Hicks, Hurst, Berks.—Roses, The Welsh Bulb Fields, St. Asaph, North Wales.—Daffodils, Tulips, etc.

A Charming Dwarf Rhododendron.—A very slow-growing, diminutive Rhododendron from the Himalayas is *R. glaucum*. It is, withal, a perfectly hardy, easy-tempered little shrub that does quite well in any cool, lime-free loam, where it will seldom exceed 2ft. in height or diameter. It is compact and shapely in habit, and the evergreen, rather blunt, or rounded, leaves are a dull green above and white beneath. The flowers, which are produced in small, loose, terminal clusters in April, are large for the size of the plant, being some three-quarters of an inch across, bell-shaped and fragrant. This is a useful rock garden plant and one that associates well with any of its allies of lowly stature.

A Spreading Cotoneaster.—Cotoneasters, with their wealth of glorious berries, are highly valued for garden and house decoration and lavishly used wherever ornamental shrubs are appreciated. A comparatively little known one is the tiny adpressa, a splendid plant for the rock garden, where it makes a close, compact little bush 1ft. to 1½ft. high, that is effective from May to late autumn. Though so dwarf in stature, the plant is in no way a mean one in appearance for it spreads widely, and old established specimens cover several yards, rooting here and there as they spread. The leaves are in opposite rows, dull green in colour, with white flowers produced singly, and remarkable in that they do not open very widely. These flowers are followed by bright orange-red berries in autumn, that persist for a long time and become very conspicuous indeed as the foliage falls.

ANSWERS TO CORRESPONDENTS

QUESTION 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.

SWEET PEAS UNSATISFACTORY (F. G. F., Birwash).—The leaves sent were too much dried up when they arrived to enable us to come to any just conclusion concerning them. They appear, however, to be suffering either from streak, for which at their age there is no adequate treatment, or from some wrong cultivation, such as watering or ventilation, being amiss.

ANEMONES AND THYME (R., Surrey).—After taking up the Anemone roots, in due course ripening them in a cool, well aired place and not exposed to the direct rays of the sun, place them in bags for two months or so, also in a cool, dry building. As our correspondent may be obliged to keep the roots out of the soil longer than usual,

they may be started in shallow boxes and covered with loam and leaf-soil mixed, planting out in due course. Mark the position with a stick, in the case of Anemone rugens, and lift the roots a little later on, otherwise treat them as advised for *A. blanda*, etc. Light, well drained soils are the best. The Thyme may be transplanted from the open ground. If the centre of each clump be opened and sandy soil placed there now, many new roots will form, ensuring tufts of young plants by end of summer.

TULIPS (Polsted).—Prince of Austria is, of course, an early-flowering variety; the bulbs mature early and should be lifted, gradually dried and stored in paper bags. We have some which have flowered annually for eight years, but the border is a raised one, and the flowers are smaller each succeeding year; the bulbs have not been disturbed during that time. In a wet soil the bulbs would perish sooner. In the case of the two varieties of late-flowering Tulips, namely *Gesneriana spatulata* and *macrospila*, there is not any appreciable difference in hardiness, and both would do well left in the ground for four or five years.

TREES AND SHRUBS.

THE PRUNING OF BROOMS (W. J. T., Blane-field).—To prevent Cythuses, Gonistas and Spartium from becoming leggy it is advisable to prune a little each year after flowering. It is necessary, however, to do this from the time the plants are not more than 1ft. high, as satisfactory results only follow the pruning of the smaller twigs. Cutting hard back into the old wood as one can do with many shrubs is seldom satisfactory with Brooms.

PRUNING THE YELLOW AND RED BARKED WILLOWS (W. J. T.).—The hard pruning of these Willows must be done not later than March or April. The bareness of the ground during spring and early summer can be overcome by carpeting the ground with an easily cultivated bulb, such as the Spanish Bluebell, *Scilla campanulata*, Hyacinthus Heavenly Blue, *Muscari comosum* or *Ornithogalum nutans*.

FRUIT GARDEN.

PEACH LEAF-CURL (F. J. T.).—The Burgundy mixture may be used for spraying Peaches against leaf-curl at any time, but is most effective if applied in mid-February.

PEAR FOR IDENTIFICATION (W. M. F.).—This Pear is Uvedale's St. Germain, *Easter Beurré*, which it is suggested this might be, is roundish oval and even in outline, and quite unlike the fruit sent. We can only suggest that the reason that our correspondent found it so unsuitable for cooking was that it was used when it had passed its proper season. It is at its best in February and March, and after this becomes very tough and difficult to cook well. It was right to leave the crop to hang as late as possible, but the pears were not allowed to be frozen, we hope.

MISCELLANEOUS.

HOW TO TRAP WEEVILS (W. T. D.).—The best way to treat the weevils would be to shake the plants they frequent over an inverted umbrella after dusk and so to capture them. Handfuls of clover dipped in lead arsenic placed on the soil might trap and kill a good many. The other beetle sent is unlikely to do harm. It belongs to a group of carnivorous beetles, and is much more likely to be useful than harmful.

NAMES OF PLANTS.—M. A., Semley.—*Narcissus poetianus poetianus*.—C. V. B., Cornwall.—*Pittosporum tenuifolium*.—L. B. W.—*Thermopsis montana*.

FORTHCOMING EVENTS.

May 24.—Royal Botanic Society's Meeting.

May 29.—Royal Horticultural Society's Great Spring Show at Chelsea (three days).

May 30.—Annual General Meeting of the Kew Guild, to be held at the Imperial Hotel, Russell Square, W.C.1, at 6.30 p.m. Annual Dinner to follow the general meeting at 7.15 p.m.



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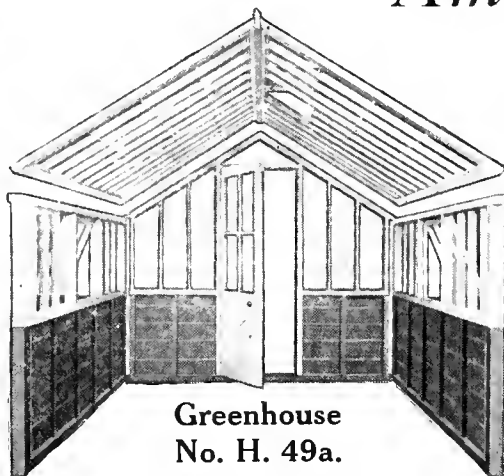
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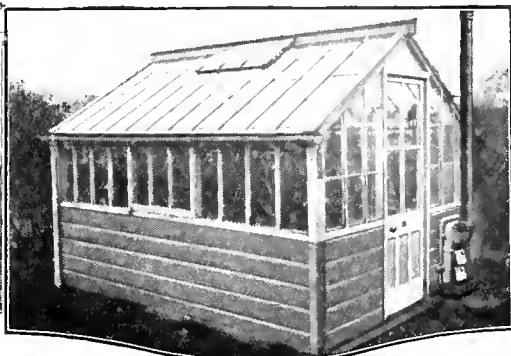
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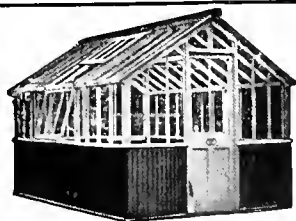
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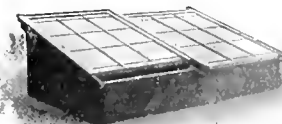
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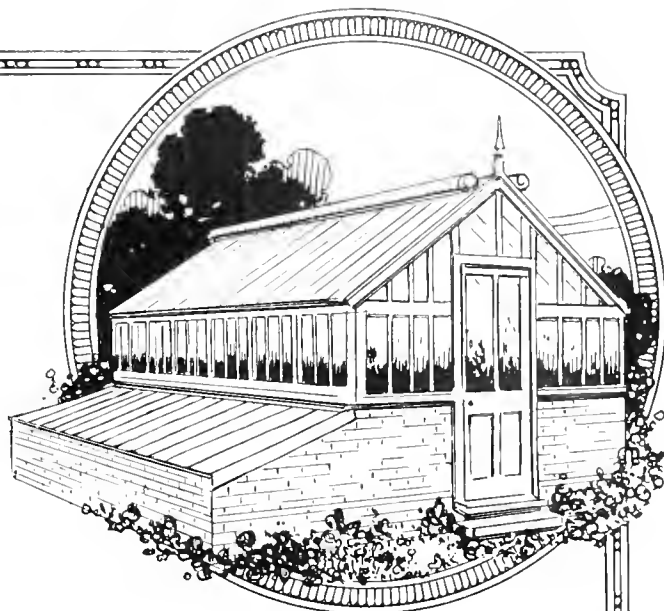
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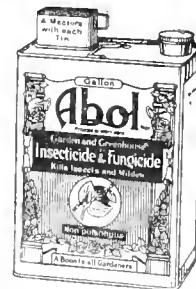
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NO. 2688.—VOL. LXXXVII.]

[MAY 26, 1923.]

THE PLANTING OF DRY WALLS

THERE was a time when all the vegetation to be found on garden walls was due to natural causes. The writer must confess that there have been times when he has wished that the idea of introducing plants into walling had never originated. In just the same way that he yields to none in admiration of the Ivy but cannot bring himself to believe that it was intended to obliterate or destroy beautiful material, so cannot he appreciate the motive of those who would build a handsome wall merely to hide it effectually from view by a miscellaneous assortment of rock plants.

The illustration on this page shews a small portion of a garden wall at Gravetye with a single clump of purple Aubrietia. Observe the delightful form of it and contrast it with the higgledy-piggledy huddle of Alyssum and variously coloured Aubrietias often seen! Not that any objection can be sustained against an informal grouping of Aubrietia in walling; this is an entirely natural-looking arrangement, and a certain amount of grouping is absolutely necessary if spottiness is to be avoided. When Nature plants walling solidly it is almost always with small-growing things, such as the Ceterach, which adorns so many field walls in Wales. The little colonies of the Pennywort, Cotyledon Umbilicus, or of Sedum acre, often seen on walls in the West Country, adorn the walls they clothe, and allow one to appreciate the patina which always appears on old stone.

The most obvious plant to grow on a wall is, one would suppose, the Wallflower, yet on planted walls one seldom sees it. In the free rich root-run of the garden beds this plant is short-lived and only worth treating as a biennial, but in the fissures of natural rocks, or in the joints of walls, it is more compact of habit and more enduring; moreover, it will establish itself from self-sown seeds. The yellow varieties are, on the whole, more perennial and suitable for walling than the crimson ones, but the latter are very effective and worth trying. The brilliant orange Cheiranthus Allionii, crudest in colouring of the Wallflower family, is also first-rate on walling, and is easily

introduced by seeds sown *in situ*. The Valerian, Centranthus ruber, is another plant which seems to be made for walls. It is tap-rooted, and so is best raised from seeds sown in the wall itself, preferably in autumn, and covered with a pinch of soil. It always looks well either on a wall or planted just at the foot so that its roots can reach the joints between the courses of the walling.

The picture on page 254 will display Androsace sarmentosa in a new light to many gardeners. This is, we all know, an admirable moraine plant, but it is also excellent for the retaining wall or rock garden "cliff," and its silvery rosettes and primula-like umbels of blossom are thus seen to

singular advantage. Other Androsaces belonging to the sarmentosa section are equally suitable for the dry wall, notably A. primuloides and the not very dissimilar A. Chumbyi (sarmentosa \times villosa), of which there are now several distinct forms. Perhaps the best of these is Brilliant, which is considerably livelier in colouring than the type.

The Alpine Phloxes do exceedingly well in walling, and though the forms of P. subulata are not very long-lived, yet they make stockier growth and remain "respectable" longer on a wall than (in possibly too rich soil) on the flat. Beautiful as these plants are, however, they do not seem as suitable for walling as do Antirrhinums, for instance. A tendency has been noticeable of late to confuse plants for walling with rock plants. It must to some extent destroy the sympathy with which one inspects a rock garden if one has already seen the classes of plants which form its principal features adorning walls in the more formal parts of the garden.

Mention has been made of Antirrhinums or, as we should prefer to call them, Snapdragons. How often does one see robust specimens of this cliff-loving plant growing from an old mortared wall a number of feet above ground-level. Often as one may see them, one cannot refrain from speculating on each occasion as to whence they obtain sufficient moisture to supply their bulk of leafage. Such plants, of course, are self-sown, and the Snapdragon is best introduced to a dry wall by sowing the seeds direct into the fissures. The old plants usually persist for several seasons in so congenial a situation and, if some of the seed-pods are not removed until the seeds are shed, it is unlikely that there will be any shortage of young plants to take their place when at length they perish. The writer once saw a wall entirely planted with Antirrhinums. The plants did magnificently, but, on the whole, it was not an inspiring sight. At risk of wearisome reiteration let us repeat that the function of wall-planting is to adorn, not to obliterate. If a wall built of ugly materials needs obliterating, it is, unquestionably, better to use Ivy or some other plant which will furnish



AUBRIETIA ON A WALL AT GRAVETYE.

THE HARDY DAPHNES

THERE are about thirty-six known species of *Daphne*, of which about half have been, or are, in cultivation. They are natives of Europe and Temperate Asia, some being plants of the lowlands, while others are inhabitants of the higher alpine regions. *Daphnes* have the reputation of being difficult to manage in cultivation, and many of them in our gardens prove to be short-lived plants. As, however, several kinds are very beautiful, a little extra trouble is well repaid if they can be successfully established.

Although commonly described as peat-loving shrubs, experience proves that a sound fibrous loam with which is mixed a good proportion of sharp gritty sand, is best for the majority, while the smaller kinds benefit by the addition of leaf-mould and stone chippings. All *Daphnes* thrive best in slight shade, but they will do without it if the soil is fairly moist. Stones in the soil help to keep the roots moist, and some advocate the practice of covering the prostrate stems of *D. Blagayana* and others of similar habit with large stones, thus inducing them to root afresh. They are not deep-rooting plants, but usually make a thick mat of fibrous roots just below the surface. It thus follows that they are not able to withstand the dry conditions of a sunny aspect.

All the semi-prostrate kinds are readily propagated by means of layers, which root freely and soon make good plants. Cuttings also root if they are inserted in a mixture of sandy loam in the autumn and placed in a cold frame. The young growths also may be rooted by means of heat in spring.

All the species of *Daphne* are deliciously fragrant, some of the best in cultivation being given below.

D. ALPINA.—This is a dwarf bushy species, 1 ft. high, from the European Alps, of evergreen habit, the flowers of which are produced in tiny white clusters in May and June. It is fairly easy to manage, preferring to grow in a rocky crevice or on a well drained ledge in the rock garden. It will stand full sun if it has a moist root-run.

D. ALTAICA is a small bushy plant, 1 ft. high or more, with obovate glabrous leaves of a somewhat glaucous or yellowish green colour. The white flowers are borne in terminal umbels of five in April. This plant is a native of Siberia.

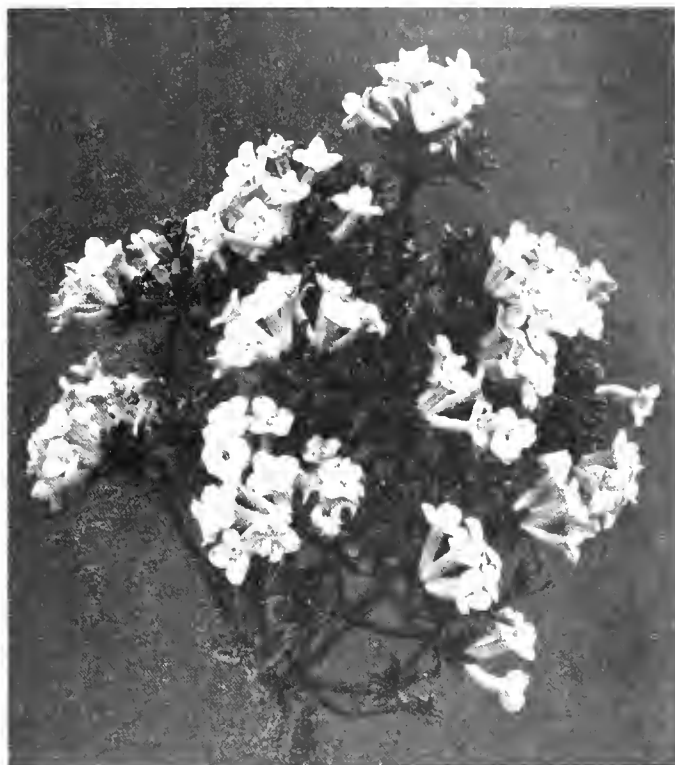
D. ARBUSCULA.—This plant is closely allied to *D. petraea*, but has broader, longer leaves and larger rose pink flowers, which are produced in May. It is a dwarf shrub, growing only 6 ins. or 8 ins. high, with evergreen foliage and said to be found growing in grassy places in the European Alps.

D. BLAGAYANA is a prostrate evergreen shrub from the mountains of Carniolia. This species has proved a difficult plant to establish in many places. It is of lax habit, each branch terminating in a cluster of fragrant, white or cream-tinted flowers in April. It delights in shade and leaf-soil, but in western districts where moister conditions prevail it thrives in fuller sunshine. It is a plant for the lower parts of the rock garden or shady border, and is one of those kinds which benefit by placing stones on the branches as they develop.

D. CAUCASICA is similar in habit to *D. altaica*, with clusters of white or cream-coloured flowers. It is found in the Caucasus.

D. CNEORUM.—The Garland-flower is a native of the Alps of Europe, and is the most attractive

of all the species. It forms more or less compact bushes of evergreen foliage, and in May it produces its terminal clusters of fragrant rose pink flowers in abundance. Although said to be granite, it is, like many of the others, a lime-loving plant in limited quantity, thriving in a good loamy soil



THE FRAGRANT DEEP PINK DAPHNE PETRÆA.

with plenty of decayed leaves and sharp grit. For the shady parts of the rock garden it is a charming plant, of which there is a pure white variety as well as one with variegated foliage. *D. C. var. Verloti* is a form with narrower leaves from Mt. St. Eynard, near Grenoble.

D. COLLINA is a native of Italy, and forms an erect evergreen shrub from 2 ft. to 3 ft. high, with deep green leaves, glabrous above and hairy beneath. The deep pink flowers are produced in terminal heads in early spring and are deliciously fragrant.

D. GENKWA.—This is a somewhat tender species which only does well in the western parts of this country. It comes from Japan, forming a loose bush 2 ft. to 3 ft. high, and bears in April and May long sprays of fragrant lilac-coloured flowers.

D. GIRALDI.—This plant was first collected by Père Giraldi, after whom it was named, in Northern Shensi in 1894. It was also found in Western Kentsu by Mr. W. Purdom at elevations of about 6,000 ft. He sent seeds home to Messrs. Veitch, by whom it was introduced into cultivation. It has proved hardy, forming a bush 2½ ft. to 4 ft. high and as much in circumference, producing its golden yellow flowers in capitate clusters at the tips of the branches. Like many of the other species, it is propagated by means of layers and cuttings.

D. LAYRLEA, the common Spurge Laurel, is a well known plant with its evergreen foliage and citron yellow flowers. It is a good plant for the shady woodland and is easily naturalised.

D. MIZURUM.—Also a well known and favourite plant, which does much better in the cooler conditions of the north. It may be established in a partly shaded position in the rock garden and



THE GARLAND-FLOWER, DAPHNE CNEORUM

grows on a loam soil containing limestone boulders. In such situations it will thrive, and self-sown seedlings frequently appear. From 2 ft. to 3 ft. high it forms a bushy plant, the leafless branches being covered in spring with clusters of fragrant rosy pink flowers. There is also a pure white form of this, as well as one with deeper coloured flowers.

D. PETRAEA (syn. *D. rupestris*).—This is a charming little species from the Tyrol which forms a low-growing bushy plant only a few inches high with dark green evergreen foliage. Its rosy pink flowers are produced in terminal clusters during April and May. It is frequently grafted on the stocks of *D. Mezerium*, and handsome little bushes are quickly produced. The illustration shows one treated in this way. It thrives under the same conditions as *D. Cneorum*, and is also an excellent pot plant.

D. RETUSA.—A native of Western China, this was first discovered by Mr. Pratt in 1880 in Western Szechuen at 13,000 ft. elevation. In 1903 it was again collected by Mr. E. H. Wilson, who sent home seeds to Messrs. Veitch and Sons, by whom it was raised. It forms a compact evergreen shrub 18 ins. high with dark green, shining leaves, paler beneath. In April and May it produces umbels of fragrant flowers which are white inside and rose-violet outside.

D. STRIATA.—This plant grows along with *D. petraea*, forming masses of twig-like growths with narrow leaves. The rosy pink, scented flowers are produced in May and June. It has proved a difficult plant to establish.

D. LANGUTICA.—This is also a native of Western China, where it was first discovered by the Russian traveller, Przewalski in 1873. It was introduced into cultivation by the late Mr. Reginald Farrer in 1914. He found it in Kansu, and describes it in his notes as a dense low bush about 1 ft. high and wide, growing in open turf on calcareous loamy slopes at an elevation of 9,000 ft. to 10,000 ft. It is closely allied to *D. retusa*, but has umbels of red flowers, while the leaves are longer and proportionately narrower. It, like *retusa*, has proved quite hardy, doing well in shady positions in the rock garden. W. L.

MUNSTEAD BUNCH PRIMROSES

BY GERTRUDE JEKYLL, V.M.H.

THE present state of the Munstead strain of bunch Primroses is the result of about fifty years of careful selection. The colouring is confined to whites and yellows, but even within this restricted range the variety is remarkable. Some of the flowers are flat and nearly circular, others have their edges deeply indented; some have the appearance of being double, but this is only in consequence of the great width of the petal, which is not only deeply imbricated, but pleated at the edge with a richly fluted frilling. In a number of the flowers, especially in those clear pale yellows that may be called canary, there is no deeper coloured eye, the tint being even throughout; in others, both of the whites and yellow, the eye is strongly marked; in some cases with a restricted patch of colour next to the tube, while in others the colour runs out and covers a good half of the depth of the petal. Here, again, there is wide variety, for the edge of the stronger colouring may be sharply defined or it may be gently diffused by an imperceptible gradation. The primrose garden is in a clearing on the



MUNSTEAD POLYANTHUSES AT HOMER.



ANOTHER VIEW.



AND YET ANOTHER.

outskirts of which there are Oaks and Chestnuts, but when first prepared it was still too sunny and some Cob Nuts were planted to give inner shade. I had always noticed that the near woods where the wild Primroses abound have Oaks at intervals and a whole undergrowth of Hazel. This pointed to the kind of trees likely to prove the Primroses' best companions. As a further experiment, and with the wish to provide some dark background to the yellow and white flowers, some Hollies were also planted. This has proved a failure, as it was found when the Hollies grew up that no Primrose would thrive under their shade; but the Nuts have now grown so tall and strong that the Hollies may very well be abolished.

It would be of great interest to have another primrose garden in which to grow a good range of the strong-coloured kinds and to do the same with some good reds, but it has been found that it does not do to have coloured ones in the same garden, also we are debarred from growing the

giant Cowslips that are such good garden flowers, for the Cowslip influence is so strong that the bunch Primroses would soon be shewing some undesirable crosses.

Some of the flowers are of large size, well over 2 ins. diameter, and the stems may be 15 ins. high, but actual size is not so much encouraged as the general qualities that go to make a good garden flower, such as freedom of bloom, bold trusses on strong stems and good colouring. The growing of such a strain is full of encouragement, for no year passes without some distinct advance, either in colouring, marking or general desirable habit, and whereas a few years ago many plants were pulled up as unworthy of the general strain, now, among some thousands, there are barely a dozen that have to be rejected.

To do them justice they must have good and liberal cultivation. Our soil is the poorest sand, requiring yearly working and manuring; on a stronger soil they would be finer altogether.

and a cheerful bush of *Convolvulus Cneorum*. Still lower down we have a cluster of the common garden Sage, *Salvia officinalis*, with leaves of a rich plum colour dappled with white and rose, the same species in the variety *aurea marginata* and two Lavenders, viz., *Lavandula dentata* and *L. pectinata*. While this grouping has come into being somewhat "according to plan," the finishing touch has been given to it by an invasion of self-sown *Oxalis lutea*, which almost covers the arid soil between the shrubs with its lively green and large cowslip-like flowers, sparing, as it with intent, about a square yard at one open corner for seedlings of *Geranium sanguineum*, which are rapidly covering it.

In contra-distinction to the above there is a cool, mossy corner in the woodland in which the *pièce de résistance* is a bold clump of *Adiantum pedatum*, Klondike variety, and another smaller bunch of the typical form of that magnificent hardy Maidenhair. *Omphalodes nitida* gives a little colour, and there are a few small groups of *Anemones Hepatica* and *apennina*. The coolness and the greenness, however, is this particular spot's most abiding charm, features which are accentuated by the beautiful foliage of *Aquilegia formosa*, and, in later days, by the dainty fronds of Oak Fern (*Polypodium Dryopteris*), which are

SOME INFORMAL GROUPINGS

THERE can be few readers of this paper who are unacquainted with those certain portions of their gardens, or those of their neighbours, which make a special appeal by reason of the peculiar charm of their setting or the disposition of the plants which they contain. These groupings may, of course, be on any scale, but the satisfaction they afford is of the same kind, whether they are great or small. They may be the creations of direct design or the happy result of more or less random planting. The latter a—perhaps, often the more pleasing, and of those enumerated below none has been made to any set plan. Most have, in the course of years, "happened" to come into their present state, and, as I have suggested, their informality and natural, settled-down beauty is one of their most arresting charms.

A cool corner of the rock garden where a gentle slope is intercepted by the mossy heads of a few half-buried stones is curiously attractive this April day, yet it is strangely devoid of blossom. At the top is a little bush of *Spiræa Thunbergii*, wreathed in white flowers, while just below it the spikes of a lusty colony of *Tradescantias* are just beginning to show leaf. Over some of the stones *Linaria æquilobata* has crept and dappled its clinging veil of green with tiny violet flowers. In tufts of most delicate emerald *Euphorbia Cyparissias*—most insidious of spreaders—is pleading for the tolerance it usually succeeds in getting, and about it are some jaunty seedlings of *Geranium Loweii*, their crimsoned leaf stems glistening with silvery fur. Flat on the soil lie the large and ferny rosettes of *Spiræa Filipendula*, and there is a big clump of Bunch Primrose in full yellow near a mat of *Eriogonum umbellatum* at the foreground. To the right rise the grey-green shoots of *Aster pyrenæus*, over and beyond which tower the lovely foliage and golden poppies of *Stylophorum diphyllum*.

If there is not very much "display" in that rather unkempt little wilderness, it is one of those "fixtures" that one is loath to break up. Such a grouping will, naturally, be associated with something in the same general tone, and in point of fact it is, for close by we have a few plants of a remarkably good form of *Pulmonaria angustifolia azurea*, now at its best; some mats of *Saxifraga granulata*, always so beautiful in their young leafage; and just beyond these a group of *Pulmonaria* in white. There is a drift of *Aubrietia Lavender*, some strays from the woodland in the form of *Anemone nemorosa*,

some plants of *Corydalis lutea* and *C. ophiocarpa*, a wayward family of *Claytonias* with a Cowslip



A BUSH OF SPIRÆA THUNBERGII.

or two in a warm orange-red among them, and a progressive settlement of *Cornus canadensis* fast coming into evidence on the bank above.

A stone seat set into a low retaining wall at the foot of a hot, shaly bank is upholstered, so to speak, on one side with *Rosmarinus prostrata* and on the other with *Lithospermum rosmarinifolium*, the former in full bloom, the latter just going over. At the back there is a flopping cushion of *Thymus citriodorus argenteus*, a plant well worthy of wider cultivation, and the grey-leaved, lilac-blue *Veronica Whittallii*. Weaving its pretty purple stems and downy leaves in emerald and white throughout the above is gentle *Nepeta Glechoma variegata*, while adjacent parts of the wall, below and about the seat, are occupied by close-set tufts of *Iberis Pruiti*, some *Semprevivums* and *Erysimum limifolium*.

Higher up on the same hot bank of crumbling, stony soil there is a little collection of shrubs which have "made good" on the graves of many failures. To begin at the top, a bush of *Colutea arborescens* hangs forward towards a group of *Genista fragrans*, now a blaze of yellow. Below these come *Cistus lusitanicus* and *creticus*, three or four strong plants of *Diplacus glutinosus*

already getting restless beneath their mossy counterpane.

Another woodland "pocket" which has fallen into shape without any special laying-out consists, among other things, of a group of *Anemone Rolinsoniana*, *Vancouveria hexandra*, *Onoclea sensibilis*, some native Ferns, and other herbage and cushions of the pretty *Oxalis Acetosella rosea*. These practically form an unconventional foreground to a small collection of *Zenobia speciosa* and others of its race. There are rosy pink Wood Hyacinths on the rising ground above, while among the grass to one side *Cyclamen Coum* is in bloom and *Meconopsis cambrica* is coming into flower about some steps on the other.

These random notes must be brought to an end with the mention of two groupings on our heath bank. One of these consists of several large bushes of *Erica cinerea* var. *rosea*, all of them being threaded with the long and slender trailers of the elegant *Rosa Wichuraiana* and fringed with some lusty clusters of Wood Sage. The other is a warm, dry slope over which *Erica vulgaris* var. *cuprea* is smouldering in a coppery bronze. A bit of *Cotoneaster microphylla* put in here a few years ago to one side of the Heaths has made

great proportion of creeping and arching, cover the ground with cheerful freedom. The dark, glossy foliage serves as an admirable foil for the

colour of the Heath, and there is not a season in which this fine old species is not in itself an attractive subject. Very occasionally it may

have to suffer the loss of some ungainly growth, but beyond this it gets no attention.

North Wales.

A. T. J.

ILLUSTRATED FORECAST OF CHELSEA SHOW

VISITORS to "Chelsea" are always greatly attracted by the formal, informal and rock and water gardens outdoors, not because these comprise necessarily the best or even the most interesting exhibits, but because they form the one feature which is entirely distinct from anything shown at the very excellent Fortnightly Meetings at the Royal Horticultural Hall.

Already it is obvious that these outdoor gardens will be just as numerous and varied in conception as last year. The ambition to eclipse previous efforts is notably in evidence, and if the realisation is being made that this is likely to be brought about by good straightforward design and effective planting rather than by doubling the order for stone, lead and timber, which seems to be the case, so much the better.

Visitors to last year's "Chelsea" are unlikely to have forgotten Messrs. Bunyard's excellent formal iris garden. The firm are again building such a garden and, if it surpasses last year's effort, it will, indeed, be a notable exhibit. Whereas last year Messrs. Bunyard staged a section of a garden to scale, Messrs. Chisholm contented themselves with showing samples of gardens to something less than life-size, but suggesting the arrangement of the several parts a very important matter. The same idea is apparently moving them on this occasion, for they are constructing

a formal garden with walled terracing, lily pool and fountain, a lawn with topiary work and herbaceous borders. An ambitious programme!

The Le-Bout-Cas Company are, of course, showing their well known hard tennis court, but, quite apart from this, they are exhibiting a formal garden, the scope of which includes a sunk garden with lily pool and a tea-house. They will also show a grass tennis court with a hedge surround in Yew.

Mr. Ernest Dixon of Putney is laying out his space to represent an ordinary medium-sized suburban garden. His aims are simplicity of planning, with consequent reasonable first cost, and economy of upkeep; this, of course, without sacrificing beauty. Short-lived or difficult plants, however beautiful, are not to be employed, and grass banks and gravel paths, both expensive in upkeep, are being omitted.

Turning now to the informal gardens, which are likely to be more numerous this year than usual, Messrs. R. Tucker and Sons of Oxford will, as usual, erect a rock garden, which will serve to display under suitable conditions a wealth of choice plants, such as *Cypripediums*, *Trilliums*, *Epimediums*, *Lewisiads*, *Iris gracillipes* and *Daphne Cneorum*, with *Broom*s, *Primulas*, *Saxifragas* and what not. Weatherworn limestone is being employed, and the idea is that of a mountain stream emerging from a thicket of Pines. A "moraine"

and miniature alpine meadow are the other features included.

Messrs. W. H. Gaze and Sons of Kingston are also constructing a rock and water garden, but their conception is an entirely different one. A miniature lake and island planted with *Iris*es and Japanese Maples will, with a cascade over the sandstone rock, be prominent features. Every effort is being made to give the whole the effect of an established garden. This firm are also exhibiting their well known "All Weather" hard red tennis court and the new "All Weather" hard green court.

Messrs. Pulham and Son are also employing sandstone for their rocky glen, the stone in this case being Sussex sandstone from the Ardingley district, a bold but highly stratified formation. The banks of the little stream, or rather streams—for there is to be a veritable waters-meet—will be precipitous, and are to be adorned with the usual run of rock-garden plants and choice flowering shrubs. A small pool will receive the streams in the foreground.

Messrs. Carters are preparing a wild water garden with a swiftly running stream and a waterfall down which water is to tumble at the rate of 5,000 gallons an hour. *Iris*es, *Rhododendrons*, *Bamboos* and various water plants will be employed in providing a cool retreat from the heat of the tents.



NEW MAUVE-MAROON COLOURED PERPETUAL CARNATION
ARNOS GROVE.



BRIGHT ROSE PINK BEGONIA HILDA LANGDON.

Messrs. Clarence Elliott, Limited, are staging a rock garden, using water-worn North Country limestone. This is being surrounded on three sides by dry walling of Hornton stone upon which will be placed miniature rock gardens (not Japanese) in stone troughs.

Messrs. William Cutbush and Sons are also staging a small rock garden, displaying some of the more uncommon alpinists.

Flowering trees and shrubs are always a feature of the great Spring Show and on this occasion they will be displayed in considerable variety by Messrs. Cheals. Messrs. Waterer are also staging an exhibit of ornamental shrubs and trees outdoors, while they are putting up a large exhibit of Rhododendrons and Azaleas under canvas. Messrs. R. Wallace and Co. are staging Rhododendrons, Ghent Azaleas and Japanese Maples, while Mr. J. C. Allgrove of Langley, near Slough, is also exhibiting flowering trees and shrubs in great variety. Messrs. Cutbush and Son are shewing topiary.

Border flowers are always shewn in quantity at this Show, Bearded Irises and Lupins being especially prominent. On this occasion Messrs. R. Wallace and Co., who shewed such a superb collection of Irises last year, are concentrating mainly upon hardy Lilies, including such beautiful species as *Lilium regale* and *L.L. Willmottiae*, *excelsum*, *longiflorum*, *umbellatum*, *tenuifolium* (forms of) and the splendid *Sargentiae*.

Perry's Hardy Plant Farm are shewing Bearded Irises extensively, including a number of first-rate new seedlings; many of their herbaceous specialties, including *Coreopsis grandiflora* Perry's variety; *Iris Souv. de Zwauenburg* (*I. lutescens* - *I. Susiana*), a free-flowering early hybrid with standards of silver grey and brown falls flushed with fawn; and *Papaver orientale* Lord Lambourne, a splendid fringed crimson sort. They are also exhibiting a magnificent collection of hardy ferns.

Messrs. Waterer, Sons and Crisp are staging a variety of good herbaceous plants, including numbers of Lupins and Irises, with Pyrethrums, Delphiniums, Aquilegias, Anemuses, etc. Messrs. Cheals are also putting up an all-round exhibit, while Mr. J. C. Allgrove is staging some very interesting hardy plants, including a collection of the wonderful *Erenuri*.

Messrs. Barr and Sons usually make a feature of Darwin and Cottage Tulips at this Show, but this year these flowers will be over before the opening date. Messrs. Barrs will this year, therefore, specialise in Bearded Irises in an exhibit of herbaceous flowers generally. The Chalk Hill Nurseries will have some of their excellent hybrid Candelabra Primulas, mostly of *japonica* or *pulverulenta* parentage, as well as the "Chalk Hill Giant" *Mimulus* for which they are becoming famous. Their excellent strain of fancy Pansies will also be on show and they are using choice varieties of variegated *Funkia* to enliven the whole.

Mr. George R. Downer of Chichester is especially well known for his new herbaceous Lupins, some of them of brilliant colouring. He hopes to make a more than usually attractive display of these on this occasion. Messrs. John Forbes (Hawick), Limited, of Pentstemon tane, will exhibit their almost equally well known Pansies and Violas and a variety of other interesting plants, including the double Scotch Rocket, *Hesperis Matronalis* fl. pl., in both white and purple.

Messrs. Storr and Storr of Glencarse, well known for their special strains of many garden flowers and the tiny braided seedlings they send out, are exhibiting their Auriculas, including the famous "blues and helios," Cowslips, Polyanthus, Primroses and other hardy members of the great *Primula* family.

Messrs. Blackmore and Langdon will have their splendid Delphiniums, including such as Mrs. Townley Parker, Blue Queen, Mrs. Shirley, Mrs. C. Melver, Col. Sir Wyndham Murray and Millicent Blackmore. Pyrethrums and Lupinus Sunshine will be outstanding features in Messrs. Bakers' herbaceous group.

There will, as usual be quantities of alpinists on show in the tents. Among others who have taken space for these mountain jewels may be mentioned Messrs. Carter Page and Co., Bowell and Skarratt, Ernest Dixon, Perry's Hardy Plant Farm, Prichard and Co. (West Moors), Clarence Elliott, Cheal, Cutbush, Bakers Limited, W. H. Rogers and Son, Limited, and F. G. Wood. The last named informs us that he will be shewing some good seedlings of the Grecian Violet, *Viola gracilis* in various colourings.

Perpetual Carnations will, as usual, be largely exhibited by such firms as Allwood and Co., C. Engelmann, and Stuart Low and Co. Mr. Engelmann expects to make an especially fine display. Among his most prominent novelties will be Orange Sunstar, Cream Saffron and Goliath; while Messrs. Stuart Low and Co. believe that they are challenging the supremacy of Enchantress Supreme at this Show with Hon. Nita Weir. Other outstanding varieties are Arnos Grove (a splendid new heliotrope), Lady Elizabeth Bowes-Lyon (an improvement on Iona), Eileen Low (the salmon which proved so attractive last year) and the scarlet Lord Lambourne. Messrs. Wm. Cutbush and Son are shewing among

others the beautiful clear flesh pink Renown. The same firm is exhibiting in the Border section a new variety called Prince of Wales. The colouring of this is unusual—a shade of mauve maroon, and it is a sport from the well-known King Arthur. The Show would hardly be Chelsea without Mr. James Douglas's Carnations. Every year the list of Douglas Cloves on show gets longer, and this year promises to be no exception.

The season is backward, but Mr. Herbert hopes to have his splendid perpetual-flowering Pinks as usual and, though he would probably not admit it, is quite likely to "hit" some more awards of merit. A fine display of Allwood's, too, may be confidently expected.

Roses are always one of the great attractions at Chelsea and a good show is assured this season. Mr. Elsha Hicks will exhibit Roses in pots and also cut blooms, including, among many others, Mme. Butterfly, Hoosier Beauty, Elsie Beckwith, Mrs. H. Winnett, Evelyn, David Lloyd George and several new seedling climbers.

In the group staged by Messrs. Frank Cant and Co., there will be many good new seedlings of their own raising, such as Capt. E. S. Harvey Cant,

Rosabel Walker, Prince Yagala, Henry Noyard (the dark crimson Rose which won the Clay Cup for fragrance), and Mrs. Alfred West. Many fine climbers and older dwarf varieties will also be shewn. Messrs. William Cutbush and Son will, as usual, stage a number of the exceedingly useful dwarf Polyantha varieties, while Messrs. Benjamin R. Cant and Sons will stage, in a comprehensive group, all their novelties first sent out this season or last, such as Lady Roundway, Lady Dixon-Hartland, Phoebe, Rev. F. Page Roberts, Sovereign, Mrs. Oakley Fisher, Constance Casson, Padre,



PAPAVER ORIENTALE LORD LAMBOURNE, BRIGHT CRIMSON SCARLET.

Esmé and Golden Ophelia. Messrs. Waterer, Sons and Crisp also expect to have a representative collection from their Twyford Nurseries.

Dahlias will probably be shewn fairly extensively by Messrs. J. Cheal and Sons, including many of their elegant Star varieties and by Messrs. Carter Page and Co. Messrs. John Forbes (Hawick), Limited, are staging the splendid dwarf bedder, Coltness Gem.

Sweet Peas will be exhibited by Messrs. Dobbie and Co. and Messrs. Ireland and Hitchcock. Messrs. Dobbie's outstanding novelty will be Mary Rose, which is self rose pink in colour and quite distinct. Royal Sovereign, said to be the largest and strongest-growing deep orange variety is another. Messrs. Ireland and Hitchcock are "starring" their novelty Lord Lascelles, which they claim to be the best lavender Sweet Pea yet offered. This firm are also shewing Mascott's Dianthus, the salmon pink fragrant mule between Carnation and Sweet William, which received an award of merit last summer. Other annuals will be there in strength. Messrs. Sutton and Sons are setting up a veritable garden of growing annuals—quite a new feature—with paths of velvet sward.

Messrs. Webb of Stourbridge are also shewing annuals extensively, including the beautiful everlasting *Rhodanthus*, *Linarias*, *Linums*, *Nemesias*,

will have their mouth-watering Strawberries in such varieties as *Maréchal Foch*, *The Duke*, *Laxton's Abundance* and *Laxton's Omega*, the



BASKET BEGONIA EUNICE; SOFT PINK, FLUSHED PEACH.

Stocks, *Dimorphotheca*, etc., all of the finest possible strains. Messrs. Carters are staging *Clarkia Brilliant Princess* and *Petunia Queen of Roses*, with masses of Sweet Peas in their exhibit of florists' flowers.

Messrs. Dobbie and Co. are making a special feature of *Antirrhinums*, including several new varieties now staged for the first time. The popular intermediate varieties are represented in a wide range of colouring from pure white to deepest crimson, and there is a good selection of the exceedingly valuable tall varieties.

Coming now to the general run of greenhouse plants, there will, of course, be a wide variety on view. Messrs. Blackmore and Langdon will have, as usual, a magnificent exhibit of double *Begonias*, including such splendid sorts as *Hilda Langdon*, *Lord Lambourne*, *Mrs. H. Bedford*, *Mrs. H. Moncrieff*, *Peace*, *J. W. Pyman* and *Mrs. T. Crawford*. The first three named are this season's novelties. Their basket *Begonias* will probably include the splendid pink *Eunice*.

Messrs. Stuart Low and Co. will have an interesting collection of Australian and New Zealand plants, including *Acacias* (*Mimosas*), *Borouias*, *Eriostemons*, *Chorizemas*, *Leptospermums* and *Metrosideros*, together with *Heaths*. All these are suitable for the cool greenhouse.

Messrs. Carters will stage *Cineraria stellata* and the Cactus-flowered forms, as well as their prize strain, also *Gloxinas*, *Calceolarias*, *Schizanthus*, etc.

Messrs. Webb and Sons of Stourbridge are exhibiting their well known strains of *Cineraria*, *Calceolaria*, *Gloxinia*, tuberous-rooted *Begonia* and *Primula obconica*. Messrs. W. Cutbush and Sons are shewing a collection of choice *Hydrangeas*.

Mr. James MacDonald of Harpenden, who last year annexed a gold medal for his wonderful garden of hardy Grasses, is making another remarkable effort on this occasion.

Fruit seems hardly likely to be shewn so extensively this season as usual, but Messrs. Laxton's

latter said to be the latest variety in existence and this season's novelty.

Messrs. George Bunyard and Son will, as usual, exhibit a remarkable collection of Kent-grown Apples.

PROBLEMS OF GARDENING

THERE are invariably awkward corners in a garden that tend to throw out of gear our most carefully devised schemes of arrangement. It is an easy matter with the aid of a book or two and a good seedman's catalogue to choose the plants that shall occupy the principal beds upon the lawn, or to work out a pleasing colour scheme and seasonal display in the herbaceous border, but difficulty confronts us when we contemplate such spot as a steep bank, overhanging, perhaps, with trees and shrubs, where, despite the fact that the sun never reaches it, the soil is not the cool, moist bed so favourable for the cultivation of *Primulas*, *Spiræas* or *Violas*, but is just a dry, barren waste of hungry soil, impoverished by the network of tree roots, where even the summer rains are denied access by reason of the canopy of foliage overhead.

To permit such a bank to remain unadorned is to mar the whole effect of the rest of the garden, but, happily, there are plants that may be induced to thrive and clothe the awkward corners with attractive foliage and cheery blossoms. The *Rose of Sharon*, botanically named *Hypericum calycinum*, and various other members of the same family are admirably adapted for such a purpose as that indicated. Producing graceful spreading branches clothed with oval leaves, arranged with precise regularity in pairs, each stem terminating in a cluster of blossoms shaped somewhat like a single *Rose*, the *Rose of Sharon* is a really striking plant. The petals are of rich yellow and in the

centre of each blossom stands prominently out a cluster of slender, pin-like stamens, the heads of which are brilliant red. Another very useful dry bank plant is *Achillea millefolium* "*Cerise Queen*." It is but a garden variety of the native *Yarrow*, but its finely cut foliage and its large flat umbels of bright cerise flowers, place it among our most serviceable perennials. As a cut flower it is very decorative, and the more the flowers are cut the greater will be the quantity produced, the display extending from early June to late autumn.

Where a plant of considerable height is desirable for screening the bareness of the lower branches of old shrubs, *Epilobium angustifolium* in both its rosy purple and pure white forms will meet the need. The plant varies in height according to soil and situation, but may be said to range from 4ft. to 6ft. The flower spikes are produced during July and August.

This plant is a difficult one to control. It spreads very rapidly by underground stolons and, if allowed to seed, it will colonise far afield. It should, therefore, be used with care.—ED.]

The problem of furnishing a hot dry bank exposed to the scorching rays of the sun is perhaps less difficult than the foregoing, but we frequently see unsuitable plants struggling for existence, whereas a more judicious selection would ensure happy results. A wonderful plant is the *Gazania*, capable of withstanding a parching drought and scorching heat. The foliage is long and narrow, borne in tufts on prostrate stems. The upper surface of the leaf is green, of a glossy hue, the underside almost white, while some have a narrow yellow margin to the leaves. The flowers are shaped like a *Daisy*, but very large, frequently measuring 4ins. across. The petals are of rich glowing orange colour and, around the disc, or central cushion is a velvety black ring, relieved at regular intervals by round dots of pure white. There is something extremely uncommon and startlingly beautiful about the blossom of a *Gazania*, and it is strange that so lovely and so useful a plant for dry positions is not more frequently grown.

Several species of *Fig Marigold*, those brilliant red and rose coloured succulent plants that labour under the appalling name *Mesembryanthemum*, although natives of South Africa, have proved hardy enough to withstand our British winters if established in the driest and hottest corners of the garden, where their stems may become thoroughly hardened and ripened before winter sets in. Even the tenderest species will flourish and bloom profusely throughout the summer, and they are so gorgeous that they well deserve some slight protection during winter. Their foliage is thick and fleshy, after the style of a *Cactus*, and it is by storing up ample supplies of moisture in the cells of the leaves that the plant is enabled to withstand prolonged drought and scorching heat. The blossoms open flat and the petals are of vivid colours, intensified by a glistening sheen that gives them almost an appearance of satin.

We have also the *Valerian*, *Centranthus ruber*, and its varieties in scarlet, rosy pink and white which will grow even in stony gravel or where chalk lies within a few inches of the surface. Young plants may be transferred from pots to their flowering quarters during the month of April, but perhaps the most satisfactory method of establishing a colony of *Centranthus* is to scatter seeds thinly over the soil and allow the plants to grow undisturbed. The only necessity is to exercise patience until the second year, as the seedlings rarely flower the same season as sown.

Given a little trouble, there is really no reason why any part of the garden should be an eyesore.
L. I. ATRIS.

WATER AND BOG GARDENING—VI

(Concluded from page 234.)

SOME of the smaller Day Lilies are magnificent, and in these we have a combination of bright lily-like flowers and gracefully arching foliage that looks especially well in association with water. Then, too, there are the brilliant perennial Lobelias, *L. syphilitica*, with green leaves and vivid royal blue flowers, and *L. fulgens*, even more striking, with intense crimson red flowers on long spikes and coppery red stems and foliage. There are very beautiful rosy forms of this species, too. That beautiful Water Forget-me-not, *Myosotis palustris semperflorens*, will grow—and flower amazingly, too—anywhere where it is constantly moist, straying from the bank into the water and from the water to the bank again. *Parnassia palustris*, the Grass of Parnassus (though why "grass" is difficult to imagine), is a plant to mass in quantity where its beautiful effect will tell in late summer, when it covers itself with masses of white green-veined flowers something like large single Anemones.

Hardy Primulas in such lovely species as *rosea*, *pulverulenta*, *Bulleyana*, *sikkimensis* and *japonica* are at their happiest in the neighbourhood of water and put into the shadow all those grown under other conditions. Their leaves are larger and more vigorous, while their flower-stems rise upwards into immense heads or tier above tier, shewing a marked appreciation of the coolness and moisture that surround them. *Ranunculus gramineus*, with its grass-like foliage and foot-tall specimens from April to June, is a grand bog plant and bears its fine yellow flowers generously too. Yet another of the family, *R. parnassifolius*, with its dark green woolly-edged foliage and large pure white flowers, does well and is suitable to the small garden, as it does not exceed nine in height. A most striking and unusual Saxifrage that does magnificently by the waterside is *peltata*, with large bronzy green shield-shaped leaves on stems 2 ft. high and with spikes of whitish flower in spring. It does not always attain this height, however, and if you plant it a little further from the waterside, frequently does not exceed half. With a charm that is all its own *Spigelia marilandica* forms a delightful little specimen, about 1 ft. tall, with narrow green leaves and quantities of coral red flowers that are each tipped with yellow.

Now let us turn to the large water garden where one has not to consider restriction of size. Here, indeed, we find no shortage of suitable material, for Bamboos, giant Grasses, Irises, Polygonums, Phormiums, etc., clamour so loudly for admission that it is difficult to detect one voice above the others. In addition to *Gunnera manicata*, there are two very bold and imposing Rheums—*R. emodi*, with broad ovate foliage, and *R. palmatum*, with deeply incised cordate leaves, both bearing tall heads of white flower, rising to a height of from 6 ft. to 10 ft., according to the richness of the soil. *Acorns gramineus* fol. var., the handsome variegated Sweet Flag, will grow upon the margin or just in the water with equal impartiality. The noble Arundos, among the finest of all Grasses, must be kept well away from the margin, for they do not like too much moisture, and if the variety *Arundo Donax* fol. var. is chosen, it should receive a little protection in winter. Astilbes are glorious, one of the finest of all being *Davidii*, which reaches a height of 4 ft. and smothered itself in September with masses of its purplish plumes.

As regards Bamboos, with ample space glorious effects can be achieved with such giants as *Arundinaria anceps*, 8 ft.; *Bambusa nana*, 5 ft. to

10 ft.; *B. quadrangularis*, 10 ft. to 15 ft.; *Phyllostachys aurea*, 5 ft. to 20 ft.; *P. flexuosa*, 10 ft.; *P. Henonis*, 20 ft.; etc. Among the giants we must name *Heracleum giganteum*, with its immense leaves and towering stems 8 ft. to 10 ft. tall, with a huge head of white flowers as large as a cart-wheel, where moisture is abundant and the soil rich. It makes a splendid island plant, for it is when separated from it by a sheet of water that one gets it in sufficient perspective to appreciate to the full its noble dimensions. Of course, the wonderful Japanese Kämpferi Irises, blooming as they do in June and July, will be generously represented on the banks, for it is here that they produce those giant richly coloured flowers that "count" so much in the colour picture. Speaking of Irises reminds me of another capital thing, *I. sibirica*, with its long grass-like foliage and wonderfully reticulated blue flowers. The lovely golden striped Rush, *Juncus effusus aurea striata*,

than *Rodgersia podophylla*, for it has a character all its own in the large leaves on their long stalks 2 ft. to 3 ft. high, which assume a splendid coppery hue with age. I can never pass the quaint Porcupine Quill Rush, *Scirpus Tabernaemontani zebrinus*, without a second look, for it is so very distinct and unusual. It forms a tuft of leaves 3 ft. to 4 ft. high, very pale green in colour, and alternately barred in green and white. All the Spiraeas are superb and form magnificent plumes of feathery inflorescence where moisture is abundant, and generous use should be made of them wherever it is possible to mass to the best effect.

In conclusion, I would complete with a word of high praise for the Senecios. These are gorgeous in late summer and in masses stand out conspicuously right across a big sheet of water with their great heads of vivid orange flower that have, owing to their intensity, a great reflection value when mirrored upon the placid surface beneath them.

And so we come to the end of a great subject, full of pictorial possibilities, whether looked at from the point of view of the small garden pond or as



THE FRAGRANT CAPE HAWTHORN, APONOGETON DISTACHYON.

a very useful plant with variegated foliage and panicles of flower just beneath the tips, should not be omitted.

The autumn effect of the American *Jussiaea grandiflora* is good enough to admit it without the beautiful light yellow flowers which appear in summer and are reminiscent of the Evening Primrose. As the days shorten and Nature reaches her climax, the long willowy leaves become a deeper and deeper crimson, until the whole plant presents a most gorgeous appearance. The handsome sword-like leaves of *Phormium tenax* are well known and always attractive, and although it may be planted and live elsewhere, you will find that by the waterside it gives of its very best. From the Himalayas comes *Podophyllum emodi*, with its handsome pale green leaves marbled with bronze and, in July and August, large white flowers 1½ ins. across that are followed by bright coral red fruits; while as a companion to it *P. peltatum*, with lobed leaves and large waxy white flowers, followed by yellow fruits, is excellent. A tall grower—8 ft. high—is to hand in the superb *Polygonum Sieboldi*, with its heart-shaped leaves and racemes of white flower. To fill a somewhat shaded moist spot you will scarcely do better

a natural lake. A picture of cohesion and unity, a picture that begins upon the water's surface and does not end until, imperceptibly, we have traversed the marshland and bog to the moisture lovers and stand again upon ordinary "dry ground."

H. W. CANNING-WRIGHT.

THE CAPE HAWTHORN

THAT remarkable water plant *Aponogeton distachyon* always attracts the attention of those not well acquainted with aquatic plants, and they are always a little surprised when told that the English name is Cape Hawthorn. Why Hawthorn? is the invariable query, and, indeed, it does appear inapposite, even when one has gathered the curious forked inflorescence, and has noted the powerful fragrance so like that of an English hedgerow when the "May" is in bloom. This plant is a great deal harder than many writers have suggested. It should not be planted, however, in water so shallow that it is likely to freeze solid in winter. Once well established it reproduces itself so freely from self-sown seed that a big stock is soon developed.

CORRESPONDENCE

NARCISSUS BEERSHEBA.

THE REV. JOSEPH JACOB, in his notes on flowers at the Midland Daffodil Show, is mistaken in stating that I am the raiser of this wonderful flower. I should be very pleased and proud if I had been its raiser, but the honour must be credited to our great master artist, Mr. Engleheart, in whose footsteps we other Daffodil raisers follow at a very respectful distance indeed. In Beersheba he has given us a flower that marks, if not the only advance, certainly much the greatest advance in white trumpets since he brought that perfect flower White Emperor up to the R.H.S. Daffodil Show in 1913. Ever since I first saw Beersheba in 1920 it has compelled my unqualified admiration and homage. I have grown it here for the first time this season, and can only say that it is the Daffodil of my dreams! I understand that it was raised from White Knight by pollen of one of Mr. Engleheart's own best white trumpets; it carries the character of the lovely White Knight into a very large flower. It would be difficult to exaggerate the beauty of its great perianth, which is perfectly modelled and beautifully clean cut like that of White Knight, and stands quite flat and at right angles to the graceful slender trumpet from the time the flower first opens till it dies, which is a very long time, as it is extraordinarily lasting. It is considerably whiter than White Knight and not so drooping, but has a most stately and imposing carriage, being mounted on a really tall stem. In addition to its arresting beauty it has the virtue of a most vigorous constitution, with

quite exceptional rapidity of increase, and it is early. Taken all round, I think it is one of Mr. Engleheart's most outstanding achievements. An illustration of this variety, which really was rather a libel, was published in *THE GARDEN* a few weeks ago. I therefore send another photograph for publication herewith, which, though not a flattering likeness, does convey a somewhat better idea of the flower. The bloom of which Mr. Jacob wrote, which is, in fact, the one illustrated herewith, had been out for over three weeks when it was shown and photographed, and had to go through the ordeal of a thorough and careful washing with warm water and "Lux" to remove as much as possible of the staining of a very sooty rainfall! so it had lost some of its white-



A FINE SPECIMEN OF A BEAUTIFUL CHERRY, *CERASUS LANNESIANA* VAR. *BOTANZAKURA*.



THE BLOOM OF NARCISSUS BEERSHEBA SHOWN AT BIRMINGHAM

ness and beauty of texture, and was really considerably past its best when shown. I think that Mr. Jacob has inadvertently exaggerated its size a little bit, but I did measure blooms this season in Mr. J. S. Arkwright's garden, and at Brodie Castle, N.B., which were fully sun, across and of much better quality than the flower I showed, which was grown from a bulb first year down.—GUY L. WILSON, *Broughshane, Co. Antrim*.

The photograph of Beersheba which was reproduced in our issue of April 28 was a very good one, but, unfortunately, it suffered considerably in reproduction. May Mr. Wilson's picture have a better fate!—*Ed.*

CHERRY STOCKS.

THE condemnation of English stocks for the Japanese-flowering cherries appears to have originated with Mr. Wilson. So far as *P. Avium* is concerned, for

the large-growing forms of what he calls *P. Lannesiana* and *P. serrulata*, this stock appears to be admirably suited, and certainly better for this country than the dwarfing stock commonly used in the Japanese nurseries. I have imported seeds, seedlings and grafted plants from the Orient, and have now no hesitation in using *P. Avium* in preference to the plants employed by the Japanese themselves. Mr. Wilson admits that the stock they commonly use—which he calls *Mazakura*—is unsatisfactory, and recommends *P. serrulata sachalinensis*—in itself a beautiful and very desirable tree.

But where can one get this stock? So far I have failed to get either seeds or seedlings of this vigorous northern form from Japan—only a narrow-leaved, weak-growing tree, obviously unsuited. As a proof that *P. Lannesiana* flourishes on *Avium* I enclose a photograph of the double-flowered variety *Botanzakura* (I believe it to be this form, but the nomenclature of these cherries is still in a hopelessly chaotic condition). This tree is about 3 ft. through, and Mr. Wilson says that even in Japan such dimensions for a double-flowered variety are of rare occurrence.

With regard to the early-flowering subhirtella group (of which I possess five varieties), I am entirely in agreement with Mr. Wilson as to the unsuitability of *P. Avium* as stock. They should all be worked on the wild form named by that writer, *P. subhirtella ascendens*. In your Editorial of May 3 mention is made of the so-called Apricot-Plum, *P. dasycarpa*. As I am anxious to obtain an example of this tree, I would be grateful if any reader who has a plant to dispose of would communicate with me.—COLLINGWOOD INGRAM, *The Terrace, Remden*.

A CURIOUS PHENOMENON

THERE was a curious arrest of development last autumn in the fruit of *Cornus capitata*. The fruit did not ripen in the usual way in the autumn, but remained at half size until the sap moved in March; it then again began to grow, ripening in April. I mention it as it was common to this plant in many gardens both in Cornwall and Devon.—P. D. WILLIAMS, *Cornwall*.

ANDROSACE LONGIFOLIA?

I SEND a photograph of an exquisite *Androsace* which I obtained from the late Reginald Farrer under the name of *Androsace longifolia*. It is now (April 11) in full flower. It has done so well with me and stood many degrees of frost, that if it is the true plant, as I believe it must be, I think Mr. Farrer was mistaken in stating that it is not hardy. It is a beautiful thing, with dark green foliage and pink buds, followed by pure white flowers, and seems to have an excellent constitution. I have taken considerable trouble to find out where elsewhere in Britain this plant is grown, so far without success. I shall be glad to hear from anyone who has the true plant. Mr. Farrer was away in China at the time I received it, and it is just possible his gardener may have sent me the wrong plant. He certainly sent me a rare gem, and one that has proved quite hardy.—J. FARNWORTH ANDERSON, *Glenn Hall, Leicester*.

A DESIRABLE MAGNOLIA.

MAGNOLIA LENNEI is a very desirable flowering tree for a small garden. It is slow in growth—never making a large tree, and every May flowers freely with showy blossoms. The specimen of which I enclose photograph was planted about fifteen years ago. It has proved quite hardy, and for years has flowered regularly. This year it bore over seventy blooms, and was a conspicuous and beautiful object till the hurricane and bitter frost of the night of May 9 destroyed its beauty. *M. Lennei* is a hybrid Magnolia. The parents, I believe, are *conspicua*, the Chinese Yulan or Lily Tree, and *M. obovata*, a variety with rather small flowers of a purple colour, so that it is an improvement on both its parents, the flower being some 5 ins. to 6 ins. across, globular in form. The outside of the petals is a reddish purple, the interior a beautiful white, and when fully expanded it is a lovely flower.—J. P., *Glos.*

TWO FLOWERING PLANTS IN ONE POT AT ONCE.

BEING about to stand outside our pots of *Arums* after their season of flowering, it occurred to me it might be worth recording how well *Primula malacoides* has done, growing and flowering in the same pots as the Lilies. I readily grant it was not the best gardening to leave the two crops in one pot, but the seedling *Primulas* came up so naturally and evenly that I decided to chance the result, which has been quite good.



A PAN OF ANDROSACE LONGIFOLIA?

There are about twenty pots, and their association came about through the *Callas* being stood last season near to some *Primula* plants ripening their seed, though I was quite unaware they had sowed themselves until the youngsters came up. The *Primulas* began to shew signs of decay a short time ago owing, of course, to having to put up with more moisture than they want; but, on the other hand, they commenced to bloom before the *Arums* and continued to do so practically throughout the season of the latter. Incidentally, the happening shows how easily seedlings of this *Primula* can be obtained.—C. T.

A SHRUB FOR SEASIDE GARDENS.

IN order to achieve really satisfactory results from any garden it is quite essential that the natural environment of the place shall be duly



A FIFTEEN YEARS PLANTED MAGNOLIA LENNEI.

considered. The term "seaside garden" has been adopted and means a garden where the prevailing conditions are those of the sea coast. This does not mean a garden in connexion with a sea coast, but a garden where the prevailing conditions are those of the sea coast. They are exposed to the sea wind, or where the air is so dry that the air is so dry that the spray of the billows which dash against the rugged cliffs by the shore. Happily, however, there are plants, and highly ornamental plants too, which not only are capable of resisting evil effects, but really appear to delight in the conditions that prevail in the vicinity of the seacoast, and such plants are of distinct value to a proportion of gardens in our seagirt isle. *Atriplex Halimifolia*, Tree Purslane, is a shrubby, almost evergreen plant that is eminently useful for the

seacoast garden, for it is a tree-growing plant that will form a bush of considerable size, and is decorative almost the year round. In common with most maritime plants, its stems and foliage are coated over with a greyish tomentum or, to use the technical term, they are glaucous, and this silvery grey tint is the chief attraction in the plant. The flowers are purple, rather small and in comparison with the foliage are inconspicuous, but where beautiful foliage exists showy flowers are not greatly missed. In order to give the plant the best of chances it is well to plant comparatively small, young stuff, for such are able to firmly establish themselves before the herbage is greatly affected by the wind, and when once well rooted sturdy growth will be made that can abide the storm. Sandy soil suits either cuttings or rooted plants, and the former made of well ripened wood root readily under a handlight.—A. J. MACLELL.

A BEAUTIFUL GREENHOUSE PLANT.

ERANTHEMUM ANDERSONI is not uncommon in English gardens as a warm house plant. A description of its habitat in the Central African forests may suggest to gardeners treatment which will suit it under cultivation.

It is essentially a forest plant, only to be found in the densest shade and where moisture is most abundant. Should there be any break in the canopy overhead, no *E. Andersoni* will be found where the sun strikes. In such positions the temperature is relatively low. Entering such a forest from the hot sunny grassland, one feels as great a change as is felt on leaving the stovehouse at Kew for the Cape house.—L. BROWN.

FORTHCOMING EVENTS.

May 29.—Royal Horticultural Society's Great Spring Show at Chelsea (three days).

May 30. Annual General Meeting of the Kew Guild, to be held at the Imperial Hotel, Russell Square, W.C.1, at 6.30 p.m. Annual Dinner to follow the general meeting at 7.15 p.m.

FRAGRANT FOLIAGE—II

I DO not remember ever to have seen explained on physiological grounds the noticeable fact that such a preponderant proportion of fragrant foliage belongs to that order of plants which botanists call "labiate," that is, to plants whose blossoms have a "lip," such as the Mints and the Lavenders. At the same time it must be allowed that this interesting family has the defects of its virtues, for if many of the race smell sweet, there are others that smell unpleasantly rank, one member of the family, the Wood Woundwort (*Stachys sylvatica*) being probably the most malodorous of our native weeds. If one tries to remember plants of families, other than the labiates, with specially fragrant leaves, it is surprising how few there are among the plants in general cultivation. The Umbellifers include a number of species with foliage more or less aromatic, but I can think of only one that is likely to be grown for its perfume—the lacy-leaved Sweet Cicely (*Myrrhis odorata*), a plant from which I sometimes find myself pinching the fragrance as I pass, not so much for any delight in its sweetness as for the associations that mingle with its somewhat drug-suggestive odour. The Tansies and Artemisias are Composites, and the Aloysia or Lippia, most fragrant of fragrant shrubs, is a Verbenaceae. Of the Tansies, not a numerous family, the most desirable for its perfume is the old-fashioned sweet herb of cottage gardens, Costmary or Alecost (*Tanacetum Balsamita*). To some the alternative English names of this plant may be a little puzzling, but they are intelligible enough if one remembers that "cost," the syllable common to both names, is Greek for "aromatic plant," so that in the remote past, apparently, the herb was by some dedicated to the Virgin and by others used as a substitute for hops. Anyhow, though its fragrance is perhaps more robust than delicate, the Costmary is a pleasant thing to have in the garden, where nowadays, however, it is not too often seen. The Sweet-scented Verbena, unfortunately, cannot be counted among our hardy shrubs. Still, it is perhaps harder than many people believe it to be, so that it is always worth while to try it in any English garden where some little protection is available from wall or tree. A thick covering of dry leaves also is a simple form of protection that might be tried for this tender plant with some assurance of carrying it through the winter. The only Artemisia I grow is Lad's Love (*A. Abrotanum*), though I believe there are others worth growing for their fragrance. But Lad's Love is a host in itself, not merely for its perfume, but also for the beauty of its finely divided foliage. If this accommodating shrub is cut back hard in winter or spring, its leafy young branches, untouched through the summer by blight or grub, provide a supply of foliage as beautiful as it is fragrant.

Of the numerous and fragrant family of the Labiates, the most treasured and the most frequently grown in gardens are, beyond question, the two evergreen shrubs Lavender and Rosemary, which have not only their beauty and fragrance to recommend them, but also centuries of pleasant association. Happy the garden that has its old trees of Rosemary and Lavender, for age adds picturesqueness to their beauty and sweetness. In small gardens such trees supply that touch of the lasting and the venerable which we all desire and which, in extensive grounds and gardens, is supplied by more imposing things, for a Lavender well up in years may look as twisted and as grey as an old Oak or Apple tree. There is quite a number of Lavenders, though I cannot

say that among them there is much variety to speak of, either in appearance or in fragrance. I grow some five or six varieties in my own garden. Being there, there they are; but, apart from the spirit of curiosity and the passion for collecting which are ingrained in many gardeners, I think three varieties are sufficient for any reasonable garden, and these three should be in every garden—the common tall Lavender (*Lavandula Spica*), commonly called "English Lavender," the white variety of *L. Spica*, and a neat miniature Lavender, smaller in all its parts than the English Lavender, and variously named according to its supposed place of origin. I would add a fourth—a Lavender



A FRAGRANT MAT OF THYMUS SERPYLLUM LANUGINOSUS.

with serrated leaves, the specific name of which I have forgotten (*dentata*?)—but unfortunately it is not hardy, in my garden at least.

In Rosemarys there is not much choice, though I believe a certain range of colour, from pale lilac to purple, may be found in the common plant that we all grow. I have read, in old writers, of various Rosemarys—some broad-leaved, others narrow-leaved, some streaked with gold, others with silver—but if such varieties exist I have never seen them in cultivation. The only Rosemarys known to me at first hand are the common sort (*Rosmarinus officinalis*) and a prostrate miniature form (*R. prostratus*), which is probably a garden variant of *R. officinalis*. The prostrate Rosemary would be an ideal plant for a ledge of

rockwork, but unfortunately it is somewhat tender, and available therefore only for specially favoured localities, though, for the matter of that, the common bush Rosemary is none too hardy, thriving in some gardens only if planted on a dry, sunny bank or under the protection of a wall.

I suppose the various Thymes, even the diminutive forms, are shrubs and not herbaceous plants, inasmuch as though they extend their branches annually, these are not renewed from the root-stock upward. But the most shrubby are never more than shrublets. The tallest Thyme known to me, some 18 ins. or 2 ft. in height, is a native of Greece, and forms the scrub no doubt of many Greek hills, but very specially of Mt. Hymettus, whence the bees of Athens bring the honey which has become a proverb for its incomparable flavour.

I have myself pleasant memories of the shrub and of the honey, and should be glad if any reader of THE GARDEN could inform me of the name of this species and where in this country it may be procured. The Thymes are desirable garden plants, all of them having the characteristic aromatic sweetness, and none of them being difficult either to grow or to keep within reasonable bounds. The common Garden Thyme (*T. vulgaris*), usually relegated to the herb plot, is quite a handsome plant when it is well grown and covered with bloom. (I wonder whether the Greek plant is, after all, only *T. vulgaris*?) The various Lemon Thymes, plain or coloured, are everybody's favourites, though I do not find in their scent much suggestion of lemon. *T. micans* (identical with *azoricus*?) forms a pretty evergreen pad or cushion several inches in height. Those who desire for their rock gardens a neat mat with a woolly pile will, of course, grow *T. lanuginosus*. A desirable but little-known Thyme is *T. carnosus*, a fragrant shrub of fastigate habit which grows about 1 ft. in height and in its compact shape

mimics an Irish Yew or Lombardy Poplar. A curious, charming and, I fancy, uncommon Thyme with an odd name is *Herba-barona*, hailing, I think, from Mediterranean regions and therefore in all probability not too hardy. This pretty plant in its manner of growth resembles our native Thyme, the long, plant branchlets lying close to any available surface, soil or stone, horizontal or vertical. What its bloom is like I cannot say, my *Herba* not having so far flowered; but its bloom is of secondary interest—the important characteristic of *Herba-barona* being its strong caraway fragrance, so that children like to stroke it and think of seed cake. I have not, so far, seen the inflorescence of *Herba-barona*, and should not be surprised to learn that botanists classify it elsewhere than with the Thymes.

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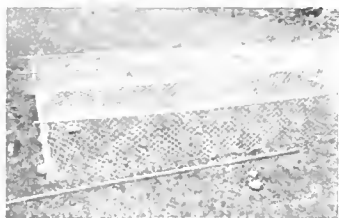
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For one virtue or another all the Thymes are worth growing if one has room for them. But, after all, choice as are some of the exotic Thymes, one's first affection is for the wild plant that gems the countryside. Its neatness, its sweetness and its quiet beauty make our native Thyme, common though it is on heaths and waste places, welcome also in the garden, where it has sported into a variety of shades, ranging from white through pink to carmine.

Nevertheless, I cannot think it is in the garden that our native *Serpyllum* appears to best advantage. To see the wild Thyme in all its exquisite charm one must go to an upland pasture close-cropped by sheep and ridged with immemorial anthills, where it disputes the turf with Bird Trefoil and the yellow Sun Rose. And there the best way to enjoy its sweetness is to lie prostrate upon it or, if one's habit is suitably cylindrical, even to roll upon it. SOMERS.

CULTIVATION OF MELONS IN FRAMES

[In Answer to a Correspondent.]

IF careful attention be given to the plants throughout their season of growth there need not be any failure in securing a good average crop of fruits in frames. Undoubtedly, the gentle heat from a well made hot-bed helps very considerably in their successful cultivation. The cultivator must make up his mind to look well to every detail in connexion with the work, otherwise it would be much better to devote his efforts to other kinds of plants, as the Melon plant is easily killed through inattention to ventilation, watering, feeding and training.

THE HOT-BED: HOW AND WHERE TO BUILD IT.—If there is a naturally formed shelter against north and east winds, make up the bed in that quarter. Where there is no natural shelter make a temporary one by fixing hurdles or have a semi-circular row of Runner Beans about 6ft. from the frame. The position should be a dry one, too. Litter fresh from stables and tree leaves collected last autumn in about equal proportions form the best hot-beds, as the heat is never excessive and it is lasting. In brick frames or pits the hot-bed must be made up inside. Where movable frames are used the bed should be 18ins. wider each way than the frame itself. Mix the leaves and litter together, then lightly shake the material on the allotted space in layers, thus building up the bed to a height of 4ft. 6ins. Next place the frame on it, also the greater part of the soil; the bed will gradually settle down to a height of 2ft. 6ins.. The heat engendered will be more lasting and even than would be the case if the bed had been trodden down.

Now as to the best soil. I do not use the word compost, as it is rarely necessary to have one consisting of several ingredients. Where it is possible to obtain a good yellow loam there need be no difficulty in growing fine plants in it without the aid of leaf-soil or anything else in the first place. Cover the surface of the bed with the soil to a depth of 9ins. Two plants may be grown in a frame 5ft. by 3ft., and four plants in one 6ft. by 4ft., so it will be necessary to form near the centre tiny mounds 6ins. deep on the general layer of soil; one bushel of the loam will be sufficient for each mound. The glass lights must be put on directly the soil is put in, but a small opening should be left at the top for the rank steam to escape. Even after the Melons are planted a small opening 1in. wide must be left at the top of each light as a safeguard against the tender plants being scalded. Cucumbers will grow well and bear fine fruits in a comparatively light, loose rooting medium, but Melons must have a firm soil to root in. The soil should be firmed while it is in a medium condition—neither too wet nor too dry.

Plant sturdy specimens bearing three or four rough leaves, taking care not to bury the stems lower in the soil than they were when growing in the pots. Without damaging the stems press down the soil firmly round each plant. Water will not be needed for a day or two if the plants

were watered a few hours prior to planting. If the sun shines in a clear sky it may be advisable lightly to shade the plants for several days. This, however, will be the only time when well grown Melon plants in a frame will require any shading.

Gradually increase the ventilation early each fine day and reduce it about 2 p.m., closing the lights at three o'clock on rather dull and at four o'clock on sunny days. Syringe with tepid water at closing time when the weather is bright. Train each plant towards the corners of the frame, and when the leader is about 2ft. long pinch off the tip; this will result in a free growth of side shoots, and on these the tiny fruits will be borne. Place empty inverted flower-pots under each embryo fruit, and when several on each plant are found with their flowers open simultaneously set them as follows: Take a staminate (male) flower and after removing the yellow petals insert the stigma in the centre of a pistillate (female) bloom (the one having an embryo fruit attached). This work is best done about noon on a bright day. When the young fruits are swelling nicely, pinch off the end of each shoot two or three joints beyond the fruit and also pinch—do not cut—off all useless laterals. Retain the tiny fruits throughout on the empty flower-pots. The plant should consist of a main stem with its leaves, the side shoots with their fruits and main leaves, but no sub-lateral shoots.

When applying water try not to wet the soil right up to the stems. Apply a surface mulch fortnightly or when the white roots show freely on the surface; always good loam, not broken up too much. When the fruits are swelling, and after the first mulch, begin feeding with weak doses of liquid manure and occasional applications of any artificial preparation advertised for the purpose.

When the Melons are ripening reduce the supplies of clear water and cease all feeding. Gradually increase the ventilation, and, to secure that agreeable aroma arising from the Melons and add to the sweetness of the flesh, tilt the glass lights on warm days so that a current of air may pass through the frame.

Cut the matured fruits and place them in a quite cool room or cellar for several hours before they are to be eaten, and so cut each one that the juice is retained as long as possible.

The following are some of the best sorts for growing in a frame:

Scarlet-fleshed.—Blenheim Orange, Read's Scarlet-Fleshed and Monro's Little Heath, the latter bearing suitably where a hot-bed cannot be formed.

White-fleshed.—Hero of Lockinge and Earl of Lathom.

Green-fleshed. Eastnor Castle, Exquisite and Windsor Castle.

The Cantaloupe Melon is much liked by many cultivators, and may be successfully grown in frames without a hot-bed if the glass is covered with mats every night. Where possible, however a hot-bed should be provided. GEORGE GARNER.

THE HEUCHERAS

THESE lovely hardy plants, the name of which, by the way, is correctly pronounced *Heukera*, have rapidly won their way to the front rank among dwarf border perennials. Not that they are by any means new, for many species are old inhabitants of our gardens; but the hybridist has been very busy among them, and the introduction of these new forms has given the whole genus a great impetus which has brought the older as well as the newer forms into striking prominence. And, indeed, the plant is ideal from every point of view, the tall, elegantly feathered flower spikes in contrast with the compact tufts of foliage proving especially happy. Great as the plant is when in flower, a high meed of praise must be accorded to the autumn and winter effects of the foliage, for many then take on lovely red and reddish brown hues that persist until the new leaves push out in spring and cover them.

A very important point in the culture of all species and varieties is frequent division. The plants throw out offsets freely, but as they do so the stems are pushing higher and higher out of the ground, leaving a longer and longer length of bare stem so that the only way is to break them up into single crowns and replant to the lowest leaves. If this is done in September or early spring, the plants very soon push out an abundance of roots and they flower splendidly the first year. In addition to their use in the rock garden and border, they are ideal plants for edging, though where used in this way as well as in the border, great care must be taken that the soil is well drained.

In addition to their light and graceful habit in the garden, they are really beautiful when the cloud-like sprays are cut and used as table or other decorations. This brings to mind that, by growing a few plants in pots and bringing into the cool greenhouse early in the year, an early and especially valuable display may be obtained, for not only do these flower profusely for several weeks, but they can be turned into the open air again as soon as flowering is over and forced regularly every year.

Among older species the following are all splendid plants. *H. brizoides* is a hybrid between *sanguinea* and *hispida*, with richly coloured vine-like leaves and tall spikes 2ft. to 2½ft. in length of rosy flowers. *H. gracillima* is similar in foliage, with long sprays of small pink flowers. *H. hispida* runs to between 2ft. and 3ft. when in flower, with immense spikes of small brown flowers that are most graceful, both in the garden and when cut and placed in tall vases in the house. *H. micrantha* is a most charming type of which, although the flowers are so very small, the misty cloud-like masses give a splendid effect. So good is this that when first shown both it and its rosy pink form were given the award of merit of the Royal Horticultural Society. *H. sanguinea* must, of course, be grown, for it is very free and vivid in its striking coral pink panicles.

Turning now to the newer hybrids, we find some truly lovely plants, and so lengthy a list of them that selection is very difficult. *Fantasy* is bluish white and very dainty. *Flambeaux* is the most vivid-coloured variety I have seen, more vigorous than *sanguinea*, with larger and denser spikes, rich flame red in colour; *Kilmohel White*, a good clean white with fine spike; and *Margaret*, compact habit, free in flowering, silvery rose and with very sturdy stems. *Pink Pearl*, satiny pool, is remarkable for the height to which the erect stems attain—from 2ft. to 3ft. *Rosemand*, a hybrid from *micrantha*, is coral pink in colour with freely branching stems reaching a height of 3ft. to 4ft. SANDSTONE.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Fruits Under Glass.

The Vinery.—The work of pinching the lateral growths must be continued, and in the later houses the atmosphere kept moist by occasionally damping the floors and stages. It may be pointed out that the rods and leaves must not be syringed. Every encouragement should be given to Vines that were planted in the spring, so that they make healthy growth, and when the leading shoot has reached 8 ft. or 10 ft. it should be stopped. This will help the young rod to consolidate and assist it in being properly matured. New rods are often brought up from the base of the old one, especially with Black Hamburg, and where this is done it should also be stopped when it has made 10 ft. or 12 ft. of growth. Many experience a difficulty in finishing the Malvern Court variety, the berries having a pronounced tendency to split when they begin to colour. At this stage the house should be ventilated freely, both at the top and bottom, and do not stop any more of the growths. The border will not require any water if a mulch of short manure or hay is given. The atmosphere must also be kept on the dry side, and no water should be allowed in the troughs on the hot-water pipes.

The Hardy Fruit Garden.

Wall Trees.—These will need frequent attention, and such work as disbudding, thinning the fruit and spraying for insect pests must be done as needed. Peaches and Nectarines will require disbudding, and young shoots that are retained should be tied in as they become sufficiently advanced. The fruit must be thinned gradually, and weak or poor trees ought only to be allowed to carry a light crop. Watch for green and black fly, and directly any is seen spray the trees with a weak solution of insecticide. Apricot trees will need looking over for caterpillars and red spider. An insufficiency of water at the root is often the cause of the latter. If this is present, the trees should be syringed hard with clear rain water twice each day. The fruits of Plums and Cherries are swelling, and if the former are very crowded, a certain amount of thinning will be necessary. Keep the trees free from insect pests and syringe them freely during dry hot weather. The roots of wall trees may need moisture, and a good soaking should be afforded whenever water is required, or many of the fruits will turn yellow and drop.

Gooseberries.—The bushes usually bear heavy crops, but instead of thinning the fruits in the ordinary way they should be left till they attain a suitable size for tarts, bottled fruits and jam. In my mind it is one of the best fruits for dessert, so some varieties, such as Langley Gage, should be thinned freely for this purpose. Give the roots a mulching of partly decayed manure and keep the hoe at work throughout the fruit quarters.

The Flower Garden.

Biennials.—A number of biennials are grown at this period, and where cold frames are available which have recently been occupied by bedding plants the seeds may be sown in them. Rake the soil level and give a good watering prior to sowing. An open border is also a suitable place to raise the seedlings. Among the plants to be sown now are Sweet Williams, Canterbury Bells, Forget-me-nots, Alyssum saxatile, Aubrietia, Gaura Lindheimeri, Aquilegia, Michauxia campyloboides, etc. If frames are employed, the lights should be removed directly germination has taken place, and the seedlings must be transplanted when they have made two or three rough leaves, selecting a partially shaded spot in the kitchen garden.

Annuals.—These are often spoilt by being sown too thickly, and where the seedlings are likely to become crowded, thinning will be necessary. Some of the taller-growing kinds will need support, and twiggy sticks should be placed among the plants in such a way that tying will not be required.

General Work.—All parts of the garden ought to be kept as tidy as possible, and the walks should be periodically edged up with the shears, while weeds on paths may be destroyed by an application of weed-killer. The lawns should be mown each week, and banks or corners not touched by the machine mown with the scythe or clipped with shears. The hoe should be kept continually at work in all parts of the garden, and herbaceous plants staked before they are far advanced.

The Kitchen Garden.

Asparagus.—Where seed was sown to form a permanent bed, the seedlings must be thinned to 15 ins. apart. Keep the beds free from weeds,

and when cutting the "grass" from old plantations care should be taken not to injure the young shoots beneath the soil.

Celery.—Where early Celery is required a trench ought now to be prepared. It should be 1 ft. wide and a liberal quantity of manure allowed. Place the plants 6 ins. apart and transfer them to the trench before they become starved or leggy. The main crop can wait and follow early Peas.

Marrows.—These may be planted out, and they will succeed in any good garden soil, but it is advisable to dig holes and place rotten manure in the bottom. When filling the holes leave a slight depression for giving water when the weather is dry.

Onions will also require thinning, but not so severely, a few inches apart being ample. Choose showery weather if possible, and give a sprinkling of soot once a fortnight. An occasional hoeing will greatly assist this crop.

T. W. BRISCOM

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—The last sowing for the season should be made in the course of the week, as June-sown Peas seldom do much good in the North. Even at the end of May it is wiser to sow a second early variety, such as Senator, than to trust to a late variety. Promptly stake previous sowings, and water crops should drought set in.

Kidney Beans.—The main sowing may now be made, and one can recommend no better variety than the well known Canadian Wonder. Allow 2 ins. between the rows and 6 ins. between the seeds in the row.

Vegetable Marrows.—Put out the plants on a south border, and if a few spadefuls of good fibrous loam can be got to form a small mound for each plant it will prove highly beneficial. Marrows are often planted in too rich soil, causing them to make gross growth with a disinclination to produce fruit. A moderately rich, rather firm rooting medium produces short-pointed growth, throwing flowers freely. The plants will be benefited by the protection, for a fortnight, of a handlight or a lidless, bottomless box covered by a sheet of glass. This will provide shelter from winds, as well as ensuring a certain amount of warmth until the plants take to the soil.

General Work.—Continue to make sowings of Lettuces, Radishes and Mustard and Cress at regular intervals. Complete the thinning of

crops and continue to make free use of the Dutch hoe.

The Flower Garden.

Bedding-Out.—Now that Pentstemons, Anthrums and Violas are so much used for massing, bedding-out at this season is not such a formidable job as it used to be; still, even as things are, a good deal of work has to be got through in as short a period as possible, so a start should be made forthwith. If spring bedders occupy the beds or borders to be planted, the ground must be cleared, moderately enriched and dug. Make a start with the hardier plants, such as Geraniums, both Zonal and Ivy-leaved; leave Begonias and Dahlias to the last. If the soil is rather dry and there are no signs of rain, the plants should be watered as the work of planting proceeds. If each individual plant is watered separately by means of a turned-down rose it will save labour and prove more beneficial to the plants than if the entire mass of soil is watered.

Sweet Peas will now be growing freely, and a look-out should be kept for any shoots that fail to catch the stakes or other supports, and they should be promptly tied in. A light dressing of nitrate of soda or other quick-acting fertiliser applied in showery weather will give increased vigour to the plants.

Climbers.—Certain quick-growing climbers require a good deal of attention during the early part of the season. Clematises of the Jackmanni type require to have the young growths nailed or tied in from time to time, and Tropaeolum speciosum, although a good climber, often requires attention in directing the young growths. Now is the time to plant Ipomoea purpurea, often called Convolvulus major, also the tall varieties of Nasturtium, and Tropaeolum canariense, the Canary Creeper.

The Rock Garden.

Annuals.—Some of the dwarf hardy annuals are very suitable for the rock garden, where they feel rather more at home than on the level. It is not yet too late to fill any vacant pockets with some of them. The following are suitable for this mode of culture: Silene pendula, Ionopsidium acule, Nictetaria selaginoides, Phacelia campanularia, and Virginian Stock, red, crimson and white.

The Hardy Fruit Garden.

Morello Cherries. As these fruit on the previous year's wood, a sufficient number of young shoots must be laid in due course. Meanwhile all surplus young wood should be pinched or cut out; 1 ins. is the ideal distance between the fruiting shoots of a given year.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

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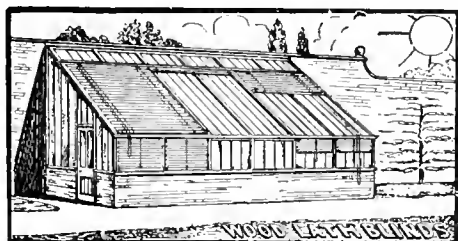
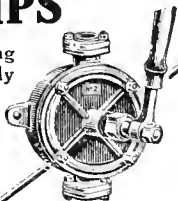
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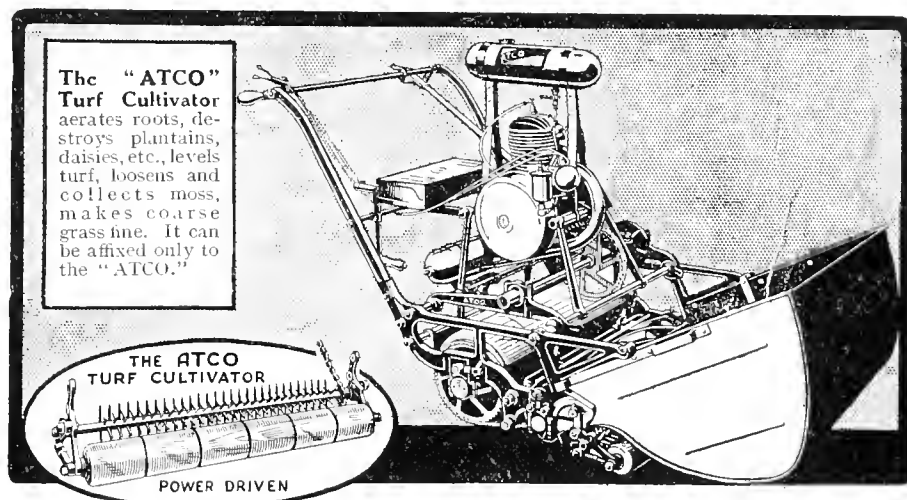
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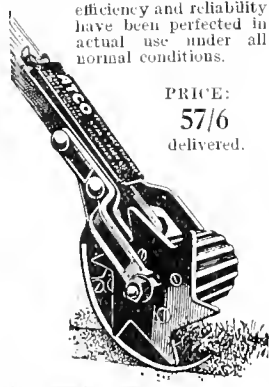
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PEACHES AND NECTARINES

How to grow highly coloured fruit.

THERE are several varieties of Peaches and of Nectarines which, if given the best treatment, will not be very highly coloured when quite ripe. There are others, the majority, that put on a most exquisite colour when grown in ideal conditions, but are very indifferently coloured if they are neglected.

An inexperienced cultivator generally tries to get his fruits well coloured during the two or three weeks prior to their maturing. The deep, rich but delicate tints cannot be secured in such a manner. Often enough, the late and sudden full exposure to the sun's rays results in the scalding of one side of the fruit. Furthermore, fruits exposed so late in the season do not have as rich a flavour as those exposed for a much longer period.

At this season, trees which are growing under glass and helped a little with fire-heat at night and on bad days will possess fruits fit for thinning-out. When they are about the size of small marbles the first thinning should be done. In every instance leave those fruits that grow on the fore part of the branch. At this thinning two fruits to each square foot of wall or trellis space must be left, and if there are any large leaves growing in such a position that they will eventually hide the fruits, remove them at once. Even at this early stage of growth the young Peaches and Nectarines should be quite brown, and, being small, the colour spreads all over them. Keep the fruits fully exposed from this stage, and when they are ripe they will be perfect in colour and flavour.

LEAF-BLISTER OR OUTSIDE CURL.—It is very rarely that one sees any leaves of the trees curled or blistered when grown under glass; a few near the ventilators may be affected, but trees growing in the open air are sometimes nearly ruined at this season through leaf-curl. For ten years I grew about eight fan-trained trees on a wall facing west, and as many on one facing south south-east. Result: Scarcely any leaf-curl on the former, plenty on the latter. Experiments proved that if the force of the east wind could be broken, the trees would not suffer so much. Nine-inch boards placed in an upright position, edge to wall, and 5 feet to 7 feet apart, broke the force of the wind and greatly lessened the leaf-curl. It is also necessary to success that the soil be maintained in an even state of moisture. Over-dryness of the soil at the roots tends to aggravate the evil of leaf-curl.

Manures must not be given before the first thinning-out of fruits has been done. A week afterwards judicious feeding of the trees may be started.

Book Accommodation. The management of the Belgravia Hotel, Grosvenor Gardens, S.W., so much patronised by the garden-loving public, asks us to point out that there is always a big demand for accommodation for the period of the Show and that visitors who write reserving bedroom accommodation or tables in the restaurant will receive preferential treatment. The hotel is very conveniently situated for the show-going public, being near Victoria Station and within easy reach of the show-ground. It is also quite convenient for the Royal Horticultural Hall, and its accommodation is, consequently, in considerable demand on the occasion of the R.H.S. Fortnightly Meetings.

A Beautiful Prostrate Linum.—The beautiful *Linum alpinum* is often the first of the blue members

of its race to open its flowers. There is a peculiarly quiet charm about this species with its slender shoots of a pale emerald green lying prostrate in soft, almost furry, well combed mats on the soil. These pretty growths each terminate in the large but gentle blossoms, which are a clear, almost transparent china blue, and a succession of these is maintained more or less the season through. This species is as easily grown as the allied *L. perenne*, or any of the others of its class, provided it is given a sunny place with an ample depth of free, gritty soil.

Answers to Correspondents

TREES AND SHRUBS.

SPARROWS AND WISTARIA BUDS (W. P. M.).—A quassa chip emulsion spray is often used with satisfactory results to prevent birds attacking the buds of fruit trees and bushes. It should also be efficacious in the case of the Wistaria. It might mean spraying every morning for a week or more, but when the sparrows find the taste is repeatedly bitter they will go elsewhere. Quassa chips are procurable by the pound from the chemist, and when boiling, the emulsion is improved by stirring in a little soft soap. Take care not to throw any crumbs about from the table. It is quite well known that the birds look for these, and while waiting are liable to do damage in the vicinity.

MISCELLANEOUS.

PLANT FOR IDENTIFICATION (T. W. K.).—The plant sent for identification is *Ceanothus dentatus*. This *Ceanothus* will commence to produce shoots after it has finished flowering. Propagation is effected either by cuttings, which should be inserted in sandy soil in a cold frame in autumn, or by layers, which is the quickest way of obtaining strong plants. Seeds also are produced freely on most species of *Ceanothus* and they germinate readily if sown in a little heat.

NAMES OF PLANTS.—Gardener.—1, *Prunus Padus*, "Bird Cherry"; 2, *Amelanchier canadensis*, "June Berry."—T. N., Bucks.—*Pentstemon Scutleri*.—W. F., Dorset.—*Rhododendron Lady Alice Fitzwilliam*.—W. R. J., Cheltenham.—*Celandine*.

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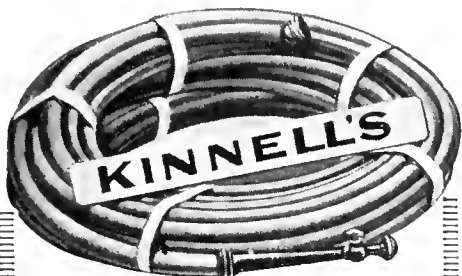
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WEDNESDAY, May 30th	-	-	-	-	-	-	-	-	9 a.m. to 5 p.m.,	5/-
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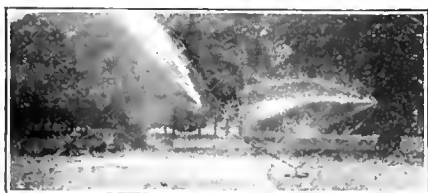
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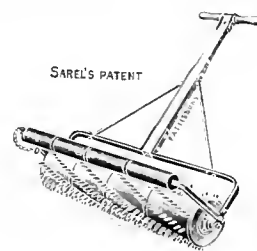
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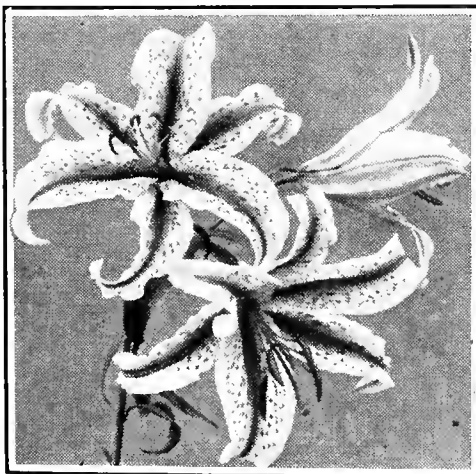
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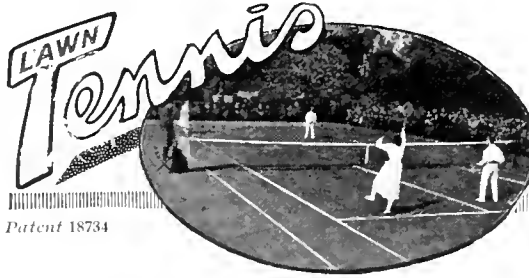
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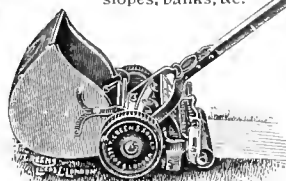
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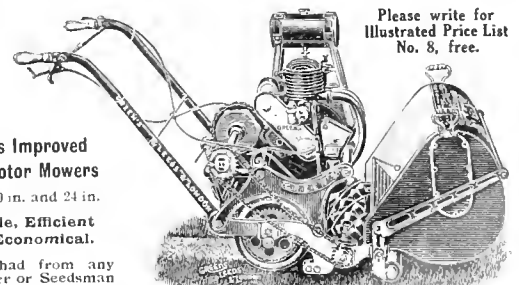
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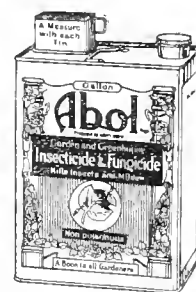
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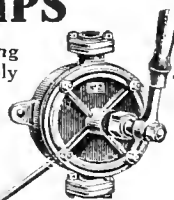
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No. 2689.—VOL. LXXXVII.]

[JUNE 2, 1923.]

HARDY PRIMULAS

Primula nivalis and its allies and those of the *sikkimensis* section.

TO the *nivalis* section of the family belong some of the finest species, with handsome foliage and large trusses of beautiful flowers. *P. nivalis*, which may be taken as the type of the section, has a very wide distribution, extending right across the continent of Asia, from the Caucasus through Turkestan, the Himalayas, China and Siberia, to North-Western America. With such a wide range, and being found under various conditions, this species, naturally, varies to some extent, and several distinct forms from time to time have found their way into cultivation.

All the species of the *nivalis* section proper have so far proved difficult of cultivation in this country. They have the unfortunate habit of rotting off at the collar through some cause, probably damp, during the winter months, while the roots remain perfectly healthy. They seem to require other plants for company, and to be grown in positions where the crowns can be kept dry, while the roots are within easy reach of abundant moisture. During the past winter I have allowed grass and other weeds to grow along with the Primulas, only removing the stronger ones when they appeared to be overgrowing and crowding out the rightful occupants. They have come through the winter well, and have apparently benefited by this method.

On the other hand, the members of the *sikkimensis* section are easy to grow, only requiring a moist and deeply cultivated soil of a loamy character in a partly shady situation. All are readily raised from seeds when fresh, treated in the same way as most other Primulas. Taking the members of the *nivalis* section first we have

P. ANGUSTIFOLIA.—A native of the Rocky Mountains of Colorado, this is a dwarf species, only a few inches high, with narrow leaves and one-flowered scapes. The flowers are rosy lilac in colour with a pale eye.

P. CHIONANTHA is a noble species from Yunnan, where it was found by Mr. Forrest on the mountains of the Chungtien plateau at an altitude of 12,000ft. to 13,000ft. in open, alpine meadows. It is very robust in habit, with a tuft of leathery leaves 8ins. or more long and 2ins. wide at the broadest part, from which are produced the stout stems, rising from 12ins. to 20ins. in height. Like

the underpart of the leaves, the stems, pedicels and calyx are coated with a golden meal. Strong stems bear two or more whorls of flowers. These are ivory white, fragrant, nearly 1in. in diameter, and produced on drooping pedicels during the month of May. It has done well in a moist, shady position and promises to be a popular plant.

P. NIVALIS.—The type of this section is a rare plant in gardens, although it was introduced into cultivation as long ago as the year 1790. It is a handsome plant with leathery leaves, green above and mealy beneath, and bears large trusses of rosy purple flowers.

P. PARRYI.—A native of the alpine regions of the rocky mountains of Colorado, this is a bog-loving plant with bright green, erect leaves and intense crimson flowers in large trusses. The flowers have a yellow eye, while the lobes of the corolla are emarginate. One of the handsomest species, it does not flourish everywhere, but grows best when planted in moist, spongy soil that is well drained and never allowed to become stagnant. It was first introduced into this country in 1875.

P. PULCHELLA.—This is a beautiful plant from Western China, where it was found by Forrest, and introduced by Bees, Limited, in the year 1911. It has leathery leaves 4ins. to 6ins. long, denticulate on the margins, and bears trusses of six or more deep blue flowers in May. It has proved more amenable to cultivation than some of the others, and less liable to damp off during the winter. Our hot, dry summers seem more fatal to many of these plants.

P. PULCHELLOIDES.—Also from the same country as the above, but found by Kingdon Ward, it is of similar habit, with smaller lilac flowers more in a truss.

P. PURDOMII.—This beautiful plant was found by Purdom in Western Kansu, China, at an altitude of



THE FRAGRANT WHITE PRIMULA CHIONANTHA.



THE MILKY-STEMMED LILAC ROSE FLOWERED PRIMULA
PURDOMII.

Perhaps the best of the nutalis section.



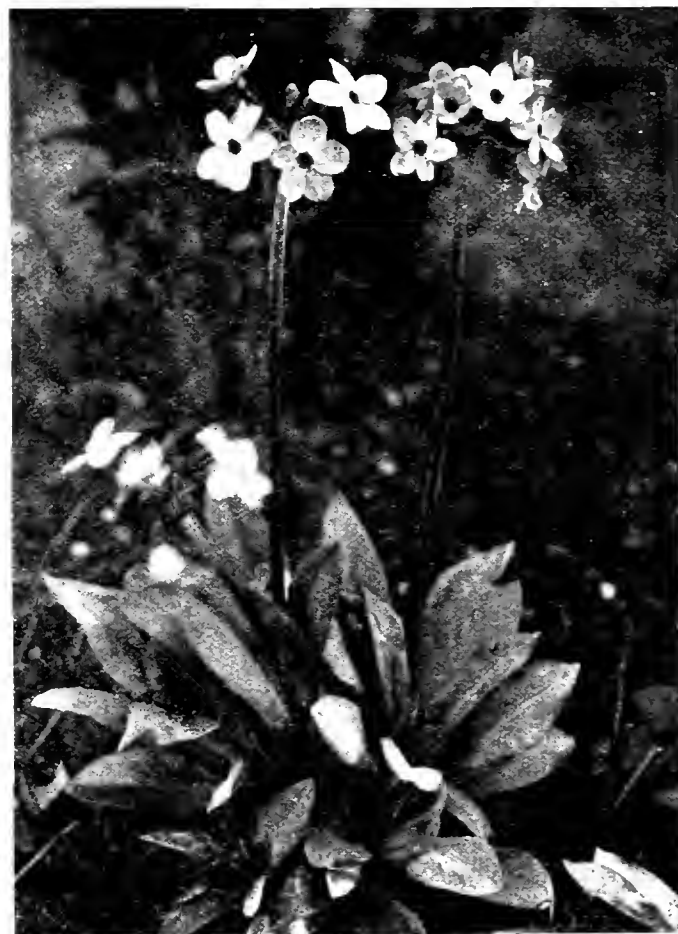
PRIMULA SIKKIMENSIS, WHICH IS CALLED A ROSE PURPLE
P. SIKKIMENSIS.

This is a better plant than P. nutalis.

PRIMULA PURDOMII. This is a very like the second, but is covered with a thick, milky, sticky substance, considerably to the detriment of this species. The flowers are borne in terminal trusses of from three to twelve on stiff, sometimes slightly curved, or more or less pendulous, stems. A handsome plant, and a fine hybrid. Mr. A. V. Wright and S. C. at the meeting of the Royal Horticultural Society at Oxford, just ascertained it.

P. STRAUPHOLEA. Another handsome species from Yunnan, in West China, where it was found by Forrest growing on open moist pastures and mountains at 12,000 ft. elevation. The leafy leaves are dark green above and coated beneath with golden yellow, and grow to a length of 12 in., while the stems rise to a height of up to 2 ft. The flower stalk, like the undersides of the leaves, is covered with a golden farina. In May the rich rose-purple fragrant flowers are produced in trusses of six to twelve or more, each is about 1 in. in diameter and has a good effect.

P. SUCRATA. A handsome species which comes from the Himalayas, whence it was introduced in 1845. It has leathery, lanceolate leaves nearly 1 ft. long,



THE ROSE PURPLE FRAGRANT PRIMULA SINO-PURPUREA.

mealy below and sharply serrated. The rich golden yellow flowers are borne in umbels on stems 6 ins. to 18 ins. high in May and June.

THE SIKKIMENSIS SECTION.

P. SECUNDIFLORA. This may be called a rose-purple sikkimensis, and is one of the most alpine Primulas found on the Fichang range in North-West Yunnan. It is found there at an altitude of up to 18,000 ft., to almost the limit of perpetual snow. Forests are that in the lower meadows the plants form dense colonies, with scapes from 7 ins. to 24 ins. in height. The flowers are pendulous on the umbels, the calyx being a deep ruddy purple, having the margins of the lobes, picked out with thick lines of white farina. In colour the flowers are a beautiful shade of deep crimson, the outside being slightly paler. In this species the lobes of the corolla are entire, thus distinguishing it from *P. nutalis*, which has the corolla lobes serrate. This species has proven easy to grow and is doing well in a shady border. It is one of Forrest's finds.

P. STRAUPHOLEA (Syn. *P. Nutalis*). This was introduced by Bees, Limited in 1908, having been found by Forrest in West Yunnan. It is somewhat of the habit of *P. sikkimensis*, but is remarkable in the coloration of the flowers. The petals are pale yellow, with a crimson tinted blotch in the centre. It is a strong grower, reaching only one or two feet in height, and flowers on each in

P. SIKKIMENSIS.—The Sikkim Cowslip is a well known plant, and one of the most desirable of all the hardy species of this extensive genus. It is among the easiest kinds to grow, preferring a moist, loamy soil in a shady situation. It is an ideal plant for the waterside, raised well above, but with water within reach of the roots. In such places it grows freely with tufts of shiny green leaves and tall stems 1 ft. to 3 ft. high, bearing large trusses of drooping, fragrant, yellow flowers in May and June. *P. pseudo-sikkimensis* is the

Chinese form of the Himalayan type, and is hardly distinguishable when they are grown together. The colour varies slightly from pale primrose yellow to a deeper shade.

P. VITIIV.—Also from Western China, this plant is similar in habit to *P. secundiflora*, but differs in having slightly paler flowers with emarginate corolla lobes. It flowers at the same time in May, but the blossoms are smaller. It was introduced in 1905 by Messrs. Veitch from seed collected by Wilson. W. I.

ON LATE-FLOWERING TULIPS

THERE are Tulips—and Tulips. The large majority of those who garden at the present time only call Tulips those sections which are labelled "Parrot," "Cottage," "Breeder," "Rembrandt" and "Darwin." Anyone who watched the way of the visiting public at Vincent Square on May 8 and 9 could not fail to note how they stood before the big trade groups, and talked with the attendants and, presumably, gave orders for those they thought good. Tulips always seem to have had the faculty of loosening tongues. I will not say more than all other flowers, for I expect the Pansy, the Dahlia, the Auricula, the Orchid, the newly fledged Rhododendron, the old Carnation, the big Gooseberry (only it is not a flower) and others too numerous to mention are able to do the same. "Shop" is the real enthusiast's Heaven. A new variety comes to an expectant world. It must be seen and discussed. Thus it was when Van Ooslen of Leyden wrote "The Dutch Gardener." I quote from the work "made English" in 1703: "If the Tulips should be made common, the civilist Dealing that is in the World would thereby be taken away from Men and they would be deprived of the sweetest Communication that is among honest Men. How much acquaintance doth their Rareity not afford to knowing Artists? How many pleasant visits? How many friendly Conversations? How many solid discouragements? Certainly it is the sweetest Life of the World and a very pleasant Entertainment of our Thoughts to be thus busy with the Contemplation of Flowers." These old Hollanders were very serious over their Tulips. Not more so perhaps than the small body of the faithful who gathered round the Tulip-pans in the western annexe. These were the flowers *they* called Tulips—as for those in the body of the hall, they were all right as playthings for those who as yet have not put away childish things. This is no flight of imagination on the part of the writer. It is almost word for word the description given him by a starchy florist of the old regime—not, may I say, sneeringly or reprovingly, but with a sadness that these did not know the joy of Paradise.

Once upon a time the Tulip tents of Groom of Walworth drew to themselves the *élite* of a London season. They were not then quietly passed by on the other side as no good for a colour scheme or to deck a crowded drawing-room. These blooms are relics of the time when it was the individual bloom and not a wide expanse of colour that was supreme. They tell of quiet hours of simple enjoyment alike open to a queen and a shoemaker. Their very prinness seems out of harmony with this flamboyant age; but have any flowers given greater enjoyment? For the present they are on the shelf, and the others are everything, so of these others I must write. Personally, I would be sorry to be without any of the several sections of our late-flowering Tulips. "Let them all come," say I, only I do think those

who are unable to appreciate a first-rate Trip to Stockport, a Mabel, a Sir Joseph Paxton or a William Annibal miss a good deal.

On the occasion mentioned above, when there were seven large and small trade groups in the hall (two of which, namely, those of Messrs. Barr and Sons and Messrs. Dobbie and Co., were of gold medal excellence), only one new variety received an award of merit from the Tulip Com-

to say "yes" if it means the one that of all others catches the spectator's eye when he wants to find the brightest spot in a big muster of Tulips. Give me, I say, if I must fill my garden with brightness, Petrus Hondius, Farncombe Sanders and Pride of Haarlem. As a contrast to their brilliancies suppose we consider the more sober browns. Somehow they remind me of a well-to-do man who can afford to go quietly and unostentatiously through life—humble-minded and at peace with himself and his neighbours. Such are Garibaldi, Prince Albert and Bronze Queen. They are chosen because they have done particularly well this year. All are tall growers with fine large flowers. Garibaldi is pale and pointed; Bronze Queen, which was once a greatly admired feature among the spring flowers at Glasnevin Gardens, is round and of the colour of a rather overbaked biscuit—hence one of its synonyms, Biscuit; and Prince Albert is long and dark. Writing of browns reminds me of a little episode as we were going round judging the groups of Tulips on the 8th. As we were in front of that of the Welsh Bulb Fields,



BRITISH GROWN DARWIN AND COTTAGE TULIPS AT THE "WELSH BULB FIELDS," ST. ASAPH, NORTH WALES.

mittee. This was Alceme, put up by Messrs. R. H. Bath of Wisbech. I have never had the pleasure of meeting Mrs. Alceme, but I have heard that she was the mother of Hercules. Accordingly one imagines she must have been what we call a fine woman with a noble presence. Such, at any rate, is her namesake in the tulip world. There, she is a tall and majestic rose with a blue and white centre. For those who are especially fond of bright-looking flowers in a garden I would always advise a trial of rosy-coloured varieties. Years ago I remember how in the midst of one of the large bulb fields in Holland I steadily stalked a particularly bright spot in the far distance and found when I came up to it that it was our ancient friend Farncombe Sanders. Although it is called in the R.H.S. Tulip Book cochineal red, there is a good deal of rose in its composition. Half an hour ago I compared a fairly young bloom of Farncombe Sanders with Petrus Hondius. The similarity of shade surprised both my gardener and myself. Petrus Hondius is boomed as having the most brilliant colour in Darwin Tulips. I am disposed

Sir Daniel Hall pointed to a bowl in the front row and said, "That's a daring combination." It was a mixture of the variety which above all others may be labelled brown, for it is brown and nothing else, Dom Pedro, and the delightful pale rosy buff, The Fawn. I repeated the mixture when I got home and I like it well. Another combination which is very charming is the delicately coloured pink Darwin, with its pretty rosy interior and pale blue base and well feathered spikes of the pink *Heuchera tiarellaoides*.

I fear my disappointment is confirmed. I have grown the three so-called lily-shaped varieties—Siren, Adonis and Artemis—for a considerable time, and I have come to the conclusion that they do not suit somewhat cold gardens like my own. Adonis and Artemis at their best hardly seem wanted. I imagined when I bought them that they were the same beautiful open shape as the silvery pink Siren, which, of course, very much resembles its parent *Retroflexa*. Never once have they done themselves anything like justice. This spring they have Dobbie's love Logan Rose on one side of them and on the other

an even more taking variety, Springtime— a rose of purest ray serene. Why should these two be the picture of health and the poor Lily-flowered ones in their midst so woebegone.

Tulipa Mauriana—one of the neo-Tulips found, I think, somewhere about Aix—I, personally, call red without any qualifying epithet or explanatory phrase. I have always been attracted to it, just as I have been to the Darwin Teddy, but never before until this season have I realised how near together they are in colour. If I were asked to name three reds, I think I could not do better

than select Teddy, William Pitt (a much deeper shade) and Gesneriana major (syn. spatulata). In looking in any catalogue of a first-class firm one fully appreciates the sigh of John Gerard, who says that, in 1597, when he wrote his famous Herbal, "each new yeere bringeth fourth new plants of sundrie colours not before seene: all which to describe particularlie, were to roule Sisiphus stone, or number the sandes." It is worse now; and the multiplicity of real good varieties makes a writer's task a thankless one if he attempts to name the best. I can only

suggest good ones, knowing very well that there are as good fish in the sea as I have pulled out. In dark shades and deep purples no one can go far wrong with Faust (very dark), Marconi (purple) and Vespuccio (red-purple). In mauves Ronald Gunn (stately and tall), Euterpe (rosy mauve) and Melicette (large open bloom) take some beating. Then in edged varieties there are Prince of the Netherlands, Edmée and Massachussets—and of other colours no end, for no mention has been made of Clara Butt, Boadicea and Avis Kennicott.

JOSEPH JACOB.

THE GREAT CHELSEA SHOW

"CHELSEA" makes an appeal to the British garden-loving public greater than any other horticultural show, chiefly because the would-be gardener can there see plants arranged under natural conditions, as well as on tabling in the usual way. There is thus an obligation on the trade to display their plants in the spectacular groups in positions and aspects in which they would succeed in the garden. Some firms scrupulously fulfil this obligation; others are less careful. It should be an instruction to the judges to turn down any of these exhibits, however finely grown the plants and whatever the beauty of the arrangement, if the latter violates the conditions under which the plants will succeed. The knowledgable amateur is scarcely likely to be led astray if he places no reliance on groupings in which any one plant is to his knowledge misplaced. It is the novice in practical gardening who is usually deceived by impossible arrangements of plants. The Show this year is a really fine one, though the spell of bad weather about the middle of May was very troublesome to exhibitors. Most of the big firms prepare the larger part of their exhibits for this Show under glass, but, even so, dull draughty weather is very difficult to combat, particularly if the plants are at all backward, as fire-heat is a poor substitute for the direct light and heat of the sun. Fire-heat induces weak, drawn growth and poor-coloured unsubstantial blossoms; sunlight ensures properly ripened growth and flower thoroughly characteristic of the plant. Remembering these difficulties, no doubt, visitors will

consider the quality and variety of the exhibits as little short of marvellous.

The illustrated account which appears on page 271 and following pages has been specially written for THE GARDEN by a staff of experts specialising in the various classes of plants. As this issue will be on sale at midday on Wednesday, May 30, the preparation of the report represents a pretty considerable undertaking, but we hope and believe that it will, nevertheless, be found to contain an impartial and authoritative survey of the Show. Accounts of some of the less important sections of plants are, owing to the space already taken up by the Show report, held over till our next issue, together with the report on new plants, etc., submitted to the various Committees for award.

In last week's issue we published a forecast of the Show, which visitors should find useful in that it will help them to avoid missing interesting but perhaps not spectacular exhibits, such as Mr. Douglas's

Carnations, Mr. Herbert's Pinks or many of the exhibits of choice alpinists. Dr. Macwatt's hardy Primulas, too, represent a feature which will interest a great number of readers of THE GARDEN. These Primulas were not mentioned in the forecast, but visitors should not fail to find and note them.

The only certain way to see the whole of the exhibits is to mark out an itinerary on the plan of the tents in the official guide and scrupulously to follow it. Visitors must, of course, please themselves about the scientific tent—many of them, after all, come to "Chelsea" for amusement! The tent in which various firms display garden designs and photographs of completed gardens is another matter. No one who has a garden of his or her own should miss seeing these, for the plans show how the essential unity of a garden with many features may be obtained in a way that, owing to lack of space, the formal gardens outdoors cannot. One can see here gardens of many kinds

with features of which one may or may not approve. Sometimes, however, it is almost as useful to see what to avoid as to note ideas one would like to incorporate. In short, no one should miss the plans!

The big exhibits will be found described in another place. There is no need to recommend anyone not to miss Messrs. Wallace's Lilies, Messrs. Sutton's garden of annuals, Mr. Perry's hardy Ferns or the many other spectacular exhibits of Roses, Rhododendrons, herbaceous plants, etc., to say nothing of the formal and informal gardens outdoors.

Visitors should turn when tired to the comparatively open space of the Ranelagh Gardens.



ONE OF THE FEATURES OF MESSRS. SUTTON'S DELIGHTFUL ANNUAL GARDEN, THE VIVID ORANGE DIMORPHOTHECA AURANTIACA.

AROUND THE SHOW

The wretchedness of the weather did not prevent the King and Queen from visiting the Show and inspecting the exhibits in considerable detail. More spectacular "Chelseas" than this undoubtedly we have had, but it is doubtful if there has ever been a better, for the general quality of the exhibits is little short of marvellous. The dispiriting weather was not sufficient to damp the ardour of would-be sightseers and, as soon as the gates were thrown open to the public, there was an immediate inrush of visitors. It was generally expected that after the first influx the turnstiles would have a fairly easy time, but this did not prove to be the case. Down-pour or no down-pour, two seemingly endless streams of enthusiasts poured into the grounds from the respective entrances.

Some of the most wonderful exhibits at this great Show are always staged outdoors, and we will commence the report with the

ROCK GARDENS

The rock gardens this year are probably more interesting than usual—certainly we found them so. Not *better* than usual, be it said—more interesting! To begin with, Captain Symons-Jeune makes quite a new departure by using the rather fantastic Mendip stone, best known in the famous Cheddar cliffs. The stone, as laid, looks supremely natural, and the garden is very effectively planted. It certainly is a change from the eternal, albeit very beautiful, mountain limestone.

This latter material is used, however, by Mr. George G. Whitelegg, by Messrs. R. Tucker and Sons, and by Messrs. Clarence Elliott, Limited. Mr. Whitelegg's exhibit is effective, but is not, in our judgment, the best he has set up from a design point of view. His plants, however, are extraordinarily good, and their arrangement on the stonework is excellent. The plants are placed where they would be placed—if the gardener knew his business—in a permanent planting. Some exceptionally fine plants of *Saxifraga longifolia* should be noted, but those with the cloud-like masses of blossom in huge masses are *not* *longifolia*. They are the rarely seen *S. Cotyledon platyphylla*. Note, too, quite a colony of *Anemone sylvestris* in a form of more than usual excellence. The patch of rosy carmine is *not* *Dianthus alpinus*, but *D. alpinus* × *D. neglectus*. In another place in the garden may be seen a pure white form produced by the same cross. A list of a few other noteworthy plants must suffice, though there are many treasures in this garden. We have then, *Aquilegia glandulosa*, *Ourisia coccinea*, *Kalmia angustifolia nana*, *Edraianthus pumilio*, *Geum montanum* (true)—a rare plant in cultivation—*Parochetus communis*, *Campanula Portenschlagiana major*, and *Primula farinosa* and *P. Veitchii* both in quantity.

The adjoining iris garden, which sorts very well with the rock garden, contains such treasures as *Ambassadeur*, *Alcazar*, *Eldorado*, *Nibelungen*, *Lord of June*, *pallida Empress of India*, *pallida Celeste*, *Dejazet*, *Opera*, *ambigua*, *Lohengrin*, *Mme. Chereau* and *Isoline*, together with a fine grouping of the splendid *Primula helodoxa*.

Messrs. Tucker's rock garden is, taking it for all in all, perhaps the most pleasing in the Show, and here, too, a great quantity of interesting plants may be found. *Dodecatheons* and *Sisyrinchiums* in variety were noted, also *Primula sikkinensis*, *Daphne Cneorum*, *Gentiana Gentianella* (in the

turf), *Bellis sylvestris*, *Ethionemas*, *Cytisus kewensis* (admirably arranged), *Primula Cockburniana* and *P. Fissidell Hybrid*, *Dianthus Spencer Bickham* and *Phlox canadensis*.

to them o' nights to put a little salt on the slugs tails. Consistently with this argument Mr. Elliott has built a low (sitting height) brick stone-coped wall round three sides of a little rock garden, which wall he makes useful but we anticipate. The rockwork itself is unexceptionable in design and execution, and carries some lovely plants,



AN ALPINE MEADOW IN A PIG-TROUGH (CLARENCE ELLIOTT, LTD.)

Messrs. Clarence Elliott can generally be relied upon to shew something novel, and their exhibit this year is certainly not exceptional in that respect, though it is in every other. Mr. Elliott has come—so he says—to the conclusion that the theory that the rock garden should be quite away from the formal house surround is a delusion and a snare! Who wants—so runs his line of argument—his choice alpine in some inaccessible corner where he cannot readily take a lantern

especially a beautiful grouping of the lovely *Aquilegia glandulosa*—who grows this as well as they do at Six Hills? On the wall are placed gigantic stone pans—pig-troughs and sinks, to be precise and prosaic—filled chock-a-block with the choicest of alpine. An illustration of one of them accompanies these notes. The pan shown is indeed a veritable alpine meadow in miniature, and there seems no reason why anyone with decently pure air and a tiny backyard should not



SPLENDID ENCRUSTED SAXIFRAGES, ETC., IN MR. WHITELEGG'S GARDEN.

in this way is a large collection of Japanese. For it must be remembered that not above thirty per cent. of the plants in the pan are at the moment in bloom.

Messrs. Pallen and Son have a rockery in Sussex sandstone which is quite effective. The firm has on this occasion resisted the temptation to make a big splash, which always appeals to the great B.P., and, instead, two tiny streamlets make a pretty waters-meet. The planting is not really good enough for the stonework, but it is a pretty and interesting exhibit none the less. Messrs. Hodsons also have a rockery in sandstone.

FORMAL GARDENS

Perhaps the most attractive of the formal gardens is certainly the simplest in design. This is the rose garden exhibited by the Orpington Nurseries Company, which is planted entirely with Polyantha Roses in a setting of turf and with simple paved paths to allow dry-shod progress in the wettest weather. The proportioning of this garden is excellent.

Another excellent little garden is the iris garden shown by Messrs. Geo. Bonyard and Co. The Irises shown are June-flowering Bearded varieties which, unfortunately, will hardly be at their best during the duration of the Show. The central portion of the garden is sunken and a small oblong pool marks the centre. The centre paths are of paving, edged turf, and the outer ones of turf. The fact that this garden is not a blaze of colour has its compensations. It enables everyone to realise what beautiful effects can be obtained with the foliage of Bearded Irises alone.

Messrs. R. Neal and Sons have a somewhat ambitious scheme which is formal as regards its main feature—a curvilinear balustraded terrace overlooking a moat, beyond which are plantings

of Japanese Maples, not in very good colour, and a conventionally arranged bank of rock work, with a trickle of water in the centre. Some good clumps of Rhododendrons act as a background to the terrace.

Messrs. J. Cheal and Sons have an exhibit which might well be a stretch of suburban garden. Herbaceous borders backed with Yew hedges are on either hand. In front of these come paved paths in rectangular York self-faced paving—a material and finish always pleasant to behold—and the centre is devoted to turf with pieces of topiary to give a balancing effect to the walks. The whole is dominated by a terrace which "houses" therein a dripping well and pool in the manner now so fashionable. The terrace itself is excellently planted with a variety of trees and shrubs and the whole garden is certain to please large numbers of people.

Mr. Ernest Dixon of Putney is to be congratulated on making an entire break-away from his previous Chelsea models, which, while unexceptionable enough, have shewn little divergence one year from another. The garden shown on this occasion is restful and should be inexpensive to construct. A large proportion of it is turf, but there are no turf banks to mow, so that maintenance would be inexpensive. Steps are always a delightful garden feature and they are used freely—some would say just a little too freely—but there is no straining after effect. Wattle hurdles are used on the terrace at the upper end to represent the walls of the house. It occurs to us that for an exhibition such as this it would have been better to bring the terrace into the foreground and to look down upon the garden, thus eliminating the background problem.

Mr. Klinkert of Richmond, so well known as a specialist in topiary, has this year a well proportioned topiary walk which will certainly appeal to all lovers of this form of gardening.

The En Tont Cas Company, the proprietors of the famous hard tennis courts which bear that name, have what may be considered a model sunk garden of pleasing design, together with models set in Yew hedges of their hard court and an ordinary turf tennis court. One is glad to see that the bad old way of trying to make a hard court a feature of the garden scheme has quite dropped out.

Messrs. William Wood and Sons of Taplow, well known for their garden sundries, have a rather light semi-circular pergola at the entrance of their exhibit, backed by a hedge of well grown Thuyas. From this the way leads to a formal sunk garden with low walling and rockwork behind. The juxtaposition of rockwork and walling seems to be a feature of the Show and will be found dealt with in another place. A thatched tea-house closes the vista at the "top" of the garden. A little Nepeta and a few other touches of mauve and lavender represent all the colouring displayed here. Admitting, as we must, that colour is often too lavishly used at shows, one does feel that Messrs. Wood have, on this occasion, gone to the other extreme.

Messrs. Hodson and Sons of London and Nottingham are another firm which seem to despise colour. Their formal garden has points of interest architecturally, but colour is not used boldly enough, and when employed the effect is rather spotty.

Mr. James Macdonald does not, one presumes, often book an order to plant a garden of grasses. Rather, one imagines, the aim is to attract attention to his beautiful greensward. This notwithstanding, we must confess a sore temptation to invest in such a garden, for, as he shews it, it is indeed a thing of beauty. It is really astounding what effects can be obtained with grasses alone, and none of these in flower.

Messrs. John Waterer, Sons and Crisp, Limited, like Mr. Macdonald, evidently set out to shew



A ROCK GARDEN IN MENDIP STONE BY CAPTAIN SYMONS JEUNE.



MR. ERNEST DIXON'S TREATMENT FOR A SUBURBAN GARDEN.

Their wares in garden form rather than to lay-out a garden. As a garden, their effort could not be considered a success, but as groupings of well-grown trees and shrubs it is worth the inspection of every visitor. To take but one example, the few pieces of topiary on show are of really super-excellent quality.

Messrs. Pipers have rather hidden away a quietly beautiful little blue garden with an octagonal tank and fountain and quaint stepped brick-paved paths. Delphiniums and Ageratum are largely used, and a couple of specimen Wisterias lend distinction.

Messrs. Kent and Brydon have another exhibit in which walling and rockwork are brought into juxtaposition. The garden is full of colour and quite effective. A rather low and narrow lily-tank forms a central feature.

INFORMAL GARDENS

The most spectacular garden in the Show comes under this heading. We refer to Messrs. W. H. Gaze and Sons' exhibit in something of the "Capability" Brown style of landscape work. If this conveys little to readers, it may, perhaps, make our meaning clearer if we refer them to the rock and water garden at "The Gazeway" at Kingston, which so many readers of *THE GARDEN* seem to have visited, and which is similar in treatment though, of course, the design is different. A water splash, a pool, an extent of contoured turf, some really fine boulders of sandstone rock and a number of plants are the materials—which materials, most readers will agree, have been very pleasantly arranged and in good proportion.

Quite different in treatment is Messrs. Carter's spring garden. The firm seems to be specialising in this class of exhibit, by the way. Intermediate Bearded Irises and Dutch Irises lend the bulk of the colouring to the streamside planting, but beyond the brookside path Rhododendrons are freely and effectively used. A small colony of Candelabra Primulas we noticed particularly, because the combination of colour they offer offends our sense of colour harmony, but this is a small blemish in a well thought out scheme.

No note on the informal gardens would be complete without a reference to Messrs. R. Wallace and Co.'s garden of Lilies, Rhododendrons and Eremuri in the great tent, but the plants in this garden will be found described in their several places. Mr. Whitelegg's informal iris garden should, by rights, be included here, but it has

already been described in association with the adjacent rock garden.

TREES AND SHRUBS

Chelsea without its Rhododendrons would be like Hamlet without the Prince of Denmark; but in spite of the worst the weather could do they are here in all their old glory of colour and form and fragrance. If novelties are not conspicuous, one welcomes the old friends with a greeting not less warm for another year's acquaintance, and congratulates them for having worn so well. The collection of these shrubs shown by Messrs. Waterer, Sons and Crisp affords a display of magnificent varieties in which Corona in a full shrimpy pink is an outstanding feature. Lady Cathcart and Pink Pearl, that good old double *R. fastuosum flore pleno* and the well known Alice are also much in evidence. In addition to this superb exhibit, which well-nigh occupies one end of the marquee, the famous Twyford firm has a

full room of ornamental shrubs, with rare Rhododendrons and Azaleas, herbaceous and rock plants in the open.

Messrs. R. and G. Outlibot of Southgate specialise in hardy Azaleas, then exhibit forming a huge bank of glowing colour. The Ghent, Molis and Rustica sections are all splendidly represented at this stand. Of outstanding merit is the new Molis—*sumers* Multatuli, with immense trusses of splendid substance in a fiery colour that defies description. Southgate Wender, another of the same class, will not escape admiration in this fragrant corner of the tent, nor will one overlook the significance of the many standard forms in the grouping and the beauty of the Maples with which the latter is interpersed.

Rhododendrons are again a feature in the collection of shrubs shown by Messrs. Fletcher Brothers of Chertsey. Standard Broom, Japanese Azaleas and dwarf conifers are also here in representative numbers.

The Donard Nursery Company, as is usual, have a fine display of flowering and foliage shrubs in great variety. Conspicuous among these is the lovely blue *Ceanothus floribunda* and others of its race. A remarkably good specimen of *Linca australis* will not easily be passed by, and the same must be said of the *Leptospermum*s, which one is glad to note are getting more popular year by year. Rhododendron decorum may be seen here, and there are some fine bushes of Grevilleas, Pernettyas in berry and bloom, Berberises, *Embothrium coccineum* blazing with scarlet bangles, the lovely *Veronica Hulkeana* and rock garden conifers—to mention but one or two of a large and choice selection.

The name of Reuthe inspires visions of rare and interesting things, and the well known Keston nursery has got together a remarkably fascinating lot. Among these the visitor will be struck by the quaintly beautiful Rhododendron Keysii, with its little tubes of soft orange yellow, and arrested by the delicate loveliness of *R. yunnanense magnificum*. *R. R. cinnabarinum* and *Kewense* will also win admiration, and there are some Kahuias on this stand which will not go unmarked. An excellent specimen of the rare *Dipelta floribunda* in full bloom with *Azalea ledifolia alba* and *A. roseiflora* are notable exhibits here.



IN MESSRS. GAZE'S INFORMAL GARDEN.

The last-named Azalea is also well shown in choice gathering of its tribe among the Maples and Wistarias of Messrs. Russell of the Richmond nurseries. Vines, Bamboos and other ornamental shrubs are shown by this firm, the open air collection being especially attractive. After Rhododendrons and Azaleas one, naturally, looks for Brooms at this season, for most of the exhibiting tastes be unsatisfied, for most of the exhibitors have a fairly good round of these fragrant and graceful spring-flowering shrubs on view. Messrs. Noblett in particular make a strong feature of the genus, and have a score or more of distinct varieties on view. Some of us who may have nursed an objection to standard Brooms will probably modify our opinions when those arranged by the Woodbridge nursery are seen. Among the individual shrubs on view among these Brooms are some good specimens of *Potentilla Farreri*, *Fremontia californica* in full bloom, and *Kalmia latifolia*.

The famous Tunbridge Wells nursery of Messrs. R. Wallace and Co., Limited, have a wonderful show of Rhododendrons and Azaleas, both inside and out of doors. These, together with Japanese

the above comes, in bold contrast, another blaze of Rhododendrons and Azaleas brought by Mr. T. Lewis of Hanwell. Among these a new seedling Azalea in a refulgent orange-scarlet will not escape notice, RR. The Bride, Lord Roberts and Mrs. E. C. Stirling are also outstanding objects in this fine group.

Visitors with a *pêché* for Japanese Maples will have their fill of good things just outside the big tents, where Messrs. Fromow and Sons of Chiswick have a first-rate selection of these pretty things on view. Messrs. Pipers fully maintain the reputation that their Payswater nursery has earned for Clematises, and they also have put up a remarkable show of Rambler and Baby Polyantha Roses. Messrs. Hillier and Sons, Winchester, have an interesting group of flowering and foliage trees, and among the Roses shown by Mr. Charles Turner of The Royal Nurseries is a choice assortment of shrubs tastefully arranged. The Yokohama Nursery Company's stand makes a strong feature of dwarf conifers and Wistarias which are centuries old, and here are some fine specimens of the charming Kurume Azaleas. True to his name, Mr. William Cutbush has brought together

shrubs and hardy border flowers an almost bewildering collection, comprising every sort possible at this season. Even *Lilium auratum*, the Golden-rayed Lily of Japan, which one associates with the late summer months, is represented by splendid fragrant flowers. These are the largest of all those on show. Taller in habit, but bearing smaller creamy buff flowers, is *L. excelsum*. At the other extreme, in point of height, are the plants of *L. Thunbergianum* Yezo, less than a foot in height but bearing relatively large, widely expanded flowers of uncommon orange-crimson colour, shading to a lighter tone on the margins. A little taller, but still quite dwarf, are the spikes of *L. elegans* Orange Queen. In colour the most uncommon of all is *L. Krameri*, the Pink Lily of Japan, in which the large, tubular soft pink flowers have brilliant crimson anthers. *L. Thunbergianum maculatum* has widely open orange yellow flowers curiously splashed with crimson. In *L. elegans marmoratum maculatum* the yellow flowers are regularly and plentifully spotted with chocolate. The chaste and lovely *L. regale*, which flowers so readily as quite young seedlings is very prominent. Of almost florid colour are the spikes of *L. umbellatum* and its varieties, while the brightest of all are the slender, graceful spikes of *L. tenuifolium* well furnished with brilliant orange-scarlet flowers.

ROSES

The Rose enthusiast almost instinctively searches the exhibits for new varieties, and at Chelsea this year he finds more than usual, for almost every exhibitor has a fair show of novelties. Probably the most uncommon of the new Roses is the little group of Orange King, an erect, dwarf Polyantha, which bears little semi-double, button-like flowers of a deep bright orange colour. As a Rose it will not set the Thames on fire, but the colour is very striking. Messrs. Frank Cant and Co. have a goodly number of new Roses of outstanding merit. Captain F. S. Harvey Cant, which received a gold medal at last year's provincial show of the N.R.S., is represented by two types of blooms. The exhibition blooms on boards are of very large size and exceedingly compact, while the stand contains many blooms of smaller size, but still larger than the average and of a delightful rich pink colour. Mrs. F. S. Harvey Cant is another shapely Hybrid Tea Rose and of a pale blush reminiscent of the old favourite, *Devoniensis*. Mrs. Alfred West is a new pink Hybrid Tea Rose of merit. Mrs. E. Claxton, which is shown in fair quantity, is described as a Pillar Rose and it is a fully double bloom of good size, and its colour and rolled petals somewhat suggest a smaller and pointed *La France*. Chastity is a perpetual climber bearing good trusses of medium sized fully double blooms of pale cream yellow flowers.

Souvenir de Claudius Pernet, the new H.T. Rose of the delicious *Maréchal Niel* colour is to be seen in several exhibits, but in none is it so beautifully coloured as shown by Mr. George Prince, who also has charming branches of the yellow Banksian Rose and *Rosa ochroleuca*. Messrs. B. R. Cant and Sons shew, for the first time, a vase of Lady Dixon Hartland, a deliciously fragrant Hybrid Tea Rose of excellent shape and salmon pink colour, shaded with old gold at the base of the broad petals. Sovereign is shown in great quantity and of glorious deep yellow colour. The new pink Rose Lloyd George is to be seen in the magnificent exhibit arranged by Mr. Elisha J. Hicks, who also has Mrs. John Cook, a useful white Hybrid Tea, Margaret Horton, an orange yellow of Sunburst type, and the lovely yellow Souvenir de Claudius Pernet. Mr. Charles



A GLIMPSE IN MESSRS. WALLACE'S GARDEN OF LILIES.

Maples and other ornamental shrubs, must make an indelible impression upon anyone with a taste for colour and form when they are so admirably united as they are in these sumptuous stands. Of this firm's exhibits in other sections we comment elsewhere, and pass on to Messrs. Jackman's Clematises. In this superb collection lovers of the finest of all hardy climbing plants will note many old standard varieties still holding their own—Lady Northcliffe, *Comtesse de Bouchard*, Nellie Moser and the rest—and one or two new ones. Among the latter is a large-flowered, creamy white hybrid of distinction and promise, with a reputation for perpetual flowering. Last year's Crimson King is also a conspicuous object amid this ravishing display.

In this section Messrs. J. Cheal and Sons of Crawley shew some first-rate standards in Brooms and Azaleas, Maples in wide variety, Lilacs, *Ceanothus*s, *Philadelphus*, *Kalmias* and other flowering shrubs, a choice lot backed by a selection of dwarf conifers and other evergreens. In Hydrangeas Mr. H. J. Jones of Lewisham is once more to the fore with a great mound of this handsome shrub, and hard by the soft, cool tones of

a remarkable assortment of "cut-bushes," and another exhibitor who makes a speciality of "tree-barbering" is Mr. J. Klinkert of Richmond. Both of these displays of the topiarists' art are in the open, where also one will not overlook the Bays of Messrs. R. Green, Limited, and the stands of other specialists in the more architectural side of the gardener's world.

Though rather the worse for the weather and their long journey, the cut exhibit of flowering shrubs shown by Messrs. R. Gill and Son, is noteworthy. *Crinodendron Hookeri*, *Embothrium coccineum*, *Abutilons*, *Chanthus*, *Pittosporums*, *Buddleia Colvilleri*, *Rhododendron* species and *Ceanothuses* are all represented among a host of other rare and interesting things that will grow only in the most genial quarters of the south-west.

LILIES

Seldom have so many species and varieties of *Lilium* been on show as is the case at the large exhibit of Messrs. Wallace and Co. There they have arranged in pleasing association with various



A GARDEN OF POLYANTHA ROSES BY ORPINGTON NURSERIES CO.

Turner also shews *Souvenir de Claudius Pernet* and his new *Fairy Queen*, a pretty multiflora variety, sweetly scented, the small white blooms of which have pale yellow centres.

Leonora, a new Hybrid Tea variety of good form and rich dark crimson colour, is to be seen on the stand of Messrs. W. Paul and Son. Another relatively new Rose is *The General*, shewn by the Rev. J. H. Pemberton, who also displays *Coral Cluster* under the name of *Juliana*. His bordering of *Rosa spinosissima* makes a good finish to the stand.

What one may term the standard varieties are shewn in great profusion, and had only the sun been kind on the opening day there would have been a glorious display; but, as everything has its compensations, the dull, cold weather results in the blooms remaining fresh throughout the Show. *Covent Garden*, *Ophelia*, *Mrs. Aaron Ward*, *Lady Ashtown*, *General McArthur*, *Independence Day*, *Lady Hillingdon*, *Madame E. Herriott*, *Mrs. Elisha J. Hicks* and *Premier* are the principal Hybrid Tea varieties on view, while Messrs. Ernest Paul and Co. shew excellent vases of *Hoosier Beauty*, *Molly Sharman Crawford*, *Los Angeles* and *Madame Butterfly*.

The graceful free-flowering cluster Roses are largely shewn, both in the group of pot plants, so well arranged on the ground, and at the back of the stands of cut blooms. Messrs. W. Cutbush and Sons make a pretty effect by associating *Dorothy Perkins* with the dwarf *Ellen Poulsen* and *Lady Gay* with *Orleans Rose*. Messrs. Waterer, Sons and Crisp have a number of good standards and pillars of the free-flowering types. *Blush Rambler* and *Thousand Beauties* are excellent as shewn by Messrs. B. R. Cant and Sons, who also have very floriferous sprays of *Echo*, the dwarf *Tausendschön*. *American Pillar*, *Hiawatha* and *Lady Gay* are splendidly shewn by Messrs. W. Paul and Son.

The newest tall cluster Rose seems to be *Papa Gouchault* as shewn by Messrs. J. Piper and Son. It is somewhat like *Hiawatha*, but smaller in foliage and more rosy in colour. *Miss Flora Mitten*, in large single sprays of somewhat pale wild rose colour, is very delightful in Mr. Turner's group,

and he also has the equally charming but smaller *Ethel*, also much of the lovely wild rose colour.

CARNATIONS

Messrs. Allwood Brothers, *Wivelsfield Nurseries*, *Hayward's Heath*, exhibit a raised Carnation garden with a tall group in the centre, in which are disposed, in a great variety of vases, new and choice Perpetual-flowering Carnations in charming form and rich and varied colours. At each of the four corners of this interesting garden is a circular group of this firm's new hardy perpetual Border Carnations. They are represented by large and handsome flowers of a type hitherto

unknown. This is a quite distinct new break, and the future should have great things in store for this unique departure. A few good sorts are *Sussex Beauty*, *heliotrope*; *Sussex Supreme*, *salmon*; *Sussex Avondale*, *deep salmon pink*; and *Sussex Perfection*, *white, pencilled red*. This Carnation is made most attractive by being flanked with beds of the *Allwood Pinks*, beautifully shewn and in the best of condition. Real improvements in this type are *Jenny*, *blush pink*; and *Bryan*, a large, full, fluted flower of *salmon pink* colouring. The first *crimson Allwood* is shewn on this occasion, and bears the name of *Barbara*. It is a flower that will, doubtless, give us something larger in the near future. We must not omit to mention a trio of the newer Perpetual-flowering Carnations. They are *Chutz*, *blush mauve*, *striped claret*; *George Allwood*, *creamy salmon*; and *Wivelsfield Fancy*, *rich flesh pink, flaked rosy crimson*. A truly wonderful exhibit!

An attractive group of Perpetual-flowering Carnations is also shewn in tent No. 1 by Messrs. Stuart Low and Co., *Bush Hill Park*, *Enfield*. Some of the flowers are of exceptional merit; a few sorts calling for special mention being *Eileen Low*, *lovely rich salmon pink*; *White Pearl*, said to be a disease-resisting white sort; *Popsy*, *rich deep crimson*; *Reginald Cory*, *glowing cerise*; *Mrs. Ives*, *pink*, said to be good also for bedding. Several good perpetual *Maison Carnations* are shewn, such as *Hugh Low*, *pink*; *Hon. Charlotte Knollys*, *crimson-scarlet*; *Yvonne Holmes*, *salmon, flaked reddish salmon*; and *Mrs. Myles Kennedy*, a perpetual form of *Princess of Wales*, an exceedingly sweet-scented flower.

Near to the Embankment entrance to tent No. 2 Mr. C. Engelmann, *Saffron Walden*, *Essex*, has arranged a very beautiful exhibit of Perpetual-flowering Carnations. Huge mounds, stands and vases of new and choice sorts are arranged artistically for colour effect, and the flowers are fresh, bright and beautiful. A background formed by the side of the tent is covered with black velvet and festooned with *Smilax*. The group is finished off with foliage in variety and fringed with *Pterises*. A few of the specially noteworthy sorts are *Tarzan*,



MR. JAMES MACDONALD'S WONDERFUL GARDEN OF GRASSES.

brilliant scarlet. White Wonder, white. Saffron, yellow; Poppy, large crimson, unblended; Orange Sunstar, sport from Sunstar; Scarlet Iona, scarlet sport from Iona; Mrs. Hamilton Fellows, magenta; and Surprise, pink, a good full flower. This group merits the attention of all who are interested in Perpetual-flowering Carnations.

A very interesting group of these flowers is also shown by Messrs. Keith Luxford and Co., Harlow, Essex. There are no fewer than forty-eight vases arranged in pleasing fashion, containing all the leading varieties of proved worth. The bronze vases in which the flowers are arranged are admirably adapted to the purpose. The better flowers are White Pearl, pure white, in splendid form; Peerless, glowing cerise; Bona, salmon pink, an improved Lady Northcliffe; Cupid, pink; Saffron, yellow; Aviator, scarlet; and Carola, deep crimson, old clove colour. An interesting series.

Splendid quality characterises the handsome Carnations shown by the President of the Society, the Right Hon. Lord Lambourne, C.V.O., Bishop's

At the Embankment entrance to No. 1 Tent Sir William Cam, Bart., J.P., Wargrave Manor, Berks (gardener, Mr. Cyrus Moore), stages a grand group of Carnations in three mounds. The central mound is comprised of magnificent plants of Malmeson Carnation Princess of Wales, leaving nothing to be desired. The other two mounds represent well grown plants of the better known varieties of the Perpetual-flowering Carnations. Splendid colour, large blooms of good form on plants in excellent health and condition, represent the Carnation at its best. A background of Palms and a front edging of Ferns make a most attractive exhibit.

Mr. James Douglas this year eclipses himself with his hardy Border and Clove varieties, and his exhibit well deserves the silver cup awarded. Where so many excellent sorts are on show it is difficult to pick and choose, but Grey Douglas is certainly shown in splendid condition. The purple-edged Steerforth, too, is good, also the remarkably coloured Kelso, with strange sunset lightings of apricot and purple. Bookham Flame

sweet), Youth (we believe an American novelty) Orchid (superb), Mary Rose (a rose novelty for 1924), Geo. Shawyer, Hawlmark Pink, Austin Frederick (lavender), Mrs. Arnold Hitchcock, Royal Scot and Dobbie's Cream (a superb cream sort). Foliage plants and sprays of Asparagus Sprengeri make a charming finish.

Messrs. James Carter and Co., Raynes Park, S.W., exhibit a large number of bowls arranged with Sweet Peas in the large and varied group at the Embankment entrance to No. 1 tent. The Peas are well grown and are charmingly diverse in regard to colour. Specially good are the varieties Delight, White Perfection, Princess Patricia, Luxor, Duchess of York (blue), Mrs. H. J. Daumer, Frilled Lavender and Seedling Cream.

Another superb exhibit of Sweet Peas is shown by Messrs. Alex. Dickson and Sons, Hawlmark, Belfast. There are no fewer than sixty stands, vases and bowls all arranged in most dainty fashion, so that the Sweet Pea is seen at its best. The stands at the back of the group include, among other good things, the novelties Champagne (a lovely primrose cream), Lucifer (a magnificent cerise novelty), Celeste (a lovely frilled lavender novelty), Purple Perfection (a superb purple novelty that should be in every collection), Tangerine Improved (marvellously rich orange), Powerscourt (ideal lavender sort), Hawlmark Pink, The President and Faerie Queen—all in ideal form and condition. The vases and bowls contain many gems of the collection, of which we must mention Hawlmark Maroon, King Mauve, Elegance, Jean Ireland, Daisybud and Constance Hinton. As an exhibit this is a fine effort, and no visitor should miss it in No. 2 tent.

In the same tent Mr. J. Stevenson, Wimborne, sets up a pretty table group of modest dimensions, but good nevertheless. He has some charming novelties, such as Poppy (orange), Diana (lavender), Delight (soft pink), Wild Rose (wild rose colour), Fair Lady (cream pink bicolor), Austin Frederick Improved (mauve lavender) and Felicity (flesh pink).

In the middle of No. 2 tent Messrs. Sutton and Sons, Reading, have a unique display of well grown Sweet Peas. There are bowls and baskets, arranged in festoons, with Palms surmounted on pillars, and the whole draped with black velvet and embellished with beautiful Maidenhair Ferns and Asparagus Sprengeri. We have a liking for Powerscourt, Edward Cowdy (orange), Lavender Belle (lavender), Sensation (scarlet), Hawlmark Pink (pink), Constance Hinton (white), Jean Ireland, Hebe, Dignity and Frilled Beauty. A really beautiful series.

Messrs. Robert Bolton and Son, Baythorne End, near Halstead, Essex, always make a highly creditable display, and this year their exhibit well maintains their reputation as Sweet Pea specialists. It is made in No. 2 tent, and comprises a large number of golden baskets filled with Sweet Peas of the very best. There is not a poor specimen in the whole series. Especially noteworthy are the following sorts: Powerscourt (light lavender, superb), Comrade (buff cream), Wizard (scarlet-orange), Daffodil (creamy primrose), Tangerine Improved (orange), Picture (cream pink), Skylight, Bonfire (bicolor) and Faerie Queen—all very beautiful.

Immediately behind the last-mentioned exhibit is to be found a dainty display of Sweet Peas from Messrs. Andrew Ireland and Hitchcock, Mark's Tey, Essex. Good, clean blooms of large size and beautiful character comprise this attractive display. We are much attracted by Mascott's Hebe (lavender), Shaurock (rich mauve lavender), Glory (salmon pink), Mrs. T. Jones (rich lavender), Tangerine Improved, Matchless (rich cream) and Mascott's White—all beautiful varieties.



A MARVELLOUS GROUP OF HARDY FERNS BY PERRY'S HARDY PLANT FARM.

Hall, Romford. Of the Malmeson type there are Hon. Charlotte Knollys and Mrs. O. Knoph. Perpetual-flowering sorts are well done as seen in such varieties as Scarlet Carola, Brilliant, Tarzan, Thor, Destiny, White Enchantress and many others. For a private grower, this display is highly meritorious.

A number of vases, baskets and other utensils arranged with Carnations is shown by Messrs. W. Cutbush and Sons, Barnet, Herts, in their large group at the Embankment entrance to No. 2 Tent. Their better sorts are Prince of Wales (puce coloured, a sport from King Arthur, a well known border variety), Renown (flesh pink), Peerless (crise), Baroness de Breinen (soft pink, very large) and Aviator (rich scarlet). These stands, etc., are disposed in pleasing fashion among foliage plants.

A small table group of Perpetual-flowering Carnations is shown by Mr. C. H. Taulevin, Willaston, near Birkenhead. This is to be seen in No. 2 Tent, and contains good specimen blooms of Cecilia (grand yellow), Enchantress Supreme, Saffron (lovely pale yellow), Robin Clover (buff flaked rose), Kenneth (mauve), Grace (mauve flaked crimson) and Triumph (deep crimson).

represents quite a new colouring, but is well named—the "flames," however, have an apricot rather than a scarlet tone. Fair Ellen (a lovely lavender flake), Lieutenant Sharkleton, the new Brilliant (canary yellow, flaked scarlet) and Bookham Salmon are other noteworthy varieties; and the new race of Douglas Cloves is well represented. The novelty Wonder Clove of reddish scarlet tone is attracting especial attention. A fine new Malmeson variety of bright apricot colouring and called Sultan is also noteworthy.

SWEET PEAS

Truly superb is the exhibit put up by Messrs. Dobbie and Co., Limited, Edinburgh. This is to be seen in No. 1 tent, and comprises about fifty stands and vases arranged in most artistic fashion. The flowers are in the pink of condition, and represent the newest and best as well as the more noteworthy of the standard varieties. Each vase and stand speaks for itself, and shows the variety at its best. Varieties that call for special mention are Jean Ireland, Royal Sovereign (an orange novelty for 1924), Picture, Dignity (very

The Preston Hall Nurseries, Industrial Settlements (Inc.), Aylesford, Kent, make a most praiseworthy exhibit of Sweet Peas in No. 2 tent. A goodly number of stands are neatly arranged with flowers of good quality, including such sorts as Mascott's Helio, Barbara, Royal Purple, Edna May Improved, Giant Attraction, Mrs. Arnold Hitchcock, Sunset, Tangerine Improved, Mrs. Tom Jones, Royal Scot and Mascott's White. A really interesting exhibit!

IRISES

"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 halycon 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."

Take good heed of the Irises. If you are a true flower-lover the day will come, if it is not now here, when you will worship the "Fleur de Luce" with the ecstasy of the poet quoted above, whose word painting is the work of the artist who delivers his message with a broad, free-brush. The Iris is no longer the mere "flag" of a generation ago; it is the flower of the florist, the connoisseur, the critic. So introspective, indeed, is the study of this flower among the experts that some imagine they can detect the mental process going on behind the work of the leading hybridisers! However that may be, many ardent admirers will think of Chelsea only as a venue where they may see and compare all that is new and notable in the Iris world. What is Wallace shewing this year, what of the Orpington Irises, and what comes from Perry and Bunyard?

It has been an unkind season, and as this great flower show of the world comes just on the earlier fringe of the flowering season of the tall Bearded Irises, some of the leading growers are but poorly represented this year. Still, there is much to see, and to be thankful for being able to see. The attendants at Messrs. Wallace's exhibit will have



A FORMAL IRIS GARDEN BY MESSRS. G. BUNYARD AND CO.

many requests to point out Bruno, that mystery flower, the parentage of which Mr. Bliss will keep behind sealed lips. When the pedigree is published, he says, no one will want to believe him; but no one could doubt a word Mr. Bliss says when he speaks without jest, so we shall have to look wise and say nothing if he tells us it comes from *Pseudacorus* \times *stylosa*! Bruno is a great and a commanding Iris; but here, too, you will find Souv. de Mme. Gaudichau, in the writer's esteem, the most fascinating of all the Bearded Irises. The standards are violet silk and the falls violet-purple velvet, but the texture has a lustre and finish that human fabric makers could never imitate. This jewel was raised by M. Millet, and is one of a group of extremely high-grade flowers emanating from French raisers. Other leading varieties to note are Asia, raised by Mr. Yeld, the originator of Lord of June, which comes

near to being the most widely grown Iris on the market. Ann Page, one of Sir Arthur Hort's most beautiful seedlings, robed in soft pale purple, a royal Iris in a royal colour. Ferdinand and Hubert and Kharput are also new and good, while among the better-known sorts Aznre, Alcazar, Gold Crest and Diadem are very fine.

Mr. Percy Murrell of the Orpington Nurseries Company has a magnificent lot of Irises, containing some of the newest creations of Mr. Bliss and Mr. Dykes. The eye will soon capture a remarkable seedling from the latter, the colour of which is almost impossible to describe. It is marked Riccardii \times serbica, and both standards and falls have a cream ground faintly suffused and veined pale mauve, the haft shewing strong reticulations of a warmer colour on a yellow ground. The ruffling of the edges of the standards gives a pretty effect to a very novel and delightful flower. Near by are some fine members of what is now known as the Dominion race. Of Glamour one had heard but not previously seen, and it suffers nothing in the seeing. It is a refined flower of lovely form, yet a giant in size, the rich, massive falls of reddish violet contrasting finely with the lighter-toned standards, which give the impression of heliotrope tinged with lilac and yellow. Canopus (accent on the "o" as in the warship) is another giant Dominion. This takes after the colour style of Alcazar, but glorified considerably. The segments are very smooth and of refined texture, deep pansy violet with beautifully reticulated hafts, and the arching standards are reddish violet. Titan is aptly named, as it is the largest of all the Dominion class and carries a bluer tone throughout the flower than any other of its kind. Moa, too, must be seen—quite new, very striking and well placed for observation. Going back to Mr. Dyke's gifts to the Iris world, we note Aphrodite claiming attention alike for its unusual colour, its sweet perfume and its lovely form. Both standards and falls are violet pink, without veining, giving a smooth self-coloured effect, and though the blooms are not titanic in size like some just described, it is very free-flowering and graceful. Sapphire is here, too, also originated by Mr. Dykes. Dauphin's Blue is the correct tone to describe it, and it is adorned with a brilliant yellow beard like the older Gold-crest, but is something near a fortnight earlier to bloom than that variety. It would be



AND AN INFORMAL ONE BY MR. GEORGE G. WHITELEGG.

impossible to detail all the surprising things in this exhibit, but before leaving it we must do tribute to Shekinah, which holds a unique place as the best yellow Iris in cultivation. Its growth and broad glaucous foliage indicate Pallida blood, which makes the flower colour all the more striking. This is an American introduction raised by Miss Grace Sturtevant, who gave us also Queen Caterina and Afterglow, to mention only two more of her achievements which have gained honour in this country. One can see in this group, too, Lent A. Williamson, generally accepted as the greatest seedling ever raised across the Atlantic.

One hardly knows where to begin or what to single out for notice in Mr. Perry's huge group of Irises, but it is rich in new Pallida seedlings of great merit, which form a striking feature of the display. Particularly conspicuous, too, is a large rosy bronze flower named after the President of the R.H.S.; another, Mrs. H. F. Bowles, in soft brown suffused with old gold; Miss Gladys Roberts, a self flower of rosy violet; and Duke of York in peculiar smoky blue. Kulan Tith has

This year's object-lesson in annual gardening is visualised in Messrs. Sutton's extraordinarily huge and well staged ground display, which strikes a new note in design and colour scheme. The centre is a group of separate beds filled with *Salpiglossis* in bronze shades, blue veined with gold, rich purple, crimson veined gold and golden yellow. The whole centre group is carpeted with blue *Lobelia* and edged with white *Alyssum*. Surrounding the centre are other beds of *Viscaria* in pure white, delicate pink, blue and cardinal. The four corner beds in this portion of the display are filled with blue *Cornflowers* and *Dimorphotheca aurantiaca*, the shining orange Daisy of Namaqualand, from which rise tall plants of *Nicotiana affinis*. The edging beds are masses of *Phlox Drummondii* and *Nemesia Suttoni*, the former giving splashes of fiery red and white. The *Nemesias* are very well grown and form an object lesson on the real use of this precious plant for bedding. The different varieties are distinguished by colour names, for instance, Rich Orange, Rose Pink, White, Pink Beauty and Blue Gem; but Twilight is a

Peaches, Nectarines, Plums and Cherries. The fruits are of the highest quality and excellently coloured. Among those shown are Peaches Peregrine and Kestrel; Nectarines Early Rivers and Lord Napier; and Cherries Belle de St. Tronc and Early Rivers.

The only exhibit of vegetables is staged by the Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett). It is one of those fine exhibits that we always expect from Aldenham. Here are to be seen vegetables of all descriptions, including Tomatoes (Sutton's Peach Blow and Golden Perfection) Marrows, Potatoes, Radishes (including White Olive), Cucumbers, Carrots, Beet, Peas, Kohl Rabi, Celery, Beans and *Oxalis tuberosa*.

Messrs. Laxton Brothers have in the open fair-trained and gridiron cordon fruit trees. Messrs. Spooner and Sons of Hounslow also have in the open a fine lot of trained Currant and Gooseberry bushes in pots.

STOVE AND GREENHOUSE PLANTS

At the Chelsea Hospital entrance to tent No. 1 there is to be found a quite unique group of Hydrangeas. This is set up in circular form by Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, S.E., and is one of the most beautiful exhibits in the whole of this great Show. Hydrangeas in charming variety both in regard to colour and form are to be seen in this chaste and dainty exhibit. Never has this plant been seen in such highly attractive character. The colours are pleasingly diverse and the form leaves nothing to be desired. The colours range from the softest tones of pink to the richest hues of rose, other colours are heliotrope, lilac, carmine, salmon pink, and many more too numerous to mention. The form, too, is so pretty. A few specially good sorts are Krimhild (salmon rose), Maréchal Foch (heliotrope pink), Gudrun (pink), Parzival (blood red), Lilie Mouillière (deep pink), Satinette (carmine red) and Etincelant (carmine), one of the finest for colour.

The Yokohama Nursery Company, Craven House, Kingsway, W.C., make an interesting table group in tent No. 2, comprising a large number of dwarfed trees and shrubs in dainty Japanese pots, bowls and other utensils. Some of the specimens are specially noteworthy, such as *Thuya obtusa* (120 years old), *Pinus pentaphylla* (45 years old), *Wistaria brachybotrys* (25 years old), *W. chinensis* (30 years old), but there are a number of other most interesting specimens.

A semicircular group of Show Pelargoniums, grown and exhibited by a well known enthusiast, Mr. A. F. Wootton, K.C., Downs Road, Epsom (gardener, Mr. W. Lamson), calls for special notice. Well grown plants of these are charmingly disposed with *Acer Negundo*, Palms and Maiden-hair Fern all used to create a pleasing finish. Some of the better Pelargoniums, many of which, we understand, are seedling sorts, are Exmouthiar, Queen Mary, Cardiff, Mrs. Lamson, Cerise Lady Beatty, Devonshire Cream, and Chieftain.

Quaint and curious are the many plants which form the table group, in tent No. 1, exhibited by Miss Worth, The Priory, Holbeach. This group comprises about five hundred plants of Cacti and Succulents in about three hundred varieties. A few specially noteworthy sorts are *Opuntia Ursina* (Grisly Bear), *Echinocactus Grusonii* (the Pincushion Cactus), *Tabularis cristata*, *Cereus peruvianus monstrosus* and *Mamillarias*, including the Hedgehog Cactus (*M. echinata*), besides many other rare sorts.



A VERITABLE GARDEN OF ANNUALS (SUTTON AND SONS.)

violet mauve standards with a distinctive lighting up towards the edges, and Lt. Bernard Galloway is robed in gorgeous reddish mauve. Abenda and Bertrand are excellent types of the newer frises, but a careful inspection of this group must be made with the assistance of Mr. Perry's genial instruction if available.

Outside, as it was last year, Messrs. Bunyard have a pleasantly laid out formal iris garden, the specially noteworthy flowers here being a fine selection of the great French seedlings; for instance, Ambassadeur, magnifica, Ballerine, Cluny, Dejaset and Cherubim from the famous house of Vilmorin, and Corida from M. Millet. If only the sun would shine and help this perfect setting for the Iris, Messrs. Bunyard's garden would be one of the sights of the Show.

HARDY ANNUALS

And the most beautiful annual of the lot is Chelsea Show, that milestone which marks off the successive stages of floral development, in which the annual plant itself occupies a not insignificant position.

fascinating blossom in white and soft mauve, the mauve petals having a rose reverse.

FRUIT AND VEGETABLES

Messrs. George Bunyard and Co., Limited, of Maidstone, have, as usual, a fine exhibit of Apples. The fruits, arranged in baskets, are of first-rate quality and beautifully coloured. This exhibit well shows the keeping qualities of the different varieties. Here are to be seen such well known sorts as Cox's Orange Pippin, Bramley's Seedling, Wagener, Newton Wonder, Encore, Bowhill Pippin, Allen's Everlasting, Lane's Prince Albert, Claygate Pearmain and Norman's Pippin.

Messrs. Laxton Brothers of Bedford are showing their Strawberries. These fruits are tastefully arranged in baskets, and plants growing in pots are also on show. The fruits are of good size and excellent quality. Such sorts as King George, The Duke, Sir Douglas Haig and Marshal Foch are shown.

Messrs. T. Rivers and Son, Limited, of Sawbridge-worth have a large exhibit of pot fruits, including

In next week's issue we shall publish detailed comments on further Stove and Greenhouse Plants, Herbaceous and Rock Plants, Orchids, etc., and Garden Sundries, with descriptions of noteworthy New and Rare Plants.

CORRESPONDENCE

NEW DUTCH HYBRID RHODODENDRONS.

IN the spring of 1921 the Dutch growers, Messrs. C. B. Van Nes and Son and M. Koster and Sons invited me to inspect a series of new hybrid Rhododendrons which they had raised during the past ten years. When I went to Boskoop in May I was prepared to see a good many failures, as one must always expect from the breeding of double or treble mongrels, with perhaps a few successes; but these two firms have been so ruthless in their elimination of all except the very best that their plants will in the future rank very high among late hybrids of fine colour and size. To show how severe they have been with their own plants Mr. C. B. Van Nes told me he had raised 250,000, and out of this he had retained exactly 200. Messrs. Van Nes shewed a few of their varieties on April 28 at the R.H.S., but as these were cut trusses they did not exhibit their best qualities. Messrs. M. Koster and Sons are to shew at Chelsea about 100 plants in pots, comprising twenty-four varieties (several plants of each) of their chief successes, and I shall be much surprised if they do not create interest among lovers of Rhododendrons. I consider some of the pinks, whites and rose-coloured varieties have not been surpassed by previous breeders. I hold no brief for the Dutch growers and am only sorry that these new plants were not raised by some English nurserymen. But we can no more avoid the existence of some new thing if it is really good than we can "keep a good man down." It speaks for itself, and good judges are quick to mark progress in any line, be it British or foreign. As I have already flowered nearly all the varieties to be exhibited by Messrs. M. Koster and Sons, I give the following notes as taken in my garden in 1922:

M.K. No. 112, R. Mrs. Robert Wallace.—Large truss of R. Aucklandii form, pale pink fading to white, heavily spotted on upper lobe with scarlet-crimson, rose-tinted exterior to flower.

M.K. No. 114, R. Corry Koster.—Large truss, light pink, frilled edges, heavily spotted crimson on upper lobe, crimson style, fine leaves.

M.K. No. 106, R. Peter Koster.—Fine truss, brilliant crimson and pink edges, stamens and style crimson, dark centre. A remarkable Rhododendron.

M.K. No. 131, R. Mrs. Charles Pearson.—Immense truss, pale blush mauve, heavily spotted upper lobe with burnt sienna; fades to white; good dark leaves.

M.K. No. 152.—Immense truss of pale lilac rose, slightly spotted crimson upper lobe. This plant was much admired at Ghent Exhibition.

R. Mme. de Bruin.—Fine truss, brilliant cerise-red. A very showy plant.

M.K. No. 149.—One of the best, deep salmon with pale pink edges.

M.K. No. 96, R. Sophia Gray.—Large truss of rich pink, upper lobe heavily spotted burnt umber, frilled edges. Very beautiful.

M.K. No. 157, R. Hugh Wormald.—Large truss of bright cerise pink; down the centre of each interior lobe a white stripe. Buds before opening, a shining crimson. A remarkable Rhododendron, unlike any other hybrid.

M.K. No. 170, R. Mrs. Lindsay Smith.—Large upright truss of pure white, slightly spotted red on upper lobe. The best white Rhododendron introduced since R. Loder's White.

M.K. No. 163, R. Rosamond Millais.—Brilliant red-cerise, large truss heavily blotched burnt umber. A refined and beautiful plant.

M.K. No. 103.—Large truss with rose pink margins and pale interior.

M.K. No. 132.—Large rose pink truss.

Also about ten other fine pink varieties.

Messrs. Koster will also shew about fifty plants of their new Mollis Azalea (R. japonicum) named Koster's Brilliant Red. This and a seedling named C. B. Van Nes raised by Van Nes are the two best Mollis of recent years and surpass in beauty J. C. Van Tol and the old Alphonse Lavallée.

—JOHN G. MILLAIS.

ERINUS ALPINUS.

THIS little plant much prefers to go its own way; to sow itself and grow where it pleases. Though it may be transplanted, it is not safe to depend on this for any show of its best behaviour. But it will do well if it is sown in the joints of a dry wall or any mossy places in stonework. It



MASSSES OF THE PURPLISH ERINUS ALPINUS IN STEPS.

has a special liking for some place where it can get its back up against a wall. Such a place is shewn in the illustration, where year after year it grows self-sown in the very meagre amount of mossy stuff that accumulates in the angles of a flight of rough stone steps that lead to a loft.—G. J.

PELARGONIUMS WITH BEAUTIFUL FOLIAGE.

REFERRING to the note upon this subject (page 251), my father (the late J. R. Pearson) was quite as keen about tricolors as he was about the other Zonals. I well remember his coming home with his first plant of Mrs. Pollock, a small rooted cutting with three leaves, for which he had paid three guineas; this must be nearly sixty years ago. He raised some very fine golden tricolors. William Sanday (mentioned in the note), named after his friend the shorthorn cattle breeder, and Mrs. Walter, named after the widow of John Walter of the *Times*, occur to my memory. I think William Sanday was one of the best, and

I was fortunate enough to get some plants of this from Messrs. Wood and Ingram, Huntingdon, which I have grown in my own garden for some years past for old times sake. With golden tricolors the flowers are no addition to their beauty, but with the silver tricolors they harmonise well. I think Flower of Spring was one of the silvers that my father raised, but it is so long since we grew Pelargoniums that one forgets many of the names once so famous. Henry Jacoby was the crimson Zonal for many years.—A. H. PEARSON, *Lowdham*.

OXALIS MAGELLANICA.

WITH reference to Mr. Clarence Elliott's note on this charming little Oxalis (April 21, page 196) and his regrets at not knowing its habitat, I would like to tell him that this plant inhabits the colder of the Antarctic Islands, and for all I know it strays over from Tierra del Fuego to the mainland of South America. As I write I have just received a letter from Mrs. Brown of

Mottistone, Isle of Wight, a keen gardener and botanist, to whom I had recently the pleasure of introducing this plant. She sends me an extract from *THE GARDEN* of April 16, 1904, in which a Mr. Bathgath of Dunedin, New Zealand, relates his plant collecting experiences in the Otago range, where he found at an elevation of about 5,000ft. both the weedy *Oxalis corniculata* and, as he terms it, "its white cousin *O. magellanica*" both in flower. This would appear to be its most northern habitat as far as I can trace its distribution at present. The plant has a great but quiet charm, and has been a favourite with me for years, and has never made a nuisance of itself, as so many of its relatives which consent to flourish with us at all are only too apt to do.—W. E. TH. INGWERSEN.

A NEGLECTED FRUIT.

DURING my perambulations round the gardens of my friends I have never yet come across a cranberry-bed. Yet these plants are quite easy to grow. A bed once made lasts for many

It is properly constructed it yields large crops, and all fruits it should commend itself to our horticulturists, as it is never at its best till after a frost, and it continues to be at its best through the winter. Cranberry tarts, cranberry jam and jelly and stewed cranberries are all excellent. In the garden of my youth there were cranberry-beds, planted with the large Canadian Cranberries, with fruit as large as Kentish cherries. The crop never failed, though some years produced more fruit than others. They required no protection, as apparently no birds except pheasants care for Cranberries; moorland birds may like them, but these beds were in the South of England. I am aware that large importations of foreign Cranberries arrive in England in the winter; but, like all imported fruit, it compares badly with that fresh from the plant. The only requirement that may present some difficulty is water; a constant supply round the beds seems a necessity. But running water is not required; a tap that can be turned on occasionally is all that is necessary.—MARGARET BICKERSTETH.

THE NAMING OF PLANTS.

REGINALD FARRER, in the Preface to his "English Rock Garden," describes the efforts he made to get his names right, and the principle on which he proceeded—namely, that the proper name of a species is that which was given to it in its oldest authoritative description. That is the orthodox principle, the only one on which he could proceed if he aimed at consistency; and we must all be grateful to him for his labours. But the results are disconcerting, as I will shew by a few examples out of many. There are three well known *Æthionemas*, which most rock gardeners grow, and which most of them call *Æ. grandiflorum*, *Æ. pulchellum* and *Æ. coridifolium*. But Farrer tells us that, though the first appears in every list, it is doubtful whether the genuine species is to be found in cultivation at all, that *Æ. pulchellum* is called *Æ. coridifolium* in many gardens, and that *Æ. coridifolium* is the most abused name of the race. I cannot discover from Farrer what is the true name of the plant usually grown and sold as *Æ. grandiflorum*. There is also a distinct plant commonly called *Iberis jucunda* but, according to Farrer, that name is only a synonym for *Æ. coridifolium*; and, again, I cannot discover what is the true name of the plant commonly called *Æ. coridifolium*. All I can discover is that the names of all my three *Æthionemas* are wrong.

Again, I have a well known little plant commonly called *Erodium guttatum* with white flowers spotted with dark puce; but Farrer says that *E. guttatum* has flowers pink but spotted. He also says that the flowers of *E. pelargonifolium* are "as in *E. Gussonei*," and these he says are of a deep unspotted pink with darker stripes, whereas my *E. pelargonifolium*, again a well known plant and commonly called by that name, has white, or almost white, spotted flowers. These examples I have chosen almost at random out of hundreds, not with the object of making any complaint against Farrer, but to shew how great is the present confusion of names and how it troubles both nurserymen and gardeners. I have indeed, that Farrer's book will increase the confusion, for conscientious nurserymen will try to revise the names in their catalogues and produce something more bewildering than ever.

I find Melbourne's dictum, "his Cabinet," "It doesn't matter what we sell, provided we all say the same thing," and that, if it is true of a Cabinet, is true of the naming of plants. What is needed is a set of names that everyone will use, and these can be established for all the world only by an international authority; but if we cannot get an

authority, Kew or the R.H.S. might do it for England. As to the principle on which Farrer proceeded, namely, to accept the name given in the oldest authoritative description, that is well enough where there is no accepted authority, but it has this drawback, as he himself insists, that you have to find the oldest description—a process of laborious research and liable to error. I suggest that an authoritative list should, wherever possible, choose the name in common use—that it should continue to call *Campanula Allionii* by that name and not *C. alpestris*. So the labours of the compilers would be lightened and the perplexity of gardeners and nurserymen would not be increased.

Finally, I am aware of the existence of the "Kew Index," but that is not universally accepted. It is not accepted by Farrer, for instance; and what we need is an authority that everyone will accept. At present, because of the lack of that

Snowflake. It is a native of Central and Southern Europe, and is also found growing in the damp meadows in the South-Eastern and South Midland parts of England, being one of the most beautiful of our native plants. The large, drooping, bell-shaped flowers (which are upright in the bud stage) are pure white and about 1 in. long, each segment being tipped with a bright green ovate spot. They are borne during April and May in clusters of from three to six on a two-edged scape from 2½ ft. to 3 ft. high, well above the strap-shaped foliage. It is a plant that will adapt itself to almost any soil or position, particularly where the ground is moist, although one occasionally reads that the bulbs should be planted in well drained soil, which is misleading, for to see them at their best they should be planted along the side of water. I have seen them along the banks of the Thames, where large stretches of them are at home, growing luxuriantly and blooming most



THE SUMMER SNOWFLAKE BY THE WATERSIDE.

authority, individual efforts like those of Farrer only increase the confusion.—A. CLUTTON BROCK.

THE SUMMER SNOWFLAKE.

THE *Leucojums*, or Snowflakes as they are commonly called, are among the most beautiful of our bulbous plants, and a genus that gives a display over quite a long season, for one or other of the species help to decorate our garden or woodland from early spring until autumn. They are closely allied to the Snowdrop, one of the chief differences being in the length of the segments. In the Snowdrop the three outer ones are longer than the three inner ones, while in the Snowflake they are all the same length. Some of the smaller-flowering species sometimes go under the generic name of *Aris*, but apart from their flowers being smaller, there seems little reason for separating them from *Leucojum*. Most of the species are slightly scented, and one can imagine the fragrance to resemble that of Violets. Perhaps this is why Parkinson in his "*Poa-lisus terrestris*" gave them the name of Bulbous Violets. The subject of this note, however, is *Leucojum aestivum*, the Summer

profusely. Here their bulbs stand in the wet mud the whole year round and at times they are well under water. At the place I have in mind the Snowflake could be gathered in large quantities were it allowed, but, fortunately, the gathering of wild flowers along the Thames bank is prohibited, so that this beautiful flower is allowed to go on growing and increasing. True, it will grow in a border and even in a dry one, but the plants compare sadly with those in happier circumstances. They grow weakly, while the flowers are much smaller than those by the waterside, although they usually flower earlier. The true plant is not often met in cultivation, *Leucojum pulchellum*, a native of South Europe, often doing duty for it under the name of *L. aestivum*. *L. pulchellum*, however, has narrower leaves and smaller flowers, the perianth segments are more incurved, and the blooms are produced quite three weeks or a month earlier. *Leucojums* can be increased by division of the clumps of bulbs, or are readily raised from seeds, which are about the size of those of the Sweet Pea, and should be sown as soon as ripe.—F. G. PRESTON, *Barns Garden, Cambridge*.

NOTES FROM A WOODLAND GARDEN

THE larger *Rhododendrons* are not a great feature in a woodland garden of strictly moderate area, and not only because of the precious space they demand. Unless carefully chosen, their colours are apt to be too dominating. With this in view *Pink Pearl* was not introduced without hesitation some years ago. Yet this now popular hybrid is a glorious sight standing almost alone against a background of Alders and the yellowy green of unfolding Ferns. Its splendid vigour is enough to warm the heart of any gardener and its colour is of the purest dye. Some of the self-white hybrids are distinctly pleasing, and—though this may be a matter of taste—a combination of *Sappho* and *Old Port* is very striking without being too gorgeous. A good word must also be said for the old *R. ponticum*. When you get it in a soft shade of lilac-purple (not mauve) few other shrubs of its kind are more delightful for shady woodland banks. The double-flowered *R. fastuosum flore plenum*, also a hearty grower, deserves the same recommendation as the last.

Among the mid-season *Azaleas* *A. altaclarensis* must always take high rank, its fine and fragrant trusses of deep yellow flushed with a subtle blend of orange and scarlet invariably affording a telling splash of warm colour which is never aggressive. Though one can hardly begin to differentiate in even a small collection of these handsome things, *A. Anthony Koster* must be mentioned as coming near to the above in quality and colour tone. The dainty *A. nudiflora* will also plead for notice, and one cannot pass unobserved *A. sinensis alba*. The *A. rustica* fl. pl. group also includes some very lovely varieties, delicate in hue, elegant in habit, and in every way suited to open woodland culture.

Though "rough" indeed were the winds that did "shake the darling buds of May"—to say nothing of the hailstones—there is at least one shrub that came through the ordeal without a stain, and that is the old white *Spanish Broom*. Not a spring goes by without one's admiration for this beautiful species being refreshed, and this season its silvery cascades have been especially enchanting. One group is peculiarly lovely at the time of writing, for a quantity of *Saxifraga umbrosa* (*London Pride*) that has spread over the bank it occupies covers the ground with a foam of delicate rosy whiteness into which the Brooms dip their sweeping sprays with the most delightful effect imaginable. Adjacent to this little "bit" there is a colony of *Ceanothus divaricatus* whose haze of luminous azure appears to add just that soupçon of colour which seems most desirable.

Another Broom towards which one bears unwilling allegiance is *Moonlight* (*C. scoparius sulphureus*), with large blossoms in a cool ivory yellow; a plant which, to my mind, is seen to best advantage as a single specimen against a dark green background. *C. racemosus* (*Genista fragrans*) is also at its best just now, a wonderfully beautiful species that can never be too well known, and though it is entirely in the open, it has braved the inclement weather with but little sign of injury. This credit must also be given to the charming *G. monspessulanus*, and another hardy doer here

is *Genista mautica*, which might be described as an early-flowering, semi-prostrate *Genista tinctoria*.

Though some consider it coarse, *Viburnum rhytidophyllum* is to my mind a first-rate open woodland shrub, the very large and crinkly leaves and fine, broad corymbs of creamy white flowers, combined with a rare stateliness of habit, together afford an effect that is distinctly noble and ornamental without being too exotic. Among the early *Spiræas* still in flower, *S. prunifolia* fl. pl. and *S. bracteata* are, perhaps, the best of their class, but it is not easy to pass the beauty of the young foliage of *S. opulifolia aurea*.

Beneath some of the above-mentioned *Azaleas* and others *Primula sikkinensis* has raised its elegant and mealy stems and tossed out the first of its citron-yellow bells. *PP. Wardii* and *Sieboldii* are also here, while in a rather more open spot the splendid *P. helodoxa* is opening the first of



THE MOONLIGHT BROOM, CYTISUS SCOPARIUS SULPHUREUS.

its yellow whorls. But even more arresting than any of these and others, not excluding the sumptuous *Ailin Aroon*, is *P. Cockburniana*, which bears on its mealy white stems circlets of little flowers in the most reticent of orange-scarlets.

In striking contrast to the last mentioned is a near-by group of the Rocky Mountain Columbine (*Aquilegia coerulea*), loveliest of its race, one of the first to open its clear blue flowers and the only one, in so far as my knowledge goes, that holds its flowers erect, gazing upwards at the sky. No Columbines are wanting in grace, but this one always appears to me to be the last word in that classic virtue. Very charming in quite another way and almost unique in the colour of its foliage is *A. formosa*, an ideal woodland plant. The gold that pervades the scarlet of its prettily poised blossoms was created by the god of gardens expressly to be associated with the peculiar yellow-green and ruddy fur of half-grown Male Ferns.

If it is hardly choice enough for the border, *Geranium Lowii* is a woodland plant of fine foliage. Though biennial, it seeds itself freely, and its red-purple flowers are among the earliest of its race to appear. Closely akin to our own *Herb Robert*, but much larger in all its parts and rather stiffer in habit than that wildling, *G. Lowii* makes amends for any failings it may possess by assuming most gorgeous autumn colours. Among other notable foliage plants just now are the *Thalictrums*, *TT. aquilegifolium* and the native minus being perhaps the prettiest. In this class, too, a plantation of *Solomon's Seal* under some *Hollies* must be considered one of the good old stand-bys, and then there are the *Euphorbias*, including some that are as pestilential in the wrong place as they are admirable in the right one. *EE. cyparissias* and *amygdaloides* belong to these latter outcasts. But *EE. polychroma* and *Myrsinites*, the latter a trailer preferring a more sunny spot than most, have so far not shewn any desire to offend. Among other shade-loving woodlanders which deserve

their meed of praise at this season are *Saxifraga Germ* and the old-fashioned "Borage" of cottage gardens. I refer not to the large-flowered, black-anthered species—probably native—but to the old bee garden *Anchusa* (*Alkanet*) *sempervirens*, whose blooms are smaller and rounder, the petals overlapping instead of being starred.

When the Wood Hyacinths are going off certain groups of American bulbous plants of a like character appear, and of these the blue *Brodias* are very delightful. *Camassia Cusickii* is also a stately thing, with a tuft of glaucous, strap-like leaves, above which stands the tall stem bearing a spike of lavender blue flowers. The old *Scilla peruviana*, which seems to be less common than formerly, is also a good plant for a free woodland soil, and the big, fuzzy heads of blue which just overtop the fleshy and abundant leafage are very handsome. This, however, is not a certain bloomer and here, at any rate, it needs an occasional breaking-up.

N. Wales.

A. T. JOHNSON.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Lettuce.—In hot dry weather it is often difficult to keep up a supply, but a good method is to transplant a reliable Cabbage variety in frames (discarding the lights) placed near the water tank. A layer of rotten manure should be laid in the bottom of the frame and then a few inches of old potting soil and, after a thorough watering, the plants should be set out a few inches apart. Shade them for a week or so when the sun is bright and keep the soil moist. A pinch of seed should be sown about every ten days.

Brussels Sprouts.—The main crop should be planted in a fairly rich soil which has been deeply dug and then made firm by treading. The plants should be set out 30 ins. apart and the roots must be afforded plenty of water until they take possession of the soil. Future treatment consists of a free use of the hoe and an occasional dusting of soot.

Potatoes.—Continue to hoe or lightly fork between the rows of late Potatoes. Earthing-up should begin directly the haulm is sufficiently advanced and when the soil is more or less moist. Avoid making sharp ridges that would drain off the rain.

Leeks.—Some of the seedlings will be large enough to transplant either in a trench or in rows. The former is made similar to a pea trench and the plants placed in a double line about 15 ins. apart. They may also be planted with a dibber. This is pushed well down into the soil, and the plants are set deeply in the hole with a little soil pressed lightly around the roots. As the plants grow the hole should be filled during the process of hoeing. Water will be needed if the soil is dry. Leeks enjoy a rich soil, but good quality roots may be had from any ordinary garden. When grown in lines they should be about 1 ft. apart.

Swedes.—These are highly appreciated in many houses, and now is a good time to sow a few lines about 18 ins. apart. Where Turnips are not a satisfactory crop, Swedes are strongly recommended, and when the seedlings are large enough they must be thinned to 6 ins. The turnip fly must be watched for, and as a preventive an occasional dusting of soot should be given.

The Flower Garden.

Wallflowers.—If not already done, seeds of these beautiful spring-flowering plants should be sown. Late sowing never produces such fine plants as those raised earlier.

Herbaceous Borders.—Hardy perennials will now require attention in regard to tying and staking, and the future appearance of the border depends upon how this work is carried out. The method of placing one stake in the centre and tying the plants to it faggot-wise should be avoided, and no doubt one of the best effects is produced by the judicious use of untrimmed pea-sticks. When placing the supports the maximum height of the plants must be taken into consideration, and then the growths will soon hide the sticks. The borders should be kept free from weeds, and where grass edges exist they should be periodically trimmed. Any vacant spaces should be filled with annuals, while clumps of Dahlias look well and give a good display later on.

Hardy Primulas.—These have been making an unusually fine show, and as the majority are best treated as biennials, it behoves the grower to save a little seed of every kind each year. Home-saved seed of hardy Primulas always germinates more freely than seeds from other sources, and it sown directly it is ripe plenty of plants will be secured. Prick them off in a shady part of the garden, and when they die down transfer them to their flowering quarters.

Climbing Plants.—Among the numerous climbers will be found the Clematises, Solanums, Wistarias, etc., and it is advisable to train the shoots at frequent intervals before they become a hopeless mass. Where they are growing on stumps of old trees they may develop unmolested.

Vegetables Under Glass.

Tomatoes.—A top-dressing of good soil will be beneficial to plants producing heavy crops, and if the plants are in pots and there is no more space for soil a light sprinkling of artificial manure may be given. Keep the roots well supplied with water, then there is less fear of the fruits splitting.

L. W. BRISCOE

Gardener to W. R. Lysaght, Esq.,
Castleford, Chipstead, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cabbages.—Spring-sown Cabbages should be planted as soon as possible, for if left long in the seed-bed they will get drawn and spindly, a condition from which they will never fully recover. On light soils the maggots of the cabbage fly often prove highly injurious to the crop. The following preventive has been found fairly effective: Make a puddle of loam, fresh cowdung, soot and water, and soak the roots of the plants in it immediately prior to planting. Allow 21 ins. between the lines and 18 ins. between the plants in the lines. If the soil is at all dry, water the plants individually as planting proceeds.

Cauliflowers.—Draw some earth to the crop planted out at the beginning of April. Plant the spring-sown crop, and the hints given above regarding Cabbage may also be acted upon for Cauliflower too, as the cabbage fly is even more partial to Cauliflowers than to Cabbage.

Brussels Sprouts.—Although spring sowing in the open is not to be commended, as the plants have, in our short summers, hardly time to develop fully; yet "better late than never," and Brussels Sprouts should be planted out in a sunny position without delay. Allow 2 ft. between the lines and 18 ins. between the plants in the line.

Potatoes.—Earth up the maincrop varieties as soon as they attain a height of from 6 ins. to 8 ins. A light dressing of prepared potato manure or of potash in some form sown alongside the stems prior to earthing up will materially benefit the crop.

Celeriac.—This vegetable is not very popular, but being so much easier of cultivation than its near relative Celery, and equally good for flavouring purposes, it is a good plan to grow a certain quantity of it for this purpose and thus save the stock of Celery to some extent. Those who possess it should plant now on the level on rich soil.

Angelica.—This native biennial is much prized by some when preserved and used in the same way as preserved ginger. It is related Celery, and may be used to save the Celery to a considerable extent. It should be planted out now in rich soil in lines 15 ins. apart with the plants 6 ins. apart in the row. It, of course, is planted on the flat and requires no blanching.

The Flower Garden.

Bedding-Out.—This work should be completed as soon as possible, as all risk of frost is now past. Begonias should receive a little extra attention by the application of an extra dressing of leaf-mould or stable manure to the soil. Any surplus bedding plants should be set out in the reserve garden to be available for making up such blanks as may occur.

Dahlias are gross feeders and demand liberal cultivation. Having fixed the stakes in position, a neat pit should be taken out with the spade close to each. A supply of a rich light compost should be at hand, and a spadeful of it given to each plant as it is placed in position. Planting finished, each Dahlia should be loosely tied to its stake, and the operation completed by forking over the whole of the spaces between the plants.

Fruits Under Glass.

Strawberries.—No time should now be lost in securing runners from which to raise plants for forcing next season. The runners should be taken from young plants, and may either be rooted in small pots filled with some light soil, or in small squares of clean fresh turf sunk, grassy side down, to the general level of the ground; the latter system is on the whole preferable. The turf or pot having been sunk under a vigorous embryo plant, the plant should be pegged down in correct position, and the growing point of the runner should then be pinched off immediately beyond it. If the weather prove dry, the whole should be watered by means of a can fitted with a turned-down rose. The plants should not be allowed to suffer for lack of water.

Orchard-House.—Frees will require attention as to watering and feeding until the fruits have attained full size. Ventilation should now be given without stint during both day and night. Wood is generally made sparingly under the conditions obtaining here, but any extra vigorous shoots should now be pruned back to within about 3 ins. of their base.

CHARLES COMFORT
Formerly Head-Gardener to Mrs. Hug, Bromfield, Davidson's Mans, Melbourn.

GREENHOUSE AND CONSERVATORY.

Roupala Pohlil (syn. *R. corcovadensis*).—Considering that this handsome foliage plant has been in cultivation for so many years, it is surprising that it is not more generally grown. This is probably due to the fact that this plant is commonly understood to require stove treatment. It will, however, stand quite well in any ordinary greenhouse. It is also a beautiful plant for room decoration, either in the small or large state, and not only does it stand in any ordinary living room, but it also grows quite freely. Grown on in large pots or tubs it makes fine specimens for the cool conservatory, or it may be planted out in a bed or border in a large house. This plant is by no means difficult to increase by means of cuttings. They are, however, very slow, taking at least six months to root. The cuttings are best inserted singly in small pots, plunging them in a close case with some bottom-heat.

Salvias grown for autumn and winter flowering should be potted on as they require it. *S. splendens* and some of its large-growing varieties make fine specimens for autumn and winter flowering in the conservatory. Some of the dwarf free-flowering forms—of which *Glory of Zurich* is a good type—are best for furnishing the stages, and by propagating successional batches may be had in flower almost all the year round. *Salvias* should be given liberal feeding when their pots are well filled with roots. They are subject to attacks by red spider, but this pest may be held in check by the free use of the syringe. The large specimen plants should be stood out in the open during the summer months. If the pots are partly plunged, it serves the double purpose of preventing them being blown over and also keeps the roots cool. Other *Salvias* suitable for autumn and winter flowering are *S. rutilans*, *S. rubescens*, *S. leucantha*, *S. involucrata* var. *Bethellii* and *S. Heerii*; while *S. Greggii* is a pretty sub-shrubby species, more or less hardy in warm light soils in the South, which makes a pretty and neat bushy plant for furnishing the greenhouse stages during the autumn. The blue-flowered *S. azurea grandiflora* should also be grown for autumn flowering. They all thrive under the conditions afforded Chrysanthemums. In the immediate neighbourhood of London their successful flowering is somewhat uncertain, as one night's fog is sufficient to ruin them.

Hippeastrums.—As the plants in the conservatory pass out of flower they should be returned to a warm house, plunging the pots in a bed of fibre with bottom-heat at command. They should be given every attention as regards feeding and watering so as to enable them to build up good flowering bulbs. Where a collection is kept up some seed should be sown each year as soon as it is ripe, growing the young plants steadily on without drying them off until they have attained flowering size. They may be grown on in pots or planted out in a raised bed with bottom-heat in a low-heated pit.

Richardia africana.—As the plants pass out of flower they should be planted out in a well manured trench for the summer months, giving them plenty of water during dry weather, as they are more or less aquatic plants. This is an excellent method of strengthening weak stocks. If desired, they may be left in their pots, standing them at the bottom of a wall for the summer, and during September they should be shaken out and repotted.

Petunias were at one time popular plants for the decoration of the conservatory, but are now seldom seen. This is rather surprising, as they may be had in flower from now onwards right through the summer and autumn. They are easily raised from seed, but any specially desired varieties should be increased by means of cuttings. All the numerous garden race are descended from the two species *P. integrifolia* (syn. *P. violacea*) and *P. nyctaginiflora*, both of them beautiful plants and worthy of more general cultivation. If so desired, some of the stronger-growing varieties will make fine large specimens, which are useful for standing in beds in the conservatory.

Celosias and Balsams.—Sow successional batches according to requirements. The former are best grown quickly in a brisk intermediate temperature, while the latter do best under perfectly cool conditions, the best being generally grown in cold frames. They should be given plenty of room, otherwise they soon become weak and drawn. When repotting, the stem should be well covered with soil; this induces them to develop fresh roots from the stem. When growing freely they enjoy plenty of feeding, with ample supplies of water.

Royal Botanic Gardens, Kew. J. COURTS.

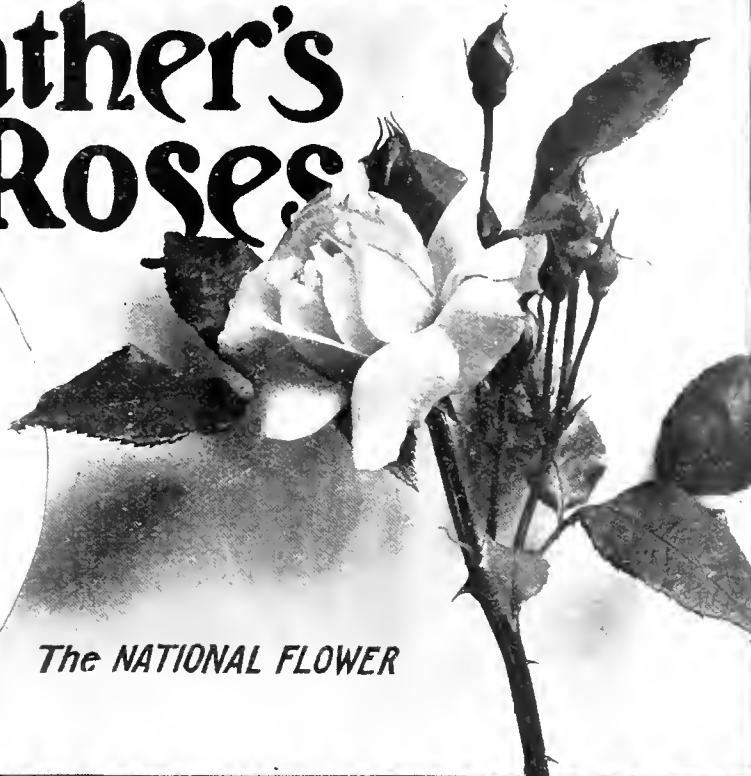
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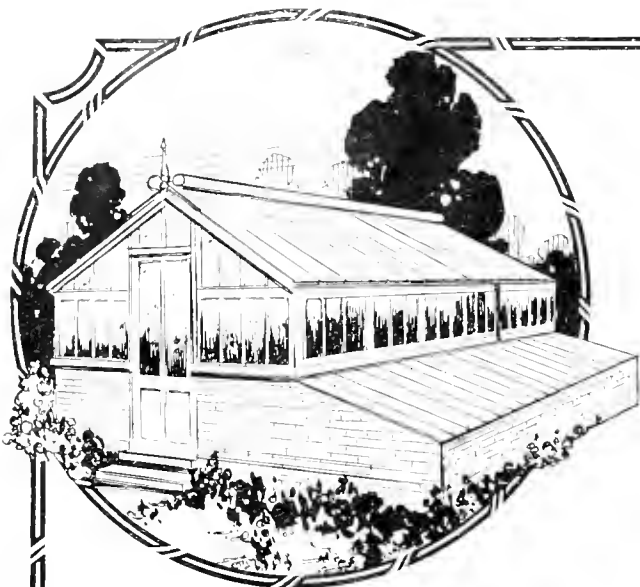
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Their Culture in Tubs, Tanks and Ponds

IN many gardens there are naturally-formed ponds in which collections of Water Lilies are grown. These Lilies are general favourites, and nearly every owner of a garden who sees them wishes to have a few. There need, of course, be no difficulty in growing the plants in ponds fed with a regular stream of water. Where such are not available, then artificial ponds or tanks must be substituted; and, on a much smaller scale, tubs partly sunk in the ground.

ESTABLISHING PLANTS IN A NATURALLY-FORMED POND.

The round pond may be made to look very charming with Water Lilies, but one with curving outlines and, perhaps, gently undulating edges and banks may be made still more effective. In the case of the first named especially, a judicious use should be made of suitable Water Rushes to break up the formal outline.

The first operation should be to make soundings near the edges and to mark, by inserting sticks in the mud, the best positions—those where the water varies in depth from 2ft. to 4ft. or so. If the mud is very soft and easily moved, drive in, about 1ft. apart, five stakes for each plant, leaving the ends 1ft. or so above the mud. These stakes will retain the loam for the roots of the plants, which should be sunk in large pieces until the latter are well established.

The plants must be gently sunk and placed in the centre of the prepared bed of loam, having first made them secure in suitable baskets filled with the following compost: Turfy loam, rotted leaves—oak or beech for preference—and coarse grit or sand. Of course, the compost must be placed round the roots of the plants firmly, but with care and, to prevent displacement, tie down both plants and soil to the basket itself. In due course these baskets will decay, but that matters not at all, as by that time the roots will be well established in the bed of prepared loam placed among the driven-in stakes.

Small, artificially constructed ponds must have a lining at least 9ins. thick of puddled clay. Such ponds are not at all expensive to make, and still less so where the surrounding soil is clayey, as then only the bottom need be of puddled clay.

A brick and cement tank is expensive to construct, but if the work be well done will last for many years. The accompanying sketches will make clearer to readers how the work of construction is done.

If possible, the tanks should be built in a place where there is a natural supply of water or where water-pipes can be laid.

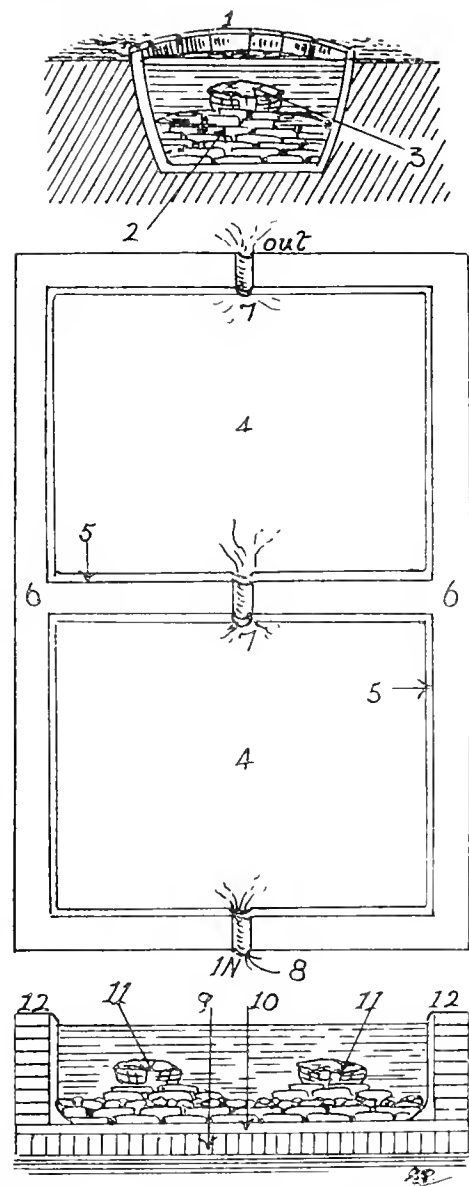
In connexion with the tank, I also refer to the sunk tub shewn at No. 1, loam No. 2, basket containing the plant, No. 3. Two brick and cement tanks are shewn. One may be built, or a series with water running through from the first to the last. Nos. 4, 4, tanks; Nos. 5, 5, cement linings on the brick walls (Nos. 6, 6). Nos. 7, 7, shew how the water should pass from one tank to the other. No. 8, water entering in and running out at the opposite end.

THE SECTION OF THE TANK.

On a concrete base lay in cement a course of bricks on edge, No. 9. At No. 10 the inner cement lining is shewn thickened and rounded off at the bottom on both sides. Nos. 11, 11, shew the baskets firmly embedded in the layer of loam. To hold these baskets in position use a few loose

bricks and whole turves at the sides. The brick walls are shewn at Nos. 12, 12, and should be 9ins. thick, so that there will be no risk of cracking the cement lining, as might occur in the case of a wall of a single brick thickness.

The depths may vary in the different tanks, being 2ft. in one, 3ft. in another and 4ft. in a third.



WATER LILY TANKS IN PLAN AND SECTION.

This last depth is generally found sufficient for even the strongest growers. Both tubs and tanks should be, mainly, below the normal level of the surrounding ground. If the edge is 9ins. above, it will look well, and to do away with the bare and artificial appearance of such tanks, borders of suitable width may be formed round them and planted with moisture-loving plants or, indeed, with other kinds so that they may be furnished, leaving spaces so that one may approach near enough to inspect and enjoy the beauties of the Water Lilies. Hardy Ferns judiciously used make a feathery edging.

GEORGE GARNER.

[Many people dislike the appearance of cement, much preferring to see the brick or stone of the

tank walls. If the retaining walls are built with a 1 1/2 in. cavity and this is filled with a good cement grout as the work proceeds, the tank will be quite watertight.—E.B.]

THE SPRING-FLOWERING SEDUMS

IN a small collection there are not many sedums which can be included under the above heading, most species not flowering until full summer. Albeit, they are rather a choice little lot which are now in bloom, or just gone over. Foremost among them stands a good form of *S. spathulifolium purpureum* with rosettes some 2ins. across, the large leaves being almost a blood crimson and the small ones at the centre a cold, bluish white. From among these rises the mealy flower stem to about 5ins., when it breaks into a handsome head of bright, glistening yellow. In addition to this, one may get a gradation of sizes in this species, with a gradual fading of the red colour, down to somewhere near the type (if such a thing exists in a definite form) with its much smaller rosettes and little more than pale rosy-purple wintry tips to the glaucous leaves. Plain green *spathulifolium* there are also, and a pretty dove-coloured kind with very little purple, and a rather lilies-looking affair secured as *S. s. var. aureum*, which is the wan hue of a frosted lettuce. This, however, now coming into bloom, promises to be distinct.

* *S. ternatum*, a species of a much more fixed type than the preceding and still one of the best in cultivation, gives us bloom in April with untailing regularity. Unlike most of its kind it enjoys a fairly cool soil and the size of the blooms and beauty of growth depend a good deal upon this. *S. ternatum* has leaves of pale yellowish-green, broad and rounded at the apex, the flower stems ascending to about 1ms. and bearing a three or four-branched cyme of shimmering white stars, each of which are some 3/4 in. across. *S. Nevii*, another North American species, is allied to the foregoing, but it is smaller in all parts, the leaf rosettes are closer and more glaucous and the flower heads, though often more branched than those of *S. ternatum*, are about one half the size and of the same gleaming whiteness. *S. Nevii* flowers rather later than *ternatum* and both will cover a considerable space by rooting their offsets.

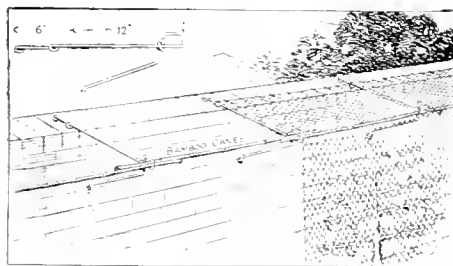
S. compressum, though not so hardy as those already mentioned, is a remarkably handsome species, with somewhat narrow, pointed, fresh green leaves. These have a tendency to turn red at the tips and the younger ones are finely toothed at the margins. This noble species makes an imposing clump about 8ins. in height, the flower-head appearing at this season on short, terminal, crimson stems and breaking into a blaze of orange yellow blossoms. These latter are much like those of *S. Palmeri*, an earlier bloomer now out of flower in the open here, and one that is easily distinguished from the above by its pale emerald, fleshy and blunt, or rounded, leaves.

Between *SS. prealtum* and *confusum* there is some similarity. The former is the tall, loose-habited, vivid green species, with leaves the shape of an Indian club, and which is common in cottage windows. This does not always flower in the open here and when it does so it is later than *confusum*, which is of lesser stature with blunter, shorter, fatter leaves which, as will those of the former, turn a bronzy hue in the open. The bright yellow blossoms appear in a very beautiful, branched, but rounded cluster at the tips of the semi-upright branches in early April and last for many weeks.

N. Wals.

A. T. J.

For Fruit Trees.—The latest gardening device introduced by the House and Garden Sundries Company, Limited, is their patent straining wire specially adapted for rapidly and easily securing Raspberry canes, Loganberries, fruit trees, etc., to horizontal wires. This is accomplished by the permanent attachment of pieces of thin soft wire at intervals usually 4 in. or 6 in. along the main wire, so arranged as to leave the two ends free, which can then be brought together round the cane, etc., and with one twist of the fingers be quickly joined, thus securely holding the plant to the main wire. The operation is accomplished in less than half the time occupied in the old manner (*i.e.*, by tying afresh each year a piece of bast, string or other material), and as the wires are galvanised a great saving not only in expense but in time is effected; moreover, as the wires cannot slip along the main wire, the Raspberry canes, etc., are securely held in position. It should be specially observed that the tying wire is so soft as to be easily bent by the fingers, and no tools are required. We are illustrating herewith their very excellent arrangement for



suspending, netting or other protective material to shield fruit trees against a wall. The galvanised brackets are light, strong, rustproof and not conspicuous, and ordinary bamboo canes answer capably for the rods which actually carry the curtains.

Notice to Exhibitors at Chelsea.—We have received from the Secretary of the Royal Horticultural Society the following: "I am requested by the Council of this Society to draw your attention to the fact that we are only able to exclude the public from the grounds of Chelsea Hospital until 7 p.m. on the evening of Saturday, June 2. Until that hour we are endeavouring to give all possible protection to our exhibitors and their possessions that the police can ensure; but the police will not undertake to guard anything left in the grounds after that time and, as the public have free access to the Gardens, you will understand that we are powerless in the matter. Exhibitors must, therefore, take steps either to remove their exhibits before 7 p.m. on Saturday, June 2, or to have them effectively guarded."

Royal Gardeners' Orphan Fund.—The annual festival dinner of the Royal Gardeners' Orphan Fund was held on Friday, May 18, at the Hotel Victoria, Northumberland Avenue, W.C. Mr. George Moore presided over a representative attendance of about 100 ladies and gentlemen. The chairman pleaded the claims of the orphans very eloquently, and he was ably seconded by the treasurer, Mr. J. E. N. Sherwood, and Mr. Leonard G. Sutton. Mr. Sherwood made a strong appeal for the restoration of the reserve fund to its previous strength. He stated that a sum of £1,050, in addition to the annual outgoings, would be necessary to enable this to be done. Mr. G. F. Tinley, who, in the absence of the secretary, Mr. Brian White, had very kindly undertaken the secretarial duties, afterwards read out the donations forthwith in response to Mr. Moore's appeal, amounting in all to upwards of £1,200. The chairman's list amounted to £158, including

sums collected in Covent Garden Market by Mr. David Ingamells amounting to £175. Messrs. Hurst and Son gave £100; Mr. F. C. Stoop, £100; Messrs. Sutton and Sons, £50. Mr. J. M. Bridgeford's list amounted to 50 guineas; Mr. W. Nutting's list to £50 6s.; Mr. H. J. Jones' list to £43; Mr. G. F. Tinley's list to £25 15s. 6d.; Mr. F. J. McLeod's list to £25; Mr. J. E. Dixon's list to £23; Mr. D. Swain's list to £14 18s.; Mr. W. Howe's list to £14 3s.; and £10 10s. each were given by Sir E. Stern, Bart., Sir J. Colman, Bart., Mrs. Campbell, Messrs. Corry and Co., Mr. R. Corry, Messrs. Barr and Sons, Mr. C. R. King and Mr. E. Mainwaring. Mr. G. Reynolds' list amounted to £7 4s. The principal amount in the chairman's list was his own donation of £100. Other items were Mrs. G. Monro, sen., £10; Mr. A. J. Monro, £5 5s.; Mr. E. Monro, £5 5s.; Messrs. E. Stevens, R. Rochford, D. Ingamells, H. Larsen, J. Cull, H. Miles and J. Miles, each £10 10s.; Mr. W. Robins, £8 8s.; Mr. Daniels, £6 0s.; and Lord Lambourne, £5. Considering the times, the result must be regarded as satisfactory, but a great deal more support should really be afforded to this very deserving charity. The present rate of allotment, 5s. per week per child for not more than two children in one family, is really inadequate, being, indeed, on the pre-war scale.

FORTHCOMING EVENTS.

June 5.—Royal Caledonian Horticultural Society's Meeting.

June 6.—Lewes Horticultural Society's Meeting.

June 7.—Manchester and North of England Orchid Society's Meeting.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SOWING SEED OF PÆONIA MOUTAN (W. R. J.).—The seed should be sown as fresh as possible. Sow in pans or pots of sandy loam, well drained, and as the seeds are large, cover them to the depth of quite half an inch. If heat is available they will germinate more quickly, but sometimes Peony seeds take a year or more to come up, especially if old and dry.

LILY OF THE VALLEY UNSATISFACTORY (C. M.).—These plants flowered very freely, generally, last year. Probably this weakened them and is the main cause of paucity of bloom this year. When the foliage has faded naturally, carefully clean the surface of the bed and apply a mulch of rotted leaf-soil. We have grown a quarter of an acre of these Lilies in good kitchen garden soil on north-west and north-east borders and found the plants spread rapidly even under the paths, being stronger at the edge and weaker at the centre of the bed. Lift, grade and replant some of the crowns next February in the sites referred to above. Remove the top 12 ins. of soil, put in sandy soil and leaf-soil or half-rotted leaves. Plant 4 ins. apart and cover the crowns 2 ins. deep. Water through a rosed watering can afterwards and during the following summer in very dry weather.

TREATMENT OF LILIES (D. McD.).—Our correspondent does not say what kind of disease the Bordeaux Mixture is to be used for. If the Lilies are healthy, do not spray at all; if they are attacked by the fungus *Ocularia elliptica* use the mixture, but not after the buds are formed. Its budding would, of course, tend to strengthen those retained; the second year there should be no need to disbud, the plants being much stronger. Two to three inches of soil will be sufficient to place on the one and two year old bulbs respectively.

GERMAN IRISES (Felted).—These Irises will grow in almost any position when they are nicely established. To accomplish this in our correspondent's case the best course would be to remove the turf to a width of 1 ft., take out the soil to a similar depth, put in sufficient rotted manure to half fill the trench, replace the other portion of soil and plant the Irises in such a way that their roots do not actually come into contact with the manure. A space about 6 ins. wide round the plants themselves should be left at this stage, free from grass. As the Irises grow the grass will, too, but not to the detriment of the plants in future years.

CHIONODOXA SEEDS AND PLANTING (R. S.).—Some of the seed pods should be gathered as close together as possible, without detaching them from their stalks, and placed on scrim netting or similar material, or even on tiles, slates or boards; the seeds will not then be lost. Directly the stalk ends next to the seed pods have withered, gather the pods and finish the ripening on brown paper placed in a cool, airy shed. The seeds may be sown in a sandy soil in August or September. It will be several years before the resultant plants flower freely, the odd, strongest ones sooner than the others.

VARIOUS QUESTIONS (L. M.).—The soil for Madonna Lilies should be light, well manured and allowed to remain for several weeks prior to the planting of the bulbs. In some soils these Lilies do not succeed with good treatment; possibly they will flower better the second year. Slugs probably have eaten holes in the leaves. The *Trillium* thrive best in a naturally moist soil, but not in stagnant, undrained soils. The plants may improve when the warm weather comes. The double-flowered *Arabis* may be raised from seeds sown in a cold frame in August, or from cuttings inserted in sandy soil in a shaded border during the early part of summer. Owing to the cold weather and soil the *Laburnum* has, most likely, not made many new roots and so new growth would be checked. Surface mulch with manure and lumpy loam, mixed. The *Polyanthuses* will do well in a shaded or north border if the roots of shrubs do not enter the soil. Sun heat is detrimental to these plants. In the moist soil the following plants would succeed: Water Flag Iris, Marsh Marigold, Funkias, Spiræas, *Myosotis*, *Primulas* (hardy), *Senecio Chrysanthemum*, *Solidagos* and hardy Ferns. These will, perhaps, be sufficient for our correspondent's purpose.

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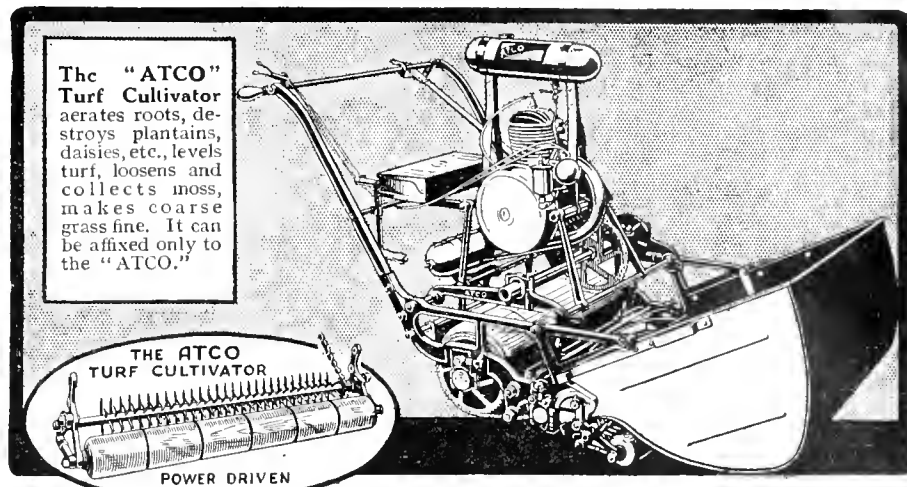
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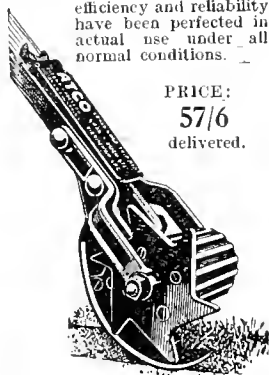


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LILIIUM CANDIDUM (L. M. G.)—No; the *Lilies* do not require lime nor lime rubbish. They succeed well if planted in September as follows. Make holes about 1 ft. deep, place well rotted manure in the bottom, fill up with good loam 3 ins. deep, mix soil and manure in the bottom 6 ins. only; place three or four bulbs on the soil and cover quite 3 ins. deep with good loam only. *Liliums* usually succeed where *Azaleas* and *Rhododendrons* do.

TREES AND SHRUBS.

BLIGHT ON FIRS AND PINES (E. F. W., S. Croydon).—The blight on the Douglas Firs and Scots Pine is not identical with American blight, but is in all likelihood due to species of *Chermes*, though not the same species on the two plants probably. The best method of dealing with it is to spray the plants with nicotine wash (6oz. nicotine, 4lb. soft soap, 40 gallons water). These insects usually pass a part of their life on some other conifer, such as Spruce or Larch, and though the results of their attack are not immediately apparent, yet damage done is cumulative and if young plants are attacked no pains should be spared to rid the plants of the pest. It would scarcely pay to attempt the spraying of large trees.

WILD GARDEN.

HOW TO INCREASE BLUEBELLS IN WOODS (M. H. S.).—When the bulbs are matured in July and before any new growth commences, lift as many as are required and simply re-plant in the various positions marked beforehand for them. They will grow under all common woodland trees, including the Beech. However, in the case of large specimens it would be unwise to plant within 10 ft. or so from the trunk or under other large trees possessing spreading branches rather close to the ground. First loosen the soil, remove coarse grasses and weeds and then from August to October, plant, burying the bulbs 2 ins. deep.

KITCHEN GARDEN.

CELERY UNSATISFACTORY (C. Argyle).—Our correspondent's soil is probably sour and needs liming. The little white insects are springtails and as a general rule they flourish under sour soil conditions. Where particular plants need protection the use of naphthalene forked into the soil near the plants is desirable.

TO PREVENT PHEASANTS AND WOOD PIGEONS EATING GREENS (A. E. M., Haslemere).—Our correspondent should make a fence of fine wire or tarred string, stretching it lengthwise and crosswise about 1 ft. above the plants. Wood pigeons are very suspicious birds and are easily scared. A rag dummy resembling a man, laid down between the rows of plants will also answer. Sprinkle old soot on the leaves while the latter are moist. The dummy man should be placed in different positions several times during a week.

MISCELLANEOUS.

WEED IN POND (Mrs. C. Atherton).—Assuming the average width, length and depth supplied by our correspondent, the quantity of copper sulphate required to treat the pond will be 6 lb. The amount needed is 2 1/2 oz. to 10,000 gallons of water.

GRUBS IN SOIL (Torquay).—The grubs are not recognizable in the present stage, but are probably those of a fly which feeds upon decaying vegetable matter. The safest plan would be to bake the soil in a pan in the kitchen oven before use in potting.

VARIOUS QUESTIONS (C.).—The Apricot tree lacks lime in the soil; apply 1 peck next autumn, after removing the old surface soil down to the roots, mixing the lime with 3 bushels of fibrous loam. The Peach branches are suffering from silverleaf rather badly. Cut out these branches near the stem now, and dress the cut ends with tar. In October apply soot and water mixed to the consistency of mortar, 1 lb. thick, as a top-dressing and water it in; repeat similar dressings during the winter. Do not cut branches on this tree and then use the knife on other trees. Certainly, lifting and replanting will benefit the trees; also surface dressings of light compost; well drained soil is essential. The cutting of the leaves when green would do much damage, weakening the plants considerably. The Tulips in the rock garden may be lifted and duly replanted in fresh soil, but with good treatment they will flower well for many years in the same place, undisturbed. The Gentians should flower freely; *G. acutis* does well in ordinary soil with sand and gravel added. As the plants are healthy we do not know the reason why flowers are scarce, unless the plants are unduly shaded.

NAMES OF PLANTS.—J. P., Devon.—1, *Lithospermum purpureo-coccineum*; 2, *Cerastium montanum*; 3, *Carex Fraseri*.

PUBLICATION RECEIVED.

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CATALOGUES RECEIVED.

Mr. Charles Finner, The Royal Nurseries, Slough.—*Dahlia*s.
Messrs. Dicksons, Nurserymen, Chester.—Bedding Plants and *Dahlia*s.
Messrs. W. Artindale and Son, Nurserymen, Nether Green, Rammer, Shetfield.—Bulb Plants.
Mr. D. G. Purdie, 6, Waterloo Street, Glasgow.—Summer Bedding Plants and Garden Smirns.
Mr. H. J. Jones, Ryecroft Nurseries, Hither Green, Lewisham, S.E.13.—*Dahlia*s, *Chrysanthemums*, *Michaelmas Daisies*, *Phloxes*, etc.

English Columbines. There is much that might be said on behalf of many of the best forms of *Aquilegia vulgaris*, our short-spurred native *Columbine*. In elegance of growth and beauty of foliage they have few rivals, and while some of them can well hold their own in the borders, they are admirably suited for the woodland and the margins of shady, shrubby paths. Perhaps the most lovely of all is the large-flowered pure white form known as *Munstead White*, or *A. nivea grandiflora*, and this one appears to possess the exceptional merit of coming true from its own self-sown seed. It is perfectly robust and perennial and the pale, pea-green foliage is distinctive. There is also a good blue, not quite so permanent in type as the foregoing, but a large-flowered *Aquilegia* of pure colour which is well worthy of culture anywhere. Some of the pale, wine-tinted forms are very attractive, and between these and the deep claret there is a host of intermediate kinds. By ruthlessly eradicating indifferent colours and all with small double flowers it is an easy matter to maintain a good stock of these handsome plants for many years.

A Gorgeous Dwarf Shrub.—The name of *Pentstemon Davidsoni*, or *P. rupicola*, will not be forgotten by anyone who has once seen this wonderful little shrublet in full bloom. Though an inconspicuous plant, with small, rather dull green leaves clothing its prostrate branches, *P. Davidsoni* breaks into flowers of the most amazing brilliance towards the end of May. In the bud these blossoms are a clear and vivid ruby, but when the flowers open and expand into fat and enormous bugles of a most intense blend of herce carmine and red-mauve these, both in dimensions and colour, seem strangely out of proportion to the size of the plant. *P. Davidsoni* is not difficult to grow on any sunny ledge of well drained soil. If it is rather impatient of winter dampness, it is so easily propagated by cuttings in full summer that one may always hold over a reserve stock in a cold frame.

The Prickly Thrifts.—The genus *Acantholimon* comprises a select number of little plants, the majority of which are first-rate for any dry, well drained soil in full sun. Many are high alpine, though close allies of the Sea Lavenders, and while being perfectly hardy they do not so strongly object to our damp winters as some of their mountain companions. Others inhabit arid, sun-burned regions, but these are not less amenable to cultivation than the others. The Prickly Thrifts are characterised by their lowly, cushiony habit of growth, narrow spiny foliage, usually a greyish green, and by the chaffy bracts which enclose each blossom. Perhaps the best known is *A. glunaceum*, a vigorous grower and quite one of the easiest, which covers its low mound of foliage with pale pink flowers in the early summer. An even more taking species is *A. venustum*, with broader, less spiny foliage which suggests that of some *Dianthus*. In this one the flowers are larger and of a clearer rose pink, and the stems which bear them stand well above the foliage to a height of about 6 ins. In addition to these is a score or more which are still uncommon in cultivation, and though they may differ in the size and compactness of their cushions, a family likeness pervades the race and the flowers do not vary between pink and white. The *Acantholimon*s are lime-lovers as well as sun-worshippers.

Wistaria multijuga is one of the finest and most beautiful climbers ever introduced; the white variety of the Japanese *Wistaria*, although a comparatively new-comer, is now spreading rapidly in gardens. Like the typical purple-flowered form, it is one of those plants which no garden of any pretensions can afford to be without. Both are very hardy, quick growers, flower

profusely, and are not at all fastidious as to soil. If required they may be made to cover a large space, or, by pruning, may be kept within strict limit—even to those of a small shrub. The racemes do not appear to become quite so long as those of the purple-flowered *Wistaria multijuga*, which occasionally approach 4 feet in length. A convenient way of propagating both these *Wistarias* is to get pieces of their roots about as thick as a slate pencil and 2 inches to 3 inches long, and to graft on them pieces of stem of about the same thickness. The united scion and stock are then potted deep enough to almost bury the root beneath the soil, and put in gentle heat. If this operation be done in March, the young plants will make growths several feet long during the first summer.

Escallonia langleyensis.—Raised in the Langley nurseries of Messrs. Veitch about 1893, by crossing *Escallonia Philippiana* with *E. punctata*, this shrub must be counted among the great successes achieved by hybridisation in hardy trees and shrubs. Although one of its parents (*E. Philippiana*) is deciduous, the hybrid is evergreen. It makes long, arching, graceful shoots during the summer, which in the following season push forth a short twig from every bud. Each twig is packed with blossom. The flowers are half an inch in diameter, and of a charmingly bright rosy carmine. At its gayest during June and July, it continues blossoming into the two following months.

"Open Air."—The first number of *Open Air*, a new and beautifully illustrated magazine, devoted to the wonders of Nature and the joys of outdoor life, is published at a time when the thoughts of all are of the country and desires strong for the healthy pleasures and pastimes which can be enjoyed in the open air. There has long been a very definite need for such a magazine as *Open Air*, for the public to which it will make a strong and permanent appeal has increased enormously since the war. Because the love and pride in our beautiful countryside is common to every class of the community, the interest in the great romance of Nature deep and widespread, and the desire to participate in all forms of outdoor life and pastimes a national characteristic the success of *Open Air* would seem to be assured. Although *Open Air* makes its main appeal to those who work in cities and towns and can only go to the country occasionally, it will be read with interest and delight by everyone. This first number contains many interesting articles and its illustrations are very striking. For the walker there is an original article, "Tramping with Tess," in which the writer describes a tour of the places mentioned in Mr. Thomas Hardy's famous novel. The lover of Nature will delight in Miss E. L. Turner's description of the life and habits of the kingfisher, and in a beautifully illustrated article on wild flowers. Mr. Charles Hierons, the famous professional at Queen's Club, tells the reader how to win at tennis; Mr. Ward Muir is at his best in an article on trout fishing for the man of moderate means. How the clouds can be of service to all as weather prophets is described by Dr. Worsley Baker, and the beauties of Box Hill are made very real by Mr. C. Hussey. Mr. Rex Brittain takes the motor cyclist on a tour through Devon; and there is a very helpful article on what can be done with the light car off the beaten track. Articles on the Norfolk Broads, Light-weight Camping, Walking with Dogs, and pages for the outdoor girl help to make a most fascinating number. *Open Air* is published by the proprietors of *Country Life*, which is in itself a guarantee that the high standard set in this first number will be maintained.

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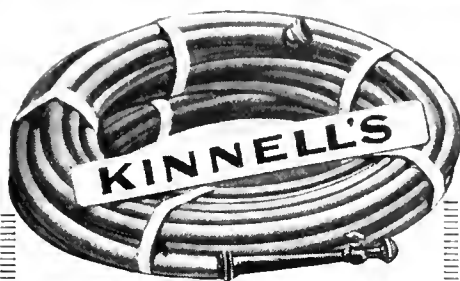
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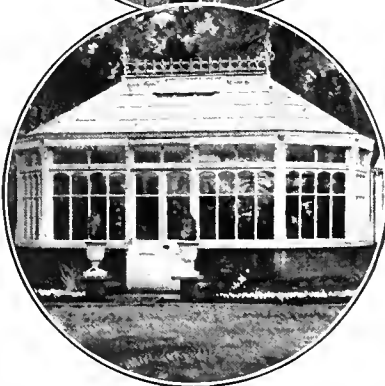
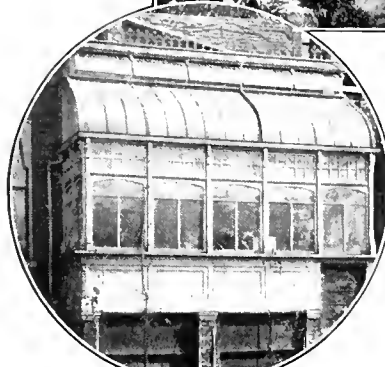
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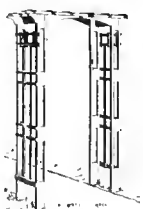
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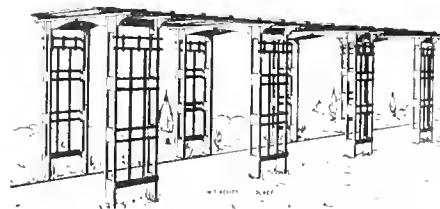
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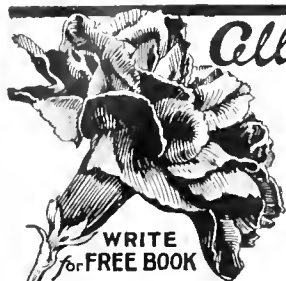
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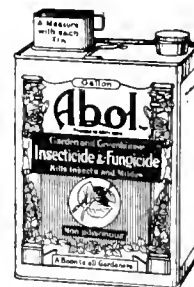
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No. 2690.—VOL. LXXXVII.]

[JUNE 9, 1923.]

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young growths, which are the heralds of an abundance of blossoms. If, in eight or ten years after planting, the bushes shew any signs of weakening, lift them and trench the ground—planting a fresh stock, or the healthiest pieces from the clumps lifted.

PROPAGATION.

The rapid increase of *Spiræas* is possible by seeds, cuttings, division of the clumps and, in some cases, by suckers; while the *Sorbaria* or pinnate-leaved group, as represented by *S. Lindleyana*, is readily propagated by cuttings made of the thick fleshy roots. The leafy cuttings made of moderately firm young shoots in July root readily in a propagating case, preferably with a little bottom-heat. More mature growth can be inserted outside and covered with a hand-light in September, while

fully ripened wood of some *Spiræas* will root if inserted in the open during October and November.

PRUNING.

Scarcely too much stress can be laid on the importance of pruning *Spiræas*. Broadly speaking, they divide naturally into two large groups for purposes of pruning: (a) those which flower in spring on the growths of the previous year and (b) those which flower in summer and autumn on the current season's growths.

The correct treatment for group (a) is to thin out the older wood and weak twigs as soon as the blossoms shatter. This serves to encourage vigorous new growth at once. If through any cause the bushes become tall and straggly, sacrifice a season's flowering and cut the shoots hard back in March. To this group belong *S. arguta*, *S.*

Thunbergii, *S. Veitchii* and *S. prunifolia* flore pleno. Group (b) is best pruned in February or March. First remove old wood and weak shoots which can be entirely dispensed with, shortening back the remaining vigorous wood so that the resultant young shoots form shapely bushes. Examples of this method of pruning include *S. Lindleyana*, *S. japonica*, *S. salicifolia* and *S. Margarita*.

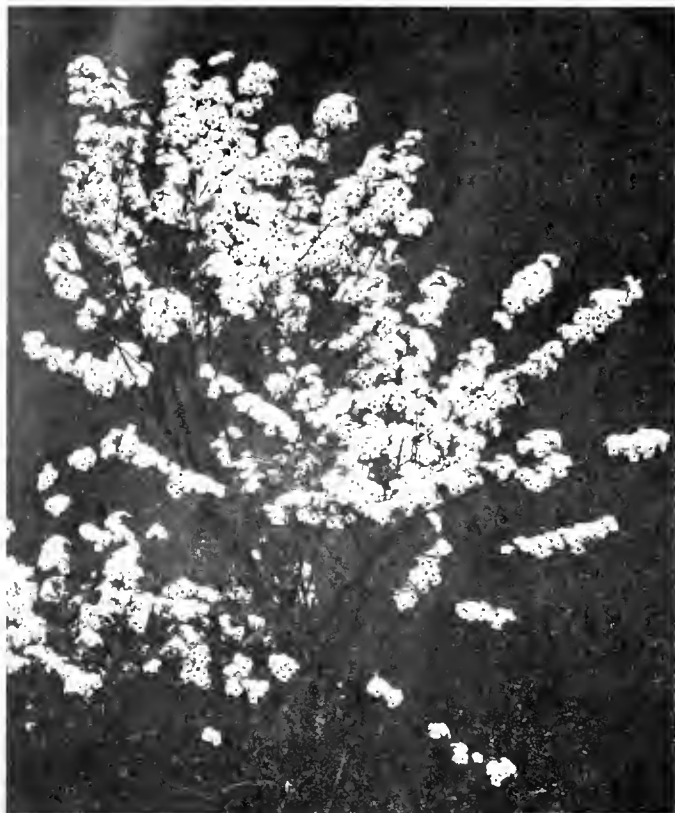
A SELECTION.

While it may not be an easy matter to select a best dozen with such a wealth of species and varieties available, those chosen very well represent their wide variation in habit and season of flowering.

S. AITCHISONI, a vigorous bush up to 12 ft. or more in height, produces in July and August large branching panicles of white blossoms. It is a native of Afghanistan and Kashmir.



MILK WHITE PLUMES OF SPIRÆA LINDLEYANA.



A YOUNG TREE OF SPIRÆA ARGUTA.



THE GRACEFUL SPIRÆA DISCOLOR—BETTER KNOWN AS ARIEFFOLIA.

S. ARGUTA is an elegant small-leaved and very twiggy bush up to 7ft. or 8ft. high, producing during April and early May a wealth of white blossoms. It is rivalled by few and surpassed by none in its freedom of flowering in successive years. It is a hybrid, the reputed parents being *S. Humberti*, *crenata* and *hypericifolia*.

S. BELLA, a shrub up to 6ft. or 8ft. high, must find a place in the first dozen because it has bright rose coloured blossoms in May and June. A native of the Himalayas.

S. DISCOLOR (*ariaefolia*) forms a large bush up to 10ft. or 12ft. high, sometimes even more, giving a wealth of creamy white blossoms during July. This species comes from Western North America.

S. JAPONICA ANTHONY WATERER is a dwarf free-flowering *Spiraea* generally about 2ft. high, which originated as a sport from the variety *Bumalda* in Knap Hill Nursery in the early 'nineties. It produces a succession of rich carmine-red blossoms from July to October. *S. japonica alba* is a valuable white variety flowering in late summer and autumn.

SPIRÆA ARBOREA GRANDIS, WHICH IS EARLIER TO FLOWER THAN *S. LINDLEYANA*.

S. MENZIESII TRIUMPHANS.—In many ways this is the most beautiful of all the tall *Spiræas* with coloured blossoms. From 4ft. to 6ft. high, according to the amount of pruning given, it produces vigorous growths terminating in rosy red blossoms from July to September or October.

S. PRUNIFOLIA EL. PL.—A free-growing bush up to 6ft. or 5ft. high, with long, arching stems wreathed in double white blossoms towards the end of April and the first half of May.

S. THUNBERGII. This Chinese *Spiræa* is the first to blossom in our gardens, opening its small pure white flowers in March and April. The twiggy dense bushes are about 4ft. high.

S. SALICIFOLIA PANICULATA is a good form of the Willow-leaved *Spiræa* or Bridewort, producing a wealth of pink-tinted blossoms from July onwards. It grows some 4ft. to 6ft. high and spreads freely over the ground by means of suckers.

S. VAN HOUTTEI. A hybrid between *S. trilobata* and *S. cantoniensis*, of French origin. It produces a wealth of white blossoms in May and early June. Cultivated in pots and forced into flower early for greenhouse decoration, it is more valued even than *S. arguta*. Its average height is 4ft. to 6ft.

S. VEITCHII.—This Chinese *Spiræa* was first introduced to cultivation by Mr. E. H. Wilson in 1900. It makes a vigorous bush 8ft. or 10ft. high, perhaps more with age. When clothed with corymbs of white blossoms in late May and early June few *Spiræas* are deserving of more attention for massing in lawn beds and borders.

Should those named not be a sufficiently extensive list for large gardens, the following will extend the list to twenty: *S. brachybotrys*, *S. bracteata*, *S. canescens*, *S. Douglasii*, *S. Henryi*, *S. japonica*

ruberrima, *S. Lindleyana* and *S. Margaritæ*. The two shrubby *Spiræas* best suited for the rock garden are *S. bullata* from Japan, producing rosy red blossoms in July and August and the Tyrolean *Spiræa decumbens* (*procumbens*) with dainty white blossoms.

One of the rarest and most interesting species is *S. Millefolium*, a native of Western North America. From this locality it obviously should be given a sunny position and a well drained soil. The white flowers open in July. A. O.

THE SHOOTING STARS

THE genus *Dodecatheon* belongs to the *Primula* family, and is confined to Western North America, although one or two species are found in North-Eastern Asia by the Behring

Straits. According to the latest monograph of the genus by Pax, there are some thirty species, but they resemble each other so much that Gray, in the North American flora, treats them all as varieties of *D. Meadia*. They are all hardy herbaceous perennials, with tufts of oblong spatulate leaves of varying shapes and sizes, and scapes bearing umbels of drooping flowers on long pedicels. The petals are long and narrow and reflexed like those of the *Cyclamen*. They are usually found in moist, shady positions, and are well adapted for the sheltered parts of the rock garden or shady border. The soil they prefer is a loamy one, rich in humus, with plenty of moisture in the growing season. Nearly all the different kinds are easily propagated by division of the crowns after the leaves have ripened off, or the operation may be performed in early spring. The following have been, or are, in cultivation:

D. CLEVELANDI, a native of California, has short obovate leaves and umbels of three to five white flowers with a yellow base.

D. ELLIPTICUM (syn. *D. integrifolium*).—This pretty little plant is a native of the Rocky Mountains, where it is found in moist, open woods. It has narrow spatulate leaves, quite entire, from which, early in May, are produced scapes 1ft. or more high, bearing umbels of eight to ten flowers. These vary from rosy purple to pale lilac, and have a white base with a yellow ring.

D. FRIGIDUM (syns. *D. Meadia* var. *splendidum* and *D. Jeffreyi* var. *alpinum*).—This elegant plant is found further north than any of the others, its habitat extending to the Behring Straits in the Arctic circle from the coast ranges of Western North America. There it abounds

on mountain slopes, rocky places and stony, often saline plains, ascending up to 7,000ft. elevation. In colour the flowers vary from rosy purple to nearly white, and have a dark rosy purple



A BEAUTIFUL AND FREE-FLOWERING SHOOTING STAR,
DODECATHEON RADICUM.

ring of spots at the base. They are borne in umbels of from two to four from a rosette of narrow lanceolate leaves in May.

D. HENDERSONI comes from Sierra Nevada and California, and has, in May, dark purple flowers with a yellow base.

D. JEFFREYI (syn. *D. Meadia* var. *lanceifolium*).—A very distinct plant, one of the largest and strongest growers in the family. It has leaves nearly a foot in length, lanceolate in shape, and tapering to the base, while the scapes often reach a height of 2ft. in favourable situations. On these the pink or rosy purple flowers are borne in umbels of four to six in late spring. It is usually found

in wet places on the mountains of East Oregon and California.

D. LEMOINEI.—A plant of garden origin, with broad leaves and scapes 1½ft. to 2ft. high, bearing up to twenty flowers, varying in colour from deep rosy purple to pale lilac. It is probably a form of the following.

D. MEADIA.—The most popular member of this genus, easily grown and very free-flowering, is a beautiful plant for the shady border. It produces an abundance of long, broad leaves and numerous scapes up to 2ft. high, each bearing twenty or more large pendulous reflexed flowers during the month of May. It was one of the earlier kinds to be introduced, having been grown in the year 1709 in the garden of the Bishop of London. It is figured in one of the earlier volumes of the *Botanical Magazine*, t. 12, and is named after a Dr. Mead. In its natural habitat it is confined to the country west of Pennsylvania, and usually grows on moist cliffs and drains. There are numerous colour forms of this species grown in gardens, varying from rich rosy purple through all intermediate shades to pure white.

D. PAUCIFLORUM.—From East Oregon and New Mexico, this plant has one to seven flowered umbels of pale purple flowers with a yellow ring at the base.

D. RADICATUM.—One of the smaller kinds, which is here illustrated, is a native of New Mexico and Colorado. It has tufts of lanceolate leaves and scapes bearing five to seven rose-coloured flowers in May.

D. TETRANDRUM.—A slender plant with narrow leaves, from Oregon, where it is found growing in wet places in the Wallowa Mountains. The scapes are about 6ins. high and bear two to three flowers in spring.

Many of these *Dodecatheons* make excellent pot plants for use in the alpine house. The roots can be potted up in the autumn, and the pots should be plunged in an ash-bed in a sheltered position where they can receive attention. During the month of May they will produce their flowers freely and prove a welcome addition to the other plants in bloom at that season. W. I.

A RARE AND BEAUTIFUL SHRUB

As long ago as 1780 that beautiful shrub, *Fothergilla major*, was introduced into England. It appears to have been entirely lost sight of by the end of the eighteenth century, both here and in the United States, and was not seen again until a few years ago, when it was re-discovered on the Alleghany Mountains of Virginia and brought once more under cultivation. It is a deciduous shrub, ultimately 6 feet to 8 feet high, erect in its branching, but forming a shapely bush. The leaves are roundish, 3 inches to 4 inches long, dark glossy green above and greyish white beneath.

At the time of flowering the twigs are leafless or only just bursting. The flowers are very curious in having no petals, their beauty being due entirely to the densely clustered stamens, which are pinkish white with yellow anthers and three-quarters of an inch long. The quaint brush-like tufts are composed of numerous flowers, but are smaller than may frequently be seen. They are sometimes cylindrical and 2 ins. long.

The shrub is very hardy, a good grower and easily increased by cuttings. It is difficult to account for its disappearance from gardens 100 years ago, for they were not then so embarrassed with riches in the way of hardy trees and shrubs as we are to-day.

MORE ABOUT THE GREAT SHOW

STOVE AND GREENHOUSE PLANTS

(Continued from page 278.)

In No. 1 tent was a table group of Schizanthuses, exhibited by Mr. Alfred Dawkins, 468, King's Road, Chelsea. The plants, as usual, were extremely free flowering and of compact and dwarf habit. A fact worthy of note was the richer colourings of many of the flowers—a welcome feature of this Chelsea Show.

A very large, comprehensive group was set up in tent No. 1 by Messrs. John Peed and Son, West Norwood, London, S.E., in which many of the better and more popular Caladiums, Streptocarpuses, Gloxinias, Petunias, Hydrangeas and kindred plants, were all attractive and highly interesting. There were, among others, the following noteworthy Caladiums: John Peed, Mine. J. Box, Red Ensign, Marquis of Camden, C. E. Dable, Racine, candidum Roncador, John Laing and William Rappard. The strain of Streptocarpus shown by this firm was distinctly good and the colours very pleasing; the same may be said of the Gloxinias, of which some sorts were especially charming. The group as a whole was a fine feature of the Show.

A huge exhibit was put up in the same tent by Messrs. Webb of Stourbridge. Imposing banks of highly coloured, well grown Cinerarias in both grandiflora and stellata forms made a gorgeous display. Herbaceous Calceolarias have seldom been so well represented; the flowers were large and the plants freely flowered, and they embraced some of the loveliest colours ever seen in this early summer-flowering plant. Much may be said in favour of the beautiful Schizanthuses which were shown in superb form and condition. The colours were pleasingly diverse and the plants flowering in prodigal profusion. Noteworthy, too, were the Gloxinias, Rhodanthe and Primula obconica, and there were other plants which space will not permit us to mention. Backed with Palms and edged with Ferns and other fine foliaged plants, this group merited the attention of all visitors.

At the Embankment end of tent No. 1 Messrs. Jas. Carter and Co., Raynes Park, London, S.W., occupied the whole end of the tent with a superb exhibit, shewing the highest artistic skill and embracing plants representing cultural skill of the best. Here were to be seen mounds of Cinerarias, in grandiflora and stellata forms all most charmingly disposed and representing a wide range of colouring. Stately Clarkias occupied the centre of the group at the back, in front of which were large, well grown Schizanthuses, Antirrhinums, Gloxinias, Petunias, herbaceous Calceolarias and other beautiful plants. This group was embellished with hanging baskets of Schizanthuses and edged with beautiful grass, Ageratum and Ferns. At either side of the two doorways were Sweet Peas and other well grown flowers, the whole group making one of the very finest features of this great Show.

Cacti, Ferns and Palms were shown as a table group by Mr. H. N. Ellison, West Bromwich, in No. 2 tent, and, as usual, this grower's group was distinctly interesting. The Cacti were represented by a number of small plants of the more popular sorts. Of the fine foliaged plants a few things that called for special notice were Platycodon Veitchii, Cibotium Schiedei, Gymnogramme Martensii, Cheilanthes elegans (the Lace Fern), Adiantum decorum magnificum, Onychium japonicum, Tomaria ciliata and Pellaea ternifolia. There were many other beautiful things in this group.

On the western side of No. 2 tent Messrs. L. R. Russell, Limited, Richmond, staged one of their large and comprehensive groups of stove and greenhouse plants for which they have so good a

Secret. Small fine-foliaged plants made a pretty edging.

Baskets of Fancy Pelargoniums were shown by Messrs. Godfrey and Son, Exmouth. They made



A GLIMPSE OF MESSRS. ALLWOOD'S FINE EXHIBIT OF CARNATIONS AND ALLWOODII.
(Described in our last issue.)

reputation. Here were to be seen in capital condition many choice and beautiful plants, of which we see too few nowadays. We were struck by the beauty of *Medinilla magnifica* bearing long pendulous trusses of pink blossoms, Caladiums in variety, such as Mrs. L. R. Russell, Thos. Tomlinson, Rising Sun, William Rappard; *Clerodendron Balfourii*, Crotons and *Dracenas*, the towering *D. Victoria* being in fine form. Noteworthy was *Billbergia Forgoettiana*, shown in good form; *Anthurium Scherzerianum* was attractive, *Gloriosa Rothschildiana* was bright and showy. There were numerous other plants all worthy of careful inspection.

The centre of Messrs. W. Cutbush and Sons, Limited, Barnet, group at the Embankment end of No. 2 tent comprised Hydrangeas in variety; set up in a fine group and with a groundwork of the same plant, with Palms as a background and *Nephrolepis* as a fronting, the group had much to commend it. The better Hydrangeas that called for attention were *Directeur Vuillermont*, a new dark blue sort; *Maréchal Foch*, heliotrope; the lovely rich pink *Helge*; *Lorely*, another pleasing rose pink sort; and *Viscountesse de Vibray*, a dainty sky blue that was most attractive.

In the same tent was a small table group shewing a scarlet ivy-leaved Pelargonium named *Sir Percy Blakeney*. This was shown by the Blakeney Nurseries, Plumtree, Nottingham.

A long table group, also in tent No. 2, comprising Fuchsias and Verbenas Miss Willmott and King of Scarlets, was a pleasing feature. We do not see many Fuchsias nowadays, and it was interesting to see specimens of such sorts as *Mauve Beauty*, *Ballet Girl*, *Fascination*, *Royal Purple* and *Eton*, all doubles. The single-flowered sorts were seen in such varieties as *Mrs. Marshall*, *The Doctor*, *Display*, *Cupid* (very pretty), *Emile Zola* and

an attractive table group in No. 2 tent. Some of the varieties were very bright and pleasing, notably *Prince John* (very dark), *Delightful*, *Reginald Godfrey* (attractive), *The Prince* (rich), *Gipsy*, *Magnate*, *The Queen* (lovely pink), *Dazzler* and *Fascination*.

Immediately opposite the last-mentioned group was another table group of cut Zonal Pelargoniums. Some of the sorts were beautifully represented, both spikes and individual pips being of high quality. We were charmed with *Somerset Lass* (pleasing scarlet), *Scarlet King* (rich scarlet), *Pride of the West* (rosy cerise), *Staplegrave Pride* (salmon), and *Daintiness* (white, suffused salmon). There were several good double and semi-double sorts. This group was shown by Mr. Reginald J. Case, Taunton.

Cut flowers of Zonal Pelargoniums were shown by Messrs. Jarman and Co., Chard, in the same tent. Noteworthy were *Uranus* (salmon scarlet), *Cymric* (purple), *General Wolseley* (clear rosy red), *Dublin* (rose), and *St. Louis* (scarlet crimson), and many double sorts.

A beautiful group of Calceolarias with an edging of White Schizanthuses was set up by Baron Bruno Schröder, Dell Park, Englefield Green, Surrey, in No. 2 tent. There were grand specimens of the Schizanthuses, and they attracted much attention. The Calceolarias were crosses between *Clibranii* and herbaceous sorts, and were shown in much variety.

An exceedingly interesting collection of Cacti and Succulents was shown by Mr. Sydney Smith, 51, Falmer Road, Enfield. This was a collection for the specialist and proved highly interesting to many. Specially noteworthy Cacti were the following: *Manillaria micromeris* (specimen forty years old), *Pilocereus senilis*, *Manillaria pusilla*, *Echinocactus Pfeifferi*, *Opuntia cylindrica cristata*,

Echinocactus *Scopa crista* and Echinocactus *Baroni*. In all there were about 300 varieties of Cacti and Succulents exhibited and their quaint and curious forms were quite fascinating.

HARDY PLANTS

This is always a prominent section at Chelsea and once more one looked for the unkindly stains of a wintry May, only to find that such little accidents as were apparent were easily overwhelmed by the splendour and lavish generosity of these herbaceous and other flowering plants, most of which had been grown entirely in the open.

Messrs. Wallace and Co. had a superb collection, beautifully arranged, among which the hardy Lilies were a noteworthy feature. The lovely *L. regale* was seen in all its entrancing beauty; there were some groups of *L. Orange Queen* in a refreshing golden buff, and of the sweetly recurved *L. Willmottiae*, and towering above these and others some lovely spires of the incomparable *L. excelsum* (testaceum). If we had to take off our hats to the last named, not a few hesitated to go down on their knees to look into the exquisite grace and purity of *L. Farreri*. *Eremuri*, *Lupins*, *Ixiolirions*, *Incarvilleas* and *Cypripediums* also arrested one's attention among the many fine exhibits on this stand.

Mr. J. C. Allgrove of Slough had a notable staging which was dominated by some excellent spikes of *Eremurus robustus*, *Elwesianus* and others. There were also some remarkably fine clumps of *Primulas*. *Pæonies lobata* and *Veitchii* and the *Globe Flowers* (*Trolliuses*) also claimed

admiration, nor did many pass this group without noting *Campanula* *Telham Beauty*.

Verbascums and *Trolliuses* occupied a goodly share of Messrs. G. Gibson and Co.'s stand and this Yorkshire (Bedale) firm is to be congratulated on their new *Globe Flower*, Mrs. G. Gibson, with heads of enormous size and wonderful colour.

Poppies also compelled one's admiration here, as also they did in the excellent show put up by the Chalk Hill Nursery Co. of Reading. This firm makes a speciality of *Mimulus*, *Violas* and *Pansies*, all of which were well represented.

Messrs. Barr and Co. had a first rate display of herbaceous and other plants, with no little distinction in the manner of grouping. Few could pass the lovely Spanish Irises, the *Gladioli*, *Lupins*, sumptuous Oriental Poppies and *Pyrethrums* shewn by this well known firm without getting busy with their notebook, nor could one say less of Mr. Amos Perry's splendid array. If we may dare to make comparisons among the host of lovely things displayed there, the honours of the hour must, we think, go to Mr. Perry's seedling Irises (*barbata*), to the many little Iris species, to the wonderful trusses of *Primula helodoxa* and the *Pæonies*, among which last were some amazing sheaves of blossom. In the midst of this great show a patch of the vivid carmine *Dianthus Fosterii*, with a curious lead-blue eye, struck a distinctly novel note of colour.

Messrs. Bees had a stand of very choice plants, conspicuous among which were the *Primulas*. *P. rigida* was one of the daintiest little things in the Show and the drooping blue heads of *P. nutans*, all silvered with meal, were inexpressively lovely. *Draba* *Bee's Yellow* was conspicuous in this

collection and here also was a fine display of the chastely beautiful *Rosea cantonioides*. There were some notable examples of what can be done with the *Meconopsis* clan, *M. pseudo-integrifolia* being not less alluring in its own way than the group of highly refined *M. cambrica*, the double form in various shades of orange. The *Beesian Columbines* were a striking feature here also and there were some *Pyrethrums* of outstanding merit.

Messrs. Dobbie and Co. had a display of *Anthrinnums* which almost rivalled that firm's Sweet Peas in variety of colour and fragrance, the spikes of blossom being extraordinarily fine. From still further north came a splendid display of *Auriculas*, *Polyanthuses* and *Cowslips*, and lovers of the first-named in particular were amazed to hear that all these had been grown in the cold, unkindly soil of a Perthshire nursery. Messrs. Storrer and Storrer, who were responsible for this choice little lot, found many to admire the size and substance of their marbled *Auriculas*, the glowing tints of their Hybrid *Cowslips*, coloured *Primroses* and not a few old-world members of this always popular class.

The *Primulas* shewn by Dr. Macwatt of Dunis, N.B., were a feature of the Show, among these fascinating things were several of outstanding merit and rarity. One has only to mention *P. vincaeflora*, the drooping heads of *P. heucherifolia* and *septemloba*, both the true forms of a brace of exceedingly uncommon species. Other notable plants there were *P. sibirica* and *chionantha*, shewn in excellent form, and a rare good patch of *P. sikkimensis*. The rare *Primula Smithiana* would, no doubt, be mistaken by many people for the altogether larger *P. helodoxa*. *P. seclusa*



THE BEAUTIFUL SALMON PAPAVER PRINCESS ENA, ON MR. W. WELLS JUNIOR'S EXHIBIT.



MOST SHAPELY OF PINKS, DIANTHUS HERBERTII MODEL.

and PP, secundiflora and vittata were other gems in an unrivalled collection, of which the *pièce de résistance* was a plant of the delicate but supremely beautiful *P. lupicula*.

Once again from the north came the stand of Messrs. Oliver and Hunter, with some admirable

Two first-rate displays of Violas and Pansies were those of Messrs. Yandell of Maidenhead, and H. Clarke of Taunton. In Aquilegias and Iris sibirica, Messrs. Vickers of Royston had a wide selection on view. In cut flowers, as in other departments, Messrs. J. Cheal and Sons had a

independent season it had been necessary to subject the plants to a certain amount of forcing. This season's novelties included Mrs. Giffard Woolley, a wonderful salmon pink sort with deeper lacing and practically the size and texture of a first-class Border Carnation; Fire King, also of excellent size and form and of almost vermilion colouring; and Prince of Wales, not very dissimilar in colour from Mrs. Giffard Woolley, but of entirely different style. Bridesmaid, which received an award last year, was a universal favourite with its tender salmon colouring and admirable pink shape.

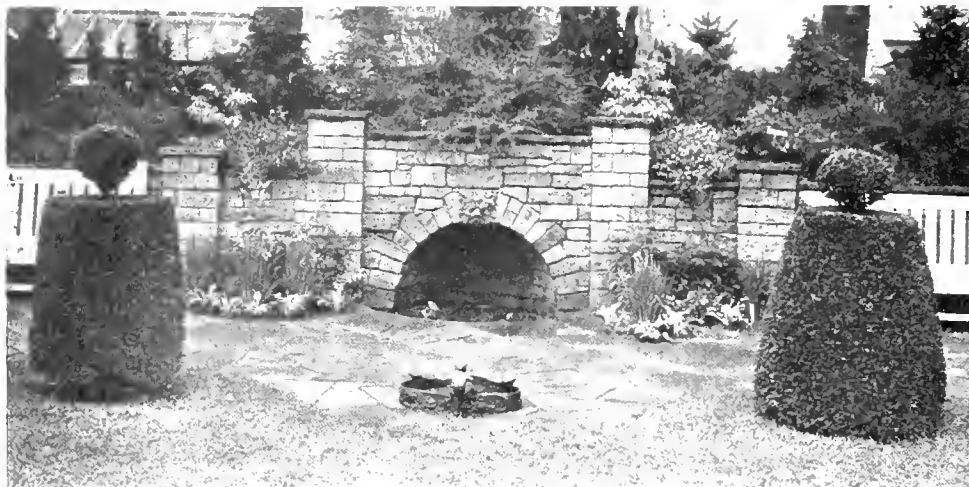
Of the standard varieties, Queen Mary, rose pink and deep crimson, and the perfectly formed Model, attracted very much attention. The deep ruby crimson Victory, too, though on the small side, was exceedingly attractive.

DAHLIAS

A few plants of dwarf bedding single Dahlia "Coltress Gem" was shown by Messrs. John Forbes (Hawick), Limited. It is a bright crimson scarlet flower, and the plant is one of promise.

Although out of season, the display of Dahlias growing in pots was welcomed, as it enabled would-be growers to obtain plants at once and flower them later in the year outdoors. Messrs. Carter, Page and Co., London Wall, E.C., made a display of this kind, and there were many types and varieties shown. Of Collarette sorts there were Hornet, Henri Farman, Eclipse (very fine), Maurice Rivoire, Diadem and Aria. Decoratives were represented by President Wilson and Delice; Paony-flowered by Wurbook and Porthos; and other types were also well shown. A quite interesting exhibit.

Messrs. J. Cheal and Sons, Limited, Crawley, had a small table group of Star and Mignon single Dahlias. The Star Dahlias are unsurpassed for garden decoration and for cut flower. Star varieties shown included Kent Star (rich crimson, tipped mauve), Yellow Star, White Star, Primrose Star, Crawley Star (rose pink), Crimson Star (brilliant), Brighton Star (rosy maroon), Morning Star and Southern Star.



IN MESSRS. JOSEPH CHEALS' GARDEN.

Primulas, among which one noted PP, muscarioides, behangensis and secundiflora in the pink of condition. There were also some fine specimens of the Meconopsis class in this choice collection, M. Pratten and a rare form of integrifolia, viz., M. brevistyla, being particularly good. Very impressive also was the clump of Iris Susiana and a group of Geum Borist shown by the above firm.

Delphiniums were seen in all their Oriental magnificence at Messrs. Blackmore and Langdon's stand, species of most astonishing colour towering to a height of 10 ft.

Messrs. Bakers of Wolverhampton showed, on a very long staging, Sunbeam Poppies, Trolliuses, Lupins and other cut flowers. Aquilegia corulea in good form was seen here, also the fine double yellow Geum Lady Stratheden and a particularly rich-coloured specimen of Kalma latifolia.

Tritonias and Oriental Poppies, Lupins and Pyrethrums dominated the stand of Mr. W. Wells, jun., of Merstham, Papaver Princess Ena and a sheaf of Thermopsis montana being among the most striking of the exhibits. Hard by we came to a fine display of Violas and Pansies put up by Mr. John Forbes of Hawick. Dahlia "Coltress Gem," a single bedding Dahlia, was a conspicuous plant on this stand, and few who love the old, old plants missed some fine specimens of Hesperis matronalis alba fl. pl., with its stock-like scent.

Messrs. Downer of Chichester had an excellent display of Lupins of rare quality, together with Peonies and other plants of that character; and Messrs. Miller, Wisbeck, who make a specialty of hardy herbaceous plants, were well up to line with Pyrethrums, Hemerocallis and Oriental Poppies, some of the best being very choice. Though he had but a single exhibit, Mr. T. Gifford of Hornchurch is to be congratulated on his display of the uncommon Peonia officinalis lobata, shown in faultless condition; and many were very delighted with the several new Antirrhinums exhibited by Mr. H. Hensley of Crawley.

Messrs. Maurice Richard of Christchurch had a very large show of cut flowers, great trusses of Lupins, Poppies, Pyrethrums and Eremuri occupying the lion's share of a fine bit of staging. Among some of the more outstanding plants on this stand were Campanula Dora Blue, Verbascum phoeniceum alba and Peonia anemoniflora rosea.

superb collection, the Poppies, Lupins and Minuluses being especially noteworthy.

To do full justice to the splendid exhibit of Messrs. John Waterer in this section is impossible. Suffice it to say that a towering pile of Delphiniums presided over a great bed gay with Lupins, Oriental Poppies, Pyrethrums, Aquilegias and many other plants, all shown in excellent form and admirably laid out.

PINKS

"Pinks" at Chelsea always bring to mind Mr. Herbert's masterpieces in this direction. This year the selection was better than ever, but the quality was a little inferior to last year. Owing to the



THE UPPER PART OF MESSRS. CARTERS' SPRING GARDEN.

ALPINES AND ROCK PLANTS

Few among the multitudes who, last week, looked to Chelsea for an abundance of good things could have gone away disappointed, for, even though the show of alpine was not, in some respects, equal to that of former years, the quality of the exhibits generally was of as high an order as we have ever seen it. Novelties were not a notable feature anywhere in this department, but one noted with satisfaction how well so many of the best of the newcomers of a few seasons ago are holding their own and proving their fitness for our varied methods of culture and even more varied climate. If we except the oceans of mud in which we paddled around, one felt conscious of but one regret at this fine Show, a regret that a section so immensely popular as that comprising the alpine and rock plants could not be afforded more space, or, if that were impossible, a show entirely to themselves.

Among the most interesting and extensive collections of rock plants was that of Mr. G. Reuthe of Keston. Here one noted a large pot of *Hyacinthus fastigiatus*, the rare *Pinguicula Reuteri*, a pink-flowered Butterwort of distinction, and a particularly large form of the native violet species. There were several pots of *Ramondia pyrenaica* in a wide variety of colours, *Oxalis adenophylla*, the dainty *Allium neapolitanum*, and that delightful Californian, *Silene Hookeri*. The wee-est thing in Roses, *R. Rowlettii*, from Spain, was shown in good form here; and hard by one noted that glowing marvel, *Fritillaria pyrenaica*, *Scilla italica* and the lovely *Linaria aquitriloba*. *Veronica ficifolia* attracted much attention here as did the Geum-like *Sieversia elata*, whose large flowers in a warm Indian yellow were very striking. *Philesia buxifolia* was also in flower on Mr. Reuthe's stand, and there were some fine plants of *Olearia holosericea*, *Dodecatheons* and *Cypripediums*.

There were some bold groupings on the rock-garden staging set up by Messrs. John Waterer, Sons and Crisp, Limited. *Viola Black Knight*, which might be described as a much enlarged, coal black *gracilis* with an orange eye, was shown in quantity near a fine drift of *Dryas octopetala*—a good form in nice condition. There were some large clumps of *Thymus nitidus*, a bed of the gorgeous *Minulus Coronation*, and many *Cypripediums*, admirably shown. Nestling under a fine bank of *Primulas* were several specimens of the true *Spiraea digitata nana*, prettily tucked in among a plantation of the elegant *Vancouveria hexandra*. *Pentstemon heterophyllus* was here in full bloom, along with the wonderful *Aster alpinus* Wargrave variety, *Armeria Lauchiana* and some excellent *Erigerons*. *Ledum intermedium*, carrying a blaze of little blossoms, was a shrublet that few rock gardeners would pass unnoted, and there were one or two dwarf *Cytisuses* exhibited in fine feather on this staging.

The lay-out of the exhibits brought down by Mr. F. G. Wood of Ashted was a cleverly executed bit of rock gardening which attracted considerable notice. Here we had, in addition to some well placed rocks, a tiny water garden and some planted crazy-paving—all on a few yards of staging. *Lithospermums petraeum* and *intermedium* were well shewn here, and the clump of *Pentstemon Scouleri* was probably the best in the Show. There were several bits of *Morisia hypogaea*, *Saxifraga aizoides atrovirens* made a glow of rusty orange near the cool lavender of the dainty little *Phlox Fairy*, and there was a good exhibit of the much taller, blue-lavender *Phlox Laphami*. *Viola gracilis Clarence Elliott* was seen in first-rate forms on this staging, along with some other seedlings with the same "blood" in them.

Another exceedingly pleasing stretch of rock formation, with the plants set out most naturally, was the work of the Misses Hopkins, Shepperton-on-Thames. There were some choice *Dianthus*es,

A very taking assembly of alpine in pots appeared under the name of Messrs. Prichard and Co., Wimborne, a noteworthy specimen among these being a large pan of *Parochetus communis* in



MESSRS. R. TUCKER AND SONS' ROCK GARDEN.

Violas, *Cistuses* and *Saxitrages* on this stand; but what attracted even more attention were the many old-world plants on view. Some of the *Daisies* among these latter were especially good, and along with these we spotted the quilled double in a soft pink that made something like a sensation twenty years ago.

Yet another skilfully constructed length of rock garden was staged by Mr. E. Scapellhorn of Beckenham. *Saxifrages pyramidalis*, *Lissadell* and Dr. Ramsey were notable objects here; and the exhibit of *Cotyledon simplicifolia* was one of the best we have seen for some time. *Ourisia coccinea* was in fine feather against some groups of *Primulas helodoxa*, *Cockburniana* and *capitata*, there was a nice exhibit of a good form of *Geranium Traversii*, and not many visitors would fail to notice the little bush of *Kalmia rubra*, among many other good things.

We next came to a large collection of alpine and other plants from the well known Christchurch firm of Messrs. Maurice Prichard and Sons. On this extensive staging there were not only very many plants of special merit, but the arrangement was as admirable as the condition of the individual plants themselves. A group of *Dodecatheons* was an impressive feature, and among a quantity of *Dianthus*es, the hybrid *Pinks Ida* and *Perdita*—offspring of neglectus—were surpassingly lovely. *D. squarrosus* and the true *D. sub-acaulis* were also among the elect. The sulphur-flowered *Achillea tomentosa* King Edward; *Saxifrages* Dr. Ramsey, *calabrica* and *pyramidalis compacta* were all well shewn, and there were some first-rate *Sedums*. Among these last a clump of *S. spathulifolium purpureum* ablaze with its golden stars was a most arresting feature and, though there were many rarer things in this fine exhibit, there were few more exquisite than a mass of *Silene alpestris fl. pl.* and another of *Scabiosa caucasica*.

The exhibit of *Houstonia cœrulea* doubtless made not a few visitors envious, and another excellent little plant well shewn here was the pretty *Gypsophila cerastioides*. *Veronica rupestris rosea*, a plant by no means common, was included in good form. There were some pots of the dainty little *Thymus parviflorus*, several *Lithospermums* and a lovely clump of *Geranium cinereum rubrum*.

From the Oxford nursery of Messrs. R. Tucker and Sons one expected to find alpine plants of distinction and merit and we were far from being disappointed. These were planted very tastefully about bold rocks of weathered limestone, in which *Dianthus alpinus* looked particularly happy. Another Pink that was not likely to escape notice was the clear rose *D. microlepis rumelicus*. There was a very full muster of *Sedums* on this staging, *Lewisia Howelii* was shewn in first rate form, and the soft rosy purple of *Phlox compacta* struck an unusual note of colour among others of its clan. Some first-rate *Dodecatheons*, the well known "Cotswold" *Verbascums*, *Viola bosniaca* and a forest of Lilliputian rock-garden conifers also deserve special mention, though one can here do but scant justice to a collection so distinctive in the selection and quality of its exhibits as this one.

Another ambitious piece of rock formation with the plants *in situ* was that of Mr. H. Hemsley of Crawley. A large carpet of the gorgeous *Heeria elegans*, blazing with vivid crimson-carmine blooms, attracted a lot of notice on this staging, as did the much more modestly coloured *Viola arborea*, a pale silvery turquoise nestling among grass-green leaves. *Nierembergia rivularis* and some *Androsaces*, *Trollius europæus albus* and the dainty-leaved *Veronica Beibersteinii* were noted among many other "classy" individuals sent along by Mr. Hemsley.

Messrs. Maxwell and Beale, Broadstone Nursery, sent a splendid array of *Mesembryanthemums*

which only needed a little sunshine to open their blooms. Even so, there were one or two, notably *M. cordifolium* and *M. melanderum* with very big blossoms in a dainty satiny pink, which were bold enough to expose their glistening

perennial variety of outstanding quality. *Micro-meris* in full flower, *Linarias*, *Geranium Pylzowianum*, *Fabiana imbricata* and many *Primulas* of much merit were also among the many good things included in this extensive array.



DRYAS OCTOPETALA, SO WELL SHEWN BY MESSRS. WATERER, SONS AND CRISP.

rays to the gloom of the earlier days of the Show. The charming little *Bellis cornuola* and *Banifva petraea*, like a silver-grey *Armeria*, were also in this collection, as was a first rate form of *Potentilla rupestris*. A fine mound of *Campanula Steveni* attracted the attention it so fully deserved and there were some plants of *Silene alpestris* with semi-double flowers of unusual size. In addition to their *Primulas*, alluded to elsewhere, Messrs. Oliver and Hunter, from Monnaive, Dumfries, shewed *Oxalis emeaphylla rosea*, the beautiful *Saponaria Boissieri* and some choice *Armerias*. The true *Aquilegia alpina* was set out in first rate form by this firm and another specimen of much distinction was *Phlox subulata* 'Aurea', a charming plant with the best attributes of both its parents, *Aquilegia glandulosa* and the creamy-white *flabellata* were also among this collection and we marked down *Achillea Kellereri* as one of the best of its race.

Not many rock garden enthusiasts who delight in tiny plants would pass unobserved the carpet of *Arenaria gothica* shewn by Messrs. Bowell and Skarratt of Cheltenham, a planting wee enough to make *A. hibernica* appear a giant by comparison. The true *Dianthus Freynii* was another of these wee things, to which *Saxifraga tenella* hard by, was a happily chosen companion. The lumpy heads in deep navy blue of *Veronica austriaca* made a most effective carpet of bold colour and we liked the large daisy-like flowers, with their quaintly scalloped edges, of *Anacyclus formosus*. *Veronica rupestris rosea* was among the more notable exhibits on this stand and the delightful *Viola pedata* was admirably shewn. *Oxalis adenophylla* was exhibited in quantity by this firm, and excellent plants they were, and we also much liked the longifolia hybrid *Saxifraga Francis Cade*, a

Mr. Ernest Dixon of Putney shewed a number of little plants in a small garden of walks, lawns and lakes, all in a square yard, and his mountain slopes of *Sagina* turf and out-cropping rocks inspired much keen interest.

Mr. Geo. G. Whitelegg of the Chislehurst Nurseries, had a display of alpine and other plants tastefully arranged among rocks, the *Sempervivums*, *Saxifrages* and alpine *Asters* being a particularly pleasing lot. There were also some *Campanulas*, *Dianthus*es and one or two *Onosmas* on this staging which were well above the general level.

Messrs. W. H. Rogers and Son of Southampton also had a fascinating assortment backed by some *Leptospermums* in excellent bloom. Here again the rock construction was a creditable piece of work and a goodly lot of *Sempervivums* looked very attractive in their natural setting. Some of the double forms of *Meconopsis cambrica* shewn by this firm were remarkable for their depth of colour and compactness, and there were some patches of *Minulus* of rare quality. The dainty *Iris gracilipes* won much deserved admiration, as did *Ajuga Brockbankii*, *Campanula Steveni* nana and the *Primulas* shewn by the same firm. *Cistus purpureus*, *Trolliuses*, *Thalictrums*, some very attractive *Heucheras* and *Erigerons* in great variety made a gay display of colour among the shrubs and other plants shewn under the well known name of Messrs. B. Ladhams of Southampton.

The density of the crowd which thronged about Mr. Clarence Elliott's indoor exhibits was sufficient evidence of the interest which this enthusiastic rock gardener has aroused in this section, and his length of staging was indeed crammed with little things of "top-hole" merit all set out with unimpeachable taste. A large mat of *Veronica chamaedrifolies* perhaps attracted the lion's share

of public applause, though we preferred a perfect little group of the ravishingly lovely *Aquilegia glandulosa* and a colony of the tiny inch-high *Iris cristata*. There were several clumps of *Primulas* of the first water in this collection, a delightful little Tibetan *Allium* in a fine rosy lilac and the pale blue *Viola elatior* on its stiff, bushy stems. The bronzy-leaved *Epilobium glabellum* and the dainty *Trollius pumilus* were noted in association with a colony of that admirable dwarf London Pride, *Saxifraga Umbrosa* Elliott's var., a vivid ruby in flower and stem. *Oxalis emeaphylla rosea*, for which we are indebted to Mr. Elliott's keen love for alpine quality, was shewn in faultless form. There were some pretty *Campanulas* and *Wahlenbergias*, *Iberises* and *Armerias*, *Astrantias* and *Thymes* also on view, to mention not a tithe of the exhibits.

Messrs. K. and J. Hill of Eastbourne are alpine specialists and, on a cleverly designed piece of rockwork staging, they shewed the gay *Linaria Broussonetii*, *Convulvulus mauritanicus* and the distinguished-looking *Campanula Laurii* in a fresh rosy lilac. *Cistuses formosus* and purpureus were seen in good form here, and the quaint *Helichrysum Selago* invited many enquiries.

The several *Dianthus*es of the alpinus class shewn by Messrs. Carter Page and Co., London Wall, E.C., were among the finest we have come across for some time, and no less can be said of the exhibit of *Lithospermum Heavenly Blue* on the same stage. *Thymus nitidus* was also well shewn, and one welcomed *Dianthus Caesar's Mantle* as an old friend that is now becoming rare. *Saxifraga longifolia* and *S. l. latifolia* were shewn in grand form by this firm and *Veronica rupestris alba*, still an uncommon plant in gardens, was exhibited *en masse*. Upon the *Primulas* and other plants shewn by the above house we have commented elsewhere, but one must add a word of praise for the admirable way in which the rocks and plants were disposed on Messrs. Carter Page's staging.

Last, but not least, comes the big collection on view under the name of Messrs. J. Cheal and Sons, Crawley, in which, amid a most naturally laid-out section of rock construction we noted *Imum monogynum* in an extra large type. The rich cherry red *Phlox pilosa*, *Linaria origanifolia*, *Calamintha alpina* with flowers like a violet Snapdragon, *Sedum pilosum* in full bloom and a lovely group of *Primula capitata* were among the more noteworthy objects to be seen here.

TREES AND SHRUBS

In our report under the above heading in last week's issue all reference was omitted to Messrs. M. Koster and Sons' *Rhododendrons* and *Azaleas*. These fully bore out Mr. Millais' forecast which we published in our Correspondence columns last week (page 279). The brilliant cherry-red *Madame de Bruin* attracted much attention here as it did, too, in Messrs. R. Wallace and Co.'s stand. The huge trusses of *Corry Koster* also made an excellent impression—the blossoms are a pale buffish salmon heavily spotted crimson on the upper lobe when the flowers are young, but the spotting rapidly fades as the flower ages. *Hugh Wormald* is another very distinct variety of rosy cerise colouring with a conspicuous band of white down the centre of each petal. Every plant shewn, however, was noteworthy, and it is a very long while since so many good new *Rhododendrons* were ever exhibited together. *Koster's "Brilliant Red" Azaleas* would have made an even greater impression than they did had it been generally appreciated that the plants exhibited were seedlings, the strain having been fixed to come true to colour from seed.

BEGONIAS

Immediately inside the Chelsea Hospital entrance to tent No. 1 Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, set up one of their inimitable exhibits of Tuberous-rooted Begonias. Notwithstanding the extraordinary weather experienced of late this firm shewed these plants in ideal form and condition. Unbruised and perfect it is a standing marvel how they are made to travel so well. A few of the more noteworthy sorts were Hilda Langdon, a large rose pink sort of ideal form, shewn in excellent condition; Mrs. F. Bedford, blush shaded flesh in the centre, of superb form; Lord Lambourne, a flower of remarkable colour, this being deep rich apricot, the form also being very fine. A frilled sort of pleasing form was Mrs. Hugh Moncreiff, a pale salmon cerise. Peace, a rich cream flower, shaded lemon in centre, was noteworthy, as was J. W. Pyman, a glowing crimson scarlet of ideal form. These are just a few of the gems of this wonderful collection.

VIOLAS

At the Embankment entrance of No. 2 Tent Mr. William Yandell, Maidenhead, made a beautiful display of garden and exhibition Violas. It was a most comprehensive display, and the flowers were all that any grower could well desire. Specially noteworthy sorts were Royal Scot (deep blue), Kitty Bell (lavender), Klondyke (yellow), Maggie Mott (mauve blue), Moseley Perfection (large rich yellow), Mrs. Chichester (fancy marbled sort), Archie Grant (indigo blue), Primrose Dame (primrose), Bridal Morn (deep mauve blue). This was a very charming display and a pleasing contrast to most other plants shewn.

A very fine exhibit of Violas was staged by Mr. H. Clarke, Taunton. The flowers were arranged in vases obscured in moss, and disposed in baskets most effectively. Both exhibition and garden

sorts were shewn. Of the garden sorts we liked Swan (white), Gladys Finday (deep purple blue edge, white centre), W. H. Woodgate (pale blue), Maggie Mott (mauve blue), White Empress (white), Lady Knox (primrose) and Moseley Perfection—all well done. This was a splendid exhibit.

Bedding Violas arranged in green-painted bowls, were shewn by Messrs. John Forbes (Hawick), Limited, Hawick. Old and popular sorts set up were James Pilling (fancy), Mrs. Chichester (marbled), Archie Grant (indigo blue), Lady Knox, Kitty Bell (lavender), Royal Sovereign (yellow), Moseley Perfection (rich yellow, very large), Maggie Mott (mauve blue), John Quinton (mauve) and Jackanapes (an old form of Pansy).

A pleasing series of Violas was shewn by Messrs. Jarman and Co., Chard. *Viola cornuta* purpurea, *V. c. alba* and *V. c. Mauve Queen* were set up in fine form and condition. There were many seedlings of gracilis type besides the Grecian Violet itself.

ORCHIDS

A most effective group of Orchids was staged by Mr. Pantia Ralli, Ashted Park, Surrey (gardener, Mr. S. Farnes). This well known amateur had massed several plants of the showy kinds so that a bold display was made. There were many excellent examples of the pure white *Cattleya Magali Saider* and of the elegant *Cypripedium Maudiae*, while on pedestals were seen *Laelio-Cattleya Excelsior* with a dozen flowers, having the petals flushed with purple like the lip, and *L.-C. Canhamiana* carrying ten superb blooms. Touches of blue were given by *Vanda cœrulea*, and dark red flowers were carried numerous on *Renanthra Imshootiana*. A fine *Cymbidium* hybrid was to be seen in Castor, with large yellowish flowers.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey (gardener, Mr. J. Collier), filled one of the

corner positions with a most representative collection of rare species and hybrids. The centre part was made up with white *Cattleyas* and red-flowering *Odontiodas*, the contrast being effective. *Dendrobium Golden Sunray* was one of the finest representatives of the genus in the Show; it carried nearly fifty large flowers of yellowish colour, with a crimson area on the base of the lip. *Dendrobium acuminatum* with eighteen flowers was another example of how well this genus is cultivated at Gatton Park. Among the *Laelio-Cattleyas* were brightly coloured varieties of G. S. Ball and Golden Glow. One of the most distinct of the many varieties of *Odontoglossum crispum* was staged in solum, while a large blotched variety was called Leonard Perfect.

Mr. H. T. Pitt, Stamford Hill (gardener, Mr. Thurgood), had a very pleasing group, containing the richly coloured *Odontioda Cardinal*, the weird looking *Nanodes Medusa*, several good varieties of *Laelio-Cattleya Fascinator* and a wide assortment of *Miltonia* hybrids, of which *M. vexillaria alba* and *M. Venus* were particularly fine. *Cypripediums* were well represented by the albino variety of *Curtisii* known as *Sandera*, and by *Enchantress*.

Messrs. Charlesworth and Co., Haywards Heath, staged an extensive exhibit, at one end of which was a bank of albino *Odontoglossum* hybrids, while at the other was a mass of scarlet and red *Odontiodas*. The centre was composed of numerous varieties of *Laelio-Cattleya Fascinator*, always to be seen at these important spring shows. In the recesses were areas of orange-red produced by *Laelio-Cattleya* G. S. Ball, while in other parts was a fine assortment of *Miltonia* hybrids, which are now very popular. One of the gems was *Odontioda Duchess of York*, bearing a mass of light scarlet flowers, and another was *Odontoglossum crispum* of the premier type, this representing a fine race of home-raised plants. One of the best of the large-flowering hybrids was seen in *Brasso-Cattleya Cliftonii*, while a giant



THE TINY MECONOPSIS LANCIFOLIA WITH RICH PURPLE BLOSSOM (LIFE SIZE).



DELICATE MAUVE BLOSSOMS AND MEALY STEMS OF THE RARE PRIMULA RUPICOLA FROM DR. MACWATT'S EXHIBIT.

Two beautiful Alpines shewn at Chelsea for the first time.

of its kind was also seen in *Odontoglossum* St. George.

Messrs. J. and A. McBean, Cooksbridge, Sussex, had a grand group of *Odontoglossum* hybrids, among them being *Fau-tina*, with red blotching, *Doreen splendens*, with a grand spike of twelve large blooms, while *O. Hyeana* carried two spikes with a total of thirty-one yellow and brown flowers. *O. crispum* var. *Gibraltar* had massive flowers, white, with a blotched lip. The centre of this group was made up of *Cymbidium* hybrids and the graceful *Oncidium McBeanianum*. Specimen plants were to be seen in *Laelio-cattleya* Isabel Sander, *Cattleya Cowania* alba and *C. Skinneri*, the latter having masses of small, but deep rose-coloured flowers. *Miltonia Phalaenopsis*, generally a difficult plant, was represented by a strong specimen, and among other *Miltomas* were the handsome blotched variety known as *G. D. Owen*, and a charming hybrid produced by crossing *vexillaria* alba with *Roezlii*, the centre part of this being bright yellow.

Messrs. Sanders, St. Albans, had many interesting plants in their excellent exhibit. Here, again, *Cymbidium* hybrids were used for the centre and along the back row, while close to them were fine examples of *Thunias*, now seldom seen, and a strong plant of the scarce *Dendrobium amoenum*, with numerous delicately tinted flowers. The exact centre was occupied with a grand specimen of *Cattleya Mossii* Wageri, having over twenty white flowers, while on either side were richly coloured *Odontiodas*, including that called *Chantier*, in which the colour was of intense scarlet. Among the fine varieties of *Miltonia* hybrids, one distinguished as *A. C. Barrage* was noteworthy; it bears sixteen large blooms, beautifully veined with soft rose. *Laelio-Cattleyas* were to be seen in *Dominiana* with eleven flowers, as well as in *Isabel Sander*, pure white, and *Aphrodite bicolor*, this latter having the petals flushed with purple.

Messrs. Stuart Low and Co., Jarvisbrook, also staged a splendid selection of *Laelio-Cattleyas*, especially good being *L. C. Aphrodite* var. *Sunray*, with flushed petals, and *L. C. Golderest*, with cream-coloured sepals and petals and a purple lip. *Cypripediums* were strongly in evidence here, and included the pretty *Maudiae*; the richly coloured *Goweri*; as well as *Rothschildianum*, always an attraction with its long outstanding petals; and *bellatulum*, a species now somewhat scarce. An old species was seen in *Aërides Fieldingii*, and another in a specimen of *Dendrobium Parishii*; while at the extreme ends were large plants of *Dendrobium thrysiflorum* with masses of yellowish flowers. *Brasso-Cattleyas* included the new *B. C. Villa Jeanne*, as well as *Cliftonii*, and another hybrid in this section was *Brasso-Laelio-Cattleya Triflantiana*. Several well grown plants of *Selenipedium grande* attracted attention by reason of their long ribbon-like petals.

Messrs. Cowan and Co., Southgate, had several excellent *Cymbidiums* in their well arranged group, especially noteworthy being the varieties *Ring Dove*, with cream-coloured flowers having a lip dotted with red, as well as *Wigeon* and *Vesta*. A species that is rarely seen so well cultivated as here shewn was *Cymbidium Devonianum*, with a pendulous spike of many flowers. The elegant *Cattleya Titius* was represented by several fine varieties; while *Odontoglossums* comprise pretty forms of *Jasper* and others of the amabile section. *Odontoglossum hastilabium*, now seldom seen, stood out prominently, as also did the handsome *Maxillaria Sanderiana* and several *Miltonia* hybrids. Among the popular *Odontiodas* were *Felicia*, with brownish flowers, and *Anethyst*, with scarlet blotching.

Messrs. J. Cypher and Sons, Cheltenham, had an attractive group at the end of the big tent. It contained many excellent *Cypripediums*, specially

noteworthy being one called *St. Swithin*, of *Rothschildianum* parentage and having the petals much elongated in vertical style. Some of the best *Brassavola* hybrids were staged here; they in-

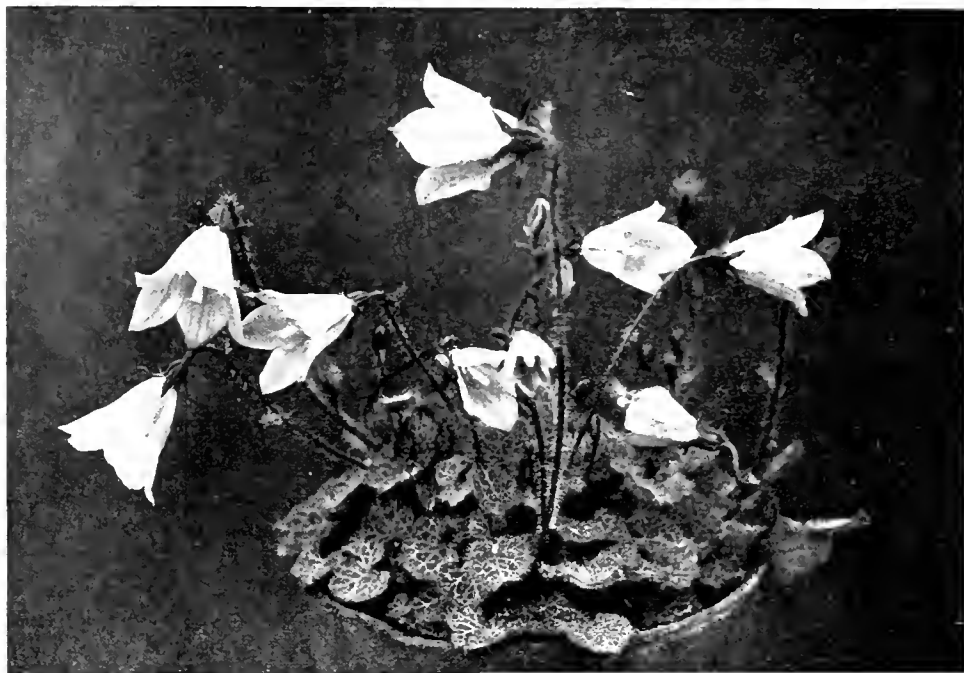
cluded *B. L. Digbyano-purpurata*, *B. C. Digbyano-Mossii* with five immense flowers, and *B. L. C. Veitchii*, of intense rose colour. *Laelio-Cattleya Glowworm* carried six blooms of a charming golden yellow tint, the lip shaded with crimson; while along the back row was seen *L. C. Dominiana*, always handsome, and excellent examples of *Epidendrum* hybrids of the *xanthinum* section, the many flower spikes being mostly of orange and orange red colour.

Messrs. Flory and Black, Slough, exhibited two of the best *Cattleyas* in their large group; they were *Cattleya Irene* "Our Queen," a very large pure white flower, and *Cattleya Prince Shimadzu*, a grand flower having the petals unusually well formed. *Odontiodas* were in wide selection, as also were the *Miltonia* hybrids. One of the best strains of *Laelio-Cattleya Dominiana* was staged by this firm. Several elegant *Cattleyas* received worthy attention, and of them mention may be made of *C. Heatherwood*, with a large crimson lip, and the albino *Cattleya Irene*. Another speciality was *Cattleya Dr. M. Lacroze*, with bold flowers having an immense labellum of ruby crimson tints.

Messrs. Mansell and Hatcher, Rawdon, Yorks, had an effectively arranged group, the higher portion being composed of selected varieties of *Laelio-Cattleya Aphrodite* and *L. C. Fascinator*, while in *L. C. Ypres* the flower was somewhat larger and more highly coloured. A novelty was seen in *Cattleya Lady Duncan*, white with light yellow suffusion in the throat. An interesting hybrid was *Odontioda Bantingii*, obtained by crossing *Odontoglossum Uro-Skinneri* with *Odontioda Bradshawii*; it resembled the former parent, but had reddish spotting evenly distributed on all the segments. A fine specimen of *Miltonia vexillaria* stood at one end, while in the centre was *Brasso-Laelio-Cattleya Jupiter*, an immense flower of pleasing rose tints.

Mr. Harry Dixon, Wandsworth Common, exhibited several rarities, these including *Aërides crispum*, *Maxillaria nigrescens* (with flowers of

reddish brown tints) and *M. tenuifolia*. There was also a fine variety of *Lycaste Skinneri* alba, the choice *Cypripedium callosum* Sanderæ, and several curious representatives of the genus *Masdevallia*.



THE QUAINLY FOLIAGED CAMPANULA CALCICOLA.

Messrs. Armstrong and Brown, Tunbridge Wells, staged one of the best cultivated specimens yet seen of *Dendrobium acuminatum*, a species from the Philippine Islands, and bearing five many-flowered spikes of rose carmine flowers.

NEW AND RARE PLANTS

Begonia Lord Lambourne.—A very large yet refined double-flowered tuberous-rooted *Begonia* of perfect *Camellia* shape. The colour is pale orange and the foliage is nicely marked. The blooms are more freely produced than is often the case with the large double *Begonias*. Award of merit to Messrs. Blackmore and Langdon.

Campanula calcicola.—The flowers of this quaintly beautiful species are not very dissimilar from those of the *Harebell*, *C. rotundifolia*, but the foliage is very remarkable, being marvellously mottled and hairy both above and below. Award of merit to Mr. A. K. Bulley.

Carnation Donald.—This is a perpetual-flowering variety which bears large, flattish blooms of deep velvety crimson colour. The stems are long, stiff and slender, and it seems to be free-flowering. Award of merit to Mr. C. Engelmann.

Carnation Scarlet Iona.—A very shapely Perpetual-flowering *Carnation*. The flowers are of good rounded form, very full and the guard petals are prettily serrated. The colour is a bright substantial scarlet, and the stems and foliage are good. Award of merit to Mr. C. Engelmann.

Carnation Surprise.—This is a delicately beautiful perpetual-flowering variety of more than average size. The well formed fully double flowers are a beautiful soft shell pink colour, and they are carried on graceful, erect stems. Award of merit to Mr. C. Engelmann.

Hydrangea Triumph.—This is one of the dwarfest varieties, bearing large heads of bloom, that we have seen. The compact, well formed heads are of bright pink colour. It is an

exceedingly useful variety. Award of merit to Mr. H. J. Jones.

Incarvillea Bees' Pink. This is a very lovely variety of grandiflora type. The sturdy, dwarf stems bear plenty of large pale pink flowers of great fascination. Award of merit to Messrs. Bees, Limited.

Gentiana Hopei.—This is a blue Gentian of quite uncommon appearance. The plant consisted of an almost quite erect, dark purplish, fleshy stem about 9ms. high which was lightly furnished with somewhat fleshy ovate-lanceolate alternate leaves about 2ms. long. From the leaves sprang short branches of two, three or more flowers. These relatively large substantial flowers are of rich blue colour with distinctly paler blue interiors. It is rather early days to judge the value of this handsome Gentian, but its appearance suggests some difficulty of cultivation; but if it can be grown successfully, it is a highly desirable species. Award of merit to Mr. A. K. Bulley.

Rose Capt. F. S. Harvey-Cant.—We greatly admired this lovely Hybrid Tea Rose at Chelsea last May and again at the National Rose Society's Provincial Show, when it received a gold medal but we think it was even more beautiful on the present occasion. The substantial pointed blooms were of a rich shade of salmon-scarlet occasionally suffused with yellow. It should be an exhibition and cut bloom Rose with a great future, and no doubt is also highly decorative in the garden. Award of merit to Messrs. Frank Cant and Co.

Lupinus Downer's Strain.—The award was given to this now well known strain of excellent *L. polyphyllus* hybrids. Very long flower-spikes splendidly furnished with beautiful flowers of

various shades and combinations of colour were shewn. Those of pink shades and red and maroon were of striking appearance. Award of merit to Mr. G. R. Downer.

Primula chrysopa.—A very uncommon Chinese species which has all the appearance of being a splendid plant for the garden. It makes compact clumps of quite small, narrow, pale green serrated leaves. The flowers, which are carried well above the foliage on many-whorled stems are individually about the size of those on the wild Primrose, but the petals are divided into two distinct lobes. The colour is an attractive bluish mauve, much paler around the eye of the flower. Award of merit to Mr. A. K. Bulley.

Primula rigida. This very unhappily named species is very similar to *P. malacoides* as regards the inflorescence, but the foliage, as the attached picture shews, is quite distinct. It might well have received an award. Also shewn by Mr. A. K. Bulley.

Rose Chastity.—A very free-flowering perpetual climbing Hybrid Tea Rose. The medium-sized double flowers are of very pale creamy yellow colour. The neat foliage is a good dark green and the shoots are very vigorous. Award of merit to Messrs. Frank Cant and Co.

Rose Orange King.—The little blooms of this Dwarf Polyantha Rose were of the most novel and uncommon colour in the Show. The bushes are of erect habit and bear narrowly pyramidal heads of rather more than semi-double button-like flowers. As Roses they are failures, but the colouring is very fascinating. Award of merit to Messrs. William Cutbush and Sons.

Rhododendron Lady Constance. A large, perfectly formed, rounded truss of widely expanded

blooms which are of blood red colour at the margins and shade to pale pink in the centre of the flower. An exceedingly beautiful variety which appears to be rather more hardy than most of the *R. Aucklandii* hybrids. Award of merit to Mr. A. G. Soames.

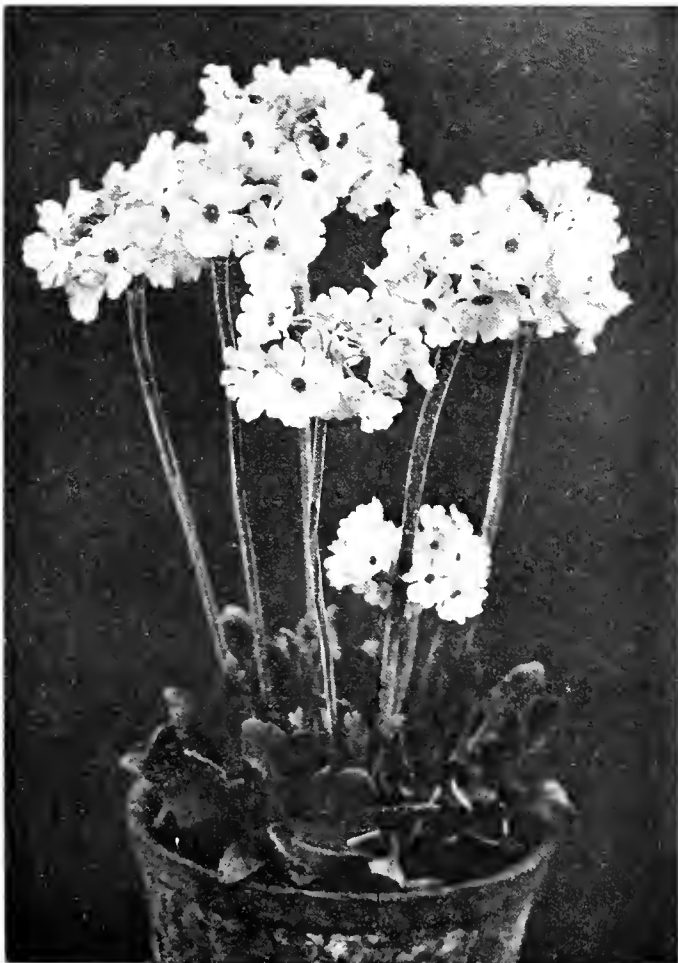
Rhododendron Pink Shell. This is one of the delicately beautiful large flowered Rhododendrons which, unfortunately, are only for those who possess favoured gardens or are able to devote a glasshouse to them. It has a well formed truss of large, widely expanded blooms of delicate bluish pink colour with carmine lines radiating from the throat. Award of merit to Mr. T. H. Lowinsky.

Rhododendron "Snowflake." The award was given subject to the name, which has previously been used, being changed. It bears very large blooms of *R. Loderi* type and, except for a suggestion of green in the centre, they are snow-white. Award of merit to Mr. T. H. Lowinsky.

NEW ORCHIDS.

Dendrobium Gatton Sunray. A most attractive plant of large size obtained by crossing the two species *Dalhouseianum* and *chrysotoxum*. The semi-pendulous spikes carried fifty large flowers of yellowish colour, the lip having a reddish brown area at the base. Exhibited by Sir Jeremiah Colman, Bart., Gatton Park, Surrey.

Cymbidium Castor var. Laburnum.—This handsome hybrid between *insigne* and *Woodhamsianum* carried an arching spike of sixteen finely shaped flowers of cream and yellow colouring, the lip marked with dull red. Shewn by Mr. Pantia Ralli, Ashted Park, Surrey.



LIKE A GIGANTIC *P. SIBIRICA*, *PRIMULA CHRYSOPA*.



THE MALACOIDES-LIKE *PRIMULA RIGIDA*

Cattleya Prince Shimadzu var. Olympus.—Generally regarded as the finest Orchid in the Show. An immense flower with wide up-standing petals of mauve-purple colour, the large lip rich purple with crimson shading. The parents are *Hardyana* and *Tityus*. Staged by Messrs. Flory and Black, Slough.

Cypripedium Antinea.—A very distinct hybrid between *Godefroya* and *Lord Derby*, the sepals and petals being dull yellow evenly marked with lines of purplish red dots. Shewn by Messrs. Cowan and Co., Southgate.

Odontoglossum crispo-Solon var. Carmania.—Probably the best *Odontoglossum* seen this year

cross between *Lelio-Cattleya humosa* and *Brasso-Cattleya Mrs. J. Leeman* was of buff yellow colour, the immense labellum being prettily fringed at the margin and having a rose-tinted centre. Staged by Messrs. Stuart Low and Co.

The above received first class certificates.

Odontoglossum Gatton Emperor var. Nero.—A handsome result obtained in the collection of Sir Jeremiah Colman, Bart., Gatton Park, Surrey. The spike carried nine flowers of claret-red colour, the segments having a narrow rose-tinted border.

Odontioda Brilliant.—This is the result of crossing *Joan* and *Chanticleer*, two well known *Odontiodas* of rich scarlet colour, the same being

colour, except for a narrow whitish margin to the segments. Shewn by Messrs. Cowan and Co., Southgate.

Odontonia Olivia.—A remarkable hybrid between *Miltonia Bleuana* and *Odontoglossum triumphans*, and bearing five large flowers of light golden yellow colour effectively marked with reddish blotching. Staged by Messrs. Charlesworth and Co.

Cattleya C. P. Walker var. superba.—A compact flower in which the large labellum was richly coloured with ruby crimson. Shewn by Messrs. Flory and Black, Slough.

Miltonia Sanderæ var. Unique.—This pleasing



THE GIGANTIC EREMURUS ELWESIANUS MAGNIFICUS SHOWN BY MR. J. C. ALLGROVE.



MR. ENGELMANN'S NEW CARNATIONS SURPRISE, DONALD AND SCARLET IONA.

at Chelsea. Flowers unusually large, the segments very round and almost covered with rich purplish crimson blotching. From Messrs. J. and A. McBean.

Cattleya Irene var. Our Queen. A grand pure white hybrid obtained by crossing *Mossie* with *Suzanne Hye*. Flower of thick texture, the petals well balanced, the expansive labellum having a slight yellowish tinge in the throat. Staged by Messrs. Flory and Black, Slough.

Odontioda Duchess of York. A very pleasing hybrid of unknown parentage, but with a many-flowered spike of well formed flowers of a uniform scarlet colour tinged with yellow. Shewn by Messrs. Charlesworth and Co., Hayward's Heath.

Odontioda Radiant var. Majestic. One of the large flowering section and bearing an erect spike of twelve fleshy flowers and buds. In colour deep scarlet on a rose-tinted ground. Shewn by Messrs. J. and A. McBean, Cooksbridge, Sussex.

Brasso-Lælio-Cattleya Truffautiana var. Triumph.—The single flower carried by this

perpetuated in the seedling. Exhibited by Mr. Paula Rath, Ashted Park, Surrey.

Odontoglossum Llewellyn var. colossus.—The spike of this attractive hybrid between *amabile* and *Georgius Rex* bore six immense flowers with blue-purple blotching on a rose-coloured ground, the margin of the petals prettily toothed. Staged by Messrs. Charlesworth and Co., Hayward's Heath.

Odontoglossum crispum var. Esmeralda. A beautiful form of this popular species, the well cultivated plant bearing two arching spikes each with nine flowers of excellent texture and shape. Staged by Messrs. J. and A. McBean, Cooksbridge, Sussex.

Miltonia Butterfly var. Empress. This beautiful hybrid bore two spikes each with seven large flowers, the labellum having a crimson base. Exhibited by Messrs. Sanders.

Odontioda Seraphis var. Dusky Monarch. A handsome spike of six flowers, chocolate red in

hybrid carried a spike of eight large flowers having soft rose vening and with a blackish mask at the base of the labellum. Exhibited by Messrs. Sanders, St. Albans.

Brasso-Cattleya Villa Jeanne.—A new hybrid obtained by crossing *Cattleya Empress Frederick* with *Brasso-Cattleya Dietrichiana*, the large flower being of mauve-pink colour uniform in all the segments, the labellum deeply fringed. Shewn by Messrs. Stuart Low and Co.

Odontioda Murillo. The spike of this hybrid bore nine medium-sized flowers of reddish scarlet colour, the crest on the labellum being bright yellow. Staged by Messrs. Cowan and Co.

Miltonia Constance.—One of the best results obtained by using as parents *vexillaria* and *Isabel Sander*, the large flower having a prettily marked base to the labellum. Staged by Messrs. Charlesworth and Co.

All the above obtained awards of merit.

For Sundries and Awards, see page 300.

CORRESPONDENCE

TULIPA TUBERGENIANA.

CAN any of your readers inform me whether the above Tulip can be grown satisfactorily in Scotland and, if so, where first quality bulbs of this Tulip can be obtained? Mr. Van Tubergen of Haarlem sent an expedition to Central Bukhara in the spring of 1901, and this was one of the finds. Apparently it is a robust grower, but I should like the latest news regarding this Tulip, which appeared to be one of immense possibilities.—CARDROSS.

[Lord Cardross's letter was sent on to Mr. W. R. Dykes, the greatest living authority on species Tulips, and the following is his reply: "As far as I know, *Tulipa Tubergeniana* is now only in cultivation in a few private gardens. The firm of Van Tubergen has, I believe, no stock left at all. I have had a few of the original bulbs in cultivation since about 1908 or 1909, and from them I have raised 100 or 200 seedlings. It certainly is a very fine species, and there is no reason why it should not do well in cultivation provided the bulbs are lifted every year and planted again at the beginning of November."—ED.]

CLEMATIS FLAMMULA.

THERE are various places about the working parts of a garden that are apt to be un-beautiful but that can be redeemed by just the right planting. Such a one is the subject of the picture, a slab-walled enclosure that holds the supply of coke. It is never exactly unsightly because the rough upright slabs—the outside pieces first cut off the tree trunk by the steam saw—have a certain interest from their varied surface and cool grey colour. But in September, when the Clematis, loosely trained along the front and at one corner, is in bloom, it becomes quite a pretty garden picture. In another part of the garden a necessary roof of corrugated iron has become a bower of the wild Clematis (*C. Vitalba*), and a distressful object is converted into one of gracious comeliness.—G. J.



CLEMATIS FLAMMULA ON A SLAB FENCE.

A LOVELY PENTSTEMON.

MANY would consider *Pentstemon Scouleri* or I suppose we should write of it as *P. Menziesii Scouleri* to be botanically correct



A BUSH OF PENTSTEMON MENZIESII SCOULERI.

the best of all its clan. It has many good points, for it makes a bush large enough to be showy and its lilac rose blossoms are interesting in form, attractive in colouring and borne freely enough to make a good display. As with most of its congeners, it is readily propagated by means of

cuttings and, like many of the shrubby species, it is early summer flowering. It is seen at its best on rockwork, and should be given a sheltered corner, for it is none too winter hard, especially after a wet summer. It is well, therefore, to keep a few young plants in a cold frame or pit. The *Pentstemon* family, as a whole, is a most

ROSES AT CHELSEA.

I AM sending a few notes on the Rose exhibits at Chelsea, which I had the pleasure of judging on May 29. Generally, they were by no means up to the usual standard, but through no fault of the growers, for what can one expect in a climate like this, with no sun to bring the blooms out? One must refer to the weather in conjunction with all the exhibits, and no doubt the unpleasant duty of describing it will devolve upon your reporter who has command of the strongest language. I heard a charming young lady describe the mud outside the tents as "chocolate soufflé," a decidedly appropriate definition. The best representative group of Roses was that shown by Mr. Elisha Hicks—a bold and beautiful mass, and well staged, too. Unfortunately, the climbers and back-row Roses were somewhat weak, but to compensate for it the front row blooms were excellent. *Ophelia*, *Mme. Butterfly* and *Margaret Horton* were particularly good, and *David Lloyd George* looks promising. *Premier* is uncertain—I fear its colour turning blue, but the blooms shown were too young to judge it in a full blown state. The *Dwarf Polyanthas* were good, and the group as a whole was undoubtedly the best at the Show so far as Roses were concerned. Messrs. B. R. Cant and Sons had a fine exhibit, but chiefly of cut blooms. *Sovereign*, *Padre* and *Covent Garden* all stood out well, and it was a treat to see a good exhibit of an old favourite, *Lady Roberts*. I am by no means optimistic about *Constance Casson's* future. The full blooms discolour too much, though in the young state they are delightful. A very fresh exhibit. Messrs. Frank Cant and Co. shewed some first-class blooms,

particularly of Captain Harvey Cant, a promising new Rose. A fine row of well grown climbers as a background added materially to the good effect of this exhibit. The above-mentioned three exhibits stood out head and shoulders superior to any other Roses shown, although some of the others could claim some strong points of excellence. Messrs. Pauls of Waltham Cross showed some splendid Weepers, also good standard Hybrid Teas, but the latter were not yet in bloom. Messrs. Cutbush and Son had a pretty exhibit of Polyanthas, both dwarf and climbing, but lacking a few Hybrid Teas, etc., among them. They showed a new Dwarf Polyantha, Orange King, quite a novel break in colour and pretty in itself; but the colour will clash terribly near any pink or red Roses. Messrs. Water's group was marred by bad staging. Some of the tall climbers almost hid the centre of the exhibit from view. There were some nice and fresh blooms, but hardly enough

weight in the whole exhibit. Mr. George Prince was not quite up to his usual standard, and had an unfortunate position on the centre staging where, presumably, dark velvet background was barred, otherwise the Roses would have shewn up far better than they did. The background of climbers was decidedly weak, but what magnificent blooms of *Souvenir de Claudius Pernet*! Messrs. Pipers showed Weepers and Dwarf Polyanthas only, which do not appeal to the public so much as if a few Hybrid Teas are added. The general arrangement of this exhibit was excellent. A new Rose, *Papa Gourdault*, shewn here, was no improvement on what we already have. Mr. Pemberton's somewhat too crowded group consisted chiefly of Polyanthas. Mr. Charles Turner had a general group unfortunately mixed with Japanese Maples. Mr. Ernest Paul of Cheshunt had an exhibit which a few hours of sunshine would have materially helped.—HERBERT L. WETTER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—This vegetable is now growing freely, but it is not wise to continue cutting after the middle of this month. In the meantime it is advisable to give the beds a soaking of liquid manure, but it ought to be applied when the soil is in a moist condition. Failing liquid manure, a light dressing of some reliable fertiliser may be given, while a sprinkling of salt can be afforded with advantage. Where the beds are in an exposed position the growths will need some kind of support to prevent them being broken down by the wind. A few stakes at intervals will suffice if string or wire is brought along between the growths. Pea sticks are also suitable.

Celery.—During the next week or two the main crop of Celery should be transferred to the trenches, for it is a great mistake to allow the plants to become starved in boxes or beds. In many instances the trenches are prepared, but in some gardens this is not always possible, and no time ought now to be lost in getting them ready. They should be about 4ft. apart, 15ins. wide and 10ins. deep when the work is completed. It will be necessary to place a liberal layer of manure in the bottom, and where the subsoil is poor the top spit should be returned to the trench to give the plants a start. Give the nursery bed a thorough watering a few hours before planting begins, and take care the roots do not become dry during the operation. The trench will take a double line of plants, and the latter should be 8ins. apart in the row. Select showery weather if possible when planting and, should we get a dry spell water the roots freely.

Runner Beans.—A late crop is always appreciated, and during the present month a further sowing should be made. Those sown earlier in the season will require staking, and after lightly pricking over the soil between the rows a mulching of manure may be given. If the weather is dry, an occasional soaking of water will be beneficial.

The Flower Garden.

Bedding Plants.—If the weather is dry, these will require frequent applications of water, and as rain and continuous watering harden the soil an occasional use of the Dutch hoe will be necessary. Pick off decayed leaves of *Pelargoniums*, and such plants as *Verbenas*, *Phlox Drummondii* and *Petunias* should be pegged down to furnish the beds well.

Brompton Stocks.—For producing a fine display in May and June these Stocks are recommended, but a long period of growth is needed, therefore the seeds should be sown during the next week or two. A cold frame is a good place wherein to sow the seeds, and directly germination has taken place admit plenty of air, and finally remove the lights to promote sturdy, short-jointed growth. When the seedlings are large enough they should be planted 10ins. apart where it is intended for them to flower.

Alpines from Seeds.—A large number of these charming plants may be raised from seeds and, now that the bedding plants are disposed of, an opportunity occurs to deal with the alpine section. *Dianthus*, especially the choice *D. alpinus* and *D. neglectus*, may be raised from seeds,

as also may *Saxifraga longifolia*, *Silene*, *Viola*, *Draba*, *Campanula*, *Aster alpinus* and varieties, *Aethionema*, *Linum* and a host of others. With care and attention success is more or less assured, and the best way to raise these plants is to sow the seeds in pots or pans which have been previously filled with fine soil. Place the receptacles in a cold frame and keep the glass shaded until the seeds germinate, when they should be gradually exposed to the light and, when large enough, pricked off in boxes or singly in small pots. Never allow the seed-pans to become dry.

Hollyhocks.—Seeds may be sown in the open ground, and when the seedlings have made two or three leaves be transplanted to their flowering quarters. The single varieties are very showy, and if these are grown there will be plenty of self-sown seedlings in the border.

The Hardy Fruit Garden.

Apples.—Trees of the pyramid or bush type are often grown in the kitchen garden, and here the object should be to secure fruit of excellent quality. This can be done by thinning the fruits directly it can be seen which will remain on the trees. Overcropping not only means inferior fruit but is detrimental to the general health of the tree. Although it is early to carry out the summer pruning, any superfluous side shoots may be removed. A mulching of partly decayed manure may be afforded, and a sharp look-out must be kept on all fruit trees for insect pests.

Fruits Under Glass.

Peaches.—When the fruit is gathered, the pot trees should be plunged in ashes or similar material on the frame ground, or given a position where it is warm and open to the sun. Keep the roots well supplied with water. Trees growing in the house from which the fruit has been picked will need all the light and air possible to enable next season's fruiting wood thoroughly to be ripened. The ventilators, both top and side, should be opened to their fullest extent and remain open at all times. The border must be kept moist but not saturated. Neglect in this respect is often the cause of bud dropping in spring or whenever the trees are started into growth. A certain amount of pruning may be done, cutting away any wood not required for next year in order more fully to expose the new shoots to the light. If the trees are infested with red spider or fly, they should be thoroughly wetted with some reliable insecticide and the following morning syringed with clear rain water. In the later houses the trees must be frequently sprayed until the fruit begins to colour, and ventilation will be necessary before the temperature in the houses rises to any great extent.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broccoli should now be planted without delay. Winter Broccoli is hardly worth troubling with in the North, and only a moderate quantity of the autumn varieties need be planted, as such Cauliflowers as *Veitch's Autumn Giant* can be had almost as late as the autumn Broccoli.

Dependence should be placed chiefly on spring varieties, for it is in spring that this crop is a valuable asset. A certain amount of space should be devoted to the variety known as *Purple Sprouting*, which is a much finer vegetable than its looks suggest. Moreover, it turns in a week or two ahead of the white varieties, when the choice of vegetables is limited.

Kales.—*Cottager's Kale* or "*Curly Greens*" is not a vegetable of superior quality, but it will succeed in spots where hardly any other vegetable will. *Asparagus Kale* or *Buda Kale* can be thoroughly recommended as an early spring vegetable, turning in as it does towards the end of March and remaining in good condition throughout April. These Kales should be allowed a distance apart of 18in. by 15ins. and Broccoli 2ft. by 1½ft.

Kidney Beans. The final sowing should be made. It will speed up germination if the seeds are soaked in cold water for a few hours; if soaked too long, they are apt to split. Allow 21ins. between the rows and 6ins. to 8ins. between the seeds. Earth up earlier sowings in due course.

Vegetables Under Glass.

Cucumbers, whether in a house or frame, will require considerable attention. As roots appear on the surface, apply a moderate top-dressing of fibrous loam plus a little bone flour or other fertiliser. Thin out the shoots where too thick and pinch those retained after the first joint beyond a fruit, and tie to the trellis if grown in a house. Shut up so that a little solar heat may be utilised after giving the plants, walls and pathways a good spraying with chilled water.

Tomatoes.—Apply bi-weekly doses of liquid manure of moderate strength to plants swelling their fruits. Go over plants in flower with a rabbit's tail about midday; pinch out all laterals.

The Hardy Fruit Garden.

Gooseberries will now be in demand for tarts, and in most cases probably, the bushes will be the better for being relieved of part of the crop. When picking for this purpose there is always a temptation to the inexperienced to take the easiest way and pick the partially developed fruits right forward; this should be guarded against, and the fruit should be thinned out as uniformly as possible over the entire area of the bush, otherwise the thinning will not relieve the bush in full measure.

Strawberries.—Where young plantations are expected to yield a crop next summer, the sooner the runners are layered the better, as the plantation should be made as early in August as possible so that strong crowns may be built up before the end of the season.

Plums.—Large specimens of *Victoria* in the open often produce such a superabundance of fruit that the branches have to be propped up to prevent them from breaking. In such circumstances thinning is a physical impossibility, but all dessert varieties on walls should be gradually thinned to reasonable dimensions if necessary. e.g., to from 3ins. to 4ins. apart on an average. This attention will both make for the benefit of the fruit retained and for the future welfare of the trees.

The Flower Garden.

Border Pinks.—These old-time favourites may now be had in great variety, and are very attractive during the early summer. Cuttings, or pipings as they are often called, if taken now or during the next few weeks will root freely in sandy soil under a hand-light behind a wall or hedge. On well drained soils the well known white *Pink Mrs. Sinkins* can be used as an edging alongside garden walks.

Polyanthuses, often called *Bunch Primroses*, and varieties of the Common Primrose, *Primula vulgaris*, which have been used for spring bedding and which have been temporarily laid in by the heels should now be lifted, divided and planted out at a distance of 12ins. by 9ins. in soil containing a good deal of humus in a cool position. Here they will recuperate and develop, and will be ready in the autumn again to be utilised for spring bedding. It is advisable, however, to have a batch of seedlings coming on, and those who have such pricked out in boxes should now accord them the same treatment as is advised for old plants.

Phloxes.—These showy herbaceous plants prefer a quarter to themselves, but whether grown separately or in the mixed border they will be much benefited by a top-dressing with a fairly rich compost, as they are shallow rooters, the roots often showing above the surface if only accorded treatment in common with the rank

and file of herbaceous plants. Phloxes are generally the first to suffer from the effects of drought.

Roses.—Keep a look-out for suckers and promptly remove them, detaching them by a sharp wrench rather than by a clean cut.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Chrysanthemums will soon be ready for their final potting. The potting soil should be prepared a week or more in advance, and turned over several times in the meantime. The compost should be fairly heavy, with a little leaf-soil added and enough clean coarse sand to ensure free drainage, or old mortar rubble may be used in place of the sand. A 6in. potful of bone-meal should be added to every bushel of soil. The practice of using half-inch bones is not advisable, as I do not consider the plants have time to obtain much benefit from them. It is much better to feed at the proper time, that is, when the plants have well filled their pots with roots, as they are then in a proper condition to take advantage of any manures supplied. As firm potting is very essential, the soil should be in the proper mechanical condition, neither too wet nor too dry. After potting, the plants are best stood close together at the bottom of a wall for about two weeks.

Smaller plants may be grown in pots, and are best kept in low pits or cold frames during the summer months. Bouvardias are very subject to attacks by Begonia mite, which should be prevented by the use of the sulphur vaporiser.

Streptocarpuses are not generally regarded as suitable for furnishing the greenhouse, but a batch of plants grown on from last year have been giving a good display for some weeks now. When used for furnishing the greenhouse they should not be grown in too high a temperature, an intermediate temperature of about 50° being best. Under such conditions they grow strong and sturdy, and last in flower for a long time. Plants raised from seed sown early in the year should be grown steadily on, and should give a good display towards the end of summer. If seed is sown at this time, the resulting plants will make a good show next season.

Royal Botanic Gardens, Kew. J. COULTS.

OBITUARY

OWEN THOMAS, V.M.H.

It is with much regret that we have to record the death, at Ealing, in his eightieth year, of Mr. Owen Thomas, for some ten years Superintendent of the Royal Gardens, Windsor, and, at the time of his death, one of the oldest contributors to THE GARDEN. He had been lying in a practically hopeless condition for some weeks, following an attack of pneumonia. Much sympathy will be extended to his widow and family in their sad bereavement.

Mr. Thomas was head gardener to Sir Robert Peel at Drayton Manor, near Tamworth, in the 'seventies and afterwards successively for Mr. John Corbett, the "Salt King," at Impney Hall, Droitwich, and the Duke of Devonshire at Chatsworth. He took up the Superintendentship of the Royal Gardens in 1891. Mr. Thomas raised a number of new fruits, including the still popular Frogmore Selected Tomato and Cucumber Every Day. He also wrote a good deal on matters horticultural, particularly about fruits.

Mr. Thomas was a very successful exhibitor. He was awarded the coveted Victorian Medal of Honour in Horticulture twenty-six years ago. He leaves three sons and two daughters. His son, Mr. H. H. Thomas, is a well known and highly respected horticultural writer.

FORTHCOMING EVENTS.

June 11.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardeners' Society's Meeting.

June 12.—Fortnightly Meeting of the Royal Horticultural Society (2 days).—Jersey Gardeners' Society's Meeting.

June 13.—Yorkshire Gala (3 days).—East Anglian Horticultural Society's Meeting.

HORTICULTURAL SUNDRIES AND APPLIANCES

This is, perhaps, the most difficult section to report. One can easily enthuse over beautiful flowers, but who can enthuse over mowing machines, ladders, insecticides, etc.? However, all these things are absolutely necessary to the gardener, and without them he would be in a very sorry plight. Now to get down to business. The sundries were situated, as usual, down the Lime Avenue and in close proximity to it. Unfortunately, owing to a slight shower (which lasted all day on the Tuesday) the avenue became somewhat muddy, though it was quite practicable in waders! However, visitors were able on the two following days to inspect this section in more or less comfort.

The famous Acme labels shown by Mr. John Pinches, 3, Crown Buildings, Crown Street, Camberwell, need no description, as every good gardener is conversant with them. On this stand, too, were to be seen an improved "Radiant" stand. These should find immediate favour with the exhibitor, as they are suitable for practically any flower. The "Corona" flower displayer was much admired by the ladies; it is exceptionally useful for rose bowls. Vases of all shapes and sizes in zinc and tin were also on show. Exhibition boxes for Roses (as used by the National Rose Society) no doubt appealed to secretaries of local rose societies. Pergola chains, the "Chippendale" trainer for standard Roses, adjustable trainers for Clematises and standard Roses, together with innumerable other valuable acquisitions, all attracted attention.

The Chase Continuous Cloche Company, Chertsey, shewed its well known cloches and demonstrated their usefulness by exhibiting garden Peas, bearing pods, which had been raised under them.

Mowing machines, both motor and the ordinary "push" varieties, were shown and demonstrated by Messrs. Shanks of London.

The well known Atco motor mower was shown by Messrs. Chas. H. Pugh, Limited, of Birmingham. We had recently under trial one of these machines, and it gave the greatest satisfaction in use.

Messrs. Ransomes of Ipswich shewed their well known mowing machines, including motor mowers.

Insecticides were much in evidence. Messrs. Murphy and Son, Limited, of Mortlake had "Alvesco" on show, which is of good repute as an all-round insecticide.

Messrs. H. Scott and Sons of Woodside, London, S.E., had on view loam, weed killers, insecticides and garden barrows.

A bewildering array of admirably designed watering cans of all shapes and sizes was displayed by Mr. Haws of Clapton.

Messrs. Robinson Brothers, Limited, of Bromwich shewed lime-sulphur washes and insecticides, as well as Multiple (an excellent fertiliser for vegetables) and a new watering can fitted with two roses, which should appeal to the amateur gardener.

Garden manures were displayed by the Cross Bone Manure and Lime Company, Limited, of Bridlington.

Bee hives and appliances in great assortment, the former excellently constructed in sound timber, were shown by Messrs. E. H. Taylor, Limited of Welwyn. These found great favour with our bee expert.

Messrs. Abol, Limited, displayed their famous syringes, lawn sands, "Stictite" for grease-handling fruit trees, worm killers, etc.

Garden ornaments in great variety were to be seen on the "pitch" of Messrs. Kelly and Co. of Marylebone Road, London.

Fruit tree protectors constructed of netting were shown by Major Walker of Brecon, South Wales. Various sorts for warding off birds, wasps, cold winds and frost were on view.

Greenhouses and heating appliances were shown by Messrs. James Gray, Limited, of Chelsea.

The Key lawn fertiliser was displayed by the Key Fertilizer Company, also of Chelsea.

Garden implements of every description were to be found on the stand put up by Messrs. A. Smellie and Co., Limited, of Rochester Row, Westminster. A somewhat interesting and highly useful exhibit on this stand was a glazing-bar fork for strengthening the wooden supports of greenhouses.

The Wilkinson Sword Company of 53, Pall Mall, S.W., had on view their well known rust-proof pruners and garden knives.

Messrs. Corry and Co., Limited, Bedford Chambers, W.C.2, brought insecticides, weed killers and fertilisers.

Garden implements, lawn sands, etc., were shown by Garden Supplies, Limited, of Liverpool.

The well known horticultural builders, Messrs. William Duncan Tucker and Sons, Limited, of Tottenham, shewed greenhouses of many descriptions, also garden frames.

The Stonehouse Works Company of West Bromwich shewed various attractive kinds of spraying tackle, fertilisers and insecticides.

Garden furniture was displayed by the Papworth Industries of Cambridge.

Messrs. Arthur Moorton, Limited, had bird baths, sundials and art pottery.

The Itala House Limited, 39, Wigmore Street, W.1, shewed Italian garden furniture and pottery.

Capital extending ladders and, indeed, ladders and steps of every conceivable description were shown by the Acme Patent Ladder Company of Earlsfield and Leatherhead.

Of exceptional interest to lady visitors was the exhibit of cane garden furniture shown by the Dryad Cane Company of Leicester.

Garden tools were displayed by Messrs. Holtzapffel and Co., 53, Haymarket, S.W.1.

Horticultural washes and sprays were shown by the famous Jeyes' Sanitary Compounds Company, Limited, of Cannon Street, E.C.4.



THE LATE OWEN THOMAS, V.M.H.

Under such conditions they are not so exposed to sun and drying winds, and thus have a much better chance of establishing themselves. After the roots have got a good hold of the fresh compost the plants may be stood out in their summer quarters, standing them on a bed of ashes. Large plants grown for decorative work may be partly plunged, as this prevents them being blown over. Plants grown for exhibition blooms should not be plunged, the usual practice being to stand them on boards; they, of course, must be staked when stood out and the stakes secured to wires strained to posts.

Bouvardias.—Where large plants are required, they should be planted outdoors in a bed of rich soil. Under such conditions they make fine large plants, which in their season give goodly quantities of cut flower. The strongest shoots should be stopped frequently to ensure a good bushy habit.

The House and Garden Sundries Company, Limited, of 10, Eastcheap, E.C.3, showed their well known seed sowers, wall clips for fruit trees or climbers, netting supports for Raspberry, Currant and Gooseberry bushes, also for trees on walls. Their latest novelty is their patent straining wire for Raspberries and other hardy fruits which obviates the use of string or other tying material. They also showed a novel hammock. This will be useful to those who have no trees to which to sling a hammock. It folds up and takes up very little space. This hammock should appeal to those who are fortunate enough to be able to have "forty winks" after lunch. (Horticultural journalists, unfortunately, are not included in this category.)

Messrs. McDougall and Robertson, Limited, of Manchester showed their now well known insecticide Katakill, and a large assortment of weed killers, insecticides and fertilisers.

Wheelbarrows, ladders and trucks were exhibited by Mr. H. C. Slingsby of 142-146, Old Street, E.C.1.

Stacks of fibrous yellow loam were shown by Mr. A. B. Johnston of New Park, Cranleigh.

Spraying machines and syringes of various sorts were displayed by the Four Oaks Spraying Machine Company of Sutton Coldfield.

Messrs. James Carter and Co. of Raynes Park had a large exhibit of garden furniture, garden tools, mowing machines, etc.

Motor mowing machines were exhibited by Messrs. Dennis Brothers of Guildford.

Messrs. Boulton and Paul of Norwich had a revolving garden shelter, garden frames, greenhouses and conservatories, also garden seats.

Garden tools of all descriptions were shown by Messrs. Richard Melhuish of 50, Fetter Lane, E.C.4.

The famous Pattison lawn boots for horses were shown by Messrs. H. Pattison of Streatham Common. Here, too, were garden tools of all descriptions and Sarel's patent spiked roller. This should prove of inestimable value to golf enthusiasts. This machine is useful for draining and aerating turf, and its use does not tear the grass. They also demonstrated the Majestic revolving lawn-sprinkler, an excellent invention.

Miss A. Everitt of 2, Harriett Street, Sloane Street, S.W., had a varied collection of garden gloves. These should appeal to the ladies and amateurs who have delicate skins.

Messrs. Hawker and Botwood, Limited, of Grays, Essex, showed their well known fertiliser, Prize-Crop Here, too, were to be seen the insecticide Sox and Dyo-weed, a non-arsenical weed killer.

Greenhouse and garden frames were shown by Messrs. F. Pratten and Co. of Midsomer Norton, Bath.

Messrs. W. Voss and Co., Limited, London, E.14, displayed their famous winter and summer spraying fluids, fertilisers and weed killers.

Garden furniture was shown by Messrs. Abbott Brothers of Southall.

Fertilisers, including fish manure, bone-meal, Ichthenic guano and Tomorite (for Tomatoes) were exhibited by Messrs. Prentice Brothers of Stowmarket.

Garden frames and greenhouses were displayed by Messrs. Drummond and Co. of Ware.

Nicotine sprays, "Gyp" (a non-poisonous insecticide and fungicide) and fertilisers were shown by Messrs. Edward Cook and Co., Limited of Bow, London.

A varied assortment of ladders was displayed by Messrs. T. Drew, Clark and Co. of London, S.E.1.

Messrs. T. Green and Son, Limited, of Southwark Street, S.E., exhibited their well known mowing machines and rollers.

"Fertabs," advertised as "pills for plants," are, in fact, a very concentrated fertiliser put up in tablet form for the amateur to whom weights and measures are an abomination. These were shown by Fertabs, Limited, of 141, Moorgate, London, S.E.2.

Various lime preparations were shown by the Buxton Lime Firing Company, Limited, of 11, Queen Victoria Street, E.C.

Garden tools were exhibited by Messrs. Thomas Gunn, Limited, of 30, Fore Street, London, E.C.2.

Messrs. William Cooper and Nephews, Limited, of Berkhamstead showed various spraying fluids, nicotine washes and weed killers, including their famous Weedicide.

Mr. H. J. G. Wood of Bracknell, Berks, showed the Willmott Rival plant stakes. These wire stakes, which are painted green, are of various lengths and thicknesses. There are, for example, stakes suitable for tall-growing Dahlias and others for the frail stems of such plants as Fuchsias. These wire stakes have one great advantage, and that is that they last a long time, whereas wooden supports are easily broken and they decay.

Messrs. Skinner, Board and Co. of Bodminster, Bristol, showed their wire tension greenhouses.

Castles Shipbuilding Company, Limited, Baltic Wharf, London, S.W.1, had an exhibit of garden furniture.

Messrs. Piggott Brothers and Co., Limited, of 220, Bishopsgate, E.C., exhibited garden tents and furniture. Greenhouses and heating apparatus were shown by Messrs. J. Weeks and Co., 92, Victoria Street, S.W.1.

Garden ornaments, including a wide selection of sundials, were displayed by Messrs. Sanders and Co., 365-367, Easton Road, N.W.1.

Heating apparatus was extensively shown by Messrs. Charles P. Kinnell and Co., Limited, of Southward Street, London, including the famous Horse Show boiler, Bison boilers and the new twin fire boiler. They also exhibited hoses.

Rustic houses and a wide assortment of garden furniture were exhibited by Messrs. Harrows Limited of Knightsbridge.

Greenhouses and heating apparatus were displayed by Messrs. Messenger and Co., Limited, of 122, Victoria Street, S.W.

A large collection of garden tools, mowing machines and greenhouses were brought up by Messrs. William Wood and Son, Limited, of Taplow.

A fine assortment of garden furniture was exhibited by Messrs. A. W. Gamage, Limited, of Holborn.

Messrs. David Swain and Co., 101, Sussex Road, Holloway, had greenhouses and many garden frames.

Garden furniture and garden ornaments were shown by Messrs. Hughes, Bolckow and Co., Limited, of Dover Street, Piccadilly.

OFFICIAL LIST OF AWARDS

Sherwood Cup for the most meritorious exhibit in the Show: Charlesworth and Co. for a group of Orchids.

"Dudley Graphic" Cup for the best rock garden: B. H. P. Symons Jeune.

Cain Cup, for the best exhibit by an amateur: Mr. Pantia Ralli.

Allwood Carnation Bowl, for the best group of Carnations exhibited by an amateur: Sir William Cain, Bart.

Gold Medal and congratulations: R. W. Wallace and Co., for Lilies, Rhododendrons, etc.

Gold Medal: L. R. Russell and Co. for stove plants.

Silver-gilt Flora Medal: James Macdonald, for Grasses.

Silver Banksian Medal: Maytham Gardens, for herbaceous border.

Carnations.—Gold medal: Allwood Brothers and C. Engelmann. Large silver cup: Sir William Cain, Bart.; James Douglas, for Border varieties. Silver-gilt Flora medal: The Right Hon. Lord Lambourne, C.V.O.

Silver-gilt Banksian medal: Keith Laxford and Co. Silver Flora medal: C. H. Herbert, for Pinks; Stuart Low and Co. Silver Banksian medal: C. H. Taudévin. Bronze Flora medal: Andrew Ireland and Hitechock, for new Mascott's Dianthus.

Herbaceous.—Gold medal: George Jackson and Son, for Clematises. Large silver cup: Barr and Sons, for bulbous and herbaceous plants. Small silver cup: J. C. Allgrove, for herbaceous plants and shrubs; Bees, Limited, and W. H. Rogers and Son, for alpinos and herbaceous plants. Silver-gilt Flora medal: G. R. Downer and Maytham Gardens, for Lupins; M. Prichard and Sons, Bakers Limited, Bowell and Skaratt, Maxwell and Beale, and F. G. Wood, for herbaceous plants and alpinos; Reansbottom and Co., for Anemones; Storrie and Storrie, for Primulas, etc.; W. Wells, Jun., for herbaceous plants. Silver-gilt Banksian medal: Chalk Hill Nurseries, for hardy perennials, Mimuluses, etc.; J. Cheal and Sons, Limited, for rock and herbaceous plants and Dahlias; G. and A. Clark, Limited, for hardy flowers; G. Reuthe, for herbaceous plants, etc.; John Waterer, Sons and Crisp, Limited, W. Artindale and Sons and R. H. Bath, Limited, for herbaceous plants; K. and J. Hill, for alpinos; G. W. Miller, for hardy plants; V. C. Vickers, for Aquilegias. Silver Flora medal: B. Ladham, Limited, and Rich and Co., for herbaceous plants; G. Gibson and Co., for herbaceous plants and new Lupins. Silver Banksian medal: F. Gifford, for Paeonies.

Orchids.—Gold medal and congratulations: Charlesworth and Co. Gold medal: Mr. Pantia Ralli and J. and A. McBean. Large silver cup: Sanders, and Stuart Low and Co. Small silver cup: Sir Jeremiah Colman, Bart. (gardener, J. Collier), Cowan and Co., J. Cypher and Sons.

Silver-gilt Flora medal: Flory and Black. Silver-gilt Banksian medal: Mansell and Hatcher, Limited. Silver Flora medal: H. Dixon. Silver Banksian medal: Mr. H. T. Pitt.

Formal Gardens, etc.—Gold medal: J. Carter and Co., for water garden; Kent and Brydon, for formal rock and water garden. Large silver cup: W. H. Gaze and Sons, Limited, for informal garden. Small silver cup: J. Cheal and Sons, Limited, for formal garden. Silver-gilt Flora medal: Orpington Nurseries Company, for formal rose garden; W. Wood and Son, Limited, for formal garden. Silver-gilt Banksian medal: Ernest Dixon, En-Tout-Cas Company and R. Neal and Son, for formal gardens. Silver Flora medal: Hodsons Limited, for formal garden. Silver Banksian medal: J. Piper and Son, for formal garden.

Sweet Peas.—Gold medal: Dobbie and Co., Limited. Large silver cup: Alex. Dickson and Sons. Small silver cup: R. Bolton and Son. Silver-gilt Flora medal: Sutton and Sons. Silver-gilt Banksian medal: A. Ireland and Hitechock. Silver Flora medal: J. Stevenson. Bronze Flora medal: Preston Hall Nurseries.

Flowering Trees and Shrubs.—Gold medal: R. and G. Cuthbert, for Azaleas; R. C. Notcutt, for flowering shrubs. Silver-gilt Flora medal: William Cuthbush and Son, for clipped trees; W. Froom and Sons, for Japanese Maples; L. R. Russell, Limited, for Azaleas and shrubs; Bonard Nursery Company, for new and rare shrubs; Hillier and Sons, Limited, for choice flowering shrubs and trees; M. Koster and Sons, for Rhododendrons and Azaleas; G. Reuthe, for rare shrubs. Silver-gilt Banksian medal: Charlton and Sons, for trees and shrubs; John Waterer, Sons and Crisp, for shrubs and Rhododendrons. Silver Banksian medal: Fletcher Brothers, for Rhododendrons and conifers; J. Klinkert, for topiary; Yokohama Nursery Company, for Azaleas and dwarf shrubs; J. Cheal and Sons, Limited, for shrubs; T. Lewis, for Rhododendrons and Kalmias. Bronze Flora medal: R. Green, Limited, for Bay trees.

Firies.—Large silver cup: Angus Perry, for Firies, etc. Small silver cup: Orpington Nursery Company, for Firies. Silver Lindley medal: H. Chapman, Limited, for Firies. Silver-gilt Banksian medal: G. Bunyard and Co., Limited, for Iris garden. Silver Flora medal: G. G. Whitelegg, for Iris garden.

Fruit and Vegetables.—Gold medal: G. Bunyard and Co., Limited, for fruit in baskets. Hon. Vicary Gibbs (gardener, E. Beckett), for vegetables; T. Rivers and Son, Limited, for fruit trees in pots. Large silver cup: Laxton Brothers, for Strawberries.

Florists' Flowers, etc.—Gold medal: Blackmore and Langdon, for Begonias and Delphiniums; James Carter and Co., for flowering plants; Sutton and Sons, for annual garden. Silver-gilt Flora medal: Dobbie and Co., Limited, for Antirrhinums, etc. Silver-gilt Banksian Medal: Mr. Aubrey F. Wootton, K.C. for show Pelargoniums. Silver Flora medal: A. Dawkins, for Schizan-

thus, Godfrey and Son, for Pelargoniums, Schizanthuses, etc. Silver Banksian medal: Carter Page and Co., for Dahlias; R. J. Case, for Pelargoniums; H. Clarke, for Violas; John Forbes (Hawick), Limited, for Violas, etc., and Pelargoniums; W. Vandell, for Violas.

Roses.—Gold medal: Elisha J. Hicks (for pot Roses). Small silver cup: Ben R. Cant and Sons and Frank Cant and Co. Silver-gilt Banksian medal: John Waterer, Sons and Crisp, Limited. Silver Flora medal: William Paul, Waltham Cross, Limited, William Cuthbush and Son, George Prince and the Rev. J. H. Pemberton; J. Piper and Son (for Roses, etc.). Silver Banksian medal: E. Paul and Co. and Charles Turner.

Rock Gardens.—Gold medal: B. H. B. Symons Jeune and G. G. Whitelegg. Large silver cup: R. Tucker and Son. Silver-gilt Flora medal: Clarence Elliott, Limited, Hodsons Limited and Pullham and Sons. Silver-gilt Banksian medal: T. R. Hayes and Sons. Silver Banksian medal: William Cuthbush and Son.

Imperial Fruit Show.—The Imperial Fruit Show staged in 1921 and 1922 at the Crystal Palace is, we are informed, to be held this year at Belle Vue Gardens, Manchester, between October 26 and November 3. It is this year being organised by a committee set up by and representing all sections of the fruit-growing industry, which proposes to organise the Show on a similar scale as heretofore, and to provide new features by the introduction of Potatoes and flowers in season at that time of the year. The National Potato Society are already arranging to co-operate to provide interesting features and to run competitions for the Potato section of the exhibition. Over £1,000 in prizes in the form of cash, medals and trophies will be offered in the various sections of the competition for commercially grown fruit. These sections are so arranged as to provide local competition within the county of Kent, within the Eastern Counties and within the West Midland counties, and general competition in two other sections, i.e., the Great Britain Section and the British Empire Section. Further sections are included for commercial growers in Ireland, the Channel Islands and Overseas. A further competition is also to be organised for amateur growers. The Committee earnestly invite subscriptions either in the form of guarantees or towards the prize or general fund to enable them to put the finances of the exhibition on a sound business scale from the commencement. About £1,700 has already been guaranteed.

EDITOR'S TABLE

FROM Messrs. T. Smith, Daisy Hill Nursery, Newry, Co. Down, a firm long noted for its collection of Brooms, came to hand recently a number of beautiful varieties of the Common Broom, Cytisus scoparius. Many of these are in the way of the well known variety Andreanus, but with slightly different colouring. The richly coloured Firefly is now fairly well known. Newry Seedling shows a combination of purplish crimson with the soft sulphur of the Moonlight Broom (C. scoparius pallidus). Also included in the collection is Rosy Moonlight, evidently of the characteristic spreading Moonlight habit but stained with rosy crimson. Daisy Hill splendens is another richly coloured one, Mayfly another showy one with bright bronzy crimson wings, and there is a congested form of this called Mayfly compacta. Andreanus splendens represents the best and most deeply coloured form of this popular plant, and, of a more slender habit of growth, Dragonfly has very similar colouring. Fulgens is practically a brownish crimson self, for the standards are heavily flushed to match the wings. Newry Gold is a beautiful golden orange colour, while noticeably paler than the typical scoparius is the form called sulphureus. Daisy Hill is a very distinct bicolor form now well known. Beside all these and one or two other scoparius forms, a large spray was included of the marvellously free Cytisus albus Profusion.

SAFETY FIRST

WEEDS that other killers can't shift are destroyed by **DYOWEED**. It gets down to the roots and no more weeds come. Non-Arsenical, safe, clean and goes twice as far as most. Insist on

DYOWEED

Obtainable from all seedsmen & stores from 1/6 to 10/6. Larger quantities in drums and barrels. In case of difficulty apply to

HAWKER & BOTWOOD LTD.
Grays, Essex

KILL those WEEDS!

You can destroy weeds with Weedicide—clear the garden paths, drives, etc., and do it quickly with the weedkiller that has been "commended" by the Royal Horticultural Society.

WEEDICIDE

1 Gall. (price 9/-) dilutes to 100 Galls. water, the cost of the ready-for-use weedkilling mixture is, therefore, just over 1d. per Gallon.

1 pt. tin 2/-, 1 qt. 3/3, ½ gall. 5/6.

OTHER COOPER SPECIALITIES.**FUNGICIDE.**

The IMPROVED Bordeaux Mixture for Potato Disease, Apple and Pear Scab and other fungoid diseases.

1 lb. tins 1/-, 5 lb. tins 3/6, 10 lb. 6/-.
Larger quantities at reduced rates.

TOMARITE.

Non-poisonous tomato spray for Tomatoes. Remedy and preventive of fungoid diseases of external origin. Does not mark the fruit.

1 gall. (price 14/6) makes 200 gallons of spray mixture. ½ pt. tins 1/8. 1 qt. 5/-.
Special prices for larger quantities.

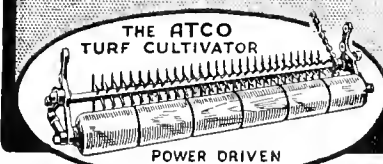
CARROT AND ONION FLY DRESSING.

A Special Powder for minimising damage to growing crops from attack of the Fly.
1½ lb. packets 1/-, 7 lb. 2/-, 14 lb. bags 3/-, 56 lbs. 9/6, 112 lbs. 17/6.

Sole Manufacturers:

WM. COOPER & NEPHEWS LTD.,
BERKHAMSTED.

The "ATCO" Turf Cultivator aerates roots, destroys plantains, daisies, etc., levels turf, loosens and collects moss, makes coarse grass fine. It can be affixed only to the "ATCO."



The most efficient Mower on Earth

DURING the mowing Seasons of 1921-22-23 the British public invested £262,500 in the purchase of 3,500 "ATCO" Motor Mowers. Prior to that period the majority of mowing was done by hand or horse mowers at a cost per annum sufficient to pay for an "ATCO" outright. Of these 3,500 "ATCO" owners not one, to our knowledge, has met with a mowing difficulty to which the "ATCO" is not equal.

THE "ATCO" LAWN EDGE TRIMMER

works with great speed and simplicity, giving a straight edge by the actual continuous "shears" action. Its efficiency and reliability have been perfected in actual use under all normal conditions.



PRICE:
57/6
delivered.

One owner writes that mowing which employed a gardener two full days is now done more efficiently in five hours with the "ATCO." At Cheddle Hulme an "ATCO" has just completed its second season without a single breakdown and without the owner having to spend a penny piece. A gardener with sufficient mowing to occupy a man and a boy six days with a push mower, now does the whole of his work in two days on less than a gallon of Petrol Mixture.

Send for Free Booklet offering FREE DEMONSTRATION on your own grass, and telling how the "ATCO" pays for itself in a year.

PRICES: 16 in. £50. 22 in. £75. 30 in. £95.

Less 5% Cash, 7 days. Cultivator extra.

C. H. PUGH, Ltd., Whitworth Works, 31, Tilton Rd.,
BIRMINGHAM.

The **ATCO**
MOTOR MOWER
The most efficient Mower on Earth.

Abol White Fly Compound

For Snow Fly on Tomatoes, Cucumbers, etc. Simple, safe and effective. No apparatus. 2½ ozs. to 1,000 cubic feet. ¼-pint, 1 -; ½-pint, 1/9; pint, 3/-; quart, 5/-; ½-gallon, 8/-; gallon, 15/-.

Write for details:

Abol Limited, 9, Beltring, Paddock Wood, Kent.

35th SEASON.

MRS. PYM'S FAMOUS PLANTS

Strong transplanted healthy plants, named, and beautifully packed. All orders over 3/- post free; under 3/- please add 4d. extra to help postage. No delay. Satisfaction guaranteed. Any number can be supplied at these prices. CASH WITH ORDER. Catalogue Free.

STRONG TRANSPLANTED STURDY HARDY PERENNIALS FOR BORDERS, ROCKERIES, ETC.: *Achillea*, white or crimson, 4, 14. *Agrostemma*, crimson, 4, 14. *Alyssum montanum*, rare alpine, golden, summer flowering, 3, 16. *Alpine Pinks*, white or coloured, 6, 16. *Anchusa*, tall blue, 4, 14; dwarf, gentian blue, 3, 16. *Alpine Wall-flower* (*Cheiranthus*), orange or mauve, 12, 14. *Alostremaria* (Peruvian Lily), 3, 16. *Antirrhinums*, autumn sown, mixed, 12, 19. *Anemone japonica*, pink or white, 3, 16. *Anthemis* *Kelwayi*, 6, 16. *Aquilegia*, *Kelwayi* hybrids, 6, 16. *Aubrietia*, purple and new hybrids, 12, 19. *Auricula alpina* and show, 4, 14. *Aster alpinus*, 3, 16. *Aster* (*Michaelmas Daisy*), best named, all colours, 2, 14. *Brompton Stocks*, year old, 12, 19. *Campanulas*, tall blue, white or mauve, 4, 14. *Campanula pyramidalis*, blue or white, two years, 3, 16. *Campanulas*, blue or white, dwarf rockeries, 3, 16. *Canterbury Bells*, double and single hybrids, year old, 12, 19. *Candytuft*, perennial, 4, 14. *Carnations*, *Scarlet* or *White* *Grenadin*, *Crimson Margaret* and good border varieties, 6, 16. *Christmas Roses*, large roots, 1, 14. *Chinese, Indian and Japanese Pinks*, lovely colours, 12, 19. *Chrysanthemums*, strong plants from cuttings, the best named early, mid and late varieties for pots or garden, all colours, 6, 19. *Chrysanthemum maximum*, *Giant Orange*, best large named, 6, 16. *Commelina*, heavenly blue, 3, 16. *Cistus* (*Rock Roses*), 6, 16. *Cornflowers*, *Kelway's blue*, 12, 16. *Chelone*, coral red, 4, 14. *Cerastium* (*Snow in Summer*), 6, 16. *Catmint* (*Nepeta*), 4, 14. *Daisies*, very large doubles, pink, white or crimson, 12, 14; mixed, 20, 16. *Dianthus*, grand bedder, all colours, double and single, 12, 19. *Dianthus*, rocky varieties, 6, 16. *Erigeron stenactis*, mauve *Marguerite*, 4, 14. *Quakeress*, 3, 16. *Fox-gloves*, pink, white, spotted yellow, 6, 14; mixed, 12, 16. *Francoa ramosa*, 4, 14. *French Honeysuckle*, red, 6, 16. *Fuchsia* *Crimson Bush*, 3, 16. *Funkia* (*Orn Lily*), 2, 14. *Gaillardia grandiflora*, 6, 16. *Galega*, mauve or white, 6, 16. *Geum* Mrs. Bradshaw, large two year roots, 1 each. *Geum* *Glory*, double, *scarlet*, 3, 16. *Geum coccineum*, semi-double *scarlet*, 4, 14. *Gypsophila paniculata*, 4, 14. *Heliathemum* (*Sun Roses*), 4, 14. *Hemerocallis*, hardy *Lily*, new large double orange, 2, 14; orange, yellow, tawny large single, 3, 16. *Hollyhocks*, *Kelway's double*, 4, 16; single, all colours, 6, 16. *Hydrangea paniculata*, large plants, 14 each. *Hypericum* (*Rose of Sharon*), 4, 14. *Iceland Poppies*, 6, 16. *Incarvillea Delavayi*, large pink trumpet, 3, 16. *Iris*, large flag, mixed colours, 4, 16; separate mauve, white, yellow, blue, purple, 3, 16. *Iris pumila*, rockeries, pale lemon or Saxe blue, 3, 16. *Lilies*, hardy *Tiger*, 3, 16. *Lithospermum*, rich blue creeping, rockeries, 2, 14. *Lobelia cardinalis*, *scarlet*, 4, 14. *Lychnis*, *scarlet* and *salmon*, 4, 14. *Musk*, large *scarlet*, 6, 16. *Malva*, pink or white, 6, 16. *Montbretias*, new hybrids, 12, 19. *Oriental Poppies*, *salmon*, 3, 16. *scarlet*, 6, 16. *Pansies*, separate colours, red, golden, blue, white, purple, yellow, mauve, 12, 16; large exhibition named sorts, 12, 16. *Pentstemon*, best large flowering, 4, 14. *Physalis* (*Cape Gooseberry*), 6, 16. *Pinks*, coloured, 12, 19; whites (*Clove*, *cented*), 6, 16. *Potentilla*, new hybrids, 4, 14. *Primulas*, hardy for rockeries, bogs, borders, etc., 4, 14. *Polyanthus*, 6, 14. *Primroses*, blue and purple, 4, 14. *Phlox*, best large flowering, 3, 16. *Pyrethrum*, hybrids, 4, 14. double white, *crimson*, pink, 2, 14; *James Kelway*, *scarlet*, 2, 14. *Perennial Sunflowers*, 6, 16. *Rose Campion*, *crimson*, 6, 16. *Rudbeckia Newmanii* and *superba*, 3, 16. *Sweet Scabious*, 12, 19. *Scabiosa caucasica*, one year, mauve, 3, 16. *Silene*, pink, compact 12, 14. *Sweet Williams*, pink, *scarlet*, *Crimson Beauty* and *Double White*, 12, 19; best *Anticlimax*-eyed and hybrids, 12, 16. *Thalictrum*, hardy *Maidenhair*, 4, 14. *Veronica*, blue, 4, 14. *Violas*, Bath's bedding, blue, yellow, purple,

white and mixed, 12, 16. *Viola cornuta*, splendid for rockeries, Mauve and Purple Queen, Blue and White Perfection, 12, 19. *Viola* *Maggie Mott*, best large mauve, strong plants from cuttings, 6, 14; 12, 26.

HERBS: *Mint*, *Sage*, *Thyme*, *Marjoram*, 6, 16. *Parsley*, 20, 16.

SPRING SOWN. Best sorts procurable. Early and late *Broccoli*, *Brussels Sprouts*, sprouting *Broccoli*, early and Autumn *Giant Cauliflower*, *Cabbage*, sprouting *Kale*, *Onions*, *Leeks*, *Savoys*, 100, 16; 300, 4.

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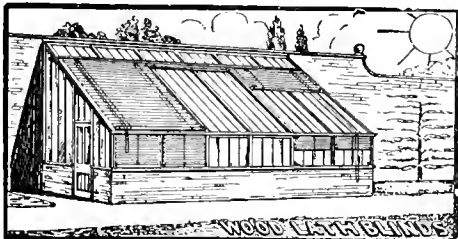
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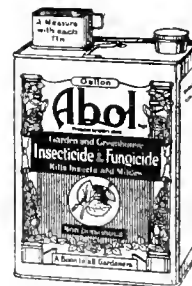
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No. 2691.—VOL. LXXXVII.]

[JUNE 16, 1923.]

THE LILACS, SPECIES AND VARIETIES

THE host of beautiful varieties of the Common Lilac are inclined to overshadow numerous species which are deserving of much more attention in our pleasure grounds and shrubbery borders. The introduction of several new Chinese Lilacs by Mr. E. H. Wilson and other recent travellers in China should serve to focus more attention on the family. All appear to be of similar culture to, and as easy to grow as, the Common Lilac. A larger percentage of cuttings can be rooted successfully in a close frame with slight bottom-heat than is usual with cuttings of the Common Lilac.

In May, which is the lilac-time of the poet, there is nothing more delightful in the garden. Not only have we a wealth of colour, but also delightful fragrance.

SYRINGA EMODI, the Himalayan Lilac, is a vigorous grower, forming a large bush with white or purple-tinted blossoms at their best in early June. The leaves are up to 7 ins. or 8 ins. long and half as wide. It belongs to the villosa group, but differs from that species most noticeably in the white under-surface of the leaves and the paler blossoms. Hybrids raised on the Continent between this species or *S. villosa* and the Common Lilac are interesting, and will no doubt be heard of in the future, but the Great War checked their development and dissemination. *S. Emodi variegata* with broadly margined golden yellow foliage is distinct and effective and forms vigorous-growing bushes.

S. JAPONICA, the Japanese Lilac, is valuable because of its late flowering, the white blossoms opening during the second half of June. Professor

Sargent records seeing wild specimens up to 30 ft. high; but with us 8 ft. to 10 ft., and as much in diameter, is the average size when growing as a lawn specimen.

S. JULIANÆ is a Western Chinese Lilac introduced by Mr. Wilson in 1900. It is a small-leaved species, suggesting also in flower the Persian Lilac, but is more vigorous than that species, forming a distinct stem. Round-headed bushes up to 6 ft. and eventually more in height are attractive on the lawn or in the shrubbery towards the end of May.

S. KOMAROWII is a vigorous bush with leaves up to 6 ins. or 7 ins. long and 3 ins. wide. The lilac pink blossoms are produced on a rather narrow inflorescence 5 ins. or 6 ins. long in closely packed whorls. It was introduced by Mr. Wilson in 1908 from Western Szechuen.

S. PERSICA is reputed to have been first introduced to Britain about 1640, and is still one of our most

treasured fragrant May-flowering garden shrub. The name of Persian Lilac was no doubt given because it was so well known in that country. All the evidence now available, however, points to China as its native home, wild specimens of a Lilac collected on the hillsides in Kansu being identical with *S. persica*. In common with several other Chinese plants travellers no doubt brought it westward centuries ago when trading with that Oriental empire. In addition to the form with fragrant lilac blossoms, there is a pure white variety *alba* and *laciniata* with five to nine lobed leaves.

S. PINNATIFOLIA.—This very distinct pinnate-leaved Lilac was first introduced by Mr. Wilson in 1904. It is an interesting plant for the border of choice shrubs. The pale lilac-tinted blossoms are borne in May. Even when not in flower the elegant foliage arrests attention.

S. POTANINI is another of the group with smallish leaves and blossoms. It is a native of Western Szechuen and Kansu, ultimately forming a bush 12 ft. or more in height. The rosy-purple blossoms are freely borne in May.

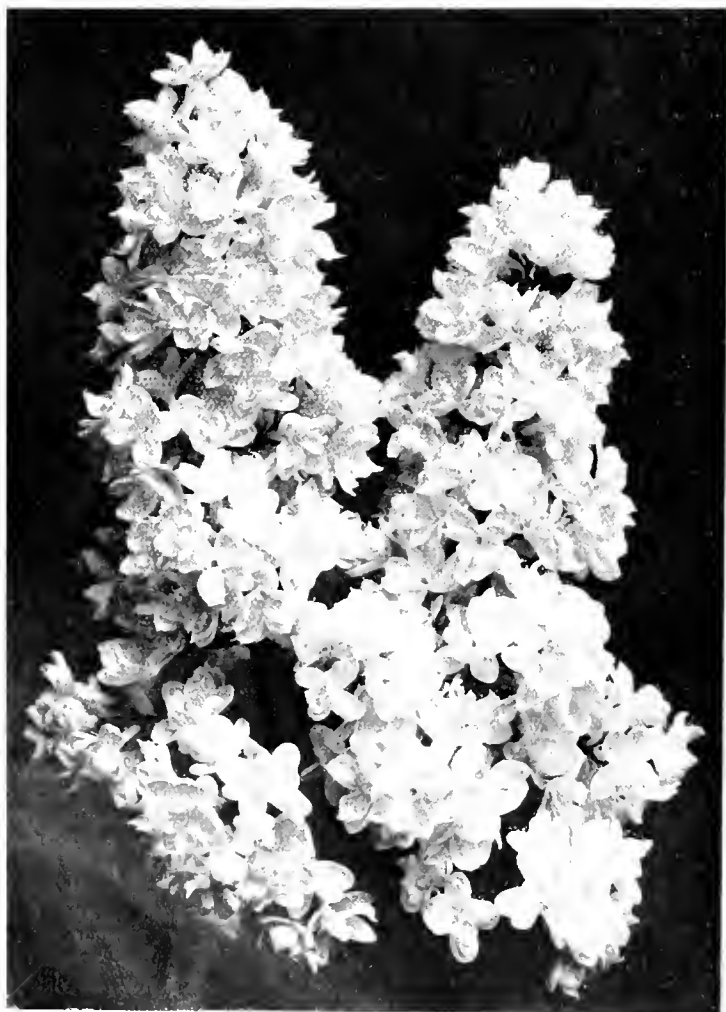
S. REFLEXA appears to be the most distinct and promising of the new Chinese Lilacs. It is a free-growing bush and ultimately to attain a height of 12 ft. to 15 ft. or more, with leaves 4 ins. to 5 ins. long and half as wide. The flowers are densely packed in narrow cylindric inflorescences 5 ins. or 6 ins. long and 2 ins. wide. The inflorescence is borne at the ends of the shoots, and is distinctly arching or even pendent, dark rose in colour in the bud-state, opening to a lighter shade. It was discovered and introduced by Mr. Wilson, who found it in Western China.



LILAC-TIME AT KEW.



WHITE LILAC MARIE LEGRAYE.
One of the best for forcing.



NEW LILAC PRINCESS CLEMENTINE.
Claimed to be an improved *Madame Lemoine*.

S. SARGENTIANA is allied to *S. Komarovii*, and in the last volume of "*Plante Wilsoniana*" is placed as a variety of that species. Seeds were collected by Mr. Wilson in Western Szechuen in November, 1910. The flowers are rosy or reddish purple.

S. TOMENTELLA is at present better known in British gardens as *S. Wilsoni*. Dried wild specimens shewed *S. tomentella* to have a pubescent under-surface to the leaves and inflorescence, as distinct from the slightly hairy *S. Wilsoni*, but under cultivation these differences do not hold good. It is quite the best of the robust-growing newer Chinese Lilacs, forming a large bush up to 12 ft. or, with age, probably more in height and wide in proportion. The largest leaves are 5 ins. long and 2½ ins. wide. The large, open inflorescences are 6 ins. to 7 ins. long by 4 ins. or 5 ins. wide with delicate pale rose blossoms which are at their best towards the end of May and in early June. *S. tomentella* is a good town shrub, one of the best bushes I know being in a small front garden in Camberwell.

S. VILLOSA is another Lilac with several synonyms, including *S. Bretschneideri*, figured in the *Botanical Magazine*, t. 6, 8292, and distributed by M. Lemoine, also *S. Emodi* var. *rosea*. It forms a large vigorous-looking bush 12 ft. or more high and broad, producing towards the end of May and early in June large terminal and axillary inflorescences of rosy lilac blossoms. It is a native of Northern China, and should find a place in the best six species of *Syringa* for the pleasure grounds.

S. YUNNANENSIS promises to be a distinct Lilac, flowering at the end of May and early June. It is readily distinguished by its rather smaller red-stalked leaves, which have a distinct whitish under-surface. The inflorescence is narrower and more elegant when compared with *S. tomentella* (*S. Wilsoni*).

From these notes it will be apparent that Mr. Wilson, during his several journeys to China, more than doubled the number of species of *Syringa* cultivated in our gardens. The latest "*Arnold Arboretum Bulletin*," New Series, Vol. IX., No. 5, states that twenty-seven species are in cultivation in America. This includes three new species from Korea—*S. dilatata*, *S. formosissima* and *S. velutina*.

Were I asked to select the best four of the newer species for garden decoration, my choice would be *S. tomentella* (syn. *S. Wilsoni*), *S. reflexa*, *S. Julianae* and *S. yunnanensis*.

The first hybrid Lilac is reputed to be *Syringa chinensis*, which appeared in the Ronen Botanic Gardens in 1810, the result of a cross between *S. vulgaris* and *S. persica*. It is still one of our best Lilacs for the pleasure grounds, forming a large shapely bush 8 ft. or 10 ft. high, covered in May with lilac-coloured blossoms. The name *S. chinensis* was given because of its, at first, reputed Chinese origin.

The raising of the present-day race of garden Lilacs is of much more recent date. In 1843 a Liège (Belgium) nurseryman raised *S. vulgaris azurea plena*, which is said to have been used by M. Lemoine when he commenced raising the wonderful series of hybrids which have emanated from Nancy, the fame of which is now world wide.

THE COMMON LILACS.

Among our larger-growing flowering shrubs none is more popular or more worthy of attention in our gardens than the varieties of *Syringa vulgaris*. While the cultivation of the Lilacs presents no problems to the enthusiast, in very many gardens they receive scant attention in regard to tillage of the soil and pruning, without which the bushes cannot give of their best.

While the shrubbery border is the home of many Lilacs, they are also equally valuable for massing in large beds and as single lawn specimens. Sunny positions should be selected and in cold districts shelter from the north and east is desirable. A medium loam, trenched 1½ ft. to 2 ft. deep, is the ideal soil for Lilacs. Plenty of old builders' rubble should be added to heavy ground, and liberal dressings of cow manure to light soils.

In planting give the bushes ample space to develop, as it is to mature, well ripened wood that we must look for the best trusses of flowers. It may be necessary once in a way, if the bushes become tall and leggy, to sacrifice a season's flowering and cut the branches well back into the old wood early in April. The best and most satisfactory form of pruning, however, is to cut out the old inflorescences as soon as they fade, removing at the same time weak growth and thinning crowded young shoots. This should be followed immediately by a mulching of well rotted manure.

Lilacs are readily propagated by layering and cuttings. Grafting is favoured by some growers (more especially on the Continent), using the Common Lilac and Privet as stocks.

A representative collection of the best named Lilacs should include the following twenty sorts:

Single.—*Alba grandiflora* and *Marie Legraye*, white; *Charles X.*, rosy purple; *Congo*, red; *L'Oncle Tom*, dark crimson; *Lucie Ballet*, flesh; *Mme. Françoise Morel*, violaceous pink; *Princess Marie*, pinkish lilac; *Souvenir de L. Spath*, deep purple; *Foussant Louverture*, light red.

Double.—*Alphonse Lavalée*, bluish violet; *Charles Joly*, dark red; *Condorcet*, semi-double lavender blue; *Mme. Abel Chatenay* and *Mme. Lemoine*, white; *Mme. Casimir Perier*, creamy white; *Michael Buchner*, rosy lilac; *President Grey*, lilac; *President Carnot*, pale lilac; *William Robinson*, violet mauve.

A. O.

SHRUBS FOR DRY BANKS

THERE are few subjects which more bewilder the amateur gardener than the furnishing of a poor, hungry bank. Such banks seem usually to obtrude themselves where it is essential that something be done to furnish them. It is commonly advised to remove the hungry soil and replace by good. Such a course does not, however, eliminate the droughty conditions, and if tree roots, for instance, hold the bank together, the advice is feasible only to a very limited extent.

Given adequate attention the first summer after planting—this is essential—there is, fortunately, quite a number of flowering shrubs which will make themselves at home in poor soil and under droughty conditions.

None of these is better for the purpose than the various species and varieties of Gorse. The double-flowered form of the common Gorse—*Ulex europæus* fl. pl.—is preferable to the typical plant as an ornamental shrub, because its almost

bruising, gives off a pleasing resinous odour. This is about the only *Cistus* which moves tolerably well from the open ground. *Cistus cyprius* is the plant almost always cultivated in gardens as *C. ladaniferus*. The plant has the eucalyptus-like odour of the latter species, but is actually intermediate in character between the true Gum *Cistus* and *C. laurifolius*. It has brownish red blotches at the base of the petals, which blotches are a feature of *C. ladaniferus*, and the foliage, too, "favours" that plant more than *C. laurifolius*, also the blossoms resemble *C. ladaniferus* in shape, being flatter and of stouter texture than in the other species, but borne in clusters. On dry soils this species is unlikely to suffer even in the Midland Counties, during nine winters in every decade.

The true Gum *Cistus*, *C. ladaniferus*, which is smaller growing than *C. cyprius*, is also more tender, and the same may be said of the beautiful *C. purpureus*, which has rosy purple flowers with

petals, is less hardy. The small-growing, white-flowered *H. umbellatum*, with distinct rosemary-like foliage, should also be included.

The true species of *Cistus* and *Helianthemum* are readily increased by seeds, but of the hybrids cuttings are more reliable. Cuttings of the half-ripe wood of the non-resinous species root very readily under glass, and it is wise always to have a few young plants in a frame in case a severe winter plays havoc.

MELON AND CUCUMBER CULTURE

WITHOUT liberal fire heat it is not possible, successfully, to grow Melons and Cucumbers during the winter, or even early spring months. From the middle of May and throughout summer and early autumn they may be grown inexpensively either in glass-houses or on beds in frames.

The seeds of both Melons and Cucumbers are very fleshy, and, in an uncongenial soil they quickly decay. If the soil is warm and moderately moist the seeds germinate in about four days time. A rather lighter soil should be used for Cucumbers than for Melons from the seedling to the ripening stage. It is best to sow one seed in a small pot and to place the seed with its point straight down in the soil; the new growth then pushes through the soil in the form of a swan's neck and head, and keeps its centre free from soil; if the seed be sown point upwards the seed leaves push through the soil in an open form like the swan's beak open so that soil collects between the leaves and often causes the young plant to rot off. The soil for the seeds should be in a medium state of moisture. Water will not then be required before the seedlings are quite clear of the surface soil and so less liable to damping-off.

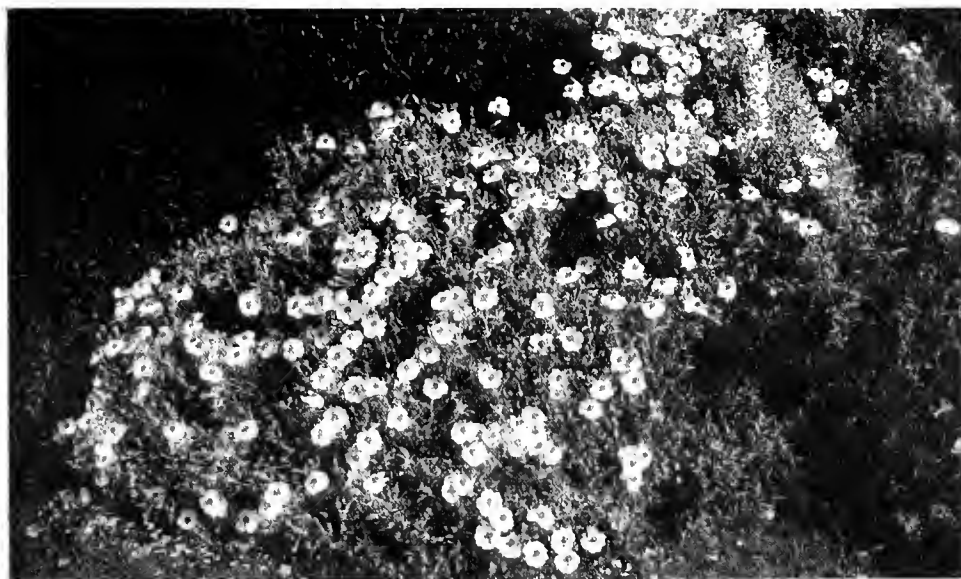
A rather strong, retentive loam is the most suitable for Melons, and neither sand, manure nor leaf soil should be added to it. Cucumbers thrive best in a much lighter loam mixed with an equal quantity of leaf soil and a fifth part of rotted manure. Furthermore, the rooting medium for Melons must be firm, while that for Cucumbers should be looser.

Melon plants like plenty of sunshine, while Cucumbers do best if very lightly shaded during the hottest part of the day. This is especially necessary after several dull days.

Cucumbers will need more water than Melons. In either case the depth of soil at first should be 6 ins. and as the roots appear on the surface they should be lightly covered with a rich compost. When the fruits are swelling freely, feed liberally with diluted manure water and judiciously with artificials. The Melons may be grown as cordons planted 15 ins. apart. Indeed, I strongly recommend this method. Cut the fruits of Cucumbers while young and keep the plants from being overburdened; they will then continue to bear for a longer period.

Ventilate the structures a little early in the day and gradually increase the amount of air to the house or frame. Maintain a moist atmosphere while the weather is fine and bright, and much less moisture in dull weather. Syringe Melons and Cucumbers when closing the structure on fine afternoons, but cease syringing and also lessen atmospheric moisture generally, in the case of Melons when the fruits begin to ripen. Very little water will be needed at the roots of the Melons during the maturing process and nice currents of warm air passing through the structure will add flavour to the fruits.

GEORGE GARNER.



A ROSY PURPLE ROCK ROSE, *CISTUS CRISPUS*.

overpoweringly fragrant blossoms last much longer in good condition. The Dwarf Gorse, *Ulex nanus*, is more erect in habit than Common Gorse and the growths more slender. It is ornamental, does best in poor soil and is exceedingly valuable because its main flowering is in autumn. *U. Gallii* resembles in some ways both *U. europæus* and *nanus*, being indeed almost intermediate between them. It is autumn flowering. Only hardy in the more favoured parts of Britain, it is none the less a native, and will be familiar to many who have toured Southern and South-Western England in autumn.

All shrubs for dry banks should be moved small and from pots. This applies with special force to all forms of Gorse. The sunnier the bank the better these plants will flower.

All the Rock and Sun Roses are emphatically plants for dry, sun-parched banks. Many of them are, alas! not over-hardy, but they will all stand many more degrees of frost under such conditions than would prove fatal in richer soil. The hardest of all is *Cistus laurifolius*, which is, indeed, hardy in almost every district. This is rather dark-foliaged and "dour" when out of flower, but the white blossoms are very freely borne in clusters, and the foliage, even without

the same brownish red base, but these are hardier than many of the Rock Roses. Of about equal hardness is the white *C. populifolius*, a large-leaved species and quite distinct from any other *Cistus* in cultivation.

The Sage-leaved *Cistus*, *C. salvifolius*, is, for some strange reason, one much planted, but it has no special beauty to commend it beyond others, and it is, in the writer's experience, one of the least hardy. The rosy purple *C. crispus* is, if anything, hardier, so is the even more beautiful *C. villosus* with rosy blossoms, but the form of *C. crispus* called Sunset seems hardier as well as more beautiful than either. Hardier still is *C. corbariensis*, a splendid white-flowered form said to be a hybrid between *CC. populifolius* and *salvifolius*. *Cistus Loreti*, perhaps better known in gardens as *C. lusitanicus*, is another hybrid of *C. ladaniferus*. It is hardier than most, a neat, compact grower with crimson-blotched white flowers which remain open all the afternoon; too many *Cistuses* shed their blossoms about midday.

Many of the taller-growing *Helianthemums* are still called *Cistuses* in gardens. *H. formosum*, yellow, with brown blotches, is one of the best and hardiest. *H. alyssoides*, with unspotted

HARDY TERRESTRIAL ORCHIDS

I HAD lately a visit at Florare from a good English alpine plant grower who saw our orchid-bed and said to me, "We are unable to cultivate these in England." This is quite an error, and I easily proved to him that some of the best hardy Orchid cultures are in his country. Yet, of course, they are not so numerous as they might be. *Cypripediums* are the one genus really popular with amateurs, but the *Orchis*, *Ophrys*, *Scorpias*, *Spiranthes*, etc., are seldom grown. The reason is simply that people fail to treat these Orchids as tuberous plants, which they are, and so transplant them direct from the wild into the garden without giving them time to mature their tubers.

Of course, *Orchis* flowers are less vivid than those of *Daffodils*, *Tulips* and *Hyaacinths*, but they have other charms not to be despised. See those, for instance, which for the most part are easily cultivated when planted in lawns or meadows where the grass forms a protection for their roots; the herbage furnishes their flowers with a very attractive setting, and they bring brightness and colour to the green carpet. There are a dozen species in Great Britain; the whole of Europe contains more than a hundred different kinds and a great many varieties or hybrids. The French botanist Camus has published a large Iconography ("Iconographie des Orchidées d'Europe," Paris, 1921) of them, and particularly of the hybrids and varieties; this contains 122 large plates each shewing on an average eight different types. In my own Iconography, "Album des Orchidées

d'Europe," published thirty years ago, I gave sixty plates of the most important European kinds, and in the new one now being published six more, yet there are shewn only typical species and those which are most characteristic. It would be easy to enlarge that list with the hybrids and varieties, and still easier if Oriental kinds were admitted. In Asia Minor and in North Africa the regions bordering on the Mediterranean contain about twenty-five other species of real interest. I should estimate that there are altogether more than sixty species of Orchids which are, or might be made, more or less hardy in England.

The cold and temperate countries of the five continents make their contribution to our gardens as well in Orchids as in other groups of plants. North America sends us quite a collection: *Aplectrum hyemale*, *Arethusa bulbosa* (a dear little thing for moist ground), *Cypripedium acule* and *CC. arietinum*, *californicum*, *candidum*, *fasciculatum*, *montanum*, *occidentale*, *parviflorum*, *passerinum*, *pubescens* and *spectabile* (or *Regina*); *Epipactis gigantea*, which is a gigantic palustris; *Goodyera Menziesii* and *GG. pubescens* and *tessellata*; *Gymnadenia conica* and *GG. flava*, *nivea* and *tridentata*; *Liparis liliifolia*; *Microstylis diphylla*; *Platanthera* (or, better, *Habenaria*) *blepharoglossis* and *chata*, a beauty with orange flowers and *PP. dilata*, *umbriata*, *crispa*, *flava*, *fissa*, *fragrans*, *herbiola*, *grandiflora*, *Hookeriana*, *meisa*, *lucida*, *leucophæa*, *peramona*, *psychodes* and *verticillata*; *Pogonia ophioglossoides* and

P. verticillata; *Spiranthes cernua* (near to the rare *Romanzoffiana*) and *SS. gracilis*, *latifolia* and *Unalakensis*; *Tipularia discolor*, etc.

The temperate Asiatic regions give us *Bletia hyacinthina* of Japan, which is an exquisite plant for the bog garden and its white variety; *Cypripedium debile* and *CC. Franchetti*, *guttatum*, *himalaicum*, *japonicum*, *luteum*, *macranthum* (found in Eastern Europe also—so is *guttatum*), *speciosum*, *tibeticum* and *ventricosum*—the last one being a beauty introduced by the firm of Regel and Kesselring in different shades of colouring and height—*Yata beyanum*, etc.

South Africa has sent us a lot of lovely things which are, alas! not hardy here, but do well in the South of England (*Disa*, *Satyrion*, *Eulophia*, etc.).

One can safely state that the list of hardy terrestrial Orchids is rather a long one, and the amateur who likes these treasures has a big field to study. Some are suitable for grass-land and may be planted in the sward just as we do *Narcissi* and other bulbous plants. Others are for the bog or for shady woodland, some are for the rockery and many can be grown in pots or pans and treated as one does bulbous plants.

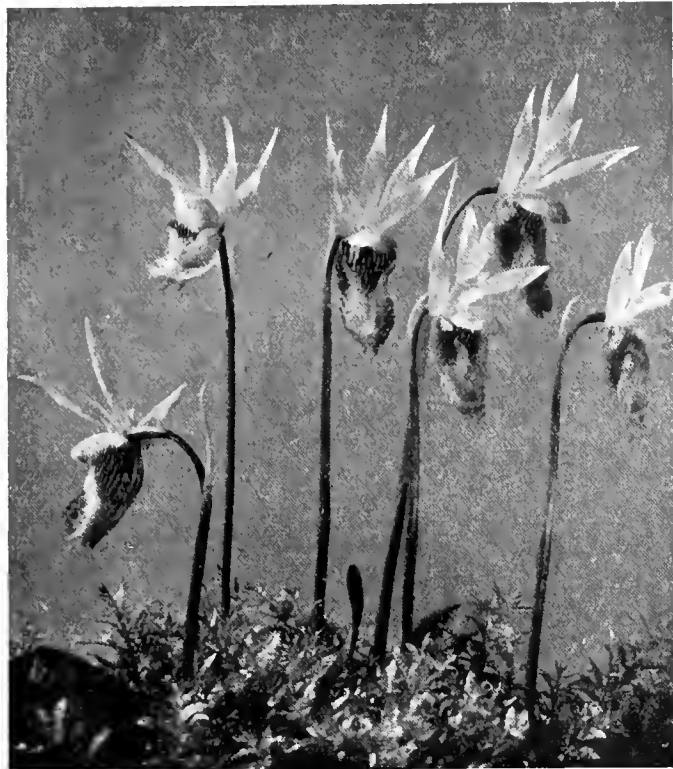
The Rev. Wolley Dod had, some forty years ago, a very important collection at Edge Hall, and wrote me enthusiastically about them. My late friend G. F. Wilson, when he established his garden at Wisley (Oakwood), spoke to me often of his desire to have there the whole lot of hardy Orchids (see for more details "Orchidées Rustiques," by H. Correvon, pages 199 and 204). He began with *O. foliosa* of Madeira, then introduced all



A GROUP OF THE HYBRID ORCHIS FOLIOSA MACULATA
AT SCAMPSTON HALL.



ONE OF THE MOST POPULAR OF HARDY ORCHISES,
O. LATIFOLIA.



THE RARE CALYPSO BOREALIS AT SCAMPSTON HALL.

the English species and later he planted *Ophryses*, *Aceras*, etc., in the driest places.

Last year I saw at Brockhurst, at Cuckfield and elsewhere some terrestrial Orchids in great beauty. The best lot I ever saw, however, is the collection of Mr. St. Quintin at Scampston Hall, near Rillington. I well believe that this clever alpine-plant grower has every one of the terrestrial Orchids which may be grown in England.

The groundwork of this collection is *Orchis foliosa*, of which the big spikes surpass all other kinds. Mixed with it are *OO. latifolia*, *incarnata*, *maculata* and *mascula*, *Gymnadenia conopsea*, etc., which have interbred and crossed also with *foliosa*, forming a very remarkable collection of hybrids. There is in that corner of the garden the most extraordinary picture a lover of the Orchises could wish to see. Near to these Mr. Quintin grows the round-tubed kinds, such as *militaris*, *mascula*, *Morio* and *coriophora*, which like moist but not quite boggy soil. The whole is a sort of slightly damp plateau with, maybe, a little peat in it. The rock garden itself, which surrounds the whole, is rich in alpine mixed with mountain Orchids: *OO. globosa*, *sambucina* and *pallens*, *Hermidium Monorchis*, *Gymnadenia odoratissima* and *G. albida* (a tender plant which always grows among *Rhododendrons* or *Ericas*), *Nigritellas*, *Epipactuses*, etc.

In some pans under glass Mr. St. Quintin had *Calypto borealis* flowering beautifully, *Listera cordata* (a difficult little plant from the dark woods), *Goodyera repens* and *Spiranthes Romanzoffiana*, the rarest of European Orchids, of which he had many flowering sets. On the driest slopes of the rock garden he grows (as well as in pots) *Ophryses* in different kinds (some of them he brought from Hyères), *Anacamptis pyramidalis*, *Aceras anthropophora*, *Barlia longibracteata*, *Cephalanthera*, even the rare and tender *rubra* which flowered with him; *Celoglossum viride*, *Orchis Simia*, *O. tridentata*, *O. ustulata* and different *Serapias* from the South.

In shady spots the *Cypripediums* (quite a collection), the *Platantheras* or *Habenarias*, etc. Then,

too, a large lot of exotic species are grown under special conditions, each species being carefully nursed and tended. H. CORREYON.

(To be continued)

FRAGRANT FOLIAGE—III

OF strictly herbaceous labiates with foliage more or less fragrant, one of the most numerous and important families is that of the Mints, many of which (*Spearmint*, *Peppermint*, *Water Mint*, *Field Mint*, etc.) belong to our native flora, though two of the most desirable for the garden—*Mentha Pulegium* var. *gibbaltaria* and *M. Requienii*—are exotics. *M. gibbaltaria* (*Penny-royal*), besides being strongly and pleasantly fragrant, is valuable for carpeting purposes, being a low-creeping and stem-rooting form with foliage of a cheerful green. Native, however, to the South

of Europe, it is, as might be expected, doubtfully hardy in most of our gardens, though I have wintered it in my own for several seasons, not, however, without sometimes coming near to losing it. This *Penny-royal*, as the varietal name indicates, is no doubt a native of Spain, but it belongs also to the flora of Calabria, where the peasantry regard it with veneration as sacred to the Virgin, so that they will not wittingly pass a patch of it without inhaling its perfume and muttering a pious *ave*, an observance due to a belief popularly expressed in an Italian couplet, which may be freely translated—

"Who sees this herb and savours not its breath
He finds not Jesus in the hour of death."

M. Requienii (*Corsican Mint*), which hails from much the same latitude as the *Penny-royal*, is surely the most diminutive of flowering plants, unless perhaps *Veronica canescens* be a rival for this lowly pre-eminence. No one who has a slab-paved garden-path and wishes when he walks upon it to press perfume from its joints will fail to grow in quantity this sweet and interesting little Mint. Were I commissioned to plan a garden for the blind, I should take care to tread it with walks of *Corsican Mint* and *Penny-royal*; which thought may have been in a mind many multiples greater than mine, when, some three centuries ago, it observed: "Of Bean flowers I speak not, because they are field flowers. But those which perfume the air most delightfully, not passed by as the rest, but being trodden upon and crushed, are three, that is, *Burnet*, *Wild Thyme* and *Water Mints*. Therefore you are to set whole alleys of them, to have the pleasure when you walk or tread." Precisely: and there you have in a nutshell a garden for the blind.

The only Mint, other than the two already mentioned, that I grow in my own flower garden is *Mentha rotundifolia*, the variegated variety, though the variegation, of a soft ivory white and pretty as far as it goes, is uncertain and capricious. Still, apart from its variegation and its scent, this Mint is worth growing for its apple

green and the downy texture of its foliage. Botany books give this plant as native to Britain, but I have never found it wild, and where it seems to be a wilding I suspect it is but a garden escape. I seem to remember from long ago a form of this plant which was called by those who grew it as a window plant, "*Apple Balm*." There was no variegation, and the whole plant, leaf and branch, was of a more slender habit than the variegated form, while the scent had more of the *Lemon* and less of the *Mint*. Such flotsam of the memory, I am quite aware, is not always to be trusted or taken for what it seems. Still, I should be glad to learn from anyone able to inform me whether the *Apple Balm* so real to my memory has, or ever had, any existence in fact. Also I would ask readers of *THE GARDEN* whether they grow or know, or know anyone who grows or knows, *Mentha citrata*, a *Mint* said to be native to Wales and Cheshire and to smell of *Bergamot*, for which reason it is called "*Bergamot*" *Mint*.

For those who value sweet-smelling foliage the *Garden Balm* (*Melissa*) needs no bush. I got my own original plant of variegated *Melissa* years ago from a stall in Covent Garden, and an excellent plant it has proved itself to be—ideal for those who like variegated foliage—the streaking and fringing of warm yellow being both abundant and regularly laid on. My borders, sometimes in quite unexpected places, are dotted with sporadic colonies of seedling *Melissas*, shewing no trace of variegation, though they are all the progeny of the Covent Garden variegated form. They are weeds undoubtedly, having no business to be where they are, but such weeds one gladly suffers. Here, again, I would ask for information from anyone who has it to give and will be kind enough to give it. Is there not another sweet-scented *Melissa* besides *M. officinalis*: a plant of low stature (perhaps 3 ins. or 4 ins.) with leaves much like those of *officinalis*, but coarser, of a darker green and somewhat curled—the scent stronger and with more *lemon* in it than that of the ordinary kind—the whole plant much less luxuriant than the other, less easily grown and propagated and extremely shy of flowering, which the typical form, unfortunately, is not? I am inclined to think that this may be the *Melissa Romana* of old Philip Miller, described as *mollis hirsuta et graveolens*; though he adds a translation of *graveolens* which would indicate something very different from the delightful *lemon* perfume in my memory.

The *Bergamots* (*Monarda*) take a high place among the fragrant herbs. I grow, myself, several varieties, white, purple, etc., but I really think that, except for those whom Miller calls "the curious" in garden matters, the handsome scarlet variety called the *Cambridge Bergamot* sums up in itself the virtues of its race, a fine bold habit, flowers of a rich glowing colour and handsome leaves of a delicate perfume. Seeing that the *Monarda* is a native of Canada (it is called *Oswego Tea*) extremes of temperature should have no terrors for the plant, and yet the English winter seems to try it, though more from its damp, I fancy, than from its cold.

Of the *Marjorams* I know only the common sort (*Origanum vulgare*) in two varieties. The typical wild variety may be consigned to the pot-herb plot; but the *aureum* variety, because of its dwarf, compact habit and its foliage of

bright feverish yellow, may be grown with advantage where edgings or sweet pavement plants are desired. Further, it is easily managed, coming up bravely from year to year without transplanting and keeping well to its own quarters, without molesting its neighbours.

Last, but far from least, in my list of aromatics comes the Balm of Gilead (*Cedronella triphylla*). There are two *Cedronellas* of my acquaintance; *Cedronella cana* belongs to the New World and,

though I grow it, is in my opinion not worth growing except by the "curious," having no great beauty of form or colour and a fragrance which, though aromatic, is not particularly sweet. *Triphylla*, on the other hand, though not much to look at, has a delightful perfume, in quality like that of Bergamot, but as strong as the fragrance of the scented *Verbena*. This Balm, coming from the Canaries, is not absolutely winter proof in this country, though not so tender as one might suppose.

I once had a garden, and not a very warm garden either, where it grew, like the *Melissa*, as a chartered weed, and where a handful of its foliage, plucked in the passing, used to be my scent bottle. At the present moment, however, I am sorry to think that there is no Balm in my Gilead, though I intend to establish it there as soon as may be, either with protection or without. As for Bacon's Burnet, what is Burnet?

SOMER.

[*Poterium Sanguisorba* most call Burnet.—Etc.]

HARDY PRIMULAS

Of the Muscarioides and Soldanelloides Sections

THESE two sections are very similar in habit and appearance, and there is a natural merging of one into the other, so that they might well be dealt with together. The characteristic feature of the members of this group is the aggregation of small or large flowers in a compact head or spike. Generally, the flowers are sessile, or have short pedicels; while the corollas are deflexed or drooping in most species. With the exception of *P. bellidifolia*, all the members of the muscarioid group are natives of Western China, while all the best-known species in the other come from the Himalayas.

They are nearly all plants of the woodland, with softly hairy leaves, a character which denotes that they are liable to suffer from the dampness of our winters. So far, several of the Chinese kinds have proved hardy, which is more than

one can say of some of the Himalayan species, like *P. Reishi* and *P. Wattii*. All are best treated as biennials, raised from seed in a little heat in spring, pricked out into boxes or pans as soon as they are large enough, and planted out in the early autumn in the places where they are to flower. A cool, shady position should be selected, where they never get the full rays of the sun, while the soil should be deeply worked and of a loamy nature, with plenty of leaf-soil and sharp sand.

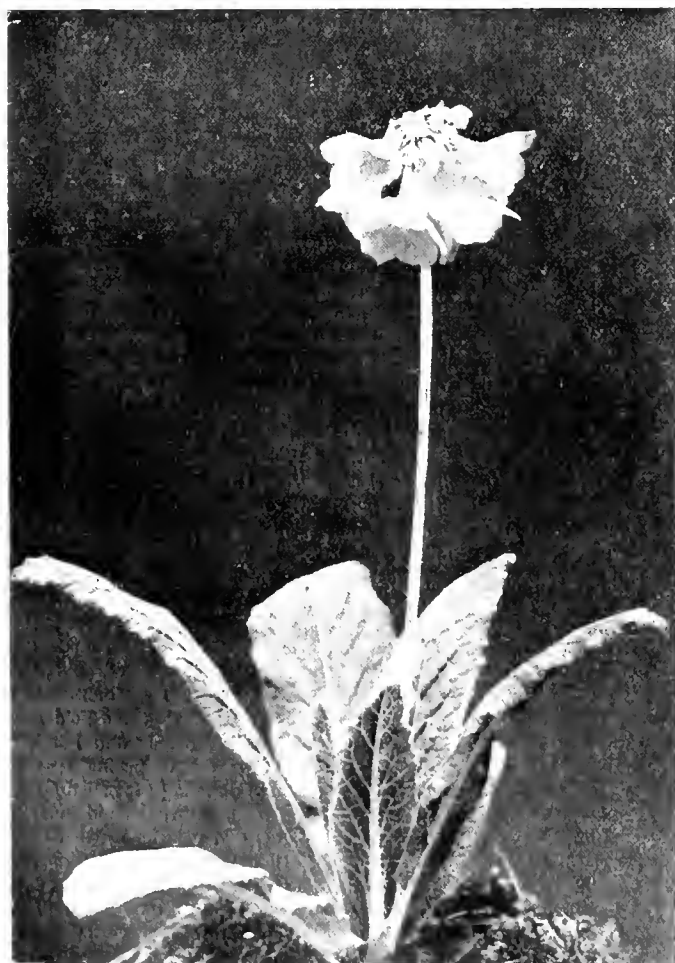
In addition to the following kinds which have been, or are, in cultivation at the present time, there are other known species in both the Himalayas and West China which belong to these groups and which have yet to be introduced to our gardens.

P. CRISTATA.—This species was originally found by the Abbe Delavay in Yunnan in the year 1880,

but was not introduced till Forrest found it in Eastern Tibet and South-Western China. It is closely allied to *P. Giraldiana*, with rosettes of softly hairy leaves having entire margins. The stems rise to a height of 1ft. to 1½ft., bearing a head of violet-blue flowers in May.

P. COXICA.—In the year 1915 this species was found by Forrest in Yunnan. The leaves are produced in tufts, thin in texture, and pale green in colour and softly hairy all over. The stems which are not mealy, reach to a height of 18ins., and bear heads of pale lilac and sometimes nearly white flowers in May.

P. DEFLEXA.—This was the first of the group to come into cultivation, and is one of the most fragrant of them all, as well as being one of the most hardy kinds. Seeds were sent home by Wilson, and plants flowered with Messrs. Veitch



THE DEEP LAVENDER PRIMULA NUTANS.



THE BEAUTIFUL PRIMULA SPICATA—CHINA BLUE, SILVERED.

in May, 1900. It was also, later on, found by Forrest. *P. deflexa* grows in the mountain woods of Western China at elevations between 10,000ft. and 13,000ft., and is closely allied to *P. cernua*, but is distinguished from that species by the longer and distinctly toothed leaves, longer petioles and smaller flowers. It is also near to *P. Giraladiana*, but differs from that plant in having obtuse or emarginate lobes to the calyx, which is covered with pale yellow meal at the base. The purplish blue, fragrant flowers are borne in compact heads on stems 1ft. or more high in May.

P. GIRALDIANA (syn. *P. muscarioides*).—Closely allied to the above, which has, however, fewer and larger flowers than this plant. It differs also in having acute calyx lobes. It was one of Forrest's finds on the Wild Yak Pass, on the dividing range of mountains between the Yangtze Valley and the Chungtien plateau. He came across it in 1904 at an altitude of between 14,000ft. and 15,000ft., growing in moist, open pastures on the margins of Pine forests. The leaves have crenate margins and are fringed with soft hairs, while the stems reach a height of 12ins. or more and bear heads of dark violet blue flowers in May.

P. LITTONIANA.—The most remarkable and interesting member of the section, this species was found by Forrest in "open mountain meadows

on the range forming the eastern boundary of the Lichiang Valley in Yunnan," at an elevation of 10,000ft. to 11,000ft. It was first introduced into cultivation by Bees, Limited. During the first season from seed it produces a tuft of greyish green, hairy leaves; these in the autumn die off, and a resting bud is formed for the winter. Later than most others in spring it commences growth, sending up in June from the tuft of leaves a scape 1ft. to 2ft. long, coated with white meal and ending in a dense spike like that of a *Kniphofia*. This is often 5ins. or more long, with the bracts and calyces of a bright red colour, or almost scarlet, contrasting with the drooping purple flowers. It is quite hardy in suitable situations, and produces plenty of seed.

P. PINNATIFIDA (syn. *P. nensis*).—This, like most of the above, was first discovered by the Abbé Delavay in 1886 on the Lichiang range at an altitude of 11,000ft. to 12,000ft., just along the base of the great glacier. Here Forrest found it, and says it is a charming hardy alpine, appearing soon after the melting of the snow, carpeting large tracts of alpine meadows. It has a great range of altitude, and while those on the lower slopes averaged 7ins. to 9ins. in height, forms were met with higher up only 2ins. high. The former have pale purplish blue flowers in large heads, while the dwarfier forms have smaller heads of larger flowers of a deep Tyrian purple. As its name denotes, the leaves are deeply cut or pinnatifid.

It is quite hardy, and comes into flower early in May, the two forms retaining their habit when growing together under similar conditions.

P. WARSONI.—Wilson found this species in Western Szechuen in 1903, and it was raised from seed and flowered by Messrs. Veitch and Sons.



THE VIVID SCARLET AND SOFT PURPLE PRIMULA LITTONIANA.

A woodland plant, it has leaves like *P. deflexa*, with slightly toothed margins and mealy stems 1ft. to 1½ft. long, bearing long heads of small dark purplish flowers in May. It is one of the least desirable species.

P. NUTANS.—Of the Soldanelloid section, this also was first discovered by the Abbé Delavay in woodland pastures at high elevations in Yunnan. Forrest also found it and sent home seeds to Mr. J. C. Williams, from which plants were raised and flowered in May, 1916. It is a beautiful species, with thin, toothed, softly hairy leaves in tufts. The large, fragrant, drooping, lavender blue coloured flowers are borne in dense heads on white mealy stems 6ins. to 9ins. high in May and June. This plant likes a well drained situation, and has done well in the rock garden, flowering freely. Damp or stagnant moisture of any kind is fatal near the crowns during winter.

P. SPICATA.—Also of the Soldanelloid group, this is a charming little Primula, seeds of which were sent home by Forrest. He found it at 11,000ft. elevation in 1906 growing on slopes and ledges of cliffs on the flank of the Tali range in Yunnan. The bright blue, fragrant flowers are borne in loose spikes on slender stems 4ins. to 6ins. high. It has not proved very amenable to cultivation, neither does it always produce seed unless hand fertilised.

All the above are Chinese plants, but from the Himalayas we have several beautiful members

belonging to the same groups. One of the best known is *P. REIDII*, a high alpine plant of the Western Himalaya, at an elevation of 12,000ft. to 13,000ft. It has densely hairy leaves, and heads of creamy white flowers on mealy stems 2ins. to 3ins. high. Although a perennial, it is best treated as a biennial, and it must be given the protection of a cold frame or even greenhouse.

P. HARKOVIANA is a more recent acquisition from Bhotan, where it was found by Mr. Cooper (collecting on behalf of Mr. A. K. Bulley) in 1915. It bears a great resemblance to the above species, but the leaves are not so thickly covered with white silky hairs. It is a low-growing plant with tufts of bright green leaves having crenate margins, with flower-stems 4ins. high, mealy, bearing a closely packed head of pure white flowers. The blooms are about half an inch in diameter with the edges of the corolla fringed. It has proved quite hardy, and can be propagated both by means of seeds and division. *P. SAPPHIRINA* is a low-growing plant with sapphire blue flowers, probably not now in cultivation. *P. UNIFLORA* is remarkable for producing only one, or at most two, large pale lilac flowers on stalks 2ins. to 3ins. high. The leaves are small and deeply toothed. It comes from the Sikkim Himalayas at high altitudes, 13,000ft. to 14,000ft., and is difficult to keep. Last comes *P. WATTII*, which might be described as a purple-flowered *P. Reidii*. It is also one of the high Himalayan plants and difficult to keep in this country. All the above Himalayan species belong to the Soldanelloid group, the only representative of the other section being *P. BELLIDIFOLIA*, which is in habit somewhat like the Chinese *P. deflexa*, but with more compact rosettes of shorter leaves and heads of violet blue flowers. This is probably the hardest of all, and may be increased by means of division as well as by seeds. W. I.

BUSH APPLE AND PEAR TREES

Their Treatment in Summer.

IN my rambles during the spring I often see formal fruit trees in gardens with nothing besides their symmetry to recommend them. They look as if they had been kept clipped with hedge shears for a number of years, and when they do bear fruit it is not as good as it should be.

To grow small fruit trees is a most delightful occupation, and it is possible to obtain fruit from them of the very best quality year after year unless the weather happens to be unpropitious at flowering-time. Supposing we have some of these which have become dense bushes to deal with in the autumn. After the fruit is gathered and before the leaves have fallen, we should apply the knife and pruning saw unmercifully till we can see half way through the tree in any position. A real expert can tell how much to cut away when the trees are bare, but it is not so with the beginner. It looks to him when the tree is properly pruned as if there was little or nothing left. Do not imagine that I would treat a tree which had been properly tended with such barbarity, but it is difficult to find any such outside a nursery, and during the last six or seven years, from unpreventable causes, they have not been too plentiful there.

Having brought the trees into such a condition that when leaves are produced most of them can obtain light, we have to consider what to do next. They are frequently allowed to produce shoots

half a yard in length, and then what is called summer pruning is practised on them. This so-called summer pruning is frequently delayed till very near the autumn, when they are mercilessly cut back. The prunings make nice stakes for Carnations, but that should not be the object of growing the trees. The shoots are frequently cut back so close that the lower eyes, which should remain dormant, become excited, and often break out into actual growth, and the leaves on the new growths remain green till the frost cuts them off. We have to consider that the embryo flowers commence to be formed in the buds very early during one season for producing fruit the following year, and that light and air without too much excitement or too much of a check are necessary to produce perfect results.

Left to itself, a vigorous young tree will make long growths at the expense of the lower eyes. We should endeavour to curb such growths just sufficiently to allow the buds at their base to become perfectly developed without being excited into premature growth, and these buds should also be ripened thoroughly by the autumn. This can be done by merely taking the points out of the shoots at the end of May or beginning of June according to the season, and afterwards pulling off all growths as soon as they appear on the ends of such shoots. Any weakly shoots required for furnishing the tree should be allowed to extend for a week or two after the strong ones are stopped, and with the extra vigour transferred into them they will speedily become stronger. Other weakly ones which are not required should be cut clean out.

If one had the time and inclination, probably the best results would be obtained by early disbudding, thus preventing all unnecessary growths, as we do with Peaches and Vines. When branches are cut back in autumn or winter, they generally produce two or three shoots where there is only room for one to develop properly.

While the tree is growing one cannot remove a single leaf without producing some effect, though that effect may not be visible and may not be sufficient to produce any material harm: but if one removes a large quantity at one time one causes a check throughout the whole system of root and branch. The life blood will cease to flow, and both the tree and its fruit will for a time become hidebound. Those who are practised in budding Roses or fruit trees know what happens if they attempt to operate soon after the top of the stock has been mutilated.

Stopping the growths is a necessary evil, and requires to be done gradually and intelligently. Cutting off armfuls at a time during the growing season is an evil which is unnecessary.

When autumn arrives and the leaves have lost their green colour, pruning should not be delayed. Wounds will heal much more quickly than in the spring. All should be finished by the middle of December. Fruit trees are best when they are allowed to extend somewhat. Even with miniature trees we must leave two or three buds, and a greater number where there is a gap to fill.

It is possible with the treatment recommended to produce early fruiting miniature trees of both Apples and Pears on tree stocks, especially if they are carefully transplanted two or three times while young. There will always be corresponding growths underground with the branches. Unchecked top growths produce strong rambling roots and *vice versa*. Trees on the free stock have their roots deeper in the ground and are, consequently, not so likely to come under the surgical operation of the spade wielded by an unsympathetic hand. Also they are less liable to suffer from drought.

Where bush trees of Apples are so large that light cannot penetrate them it is well to take out the centres 2ft. or 3ft. wide. Incidentally, this makes it easier to gather the fruit.

Though it is too late in the season to practise some of the details mentioned, a beginning can be made by keeping the growths shortened as advised.
WILLIAM TAYLOR.

ON MULCHING

IT is very surprising that mulching has never come into its own as it should have done. Most people still prefer to pour gallons of water and liquid manure on to their plants and allow most of the water to be evaporated by the sun the following morning, instead of making an effort to conserve it for the use of the plants by the systematic application of mulches.

It is no exaggeration to say that mulching reduces the need for watering, at any rate, by 50 per cent. This does not quite mean that one need only apply half as much water at a time, but it means that the water one does apply lasts nearly twice as long. Where very thick mulches have been given, the use of the watering-can may be reduced by two-thirds, and this is of very great importance in districts where water is scarce and difficult to obtain towards the end of summer.

Having made some experiments with mulches, and having used them extensively myself for a number of years, I can confidently recommend the practice. There are various objections, which it is unnecessary to enter into in a short article, but the advantages far outweigh the disadvantages. Mulching has been described as an expensive and uneconomical operation, but if properly carried out it saves its cost many times over, and it certainly renders the cultivation of first-class flowers, vegetables and fruit a much simpler matter on light soils than it could be by any other method.

As I have often pointed out, mulches must vary with the kind of soil and the kind of crop. On very light soils mulches should be of a heavy type, i.e., they should be generous and of a heavy moisture-retaining capacity. On the stronger soils less sticky materials may be used, also the quantity used may be reduced, but in many cases it is an advantage when working on such soils to apply a very heavy mulch in the first instance, as this often will last right until the end of the season.

MATERIALS TO USE.

Viewing the gardening materials which one generally has at command, there are quite a number which are exceedingly suitable for mulching. Obviously such strong-smelling materials as pig manure and sheep manure will be put aside at once, though the first is very suitable for light and the other for heavy soils, did not their strong-smelling character preclude their use. One of the best mulching materials of all for a strong to medium loam is found in old hot-bed manure. This has a very great moisture-retaining capacity of the right character for such soils, but is not sufficiently sticky in character for use on very light land, as it will dwindle away rapidly until very little is left.

Farmyard manure is a very favourite mulch on most soils, but especially on heavy ones. As a matter of fact, I have found it is extravagant, and I do not recommend its use except for gross-feeding crops, such as Onions, where it serves a dual purpose. In some cases it may be used very advantageously on light land certainly, but most of us have not sufficient of it at command to warrant its use extensively as a mulch.

On strong and medium soils half-rotted leaves give very good results, and in some cases it pays to mix in with them before application such materials as dissolved bones or superphosphate of lime. This is specially necessary in cases where

the mulch is to remain for many months and watering is to be done through it, as then a light feed is given at the same time. Half-rotted leaves are probably the most economical mulch of all, as it is merely a matter of collecting a large quantity of leaves for the purpose each autumn and turning them over once or twice during the winter to encourage decomposition to set in. In heat waves, however, they are of very little use, as they dwindle down rapidly and require frequent renewing. Where they are to stand many months a thick mulch is recommended in the first instance, and a dusting of soil should be given over it to prevent the wind from blowing it about and making the rest of the garden untidy.

I am very fond indeed of lawn mowings as temporary mulches on medium loams. They are quite unsuitable for use on light land, as the first hot day will cause them to dwindle down to nothing, but on medium loams they certainly give a good result, and there is no doubt that they have saved many a row of Peas from destruction where watering was impossible. Every effort should be made to apply them as fresh as possible, as if decomposition starts before their use their strong odour generally precludes their application, although, of course, they last considerably longer when so applied.

And now what about very light soils? As already mentioned, these must have a sticky mulch, but the greatest care should be taken not to apply one on the surface of which a hard skin will form. More than once I have stopped gardeners from using pond mud as a mulch, as, although this is a very effective mulch one way, it has a nasty habit of setting hard, and then actually throws off the rain when a welcome shower falls. Cow manure is generally the best material to use on such soils, but as this also forms a skin, or rather, I should say, its outer layer sets hard when applied fresh, care should be taken not to use it until a reasonable time after it has been produced, say, eight or nine days as a minimum. Cow manure can be improved, of course, by the addition of such materials as lawn mowings and fine soil if it is required for urgent application, but I need hardly point out that this adulteration greatly reduces its ultimate capacity for reducing evaporation. On light soils mulches do not stand at all well, and it is, therefore, uneconomical in the long run to do anything which will decrease the cooling power of the mulch.

THE THICKNESS OF MULCHES.

I have made experiments with mulches of very varying thickness, and at the present time am engaged on further work upon them. Up to the present the best thickness on strong and medium soils appears to be 2ins. to 3ins. A temporary mulch on these soils need not be quite rim. in thickness. For light soils the minimum thickness in the first instance should be 4ins., although this may sound very extravagant. Those who have not yet done much in the way of mulching their crops will be surprised how very quickly the thickness of mulches dwindles on light soils, and if bulky materials, such as lawn mowings, have to be used on such, a minimum thickness of 6ins. should be allowed in the first instance, as within a few days this will have been halved by decomposition and consolidation.

I am rather interested in the question of whether it is possible to mix some deliquescent chemical with the materials used for mulching in order to keep it perpetually moist even in very hot weather. Up to the present my researches have not produced any results worth recording, but it is hoped that further light may be thrown on the question, at any rate by the end of the present summer.

In using either cow or horse manure as a mulch the most economical plan is to water through it, and not to remove it each time before watering. Naturally, one gives the plants to be mulched a thorough soaking with water or weak liquid manure immediately before the application of the mulch, as if one mulches a dry soil one keeps the roots of one's plants cool certainly, but one prevents the moisture from reaching them instead of preventing it from leaving them.

I am quite convinced that a great deal of further experimental work might profitably be done on the question of mulching, and those who have time at command will probably like to start on the question immediately. I have had several years of experiment on it myself in a small way,

and have found it one of the most interesting, not to say fascinating, of all the lines of horticultural experiment that I have handled. Flowers, vegetables, fruits and herbs all benefit by the

the survival of the fittest, the fine strain honoured by her *nom de plume*, St. Brigid. That was in an old Kildare garden near the site of St. Brigid's Oratory. The triumph of her labours of love,



A BED OF ANEMONE ST. BRIGID, CROWLEY'S WHITE.

application of suitable mulches, but it is no exaggeration to say that the most suitable mulches for these still remain in many cases to be discovered.

E. T. ELLIS.

CORRESPONDENCE

THE PERENNIAL HONESTY.

THE genus *Lunaria*, known as Satin Flower, or Moonwort, is restricted to about two species, both of which are European, of which *Lunaria annua* (which is correctly a biennial), more commonly known as Honesty, is the better known, both as a flowering plant and (more so) for the decorative value of its dry fruits. *Lunaria rediviva* is a plant very rarely met with, although it was introduced into this country as long ago as 1596, but it is one that deserves to be grown more freely, either as a border plant or for naturalising in the wild garden, as it is equally as good for partial shade as in the open. It differs from *L. annua* in being a perennial, as well as in the shape of its fruits. It is a plant 2ft. to 3ft., or even more, high, with fragrant flowers that are purplish mauve in the bud stage, almost white,

with purplish mauve veins when open, with a purple calyx and borne during May in terminal panicles well up above the handsome bright green, cordate foliage. The elliptical or lance-elliptic pods which taper to each end are perhaps not so decorative as those of the well known Honesty, but will be found very valuable for winter decoration in vases. It is readily raised from seed, or may be increased by division of the roots, while the young shoots 2ins. to 3ins. long will soon root if placed in sandy soil in a cold frame.—F. G. PRESTON, *Botanic Garden, Cambridge*.

ST. BRIGID'S ANEMONES

IT is now fifty years since the late Mrs. Lawrenson, after some years of patient selection and reselection, under annual sowing of the old garden Anemone (*A. coronaria*) achieved, in

apart from promising considerable correspondence, further threatened a penalty of publicity and a notoriety she was anxious to avoid and led to her sheltering herself under the *nom de plume*, "St. Brigid"—hence St. Brigid's Anemones.

It may be that our "soft" Irish climate has been peculiarly well adapted to the old Anemone, known to our gardens for three centuries at least, aided perhaps by St. Brigid's method of treatment. Anyway, that method under the writer's hands, for a dozen years or more, invariably resulted at this season in a gorgeous display which, even at a time when flora is prodigal in colour, was unique. Personal practice, carried out on the lines advocated by St. Brigid, may here be given in her own words: "Having saved seed the preceding May (which would mean June this deferred season) in March or April I select a piece of good ground in a warm situation. I have it well dug and made fine, and then on the surface I have spread a layer of fresh cow droppings collected from the pasture; this is dug 5 ins. or 6 ins. deep, and then some well decayed leaf-mould is mixed with the upper 2 ins. of the bed; it is raked fine, and all is ready for sowing. I then take the seed and mix it with my fingers in some sand that has a little moisture, just enough to make it adhere to the seeds and thus separate them. I next sprinkle the seed thus prepared over the bed, not too thickly, and having ready some fine mould, I, with the hand, shake enough over the bed to cover the seeds, but not to bury them."

The pure white form of St. Brigid's Anemone called Crowley's White—for which Mr. S. Crowley, Parsonsgreen Gardens, Clogheen, Co. Tipperary, received a unanimous award of merit at the spring show of the Royal Horticultural Society of Ireland, April 5, 1923 (a further award of merit being since given to it by the R.H.S. at the Royal Horticultural Hall, Westminster)—is wholly distinct, inasmuch as the anthers as well as the petals are silvery shining white. Mr. Crowley, by the way, is an old pupil of Trinity College Botanic Gardens, Dublin, where he did his "bit" under the regime of the late Mr. F. W. Burbidge, and possibly it was an inspiration derived from that master-hand which led him some few years ago to discern this novelty among a bed of seedlings, and then, by St. Brigid's care, evolve it to the end of its being fixed, a good stock of which he now holds—K., *Dublin*.

TO SUN-LOVERS.

SO many readers of THE GARDEN pass the winter in the South of France that I am sure they will be delighted to learn that the wonderful garden of succulents arranged by the late Prince of Monaco is now open to the public between the hours of eleven in the morning and four in the afternoon. Situated as it is high up on the



THE PERENNIAL HONESTY, LUNARIA REDIVIVA.

rock behind Monaco, the garden entrance is on what is called the "Moyenne Corniche," about half an hour's walk up the hill from the Casino gardens. When I was last there the Prickly Pears, or Opuntias, were in flower—an amazing sight to those who only know the naturalised Opuntia so common on this coast. There are sixty kinds named in the catalogue of the treasures in this garden, and their variety and their beauty in flower must be seen to be believed. The *Cereus* will soon take up the running and remain in flower all through the summer heats, so I would urge all garden-lovers to travel there, where they will see beauties hitherto unknown outside Mexico and Peru. The season of Roses now closing has been extra favourable, so that rose-lovers are keener than ever to add some new beauty to their collections. To such I would say that Gilbert Nabonnand's new climbing Rose Irene Boni appears to me one of the most desirable Roses I have seen for several years. For this coast it is important that it should be a good winter bloomer; secondly, that it should be free in growth with fine, big, full flowers and sweet scented. Irene Boni fulfils all these requirements, and is of the freshest pink in colour. To those who know Lady Waterlow or the fine old Bourbon Duchesse de Nemours I would say it is even better than either of them. Many modern Roses do not succeed on this coast, but I notice that Hadley, a deep red Rose which too often turns purple in northern gardens, is of the most brilliant beauty on this coast. K. of K. also does very well, and Queen Alexandra takes on a new and wonderful scarlet colouring that astomishes the new-comer. These also are particularly good in November and December, when the blooms open slowly and last a very long time.—E. H. WOODALL, Nice.

FRAGRANT FOLIAGE.

I READ the articles under the above title by "Somers" in the recent issues of THE GARDEN with peculiar interest, as I have lately written in another place on the fragrance of plants in relation to insects. "Somers" states that he does not remember ever having seen any explanation of the fact that a very large proportion of plants with fragrant foliage bear labiate blossoms, yet this is exactly what we should expect, as flowers with a lip are specially contrived to attract insects which benefit the plant. The flowers are beautiful but complex machines to secure cross-fertilisation. The flowers of the Orchids are the most complex of all, and it is a noticeable feature of many that the whole plant is fragrant. The Burnese and Indian Orchids, such as *Dendrobium moschatum* and the *Bulbophyllum suavisimum* possess the scent of new-mown hay. *Miltonia Roezlii* is scented like the Rose, *Dendrobium heterocarpon* like the Violet, *Odontoglossum odoratum* and *Maxillaria picta* smell like the Hawthorn. The late Mr. Philip Crowley, who was a relative of mine besides being the treasurer of the R.H.S., possessed one of the finest collections of exotic butterflies ever got together, and in that collection I have seen these insects bearing strange scent glands upon the front borders of their hind wings. Some of them smelled like Sweet Briar leaves, others like the flowers of Honeysuckle and Jasmine, and so attracted their mates. It will be clear that if the scent of a plant, be it in leaf or blossom, is the very one that proves so attractive to the butterflies and moths in their mates, it would draw them in great numbers from long distances to the flower and so procure cross-fertilisation and sustain the vigour of the race. Many butterflies and moths possess a sense of smell far keener than that of any dog or bird. The females of the Empress moth emit

an odour which attracts their mates from no redible distances. One female left in a box covered with gauze-net, in a room with the window open, was, in less than an hour, surrounded by more than one hundred males of her own species. Dr. Kerner in his "Flowers and Their Unbidden Guests" writes that he has seen "the *Convolvulus* hawk moth flying with the swiftness of the arrow to the flowers of the Honeysuckle at a distance from which they could not be seen in broad daylight." Through long geological ages, concurrently with the development of perfumes in flowers and plants, the development of odours in the scales on the wings of moths and butterflies has taken place. Many of these perfumes are perceptible to man, but many which we cannot detect appear to be perceived by the insect. The means by which the butterfly and moth discover the

to Heaven! It is from the earth that the plant, by some marvellous alchemy, draws its fragrance, "therefore nothing is more fit for delight than to know what be the flowers and plants that do best perfume the air." Let us then be thankful for the few we can perceive, of which "Somers" so delightfully reminds us.—H. H. WARNER.

WHITEBEAM (PYRUS ARIA).

A YOUNG tree of this handsome native has appeared at the edge of the copse where it adjoins the lawn. It was strikingly conspicuous in the middle of May, when the greater number of the side branches were tipped with the corymbs of cream-white bloom nearly 6ins. across. It came of its own good will, and is all the more welcome because it is not common on our sandy hills, though abundant on the neighbouring



THE WHITEBEAM, PYRUS ARIA.

particular plants on which to lay their eggs and so provide the proper food for the young caterpillars when they hatch out has been regarded as a mystery, but the key to that mystery is their extraordinary power to distinguish scents often imperceptible to man.

The influence of fragrance has been, and is, a profound one, and it is surprising that this question has not received the same attention as that of colour and form of the flower. The probability is that the leaves of all plants possess their own characteristic and distinctive odours, but our sense of smell is not sufficiently developed to perceive it, just as our ears cannot hear the high notes which are heard by the bat, while the ultra-violet rays perceived by the ant are lost to us. Professor Ray Lankester considers that while man's sense of smell has deteriorated in comparison with what it was in his animal ancestry, yet "he retains a large inherited capacity of unconscious smell-sense, unknown to him and unobserved." Thus it seems probable that we are attracted or repelled by other human individuals by the unconscious operation upon us of attractive or repulsive odours, producing unaccountable likings or dislikings. And what of the delightful fragrance which rises from the parched earth when the rain at length falls on the parched land! That oldest and sweetest incense which ever rose

chalk. Not only are the flowers desirable, but the large leaves have a certain aspect of importance. They are about 6ins. long by 4ins. wide, and the edges are boldly jagged with a double toothing. The upper surface is bright, deep green and lustrous, in strong contrast to the downy whitish back; this white back is specially noticeable on windy days, when the leaves seem to flash as they turn over. A few miles away, among the old Yews bordering the Pilgrim's Way on the chalk downs east of Guildford, a Whitebeam has taken root at the place about 8ft. above the ground where the Yew was originally pollarded and has sent its roots down the hollow trunk. It is now a good-sized tree with its white backed leaves curiously conspicuous above the sombre masses of the dark Yew foliage.—G. J.

TWO FINE COLLECTIONS OF RHODODENDRONS.

MANY thousands of choice varieties are splendidly grown in the charming grounds surrounding Pylewell Park and Exbury House, Hampshire, the country seats of Ingham Whitaker, Esq., and Lionel de Rothschild, Esq., respectively. At Pylewell Park the head-gardener, Mr. Hamilton, is raising hundreds of seedlings. On a gently sloping bank, under stately Oak trees, a very successful attempt is being made to establish a

colony of Rhododendrons. The soil is inclined to be stony, with leaf-mould to a depth of 1ft. or so, then gravel predominates. All the plants are in excellent condition. R. Loder's White was splendid in both form and flower; R. Roylei magnifica was covered with flowers resembling those of *Lapageria roseum*. Rhododendrons *Broughtonii aureum*, *Gauntlettii* and *Gill's Triumph* were others very noteworthy. A speciality is also made of the rarest flowering shrubs and climbers from all parts of the world, too numerous to be referred to in detail in this brief note. At Exbury House Mr. Kneller, the head-gardener,

is busy establishing Rhododendrons, Azaleas, Heaths, rock and water-loving plants over a woodland area covering many acres in extent. The collection is full of gems. R. Loderi and R. Alice were magnificent. Plants of the first named were 12ft. high and nearly as much through. The Heaths and Azaleas are planted in dells and banks, through which winding paths lead the visitor. All the soil is being trenched 2ft. deep. A series of rockeries, waterfalls and ponds extend through one charming wood about half a mile in length. This is only the beginning.—GEORGE GARNER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Beet.—A further sowing of a turnip-rooted variety may be made to furnish roots during the autumn and it should be borne in mind that this kind need not be thinned too severely.

Mushrooms.—Now is a suitable time to collect the necessary horse droppings for the formation of a mushroom bed. Shake out the litter or straw from the droppings. The latter should be placed in a heap and turned over three or four times to allow the rank heat to escape. An old dark shed will suffice, and when the bed is made up and the temperature falls to about 80°, the spawning should be done.

Peas.—Late Peas are always appreciated and a sowing of a late variety such as Autocrat, Ne Plus Ultra or Late Queen should be made. If the soil is very dry the trenches should be well soaked, also the soil that will cover the seeds. This may be done the night previous to sowing. Continue to stake those sown earlier in the season, and if the weather is dry, Peas are well worth an occasional soaking of water. The ground between the rows should be frequently stirred with the hoe.

Carrots.—We usually make a small sowing of a stump-rooted variety about this date, to furnish roots in the autumn; they are less coarse than some of the long kinds. Sow in lines 9ins. apart and if the seed is sown fairly thinly, no further work will be needed except keeping the patch free from weeds. This crop usually escapes the ravages of the carrot fly.

Coleworts are useful vegetables for the winter and a sowing should be made about this date. When the seedlings are large enough, transplant them 1ft. apart, choosing a fairly rich piece of ground.

The Rock Garden.

General Work.—Weeds should be kept down, and during a spell of dry weather a certain amount of watering is essential. Some will say the rock garden is past its best, but to the plant lover there is always something of interest and at present the Rock Roses, Campanulas, etc., are still giving a good show. Plants that have finished flowering may have their old flower stalks removed, except where a little seed is wanted, and I would advise growers always to save seeds, especially of rare plants, and choice varieties of any favourite flower.

The Flower Garden.

Flowering Shrubs.—When these pass out of flower, all seed vessels should be removed and where necessary any pruning done. Lilacs may have the weak shoots cut out; Deutzias and Philadelphus have most of the old flowering wood reduced to a strong new shoot, but an eye should always be given to a well shaped specimen and the pruning done accordingly. Azaleas often develop quite a lot of seed pods which, if permitted to remain, check the new growth and reduce the number of flower buds for next season.

Bulbs in Grass.—In most instances the foliage has died down, and the grass may be mown at any time. Bulbs that were forced in pots may be planted out whenever an opportunity occurs. Drifts and clumps should be aimed at rather than isolated small patches.

The Hardy Fruit Garden.

Gooseberries.—These are best grown with a short stem, and where such a system is in vogue, all the suckers or growths at the base should be removed at an early stage. This remark also applies to Red and White Currants, but not to

the Black varieties, the best of the basal growths being retained to take the place later on of those that are exhausted. Superfluous suckers must also be cut away from the Raspberry stools and between the rows, while the whole of the fruit quarters ought to be kept free from weeds and insect pests.

The Loganberry.—In addition to the Loganberry, there are various kinds of Brambles grown in some gardens, but all need practically the same treatment. They are now making vigorous growth and as these produce the fruit next season, care must be taken to prevent them being injured. Retain sufficient for next year, cutting away the weakest where reduction in the number is necessary. Tie them to the supports and see that they do not interfere with the growths bearing fruit. These Brambles are profitable plants for training over pergolas, or any fence or wall, and moreover they are not particular as to position or aspect.

Woolly Aphis.—At this period of the year this pest spreads rapidly on Apple trees, and it is often possible to check it before it has attacked the whole of the trees. Methylated spirit applied with a stiff brush similar to that used by painters will reduce this pest considerably.

T. W. BRISCOE.

(Gardener to W. R. Lysaght, Esq.)
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—If not already attended to, the planting of this important crop should no longer be delayed. If the trenches were formed and prepared earlier in the season, the number of rows to each trench has no doubt been already decided upon, but where the whole or part of them has yet to be formed, one can recommend a width of 18ins., with 3ft. between the trenches. This arrangement admits of two rows to each trench, with 9ins. between the rows and 15ins. between the plants in each row, the plants to be arranged alternately, not opposite each other. If any trenches have yet to be prepared, it will be advisable to utilise some portion of the quarter from which the Broccoli crop has been cleared, and as the roots of the Celery do not travel beyond the limits of the trench, it will not be necessary to dig the quarter. The trenches should be well supplied with half-decayed farmyard manure prior to being dug and finely broken up. If available it will pay to place a few inches of old potting soil on the surface of the trenches after they have been dug and before commencing to plant. Water the plants to settle the soil about their roots.

Turnips.—Prepare a portion of the quarters occupied by Broccoli and Spring Cabbage for further sowings of Turnips. A sowing of Golden Ball should be made at once, followed by a sowing of Early Milan a fortnight hence; this will supply sweet succulent bulbs right into the winter.

Salading.—If celery trenches have to be prepared now, plant the spaces between the trenches with Lettuces and make another sowing elsewhere. Tie up Cos Lettuces as they develop and make sowings of Radishes every ten days and of Mustard and Cress every week.

Broad Beans.—As soon as the plants of the second sowing have developed sufficiently to bear a reasonable crop, they should be topped as a preventive against attacks by the fly.

Peas.—Stake the later sowings before they incline to bend over. If drought sets in, give the whole crop a copious supply of water or the pods will not fill satisfactorily.

The Flower Garden.

Hollyhocks will now be growing rapidly and attention to tying must be given as they develop; do not tie too tightly. Overhaul and readjust the ligatures from time to time or the plants will get "hanked," when the shoots are apt to snap. An occasional dose of moderately strong liquid manure will materially assist these gross feeders.

Carnations.—If seed was sown in spring and the seedlings were duly pricked out into boxes they will now be ready for planting out into their flowering quarters. The ground for their reception should be deeply dug and well broken up. If the soil is of a heavy nature, horse dung should be applied, with the addition of some road grit or old mortar rubbish. If on the other hand the soil is of a light nature, apply a moderate dressing of mixed farmyard manure and on either class of soil the addition of a little bone meal will be beneficial. Plant firmly at a distance of 14ins. apart, that not being too wide when the plants have fully developed.

Fruits Under Glass.

Vines.—Late Vines will require attention in the way of second thinning of the fruit. First of all remove berries which have in any way been damaged at the first thinning, and in the case of Muscats, remove any seedless berries which have been overlooked. Muscats require closer attention in thinning than do Hamburghs, as owing to their stiff footstalks they cannot yield to each other when left rather thick. The thinning finished, give the border a good watering and unless it is well enriched, finish with some liquid manure to assist in the swelling of the fruit. Promptly remove any sub-laterals which may appear. Increase the ventilation somewhat.

Peaches.—Continue to train succession shoots in such a way that both they and the fruit will receive the greatest possible amount of light. Although it is desirable to maintain a rather drier atmosphere as the fruit shews signs of ripening, yet a vigilant watch must be kept for red spider or thrip and, if they threaten, the garden engine or syringe must be vigorously applied morning and late afternoon, shutting up the house for an hour or so after the afternoon application, then opening the ventilators for the night.

CHAS. COMFORT.

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

CONSERVATORY AND GREENHOUSE.

Gloxinias if treated as advised last week for Streptocarpuses make excellent plants for the greenhouse, the first batch to flower being grown from tubers raised from seed sown last year and started into growth early in the new year. Plants raised from seed sown early this year should give a good display towards the end of summer. They may be grown quite well in cold frames during the summer months, keeping them fairly close and moist and shutting them up early with plenty of sun-heat and moisture. If a heated frame is available, it is, of course, a great advantage during spells of dull cold weather. Gloxinias enjoy a light rich compost, and when their pots are well filled with roots may be given frequent applications of diluted liquid manure and soot water.

Freesias, Nerines and Lachenalias having finished their growth, water should now be withheld. Stand the plants in cold frames fully exposed to the sun, keeping the frame light on. If preferred, Freesias and Lachenalias may be turned out of their pots and stored in dry sand in a cool place until it is time to repot them during August or September.

Tritonia crocata and its varieties, which have been flowering for some weeks now, should, when their foliage dies down, be treated in the same way as advised for Freesias. It is surprising that this beautiful plant is not more generally grown, as it is excellent for cutting purposes.

Thunbergia alata.—This pretty annual is very useful for furnishing the greenhouse during the summer months. The twining shoots may be trained round neat supports, or to wires or string under the roof. Plants raised from seed sown early in the year are now flowering. If seed is sown at this time, the resultant plants will flower towards the end of summer.

Thunbergia Gibsoni is a perennial species with fine orange-yellow flowers. Plants may be raised either from seeds or cuttings. The slender twining stems should be trained round neat supports. This beautiful plant succeeds under ordinary greenhouse conditions.

Rehmannia angulata, which is so useful for furnishing the conservatory, is best raised from seed, which should be sown at this time. The

young seedlings should be grown on in cold frames, potting them on as they require it. The flowers vary somewhat in colour, thus, when retaining plants for seed, care should be taken to save the best colour forms. There is a fine white variety which makes a good companion plant to the type plant.

Lantana salvifolia is very useful for flowering during late summer and autumn, and good plants for the stages can be grown in six-inch pots. They should be pinched frequently during the summer to keep them dwarf and bushy. This species is very fine for covering pillars in the conservatory, planted out for the purpose in a bed or border. It grows to a height of 10ft. to 12ft., and flowers with wonderful profusion nearly all the year round.

Primulas of the *sinensis* type sown earlier in the year should be pricked off into pans containing light, rich soil. Larger plants may be potted-off singly in thumb pots. Another sowing for succession should be made at this time, giving preference to the stellata type where they are required for purely decorative purposes. *Primula floribunda* and the pale colour form *isabellina* are very useful for the small greenhouse. *P. floribunda* is interesting as being one of the parents of *P. kewensis*. *P. verticillata*, the other parent of *P. kewensis*, should also be sown at this time. Plants of this *Primula* are worth growing on for a second year as they then make fine large specimens. Seed of *Primula kewensis* should also be sown now. The type plant, or original stock of *P. kewensis* does not produce seed, and must be propagated by division. Where stocks of this plant exist, the plants should be divided at this time, keeping them somewhat close and moist for a week or so until they become established.

Royal Botanic Gardens, Kew.

J. COULTS.

A NEW BOOK ON GARDENING

FOR twenty or more years past a great change has been taking place in the kind of plants that appeal to popular taste. Those of us who worked in gardens forty or more years ago recall the important place that stove and greenhouse plants held then in public estimation. We can recall also the names of a good number of nursery firms whose fame and fortunes rested largely on that class of plants. The decline of tender and hot-house plants and the rise in favour of hardy trees and shrubs, alpine and herbaceous plants were immensely accelerated by the war. Pre-war taxation had made its influence felt, but it was as nothing compared with the state of affairs that has arisen in the last seven or eight years—high taxation combined with a greatly increased cost in labour, fuel and other material. Orchids still hold their own, but ordinary greenhouses, and still more "stoves," have either largely disappeared or been put to more utilitarian purposes. The love of gardens and gardening is keener than ever it was, but nowadays it has to be satisfied at a lesser cost than formerly.

It is to meet this new condition of things that Mr. Eley's book* is largely designed, but perhaps still more to lend a helping hand to those who have lately acquired, or are desirous of acquiring, a garden site and want to make the best of it. Mr. Eley says in his introduction, with perhaps too much modesty, that his book may be compared to someone trying to display by the light of a candle a vast collection of pictures. It does something more than that. It gives some leading ideas how the picture gallery itself should be built and where and how the masterpieces should be hung. In other words, he gives very valuable advice in choosing the site of a garden and in the choice of the best trees and shrubs to plant in it; it is these that must always make the base or framework of the garden and provide its really permanent features. The details and the refinements come afterwards, and their elaboration will

provide the garden-lover who is not in a desperate hurry with years and years of rich enjoyment.

The author devotes four chapters to garden-making, and one gathers from them that they are based on that safest of all foundations, the writer's own experience in the task. In his own words, he has been "through the mill." He is not above admitting that he has made mistakes; his desire is rather that others may learn from him how they may avoid them.

Books on gardening may be roughly classified into two groups: those in which the author gives us fine writing and literary charm but which are woefully lacking in genuinely practical guidance; and those full of useful knowledge but very dull to read. Both types have their uses for the lover of gardens. The first gives an uplift to one's thoughts and ideas, the other helps to give them reality. Mr. Eley's book, in a great measure,

ambines the two. Written in an easy manner, with no straining for effect, it affords the pleasantest possible reading, full of shrewd wit and humour, yet at the same time packed with correct information. One might compile a hundred apothegms on gardening from it. A valuable part of the book consists of some 140 pages devoted to the selection, cultivation and brief description of the very cream of hardy trees, shrubs and climbers. Other chapters on hedges, shelter and shade deal with matters in which help is often sought.

The book is admirably printed, light to handle, and is illustrated with twenty-eight full-page plates—reproductions of photographs. It is commendably and unusually free from errors in the spelling of botanical names. We have only noticed one mistake, which is in the spelling of *Trachycarpus*, correct in the text but wrong in the legend to the illustration.

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white and mixed, 12, 1/6. *Viola cornuta*, splendid for rockeries, *Mauve* and *Purple Queen*, Blue and *White Perfection*, 12, 1/9. *Viola* *Maggie Mott*, best large mauve, strong plants from cuttings, 6, 1/4; 12, 2/6.

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Tomato, strong transplanted, best varieties, 6, 1/6.

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* "Gardening for the Twentieth Century," by Charles Eley, M.A., F.L.S. (John Murray, Albemarle Street, W.), price 16s. net.)

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Kew Guild Dinner.—The annual dinner of the members of the Kew Guild, which was held at the Imperial Hotel, Russell Square, London, on May 30 last, was particularly successful from every point of view. There was a record attendance under the presidency of Mr. J. Masters Hillier; the dinner was good; the various speeches, while being of great interest and even value, were enlivened with real humour; and between-whiles the company was entertained with charming singing by Miss Dorrie Hillier, the eldest daughter of the president; Miss E. M. Harper, a past Kewite; and Mr. H. Maw. Mr. J. Masters Hillier, the president-elect, recounted many interesting memoirs of the forty-three years he had been connected with Kew and also said, that when looking back over that long period, it was very pleasant to remember that there had been exceedingly few failures on the part of the very many men Kew had sent out to all quarters of the globe, and with some of those few failures he knew there had been extenuating circumstances. Mr. J. Burt Davy, who responded to the toast of "The Kew Guild," said that when one looked over the roll of illustrious names which had been, and are, connected with Kew, it would have been excusable if the toast of the evening, instead of being the Kew Guild had been the old one of "Here's to aireselves, there may be ithers but we dinna ken them"—a toast which embodies a spirit which is good to a certain point, while it encourages one to try to do better, but it would be unwise to dwell unduly on it and by not striving strenuously find ourselves left in the lurch. He was at times disappointed that Kew men were not more often in the important positions in the Colonies and elsewhere abroad. This was due to the changing times and the spirit of the Colonies, which demanded Colonials for Colonial posts. Yet, he said, while Government posts were becoming closed to Kew men, there were other openings, particularly municipal and commercial, which the Kew training fitted men to fill, and he thought the younger generation of Kew men would be well advised to hunt up such opportunities. In proposing the health of the president-elect, the Director of Kew first expressed his appreciation of Mr. Davy's suggestions, and then paid a deservedly high tribute to the character and attainments of Mr. Hillier, particularly in his capacity of Keeper of the Museums. No matter what specimen (often very meagre) was brought to Mr. Hillier, he could almost immediately name it and indicate its commercial value. The President, in his reply, referred to the great help he had always received and in most felicitous terms to the high qualities, so well known to the older Kew men, of his predecessor Mr. John Reader Jackson.

Answers to Correspondents

NAMES OF PLANTS.—A. L. M., Surrey.—1, *Escallonia macrantha*; 2, *Geranium phaeum*; 3, *Saponaria ocyroides*; 4, *Veronica gentianoides*; 5, *Campanula alliarifolia* (?); 6, *Iris orientalis*.—W. L. F.—1, *Billbergia nutans*; 2, *Senecio glastifolius*.—E. M. G.—*Gemsta hispanica*, Spanish Gorse.—F. M., Birmingham.—*Tulipa Gesneriana* var.—R. W. N.—1, *Saponaria ocyroides*; 2, *Mesembryanthemum* sp. (unable to identify, as the flowers were withered); 3, *Sedum spurium*; 4, *S. reflexum*; 5, *Helianthemum vulgare cupreum* fl. pl.; 6, *Arabis albida variegata*; 7, *Cytisus Andreanus*; 8, *Spiraea Filipendula*; 9, *Yucca recurvifolia*.—Mrs. S., Andover.—*Rubus deliciosus*.—E. C. F.—*Saxifraga canaliculata*.—J. C., Shrewsbury.—1, *Ethionema pulchellum*; 2, *Crinum ochroleucum*; 3, *Primula Sieboldii*; 4, *Maianthemum Convallaria*.

FORTHCOMING EVENTS.

June 19.—Winchester Horticultural Society's Meeting.

June 21.—Manchester and North of England Orchid Society's Meeting.

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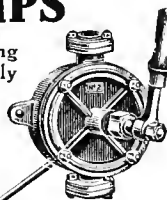


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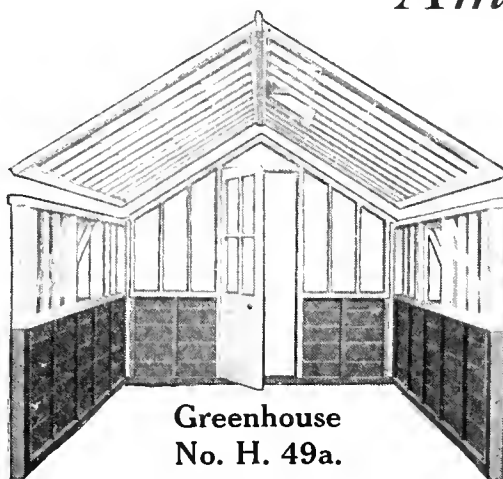
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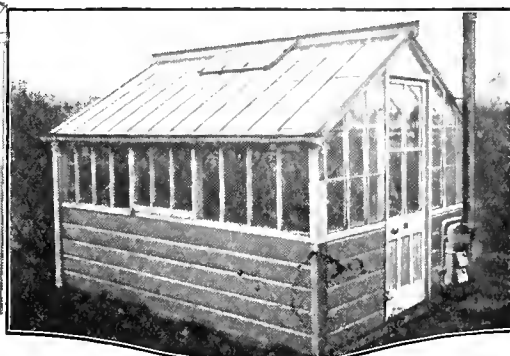
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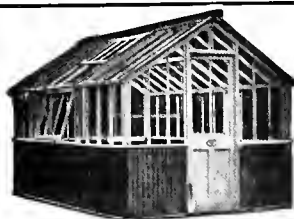
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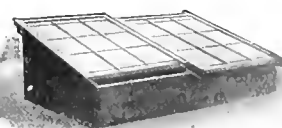
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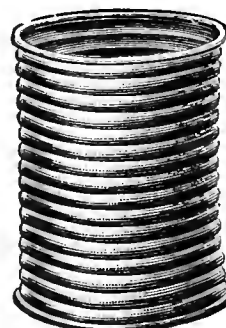
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Vol. LXXXVII.—No. 2692.

Saturday, June 23, 1923

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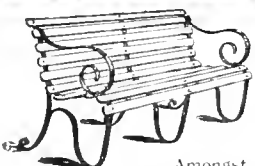
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No. 2692.—Vol. LXXXVII.]

[JUNE 23, 1923.]

IN A JUNE ROCK GARDEN

EARLY June brings such splendour to the rock garden that one can attempt to do no more justice to the feast of colour which this season yields than to mention individually a few of those plants which, for one reason or another, make the deepest impression upon one at the moment. Though cold, sunless days and colder nights have retarded most things, weeds excepted, the Pinks have been true to their accustomed time and every day now sees a fresh clump opening some cheerful blossoms. The brightest among these is, perhaps, the dauntless little *Dianthus Spencer Bickham*, whose shrill carmine puts most others at a disadvantage, always excepting the numerous little fellows in white, the doubles and singles, the fringed and the plain which are among the most fragrant of their race. One of the prettiest of these is a small-flowered single with long and wiry stems and fine grassy foliage. This is the most highly perfumed of all and is known in old gardens as *Little Dove*, or *Little Dot*, a very dainty little thing whose easy culture is combined with that rare charm which is often indefinable. The Cheddar Pinks (*D. cæsius*) are, of course, among these earlier ones, as is the much more fastidious *D. alpinus* with its glorious big rosy flowers and irresistible attraction for ground pests. A couple of grand old Pinks of the first water, and now seldom seen, which are also in bloom and not to be passed by are *DD. Caesar's Mantle* and *Wolley Dodd*. *Dianthus E. H. Jenkins* is a newer one, after the sumptuous pattern of *Caesar's Mantle*, but it rejoices in a much greater vigour than that of the latter.

Of *Iris tectorum* we had almost despaired. Surface caterpillars and other troubles always so beset our plants that to expect blossom from them began to seem hopeless. Finally, they were put out on the top of a new retaining wall in a free, gritty soil dug from a considerable depth in the building of the said wall. Here they soon shewed their appreciation of the new conditions, and on our return after a fortnight's absence at the

time of the Chelsea Show we were greeted with a number of their exquisite flowers. There is a peculiar, fairy-like beauty about the white form of this lovely *Iris* which beggars description, and the glistening pale blue of the typical form, with its subtle mottling of a darker shade, together with the wavy elegance of falls and standards, gives the flowers of this species an unusual impression of grace and good breeding. Then how can one find words to express one's adoration for the dainty *I. gracilipes*, always so trusty and satisfied jammed in between the rocks that have imprisoned it these last ten years? Or for the wee *I. lacustris* and *cristata*, jewels of the most delicately toned china blue and fine gold?

Androsace foliosa, holding its bunchy heads of large rosy lilac flowers stiffly on 8 in. stems, must

always be given a prominent place among those of its tribe, and it is a good and hardy plant in our shaly soil with an autumnal leaf-colouring of no mean quality. *A. villosa* is another of this genus which, if not quite so reliable with us as the foregoing, is particularly happy this season, and its pale green mat of silky foliage is now being adorned with the pretty, pink-eyed, snow white flowers. *Phloxes*, like *Aubrietias*, seem to have enjoyed the cool conditions under which we have shivered these many weeks, for they have seldom remained so good for such a long period. Their day is coming to an end, however, with some of the choicest of their clan, notably the adorable little *Vivid*, *Fairy* and *aldeboroughensis*—a trio of choice and compact little things of the utmost refinement and charm.

The summer month brings the sweetest of all the *Thymes* into bloom. *T. nitidus*, if that is what we may call that big and bushy early species with its fine rosy lilac heads, now gives place to the *Serpyllum* varieties, to the grass-green white form frosted with its silvery inflorescence, the splendid *coccineum* and a number of intermediate forms. The golden-tinted *T. ericæfolius aurea* is flushed with lilac and, among the many associates of this indispensable family are several forms of *Erinus alpinus*. The white and the carmine varieties of this delightful little coloniser are perhaps the most fascinating, but all are good, and there is a form (*hirsutus*?) with larger flowers of a clearer purple than those of the type which is distinct.

Early June also ushers in the *Cranesbills*, *Geranium sanguineum*, triumphant in the fierce crimson of its gorgeous blooms, and *G. nodosum*, whose more humble aspirations in the realms of colour and form, I strongly suspect, are being "influenced," as others have been, by the fiery splendour of the native. The more æsthetic will doubtless rather abase themselves before the delectable *G. cinereum*, which is earlier here than *argenteum*, or before the still more enchanting purity and grace of *G. c. album*, whose



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drooping, snow white cups are the last word in refinement. The soft pink and prostrate *G. lancastrae* is botanically reckoned a form of *G. sanguineum*, but oh! how different. Nor can one pass unobserved the silvery, fern-like foliage of *Erodium cheilanthoides*, over which the "butterflies" in purple and white are so jauntily poised on their slender stems.

Into the realm of Saxifrage one hardly dares trespass in a general article, but it would seem churlish to omit to mention a few of the later ones of notable merit, if they are not of notable rarity. Among these *S. umbrosa*, Elliott's Variety, so brilliant in the vivid ruby red of stem and blossom and so amenable to all and any conditions, must be accorded a foremost place. The great branching spires of the *Cotyledon*, *lingulata* and *longifolia* sets, the air of distinction and quality which pervades *S. cochlearis minor*, the fine colours and reliability of *S. Aizoon*, in both yellow (*lutea*) and red (*atro-purpurea*), the dense green cushions of one or two of the muscoides section which bear the name of *Stemonth* and enjoy an incredibly long season among other attributes, these, together with the beautiful *S. granulata* (the single-flowered type) and a mossy with white flowers of uncommon substance and purity, *S. Stansfieldii*, both in a cool place, are but a few of the many good things of this genus which bridge the gap 'twixt spring and summer.

The *Armenas* are much in evidence just now, and not a few of these are proving their adaptability for dry wall in no uncertain manner. Bees? Ruby Thrift is still one of the worthiest of these, but of stiffer habit and with quite upright stems of 15 ins. or so is *A. Cephalotes rubra*, a variety of superlative merit. The much shorter, pure white *W. B. Child* makes a pleasing break in the ranks of these often rather shrill-toned pinks, and another plant which has a delightfully moderating effect upon such riotous company is *Veronica gentianoides*.

Vinca herbacea comes on just when its spring-flowering relations are ceasing. A fine and hearty thing this for a spacious slope, which it can cover with its runners and navy blue stars, and another Periwinkle which has been in flower without cessation since early last autumn is *Vinca acutiflora*, with blooms nearly as large as those of *V. major* in a cool glacier white. Though they suffered distressingly during the wet of the early season, the *Onosmas* have made wonderful recovery, and admirable as the old rich yellow *O. tauricum* is, with its more robust constitution, the blue-riband for refinement and unsurpassed loveliness must be awarded to *O. albo-roseum*, which is worth any amount of perseverance, and the best of good places on a level with the eye is not too good for it.

Like the Phloxes, the *Violas* have not resented the absence of heat which cut short their season last May. *Viola gracilis*, with its offshoots, VV. Clarence Elliott's var. in white, Lady Crisp (blue-lavender), Perry's Yellow and Purple Robe are still thronged with blossom, and I am constrained to put in a word of praise for the familiar *V. cornuta*, more especially the old, old blue-purple form, which is very nearly a pure blue in some lights, and the milk white variety of the same thing. These two are such splendid all-season bloomers, they are so easy-tempered anywhere and so elegant withal that even should they be momentarily eclipsed by novelties they can never go wholly disregarded.

That useful wanton, *Corydalis lutea*, is now in the heyday of its ramping abundance, and though most of its kindred grown here are "packing up," *C. squarrosa*, bearing creamy flower-clusters on stout stems, is still carrying on, and the lovely foliage of the much taller *C. ophioarpa*, terminating

in drooping sprays of ivory, grows even more attractive as the spring passes. Two shrubby *Potentillas* claim attention on a sunny slope, one being *P. fruticosa argentea nana* and the other *P. arbuscula*. Both have silver leaves and flowers of an intense yellow, those of the latter being the larger, and both are more or less prostrate and not addicted to long life with us. *Calamintha grandiflora*, on the other hand, which is also in this group, will here live for "donkey's years" and every June begin that long succession of bright rosy mauve blossoms which nestle amid its aromatic foliage. *Veronica Catarractæ* is usually among the first of the shrubby species of its kind to flower, but it is closely followed by the delicately beautiful *V. Bidwillii* and one or two of its varieties. *V. rupestris* once again pleads for the recognition that is its due, it being still one of the finest of its class, all things considered, and then there are its exquisite forms in clear rose pink and pure white, which are still scarce in gardens despite their undeniable merits. No less may be said of the golden-leaved *V. r. var. Treherne*, a plant of the rarest quality and unquestionable vigour which usually shews the first of its blue flowers soon after those of the type have appeared.

The *Lithospermums* are, of course, in great form just now, prostratum and Heavenly Blue being dappled with a galaxy of bloom. Even the somewhat gloomy-spirited *L. rubro-ceruleum* has made worthy efforts and the grassy mounds of *L. graminifolium* are bristling with flower-stems, each bearing their tassels of bugles in the purest

milkwort blue. Both *L. intermedium* and that adorable bushling, *L. petraeum*, are full of promise, the grey green of the latter already shewing the purple which precedes the gentian blue of its dainty blossoms. All of these latter, like so many plants of allied races with drooping flowers, must be placed well up in the line of sight, or one may possess them for years and never fully realise their true worth.

The chinks of the rock garden cliffs and dry walls are as well suited to the Wallflowers as they are to the *Lithospermums*, and the splendour of *Erysimum* (*Cheiranthus*) *Allionii* is never seen in a fiercer light than when against the dull green and keen blue of the above. Such strong contrasts may not always be pleasing. The beautiful *E. Allionii* some would banish altogether from the rock garden, save when it could be associated with kindred tones. In which case with it would have to go the equally gorgeous *C. Pamela Pershouse*, *Geum Borisii*, *G. Heldreichii* and many more. But if these glowing orange shades have a something about which suggests—is it bedding? (perhaps it is in *Allionii*'s case!) a lack of delicacy? or autumn?—we had better not be too fidgety about such matters, remembering that the wild Wallflower of many of our ruins and cliffs is often so full-blooded a yellow that it approaches orange. The fact is it is easy to acquire too exacting a taste in the choice and disposition of our rock garden colours. If each one of us would only be true unto himself the views of the purist would assume the perspective which is their due. A. T. J.

HARDY TERRESTRIAL ORCHIDS

(Continued from page 305)

ON the Continent the culture of hardy terrestrial Orchids is not as popular as it might be. In former times we had here some good growers of them.

We have now at *Floraire* beds of them, and some are grown in pans and in pots which give us great pleasure. We are only really successful, however, with those species which like a dry air: *Ophrys*, some of the *Orchis*, *Serapias*, *Himantoglossum hircinum*, *Anacamptis*, *Aceras*, etc. In the South of France there are some good growers of the *Ophryds* who grow them in pots and keep them at rest from the end of June until October. The pots must be well drained and, if possible, covered with stones in order to keep the roots moist. It is important to bear in mind the fact that those kinds growing in the grass do not resist heat well, as they are accustomed to have their roots—which always grow on the top of the tuber and near to the ground surface—sheltered from the sun's rays by the turf. It is for this reason that we put stones upon the soil.

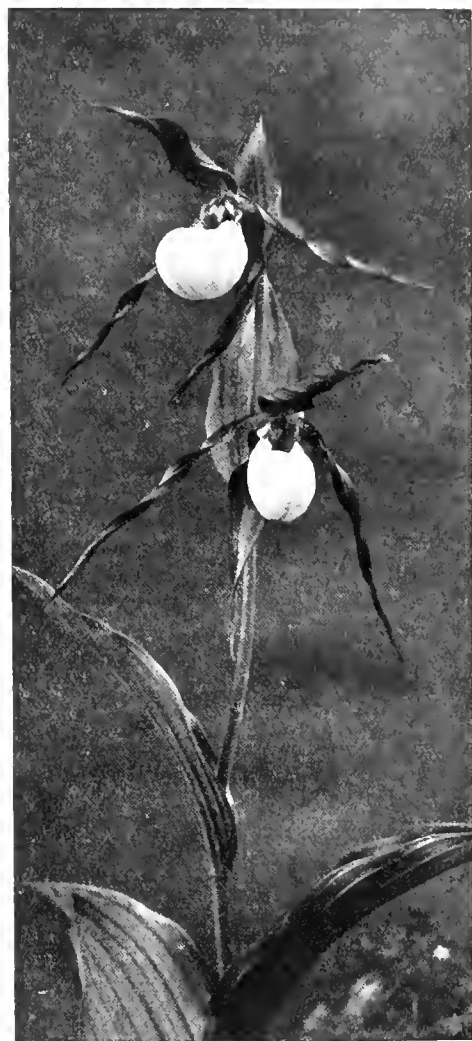
May I suggest to readers to take advantage of the English atmospheric conditions to grow terrestrial Orchids? Sixty years ago the Comte de Paris at his seat at Twickenham, near Richmond, grew the most complete collection I ever heard of. His nephew once made an inventory of them for me, and I was quite surprised at the richness of the collection growing out of doors there. It is to be hoped that the R.H.S. would help amateurs in organising shows or classes at its exhibitions.

The first thing to consider in growing these plants is that they want a rest time, as do all tuberous or bulbous plants. Even such as *Cypripediums*, *Epipactises*, *Cephalantheras*, *Listeras*, etc., which have permanent roots (always fleshy

and thick) want a time of rest and of sleep. The *Ophryds*, which all possess tuberous roots that store up nourishment in their cells, want it particularly, just as do Tulips or other bulbs. These tubers are, generally speaking, double, one being the old one, the other the young one which maintains life for the coming year, just as a seed does. Some are orbicular, the others palmate, the last being generally found in marshes or wet places. The palmate tubers, then, are for the bog, but some of the entire bulbs, such as *OO. palustris* and *laxiflora*, like similar conditions. The *Ophryses* are all drought and sun-loving kinds. They grow among thin grasses on dry slopes and the "bulbs" are never deep in the soil. The *Ophryses* are always interesting because they have no spurs. Darwin ("La fécondation des Orchidées, traduction française," page 56) thought that they were not visited by insects. But since the interesting observations of Judge Pouyanne of Algier (see "Journal de la Soc. Nat. d'Horticulture de France," February-March, 1916) there is no doubt that this was an erroneous deduction, at least as far as some species are concerned, and that they mimic certain insects in order to attract those particular species. It is well known that there are *OO. apifera* (Bee Orchid), *arachnites* (Spider Orchid), *muscifera* (Fly Orchid), etc., with insect-mimicing flowers. In the South of France the genus *Ophrys* is richly represented by such beauties as *O. Bertolonii*, with a blue spot on the lip; *lutea*, with a golden border to the lip, etc. All *Ophryses* are of easy growth. It is only necessary to remember that they hate damp and want a light soil, a good sunny position and a light grass upon the roots. The grass must never be too thick or it might be dangerous for the bulbs, which only want to be slightly protected

against the heat of the sun. The *Ophryses* are, too, very easy to grow in well drained pots or pans. We have now here a full collection of them grown in that way and have had great success with them.

The remark has been made, and everybody can substantiate it, that the Orchises are denizens of hungry pastures, and that it is in the poor soils that they display their beauty. The hungry field is best for Orchids. I noted that some fields very rich in Orchises lost them as soon as manured. Yet another consideration is that they hate sandy sites. We have lost them planted in sandy ground, even during their resting-time, and kept dry. This is particularly the case with *O. Morio*,



ONE OF THE HANDSOMEST OF HARDY ORCHIDS, *CYPRIPEDIUM MONTANUM*.

which grows in heavy soil, even in clay; *O. ustulata*, *O. Simia*, *O. tridentata*, *O. provincialis* and *Himantoglossum hircinum*. Some like moist ground without being bog plants: *Celoglossum viride* (Frog Orchid), *Gymnadenia conopsea*, *G. odoratissima*, *Listera ovata*, *Orchis coriophora*, *O. militaris*, *O. pallens*, *O. Spitzelii* and all the *Spiranthes*.

For woodland the following kinds are very suitable: *Orchis maculata*, *O. fusca* (of which the "bulb" lies very deep in the soil and which is the biggest of all our Swiss species), *Platanthera* (*Habenaria*) *bifolia* and *P. chlorantha*, and *Listera cordata*.

Floraire, Geneva.

H. CORREVON.

MANY-HUED COLUMBINES

THE Columbine family, which is found scattered over the whole of the North Temperate zone, contains many beautiful and important plants from a garden point of view. There are some sixty or more species contained in the genus, many of which are rare, and have not been introduced into cultivation in this country. Those which have, form one of the most attractive features of the garden during the late spring and summer months, and in addition to the wild species there are numerous long-spurred, lovely hybrids of many shades of colour. They are indispensable for the sheltered flower border in June, and there is no more graceful or easily grown plant for this purpose. They may also be used with equal effect in isolated beds, the various coloured flowers of different shades of deep purples, delicate pinks, bright reds, rich yellows and blues of many tones being all borne on long, graceful stems, arising from tufts of elegant, fern-like foliage.

The culture of the Columbine presents no difficulties. Seeds may be sown in gentle heat in March, or even later, some preferring to sow the seeds in July and August as soon as they are ripe. By the former method stronger and larger plants are obtained which will flower freely next year in May and June. As soon as the seedlings are large enough they should be pricked out in pans or boxes and kept growing on in cold frames till the end of May or June in the case of the earlier-sown ones. By this time they should be large enough for planting out into a shady nursery border, where the only attention they require will be watering and weeding. In September the plants should be transferred to their permanent quarters where they are to flower. In the following spring they may be expected to blossom, but they are generally better the second season. It is not advisable to rely on the old plants for more than two or three years, as newly raised seedlings are more vigorous and satisfactory. Heat is not necessary for raising seedlings, for seed may be sown in a shady border during the spring. The seed, however, of this, like many other members of this family, often take some time to germinate, especially if old, therefore it is not safe to throw away the seed-pots too soon if nothing appears for a time. The following are some of the more important members of the genus *Aquilegia*:

A. ALPINA.—The Alpine Columbine is one of the most beautiful of the whole genus. The true plant is not common in gardens, forms of *A. vulgaris* often doing duty for it. It is a slender-growing perennial, with stems about 1 ft. high, bearing two or three flowers of a bright lilac blue. The sepals are 1½ in. long and more than half as wide, the petals being half as long as the sepals, and often tipped with white. The short, stout spurs are more or less incurved. It is a native of the mountains of Central Europe.

A. BERTOLONI. A slender, elegant plant 1 ft. high, with two or three bright blue flowers on each stem. It is very close to *A. pyrenaica*, but the sepals, which are oblong and 1 in. in length, are less broad and more acute than in the above species. *A. Reuteri* is a still smaller edition of this plant, which is a native of the Alpine regions of Eastern France and Northern Italy.

A. BUTLERIANA. A native of Japan, somewhat of the habit of our native species (*A. vulgaris*). The stems bear two or six flowers of a yellow colour, tinged with claret purple. The spur is slender, erect and nearly straight.

A. GERANIACE. The Rocky Mountain Columbine occupies a leading position among the members of this family. It is a charming plant, growing

about 2 ft. high and bearing several flowers on each stem. Sepals usually whitish, sometimes more or less tinted with blue, 1½ in. long and half as broad, reflexing when the flower is fully expanded; petals half as long as the sepals, with slender and straight spurs 2 in. long. It is a native of the subalpine region of the Rocky Mountains growing by the sides of streamlets. A white-flowered form is found in the Californian Sierra Nevada.

A. CANADENSIS. The Canadian Columbine is of dwarf and spreading habit, with orange-scarlet flowers, tinted with yellow. It enjoys a soil that is distinctly poor, with shelter from wind, thriving in hot, sunny positions. The spur is ½ in. long, nearly straight, thickened towards the tip, with a knob at the end of bright red colouring. Found on rocky ground.

A. CHRYSANTHA.—The Golden Columbine is one of the most showy and useful plants in the whole genus. The stems are tall, many flowered, with the lobes of the leaves much smaller than in *A. vulgaris*. In colour the sepals are primrose yellow, tinted with claret at the tip, while the petals are deeper yellow. The 2 in. spurs are slender and spreading. This species, crossed with others like *corulea* and *Skimmeri*, has produced the many beautiful hybrids which are now so largely grown in gardens. It is a native of Eastern Mexico to Arizona.

A. ECALCARATA.—From South-Western Colorado, this is interesting as having fragrant, white or rose-coloured flowers with little or no spur.

A. EISELLIANA (syn. *A. Bauhinii*).—Of slender habit, 6 in. to 12 in. high, with branching stems and flowers on long peduncles. The sepals are

spur is slender, short and incurved. It comes from Japan and is very early flowering.

A. FLAVESCENS (syn. *A. canadensis* var. *aurea*).—This is somewhat like *A. canadensis*, but taller, with lemon yellow flowers, slightly tinged with red on the back of the sepals. The spur is shorter than in that species, slightly incurved with a knob at the end. Found alongside streams in the sub-alpine zone of the Rocky Mountains, etc.

A. FORTOSA (syn. *A. arctica*).—The habit of this species is more spreading than that of *A. canadensis*, with glabrous stems and glaucous leaves. The sepals are bright red, 1 in. long, with a green tip; petals yellow; spurs ¾ in. long, slender, knobbed at the top. Alaska to California.

A. GLANDULOSA.—The Altaian Columbine is one of the favourites in this family. It grows from 1 ft. to 1½ ft. high with several flowers on its pubescent stems. The sepals are ovate, bright lilac blue, as well as the petals. The spur is short, stout and much incurved. It is found on the Altai Mountains and other districts of Central Siberia. *A. g. var. jucunda* has smaller flowers that are white tipped. *A. Stuartii* is a beautiful hybrid of this species, with large, handsome flowers of violet blue sepals and white tipped petals. Both these grow well in a moist, partly shaded position in strong loamy soil.

A. GLAUCA (Glaucous Columbine).—The flowers of this species are white and fragrant, sometimes tipped with claret, with straight spurs nearly half an inch long. (Temperate region of the Western Himalayas.) *A. nivalis* is a dwarf, one-flowered alpine variety with pale blue sepals and dark blue petals from Kashmir.

A. LACTIFLORA is a rather slender species with thin, glabrous leaves and nearly white flowers from the Altai range of mountains.



PERHAPS MOST BEAUTIFUL OF ALL OLD-WORLD COLUMBINES, *AQUILEGIA GLANDULOSA*.

bright lilac, half an inch long; petals as long as the sepals, pale blue or white; spurs slender, nearly straight. Found on limestone in Central European Alps.

A. FLABELLATA.—A very distinct kind, with glaucous leaves and short stems, bearing bright lilac or sometimes nearly white flowers. The

A. MOORCROFTIANA.—Similar to *A. vulgaris* in habit, with pubescent stems, glaucous leaves and white flowers tinted with lilac. Western Himalaya.

A. OLYMPICA.—Very near *A. vulgaris*, of which it may be called a very fine form. Flowers several on a stem, large, light claret or bright lilac-purple with white petals. Caucasus and Armenia.

A. PYRENAICA (Pyrenean Columbine).—A gem for the rock garden, only a few inches high with slender pubescent stems carrying large flowers in proportion to its size. These have bright blue sepals and petals with a slender straight spur. From the Pyrenees.

A. SIBIRICA (Siberian Columbine).—Close to *A. vulgaris*, differing in the broader, more obtuse sepals, longer and more slender spurs, and glabrous carpels. It is very variable in colour, ranging from different shades of purple to white. Eastern Siberia.

A. SKINNERI (syn. *A. mexicana*).—Skinner's Columbine has the general habit of *A. canadensis*, the lobes of the leaves being broadly rounded and glaucous beneath. It is, however, taller, with flowers having green sepals and petals, and bright red spurs 1½ ins. long. (Mountains of Guatemala.)

A. THALICTRIFOLIA.—Slender species with very distinct foliage like a *Thalictrum*. The sepals and petals are both bright lilac blue in colour. It is a native of the calcareous rock of the Tyrol.

A. TRUNCATA (syn. *A. californica*).—A Californian species of spreading habit and deep red or scarlet flowers. The lamina of the petal is truncate, with a yellow margin.

A. VIRIDIFLORA (Green-flowered Columbine).—A curious plant with slender pubescent stems; sepals and petals green; spur slender, straight, nearly ½ in. long. It comes from Eastern Siberia.

A. VULGARIS.—The Common Columbine varies from 1½ ft. to 2 ft., the many-flowered stems being finely pubescent towards the top. The colour of the flowers is generally bright lilac, or light or dark purple, sometimes white. The spur is stout, short, much incurved, with a knob at the end. Forms of this species occur throughout Europe, also extending into Siberia. Named varieties are numerous, among which is var. *atrata*, with small, dark purple flowers, and var. *nivea*, with pure white ones. The Clematis-flowered Columbines, known as *A. vulgaris* var. *stellata*, are a distinct strain of *A. vulgaris* in which there are no spurs to the flowers. They vary in colour from dark purple to white.

Owing to the freedom with which the different species cross in cultivation, there are many beautiful hybrids and strains, chiefly the result of hybridisation among a few of the better kinds, such as *AA. corulea*, *chrysantha*, *glandulosa*, *vulgaris*, *canadensis* and others. It is a difficult matter to keep the species pure. No species reproduces itself true unless isolated. W. J.

BULB NOTES

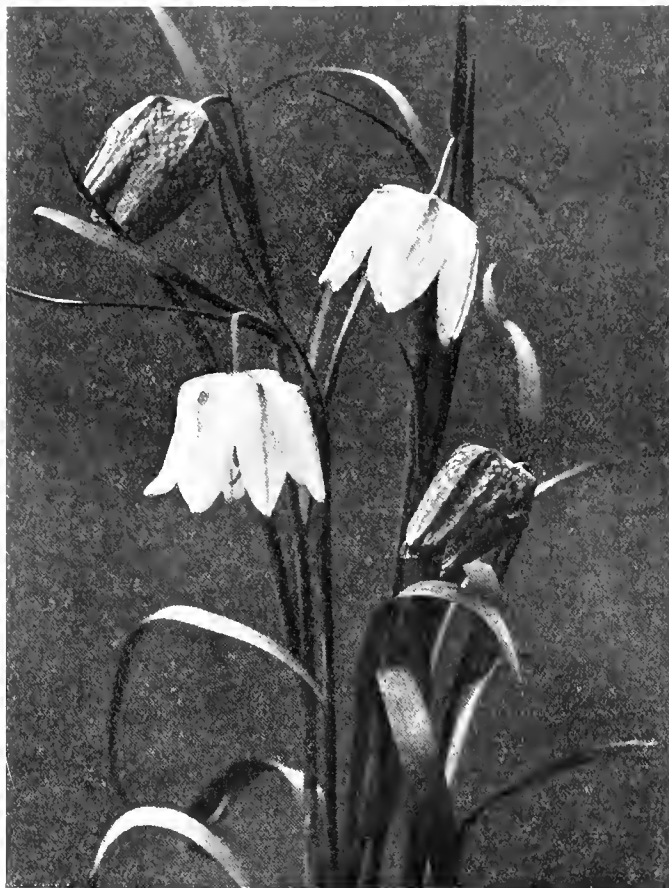
IXIOLIRIONS.—Some time back I mentioned Ixiolirions and remarked that I did not see much difference between the two varieties *Ledebouri* and *Pallasii* (or *tataricum*) except that the first named was somewhat the earlier to come into flower. Further experience has confirmed this, and brought out the additional fact that under glass there is no doubt that *Pallasii* is the paler of the two, and I think I may add the more charming. These Ixiolirions belong to the great company of plants which become more pleasing when they are given the protection of a glasshouse. The blue-purple of unprotected nature then takes on a softer and paler look altogether, which I am sure nine out of ten people would call an improvement. Of the grace of either species (?) as cut flowers there can be no question. The lightness of the campanula-like blooms is emphasised by the wantonness of the individual plants about their inflorescences. Old mother Ixiolirion is careful

to bring up her children in the right way. "Now, children, just remember you are not Victorian brothers and sisters whom custom condemned to symmetry and sameness in dress. You belong to the freer twentieth century, so put on your clothes as you like, and the more different from one another you manage to make yourselves the better pleased will I be." All that I have

found the top part of a slender stem from roots, to 15 ins. high. There is a pure white form in addition to the blue, but as I do not as a rule care for white flowers as much as I do coloured, they do not make the same appeal. *H. amethystinus* comes into flower when the Wood Hyacinths are getting over.

HEAVENLY BLUE GRAPE HYACINTH. Although this grand flower is well known, a goodly proportion of those who see it in my garden say, "I never knew it had any scent." It was not over-warm when it was in flower this year, and I did not once get a chance of enjoying that rich spicy aroma which a mass of several thousand plants in full bloom is capable of exuding when they are warmed up by a bright afternoon sun. The best I could do to satisfy my wish for a good sniff was to get a handful or two and keep them in my warm study so that every now and again I might bury my nose in them. The old Grape Hyacinth (*Muscari botryoides*) has practically no scent.

SCILLA ITALICA.—Scent reminds me of *Scilla italica*, which has none, although from the account of it in the *Botanical Magazine* (plate 663) one would suppose it to be sweet, as it is there described as having the scent of lilac. Nicholson leaves out all mention of scent. *S. italica* has not a high garden value. The individual flowers are starry and small, something after the colour of a "blue" *Scilla campanulata*. The



SNAKESHEADS, WHITE AND BROWN.

Fritillaria Meleagris is one of our most charming native plants.

come across carry out this advice "to a T," like dutiful children.

HYACINTHUS AMETHYSTINUS.—One does not very often come across this fascinating flower, so it is not very often that one is called upon to give it an English name. Perhaps one as good as any is Spanish Hyacinth; but then we have to remember that the Spanish Wood Hyacinth (*Scilla campanulata*) is a different plant. In the *Botanical Magazine* it is figured on plate 2425, and is called Amethyst-coloured Hyacinth. This is not very illuminating if anyone wants to be precise as to its colour, for amethysts have as wide a range of colour as "muddling" has of size. A Norfolk magistrate asked a man who was brought up before him what sized stone it was that he saw thrown. "A middling-sized one, sir." Repeated questions got the same answer. At last the magistrate said, "Tell me something of the same size." The yokel thought a bit and scratched his head, "Well, sir," he said, "it was the same size as a middling-sized lump of chalk." I claim but little more preciseness in using the word "blue." There are no end of blues. All I want to convey is that it is a true blue and not a purple that masquerades under this much-abused epithet. It is a pretty, graceful plant with narrow pale blue bells from ½ in. to 1 in. long and from ten to twenty in number loosely arranged

inflorescence is squat cone-shaped when fully developed, which comes rather as a surprise, for the spike in the early days of its existence looks as if the flowers would be like those of a Grape Hyacinth and be almost sessile, but pedicels are developed and the perianth, instead of remaining globular, suddenly expands and forms a little star-like flower, reminding one of *Scilla bitolia*. I would not have called attention to the flower but for its being one of the last of the bulbous plants of springtime to come on to the stage. A clump of a dozen would make a nice addition to the rock garden at the end of May, but it would not be "showy." JOSEPH JACOB.

SNAKESHEADS.—No spring-flowering bulbous plant is more graceful than the Snakeshead, *Fritillaria Meleagris*, of which the white and typical brownish purple forms are illustrated above. This is a plant which seems nowhere out of place. Towards the front of the herbaceous border, in openings in the shrubbery or even in the rock garden it looks equally in place. It has no objection to light shade and seems to do equally well in heavy soils or light, but it does prefer a sweet loam. Probably slight shade is beneficial to this species unless the bulbs are planted in grass, for when found wild it is a native plant—it is always in meadow-land and the grass naturally provides shade to the roots.

SWEET PEAS AND IRISES AT VINCENT SQUARE

THE fortnightly show of the Royal Horticultural Society next after Chelsea is not usually noteworthy for size or great importance, but that held at Vincent Square on June 12 and 13 was a decided exception to the rule. The hall was so filled with exhibits that they overflowed into the Orchid annex, and each exhibit was of a high standard of excellence.

Immediately on entering the hall the visitor could not fail to be impressed by the greater effectiveness of the new style of arrangement. It was quite a charming floral picture. In front and in the very centre of the hall there was a large circular group of Sweet Peas, Antirrhinums, Begonias, Petunias, Gloxinias and other plants delightfully arranged by Messrs. James Carter and Co. On the right front Mr. H. J. Jones had massed a large number of his sturdy, highly decorative pink Hydrangeas. Beyond these Mr. M. Prichard had a pretty floor group of miscellaneous hardy border plants. Still further beyond and rising above Mr. Downer's Lupins were to be seen a brilliant collection of Sweet Peas grown by Messrs. Andrew Ireland and Hitchcock.

On the left front there was a delightful exhibit of cluster Roses. Messrs. William Cutbush and Sons arranged them in the form of a narrow oblong bed with tall weeping standards along the middle rising above massed plants of such dwarf varieties as Mrs. W. H. Cutbush, Jessie, Ellen Poulson and Greta Khis. Beyond these were the feathery cloudly masses of the wonderful *Saxifraga longifolia* and other Rockfoils sent by Sir Everard Hambro. On their right there were numbers of Irises—mostly the tall bearded type—displayed by Messrs. G. Bunyard and Co. and Messrs. Amos Perry, while in the background was a very charming group of Sutton's Sweet Peas rising from magnificent plants of the greenhouse *Clerodendron thalictroides* and flanked by the Irises, Lupins and other border plants which Messrs. Barr and Sons grow so well.

This, in brief, was what the visitor saw almost at a glance on entering the hall, and it was only a tithe of the good things so well displayed in other parts of the hall. The masses of Sweet Peas arranged by Messrs. Alexander Dickson and Sons were very charming, and these included several 1924 varieties. Purple Perfection, Lucifer (deep shades of pink) and the pale primrose Champagne were particularly noteworthy. Mr. H. J. Danerum also had some lovely Sweet Peas. The most attractive of the varieties in commerce were Jean Ireland, Tangerine Improved, Royal Scot, Mascott's Helio, Chelsea, Doris, Frilled Beauty and Hawmark Pink. But there were very many others and of every possible shade of colour.

As we have remarked, the Irises were mostly the tall bearded varieties, and they were well shown by Messrs. Wallace and Co., and splendidly by the Orpington Nurseries. Some of the principal sorts were Alcazar, Eldorado, Ricardi, Golden Glory, Ossian, Princess Victoria Louise, Prosper Langier and Lorely; while the Orpington Nurseries had a fine mass of the splendid Thundercloud, which will be found described under "New and Rare Plants." Messrs. Amos Perry had, besides, stems of the dainty Iris Watson and L. tenax hybrids; while Messrs. Wallace and Co. included such varieties of the tall, graceful Iris *sibirica* as Emperor, alba maxima and Perry's Blue. They also showed Liliu Willmotia, Sparaxis and Ixolirion Palleni; while in the Orpington collection were bowls of Iris Suteishi.

On a floor space Messrs. Waterer, Sons and Crisp most pleasantly associated Irises with

Delphiniums, Verbascones, Oriental Poppies and the yellow Lupin, Sunshine. Messrs. W. H. Rogers and Co. had good clumps of *Meconopsis aurantiaca* plena, with various hardy Primulas and Peonies, and Messrs. Clarence Elliott, Limited, showed their Six Hills strain of scented Lupins. The large masses of *Mimulus luteus* semi duplex and *Lychnis Viscaria* fl. pl. in Mr. B. Ladhams' collection were very effective, and drew attention to his many varieties of garden Pinks, of which Mr. M. Prichard also had a good selection.

A good many hardy Orchids were exhibited by Mr. G. Reuther. These were mostly *Cypripedium* and *Orchises*; but the labels were far too plain, and several visitors passed on sadly and uninformed. *Labertia formosa grandiflora*, *Campanula glomerata*,

Pyrethrum and Day Lilies shown by Mr. W. Wells, jun., were very attractive, as also were Mr. F. Scaplehorn's hardy Primulas, *Celmisia holosericea* and *Saxifraga longifolia*. A very good strain of long-spurred Aquilegias and Marshall's White Foxglove were contributed by Messrs. Dobbie and Co.; and Messrs. J. Cheal and Sons included in their exhibit branches of *Zenobia speciosa*, *Philadelphus* in variety, *Kalmia latifolia* and the half-hardy *Mitraria coccoloba*.

Opposite the splendid large plants of *Saxifraga longifolia* exhibited by Sir Everard Hambro there were the graceful flower sprays of *Saxifraga tumbling waters* springing out from between large boulders. In displaying his plants thus



CAPTAIN SYMONS-JEUNE'S EXHIBIT OF *SAXIFRAGA TUMBLING WATERS*.
This beautiful variety obtained an Award of Merit in 1920



THE EXTRAORDINARY "BRIDAL WREATH"-LIKE *SAXIFRAGA COTYLEDON CATFHAMENSIS*.

Captain B. H. B. Symons-Jeune shewed what a lovely plant it is when growing in a natural manner. He also had a cultural commendation for his plants.

Besides the plants which received awards there was an interesting little collection of rarities sent by Mr. G. W. E. Loder. These included the Western Chinese *Philadelphus Delavayi*, which was introduced in 1887. It is quite distinct in its broader, veined leaves, brownish purple flower-stems and calyx, and in the peculiarly pleasant aromatic perfume. The white flowers have much the appearance of miniature Christmas Roses (*Hellebores*). *Buddleia Colvillei* is the largest flowered of the species that can be grown in the open, and Mr. Loder's dark form was very attractive in its dark blood crimson colouring. Sir J. Hooker considered the species to be the handsomest of all Himalayan shrubs. *Kolkwitzia amabilis* is an elegantly beautiful little shrub from Hupeh, China, and bears flowers much like those of an *Abelia*. It flowered first in this country at the Coombe Wood nurseries in 1901. *Olearia semi-dentata* is a dwarf *Celmisia*-like plant; the large single flowers are really mauve flushed, but, at a little distance, in association with the dark purple disc appear to be very pale blue.

The only exhibit of fruit was an extensive collection of well grown Melons sent by Major Pan, Wormbury Bury, Wroxboro, Herts. These were mostly Hero of Lockinge, King George, Sutton's Superlative, Best of All and Emerald Gem. The fruits were all very shapely and beautifully netted.

NEW AND RARE PLANTS.

Iris Thundercloud.—A handsome and free-flowering Bearded Iris of glorious violet colouring, which would no doubt at sunset give that rich ruby tone we all so much admire. It is a distinct and very desirable variety. Award of merit. Shewn by the Orpington Nurseries Company and raised by Mr. W. R. Dykes.

Lupinus arboreus Light of Loddon.—This very valuable Tree Lupin bears long, well disposed spikes of rich golden yellow flowers. Award of merit. Shewn by Mr. T. Carlile, Loddon Gardens, Twyford.

Pentstemon puniceus.—A quite distinct and uncommon plant. It throws up erect, slender, glaucous stems above 2ft. high, and these are furnished with opposite, stem-clasping, ovate-lanceolate, somewhat fleshy leaves. The flowers, which are borne on short, erect panicles, are of bright deep vermilion colour, and these have glaucous stems and calyces. Award of merit. Shewn by Mr. Charles T. Musgrave, Godalming.

Pyrethrum Harold Robinson.—An effective single-flowered variety of more than average size. The flat ray florets are of rich crimson colour shaded with rose pink. Award of merit. Shewn by Mr. H. Robinson.

Rhododendron diehroanthum.—This is said to be a hardy species from China, and probably it is equal in this respect to *R. Kelseyi* and *R. Roylei*, both of which the flowers somewhat resemble. The orange yellow colour of the tubular

flowers is distinctly deeper in colour where the segments overlap at the margins. Award of merit. Shewn by Lady Aberconway and Hon. H. D. McLaren.

Rhododendron insigne. The specific name is only justified by the rather uncommon colouring



BEARDED IRIS THUNDERCLOUD OF BEAUTIFUL VIOLET COLOURING.

of the smallish flowers, which are lined and flushed with pink and spotted inside. It forms a loose truss of long-stemmed flowers. Award of merit. Also shewn by Lady Aberconway and Hon. H. D. McLaren.

Rose Orange Queen.—A dwarf Polyantha Rose of similar habit and type to Orange King, which received an award of merit at Chelsea and differing only in its paler orange yellow colour. It might almost be described as being an erect, bushy Coral Cluster with rather smaller flowers of a pale orange tone. Award of merit. Shewn by Messrs. Kersbergen Bros., Boskoop.

Saxifraga Cotyledon caterhamensis.—This free-flowering hybrid Saxifrage will probably have as much value in the rock garden as *Francoa appendiculata* has in the flower border. Except that the racemes of the Saxifrage are arched and broader at the base, there is a great similarity in their floral colouring. Award of merit. Shewn by Messrs. Ingwersen and Jones, Bedwell Plash Farm, Stevenage.

Yucca gloriosa argentea. One of the best of the variegated Yuccas. A very good plant was on view; the centres of the leaves were milky white and there was a glaucous hue all over the leaves. Award of merit. Shewn by Messrs. C. Smith and Son, Guernsey.

Miltonia William Pitt.—A handsome stove Orchid. The standards are velvety purple crimson, broadly tipped with white, and half of the large lip is of dull carmine colour, the outer half is white. Award of merit. Shewn by Mr. H. T. Pitt.

Odontoglossum Goldcrest.—A very fine spike of sparkling white flowers freely spotted with pale canary yellow colour and brightened by a gold crest. First-class certificate. Shewn by Messrs. Armstrong and Brown.

Odontonia Corona var. Rajah.—A strikingly handsome spike of chocolate-coloured flowers tipped with greenish yellow. The lower half of the lip is white, the remainder flushed with maroon, and there is a blush-purple crest. Award of merit. Shewn by Messrs. Charlesworth and Co.

CELERY AND LEEKS

ALTHOUGH these vegetables may be grown to a fair size with ordinary treatment and in ordinary garden soil, really fine specimens cannot be grown without special attention. I do not, naturally, mean big coarse plants in the case of the Celery, with hollow, pithy stalks; but large, solid, succulent heads, free from blemish. In the case of the Leeks we all know that big well grown specimens are economical, milder and in every way better than small ones.

The Leek is hardy and withstands severe weather in winter quite well, but the young plants raised under glass are soon checked if they are suddenly exposed to bad weather in spring, and much valuable time is lost while they are recovering strength. The main batches of plants will mostly be planted in the trenches during the month of June. In both instances the trench should be filled to within 6ins. or so of the top, with well rotted manure and soil mixed, and while in a moderately dry condition the soil for the Celery must be trodden down a little. This rich rooting medium should be quite 1ft. deep—18ins. would be better. Having carefully planted the Celery and Leeks, the former with a nice ball of soil adhering to the roots of each plant and the latter in 6in. deep holes in the trenches, there will be nothing to do to them beyond the careful application of water when needed and the dusting of the edges of the trenches with soot.

As the Leek plants grow, the soil will fall in and fill the holes. At the end of July the first bands must be placed round the plants, strong brown paper being suitable; the tops of the plants must be free. As the plants grow the bands may be raised and soil carefully broken in against the lower part of each plant.

In the case of the Celery, especially if it be required for exhibition, earthing up or general blanching must not be done before eight weeks prior to the date of the show. In the meantime begin the work of stimulating the plants by weekly surface dressings of bone-meal mixed with soil and, in addition, a small quantity of sand, forming a circle round the base of each plant and a dusting of the entire surface of the soil with old soot and wood-ashes; not more than sufficient to cover the white roots each time. Then begin to feed with liquid manure in weakly doses every few days, thus maintaining the soil and roots in an even state of moisture. The bone-meal in the soil, supplementing the manure in the trenches, will, with the liquid applications, be sufficient. G. G.

SINGLE ROSES FOR LIGHT SOILS

WHEN the Azaleas have all but ceased to dominate the garden with their blazing colours and all-pervading fragrance it is almost with a sense of relief that one turns to the more gentle charm of the single Roses. It strikes me that a few notes upon those species and varieties of the latter which we have found so amenable to culture in our very light, gritty slopes may encourage others to go in for this delightful class of Rose. I refer especially to those gardeners who, having tried the ordinary hybrid Rose without success, have given up the quest of the Queen of Flowers on the assumption that unless you have a rose soil you cannot grow Roses. There never was a greater error than that. For wheresoever you will find the wild Briars flourishing in hedgerow and brake, on common and hillside, there you will be able to grow to perfection and, with a minimum of trouble, a selection of choice Roses extensive enough to satisfy anyone of moderate ambitions.

Among the earliest of the single Roses to flower (always excepting the May-blooming hybrid Carmine Pillar, still one of the most beautiful of its class) are the Penzance Briars. First favourites among these are, I think, Lord and Lady Penzance. The former has blossoms of a delicate orange fawn tinted with yellow, and the latter tends rather to a coppery hue suffused with clear rose. In both of these Roses, however, one notes something more than a suggestion of that orange-scarlet which they appear to have borrowed from *R. lutea* (Austrian Briar), and yet their fine foliage is not less fragrant, often sweeter, than that of their other parent, our own Sweet Briar. There are, of course, many other admirable varieties in the Penzance section, their colouring varying from the pearly blush of Julia Mannering to the almost blood crimson of Meg Merrihies. Practically the whole of these Briars may be grown as bushes in almost any light soil; they produce handsome fruits, and here, at any rate, they never get any attention beyond an occasional cutting out of dead wood. The deep crimson Anne of Geierstem is probably the tallest of the Penzance class and the most useful for a pillar or rambling over an old tree.

Almost contemporary with the above in order of blossoming is *R. lutea*, and this species might well take precedence over all others in the matter of colour. Of the two best-known forms of this wonderful Rose, that known as Austrian Copper is the more gorgeous, its very large blossoms being a reticent orange-scarlet, shading to a deep yellow centre, the backs of the petals being old gold. Not only the Penzance Briars mentioned but many other double and single Roses owe their wealth of colour to the pollen of *R. lutea*. The other form of this species, the Austrian Yellow, has blossoms of an intense nasturtium

yellow throughout. These superb Roses need rather a warmer soil than most and plenty of sun. They are, however, perfectly hardy, and may be relied upon to bloom profusely during early June in any congenial situation.

R. rubiginosa, our own Sweet Briar, has qualities sufficiently good to merit its inclusion among the best of the wild Roses. There are, however, many forms of this pretty and fragrant wilding, as almost any hedgerow will disclose, some being superior in colour to others. The Sweet Briar will prosper on exceedingly poor, sun-beaten banks and rocky places, its fruits are handsome, and it will often yield a good show of autumn blossoms. Two other natives, in addition to the common pinky white Dog Rose, are the low-growing *R. villosus* of northern England, with an emerald green foliage and rich crimson flowers (the somewhat similar *R. tomentosa* of more southern counties appears to be a form of this) and *R. arvensis*. The latter is the large, creamy white, dark-centred and scentless Rose whose trailing stems are almost thornless and of which there are some good garden forms. The Ayrshire

Another native which is not only good and useful in one or other of its wild forms, but notable as being the origin of so many dwarf Roses, especially the Scotch, is the little Burnet-leaved Rose (*R. spinosissima*) of our seashores, moors and sandy wastes. In its natural habitat this delightful shrublet may attain the height of 4ft. or even more, and you may come across miles of it and not find one of the creamy yellow blossoms more than a few inches above ground. These blooms have a delicious scent; indeed, I know of no more delightful fragrance than that which is a subtle blend of Burnet Rose, Wild Thyme and Lotus drifting on some warm shore-wind of mid-June. Most of the Scotch Roses are, of course, doubles or semi-doubles, but there are some rosy pink single forms of the Burnet, and *R. altaica* (*R. spinosissima maxima*) is a much enlarged and improved variety of the wild species, with long, trailing branches wreathed in big single white blossoms from base to tip, these being followed by round black fruits. *R. spinosissima lutea*, as grown at Kew, is another admirable form. Few places are too dry and sun-beaten for any of these Burnet Roses, and they are first-rate for associating with the Heaths and other dwarf shrubs that will prosper under such conditions.

R. Wichuriana, the Japanese type species, is also a capital plant for draping low walls, slopes of arid soil and waste spots, for this is a true creeping Rose of vigorous habit. Its glossy foliage, moreover, is evergreen and the little white, star-shaped blossoms, which are borne in loose clusters, are produced from July to autumn—much later, it will be observed, than most of the hybrids for which this species is responsible.

The single white type and the blush form of *R. alba*, the old White Rose of cottager's gardens, with its charming foliage and delightful fragrance, are first-rate kinds for use in almost any light, poor soil. Though these old-timers seem to be comparatively common in some districts, they are as rare as rattlesnakes in others. The same may be said of *R. lucida*, there being many localities where this splendid species is scarcely ever seen. The typical *R. lucida* makes a large, spreading, but shapely bush with ruddy stems, broad, glossy leaved and silvery pink flowers which open flat to some 2ins. in width. There is also a white variety. The foliage turns a rich yellow before it falls in autumn, and the orange-scarlet fruits are a conspicuous feature at that season, blending very happily with the glowing tint of the branches.

Another delightful species, much dwarfer than *lucida*, is *R. nitida*, which is also well worth growing for its autumn colouring.

The bristling array of shiny crimson spines which cover its branches are a distinctive feature of this little 18in. bush. Its flowers are single, deep rosy crimson and followed by coral red hips. *R. nitida* will associate well with any of the Burnet class, with the sun-loving *R. berberifolia* Hardii, notable for its curious cistus-like blossoms, or any



THE BEAUTIFUL YELLOW-FLOWERED ROSA HUGONIS.

Roses are supposed to have sprung from this species, and it is one that is by no means averse to lying beneath the shade of trees. *R. arvensis* var. *Miss Jekyll* is said to be distinctly attractive, but as yet it has not got beyond our "wanted" list.

of its forms, and one may add to the same company the rather uncommon *R. alpina pyrenaica*.

R. indica var. *Miss Lowe* is a lovely little single in a clear rosy crimson, but if it is not quite so tree and vigorous here as one would wish it remains faithful to its reputation as an all-season bloomer, a characteristic which it has handed on to the Monthly, Tea and other Roses. Some forms of *R. indica* appear to be much more robust than others, and I am inclined to think that this is a species which should be grown on its own roots like most of the wild Roses. It appears to prefer a warm, free soil with all possible sun.

Always one of the first of the season, the May-flowering *R. sericea* is a welcome object in any shrubbery or woodland garden. The rather small, dark green foliage of this Indian species is distinct, as are the white, four-petalled blossoms, which latter are arranged in the form of a cross. The red spines of *R. sericea* are also a characteristic feature, and one that has been extraordinarily developed in that ferocious-looking form of the same species known as *R. s. pteracantha*. Another early blossomer here is the now well known *R. Hugonis*, whose elegance and charm need no praise from me. This is also a Rose that may be well grown in poor, stony land, but trials with the gorgeous *R. Moyesii* tend to shew that this superb species demands something rather better in the way of a rooting medium—and surely no Rose was ever more worthy of the best one has to offer. Albeit, *R. Moyesii* flowers profusely in our light woodland loam (plus some old cow manure well under it at planting-time) even if it does not make its naturally robust growth.

Western America gives us several wild Roses of quality, one of the most noteworthy being *R. nutkana*, a very free grower with rich crimson blooms and gaily coloured hips which prevail well into winter—a first-rate wild garden plant. Then we have the much dwarfier *R. californica* with a soft, yellowy green foliage and vivid crimson cerise blossoms. Though often a riverside shrub in its own land, this pretty thing does better in a warm, free soil with us. *R. microphylla*, of which there are several good varieties, including a prostrate one, is distinguished by the large size of its fruits and ample, handsome blossoms, both of which remind one of *R. rugosa*, to which it is doubtless allied. The flowers of this Chinaman are deliciously fragrant. Like *rugosa*, it is not fastidious as to soil, and I have seen some admirable specimens thriving on poverty and neglect.

The *rugosas* (Ramanas) are a class to themselves, most of them being true bush Roses and well known for the size and brilliance of their beautiful and highly perfumed flowers, for their splendid foliage and handsome fruits. This is an admirable type of Rose for sandy or other dry soils, and a few specimens will quickly cover a considerable area. Some pretty hybrids have been produced from the *rugosas*—the Sweet Briar, *R. polyantha* and others having been used in the mating.

Where it can be given sufficient space *R. polyantha*, the Garland Rose, may be used with admirable effect as a bush, the long, arching branches rising and sweeping over one another in the form of a huge mound. The flowers of the Garland Rose are white, or nearly so, they are borne in immense trusses, and are among the sweetest of all Roses, their perfume often pervading the air of the whole garden. There are several forms of this fine old Rose, some having much larger flowers than those of the type and all possessing the same vigorous habit and handsome foliage. There are also, of course, those many well known named varieties among the climbers which owe no little of their quality and constitution to *R. polyantha*.

NORTH WALES.

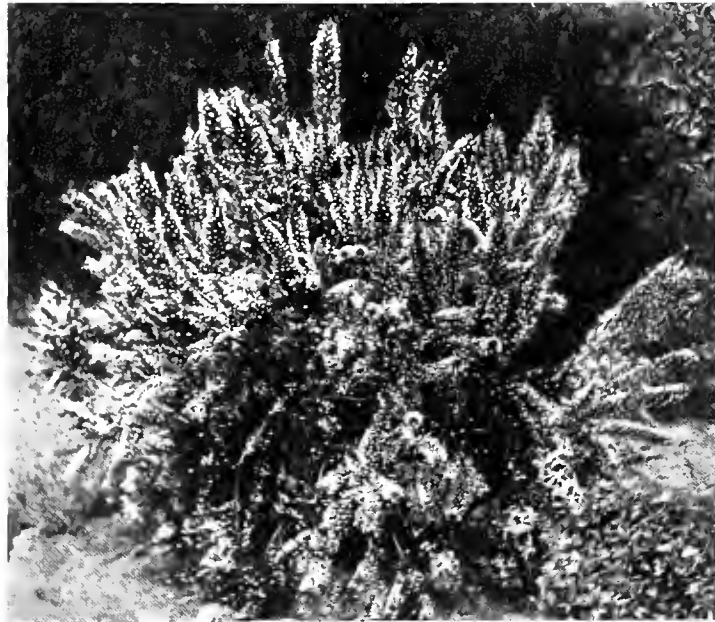
CORRESPONDENCE

ROYAL HORTICULTURAL SOCIETY'S AWARDS.

MESSRS. GEORGE BUNYARD AND CO., LIMITED, of Maidstone have presented medals to the Royal Horticultural Society, which will be offered for award to amateurs for exhibits of Strawberries on June 26, Cherries on July 10, Gooseberries, Peaches and Nectarines on July 24, Plums and Apricots on August 8. On each occasion the medals will be either silver or silver-

have been greatly improved in recent years. One of the chief difficulties in raising it lies with those who have no heated house in which to start it during March. This applies also to Petunias, Zinnias and Helichrysums, which have some difficulty in making headway if sown in cold frames before the weather gets really warm. Salpiglossis and Petunias are covered with glands that are clammy to the touch and give off a characteristic odour that is against them for cut flowers. By reason of the glands they are just the flowers for

dry seasons, dry soils and warm situations, because they can get moisture from the night dews when other flowers are perishing for want of water. I remember one dry season in Mr. Ellam's time at Clevedon, and Petunias and Gailardias were the only thriving beds in the flower garden, when the pond was dried up and no water available.—J. F.



A NICE PLANT OF *FABIANA IMBRICATA* IN THE OPEN BORDER.

gilt. On June 26 the Clay Cup for a scented Rose will also be offered for competition. The Rose must be of good form and colour, not in commerce and possessing the true old rose scent.—W. R. DYKES, *Secretary, R.H.S.*

TULIP KAUFMANNIANA.

THIS Tulip is worthy of more attention than is given by many owners of small gardens and rock gardens. It is most prolific—no Tulip increases so rapidly with me—over a third send down droppers and about half develop side bulbs; and they flower so early—about a month before garden Tulips begin to flower. Although some gardeners may be deterred because they are not as cheap as garden Tulips (Cottage Tulips and other hybrids), they increase so rapidly that very soon a large stock is the result of a small purchase. Can any of your readers account for some increasing by side bulbs, some by droppers, and also give any reason for droppers almost side by side going some in. and some up. down? I have been told that planted too shallow the bulbs send droppers to the proper natural depth; but when, side by side, the droppers go to such different depths, that can hardly be the reason.—V. C.

THE SALPIGLOSSIS.

I AM in full accordance with "Claremont" (page 239) when he says that *Salpiglossis* is not grown to the same extent as it used to be and as it should be. The late Mr. Bain, when at Burford Lodge, used to grow it splendidly in the open air in a fully open and sunny position of the garden. The colours and veinings of the flowers

dry seasons, dry soils and warm situations, because they can get moisture from the night dews when other flowers are perishing for want of water. I remember one dry season in Mr. Ellam's time at Clevedon, and Petunias and Gailardias were the only thriving beds in the flower garden, when the pond was dried up and no water available.—J. F.

A BEAUTIFUL SHRUB.

THAT very beautiful heath-like shrub *Fabiana imbricata*, of which I send you a picture, flowers well in this neighbourhood on borders with either a northerly or a southerly aspect. It stands hard pruning well, which adds to its attractiveness. Cuttings may be taken soon after flowering and root freely.—R. G. N., *Exeter*.

PRIMULA SIBTHORPII.

THE mention of this *Primula* on page 218 recalled memories of the early nineties of last century, when gardeners knew something more of it than they do, owing to the almost unlimited number of recent introductions, at the present day. In those days it was cultivated at Kew, and looked upon as an interesting plant. It was an accepted opinion that it originated the colours now so universal among Primroses and Polyanthuses, and to that source also the colour of hybrid Cowslips may be due. There is just a possibility that a form cultivated under the name of *P. altaica* had something to do with the origin of Polyanthuses, which shew a closer relation to *P. acutis* than either the Cowslip or Oxlip, judging by the size of the flowers, the flat corolla, and the ring round the top of the tube. *P. Sibthorpii* has pale pink flowers, otherwise it closely resembles the wild Primrose. *P. altaica*, as grown in the early 'eighties, had lilac or mauve flowers, some of them borne singly on the stalks, but others in umbels, owing to the elongation of the common stalk which lies hidden among the leaves in the common Primrose. Some modern strains shew this combination of characters, and an attempt was made to distinguish them by calling them Primrose-Polyanthuses.—HORTULANUS.

THE NATIONAL ROSE SOCIETY'S SCHEDULE.

IN the schedule of the National Rose Society's Summer Show are Classes 41 to 48 for "those members who, 'without any assistance whatever,' grow and stage their own Roses." Is not this definition ambiguous and open to misconception? What does "without assistance" mean? It sounds plain enough, and one naturally presumes it means a Rose enthusiast who grows his own Roses, gets his own Briars, plants them, buds them, tends them, plants and prunes his bought plants, does manuring, watering, etc., himself, and does not employ a regular gardener. When, however, among the prizewinners is a man who employs a gardener from year's end to year's end, and the latter has help at times from the chauffeur, surely the very excellent object of these classes—the encouragement of the real amateur—disappears.—THE AGRICULTURAL LABOURER.

THE COLD GREENHOUSE.

IN these days of costly labour and fuel many greenhouses have become white elephants, and that which was formerly a pride and pleasure has declined into that which is very much the reverse. Nothing, indeed, is more depressing to a flower-lover than a derelict conservatory inhabited by shabby-genteel exotics. It is possible, however, to have a greenhouse beautiful and interesting, without such plants, filled from end to end with happy inmates needing no artificial warmth. All those blessed with greenhouses, therefore, who are on the point of scrapping their "glass" because they cannot afford heat should, before doing so, visit an alpine house. In their own homes alpine plants all the winter have blankets of frost-bound snow to protect them until the spring thaw comes. These, in our climate, are generally absent. Hence, as a wet winter may be fatal to them, cold greenhouses laid out as rock gardens have been devised in order to shelter tender specimens. One of these, seen a few days ago at the Royal Botanic Garden, Edinburgh, may be described as a complete success. The floor is paved and the soil banked up and retained in position with red sandstone, which makes an artistic and cosy-coloured setting for alpinists from all parts of the two hemispheres. It is watered by underground perforated pipes with very free drainage under the soil, so that the plants only require occasional watering overhead to clean and refresh their foliage. Here, among a crowd of notabilities is *Fabiana imbricata* from Peru, a member of the Potato family, but like a large Heath both in flower and leaf. Not far from it is a group of Rock Rose bushes from the shores of the Mediterranean—*Cistus Sunrise* with brilliant pink flowers, another with larger blooms of a duller colour, and a neat species, *Cistus rosmarinifolius* with tiny flowers on small bushes. From Australia there is *Hibbertia Readii* with profusion of golden blossom, and from China two species of *Corydalis* are present with large pale yellow blooms. New Zealand is represented by a variety of *Veronicas*, the finest being *Veronica Lavandiana* with large white heads and the hybrid *Veronica Fairfieldii* with pale lavender flowers. Near them is a clump of white, *Celmisia viscosa*, *C. coriacea* and a miniature variety. In this neighbourhood also are several *Olearias*, conspicuous among them *Olearia macrodonata*, and trailing plants like the *Gnaphalium trinerve* with daisy-like blossoms adding grace to the little landscape. A still finer trailing plant *Lotus Bertholetii* from the Canary Islands, with pale grey lace-like foliage, drapes its corner from ceiling to floor, and will be covered shortly with crimson pea flowers. Far be it from anyone to underrate

the balmy delights of heated conservatories. In days of sun failure they have been boons and blessings to which we have been glad to repair when we had the chance. But to many of us, at present, they are of the luxuries which we enjoy most when another is paying for them, and the collection described above has the advantage over a tropical one of requiring little co-operation and no coal for its upkeep. H. W. L.

CLIMBING FRENCH BEANS.

GROWERS of French Beans are apt to confine themselves to dwarf varieties, sowing in succession for a continuous supply, and to leave out of their arrangements the more recently introduced Climbing French Beans, of which from one to two sowings will meet the need of most households and ensure greater crops. For some reason many fight shy of these climbing sorts, but for cropping they are superior to the dwarfs, from the fact that they continue in bearing a much longer time. I have grown Sutton's Tender and True with very satisfactory results and gathered many nice baskets long after the dwarfs had ceased to bear. It is better to use twiggy sticks like Hazel rather than rods, as the slender growths lay hold of them quickly; in fact, any kind of stick which suits Peas will answer for these Beans.—W. LINDERS LEE.

USEFUL FOR UNDERPLANTING.

IT is a little surprising to me that the very dwarf *Bambusa pumila* is not more used as a carpet in shrubbery and semi-wild. Its lively green foliage is peculiarly attractive. The enclosed picture shews it serving as a carpet to *Berberis stenophylla*—seen on the left—and a crimson-leaved Japanese Maple, *Acer palmatum septemlobum sanguineum*—the trunk of which is included



BAMBUSA PUMILA AS UNDERGROWTH.

on the right—and the colour contrast is very pleasing. It is excellent, too, for low game cover—just as useful in its way, in fact, as the rather rampant *Bambusa palmata* is for taller cover. The picture was taken in springtime and the foliage shewn is last year's, but the silvery edges seen in the picture did but accentuate the vivid green of the remainder of the leaves. —N. H. P.

THE GALTONIA.

FEW white-flowering bulbous plants are more effective in a garden in July and August than are the Galtonias—and it may be said that few give rise to more disappointment through misapprehension concerning them. Many people whom I know, planting newly imported bulbs in March, having had their borders adorned with the tall, stiff spikes of ivory white bells, have overlooked an important fact relative to them, viz., that they are Cape bulbs and on that account not over-hardy. In rare instances only have I known these Cape Hyacinths to go through a winter without harm, and that has been when planted in sandy soil, well drained naturally, and in sheltered localities. The safest plan I have found in dealing with them is to lift the bulbs in October when the foliage has died away, to store them in sand in a cool, dry place, and plant again in spring. It is by this method that one may hope to save the stock, and so ensure their beauty the following season. Some who grow Galtonias arrange to plant the bulbs in groups of three or five in conjunction with brightly coloured Gladioli like *Principine* or the old *brechleyensis*, when the effect is certainly noteworthy, but it seems to me that they are equally beautiful when planted among *Delphiniums*. In any circumstances they are a valuable addition to the garden, and warrant the winter care suggested.—CLARE MONT.

FUNKIAS FOR SHADE.

ONE of the most cheertul-looking corners of my garden during an unusually dull, cold May was that where Funkias grow, as represented by such sorts as *F. marginata*, *F. undulata variegata* and *F. lancifolia*. They have been located

there many years, and all the trouble they entail is to take them up occasionally for the purpose of division. I do not know of any hardy plant more useful for decorative purposes in a shady position than Funkias. Complaints are sometimes made in gardens where trees overhang that nothing will grow under them, but an exception must be made in respect of these plants, as they love both

shade and moisture. I prefer the sorts mentioned because the foliage is very pretty, and they do not grow to the abnormal size of the large green-leaved sorts like Sieboldii, which is really better for the margin of a shrubbery or where space is not restricted. Funkias will grow in almost any kind of soil that retains moisture, and are never better served than when planted in the shade.

In the open the sun soon mars the colour of the yellow and whitish leaves, but given a position under trees or the partial light beneath a pergola their beauty will continue much longer. I regard Funkias as an acquisition in a garden near to town, for they thrive where some plants barely exist, and their hardiness in the most trying winters is well known. CLAREMONT.

JACK-IN-THE-GREENS

IT is a great thing for all of us of the blue-aproned fraternity to have the faculty of keeping our eyes open. It must have been very nearly everything in the past when so much of the present A B C of horticultural and botanical knowledge was still under the Gooseberry bush; before the functions of pistils and stamens were fully known; and before the more than golden writing of Mendel was awakened from its thirty-five years sleep. The strange Rose-plantains that grew in John Gerard's garden in Holborn in 1596 must originally have been the find of some sharp eye. The curious wheat-eared Carnation that is figured by Castelli among the rare plants that graced the Hortus Farnesianus at Rome in 1625; the Jackanapes Marigold (was it like a Hen-and-chickens Daisy?) of which William Coles, the famous British exponent of the Doctrine of Signatures writes in his "Adam in Eden"; the Jackanapes-on-Horseback Primrose mentioned by Parkinson in his "Paradisus," as well as the new smooth-edged Carnation, the proud possession, as he tells us, of his friend Master Tuggie; the "green" Strawberry that John Tradescant (c. 1630) found in a woman's garden at Plymouth, whither her daughter had brought it from the woods, all unconscious that it differed in any respect from the ordinary; these, and doubtless many another rarity, must have owed their introduction into garden society as lions to be made much of, because some observant eye singled them out from their ordinary fellows as being out of the common run. Later examples of what an open eye can do may be found in the green Rose James Sprunt, which the Presbyterian clergyman of Kenansville, North Carolina, spotted in 1858; in the unusual colour of a single field Poppy which the late Mr. Wilks found and from which he evolved the well known Shirley strain; and in Kettle's Lloyd George Raspberry and Mrs. Lloyd George Violet, which together have provided him with a house to live in and land to hold his treasures.

Until a mysterious box arrived last March from Guernsey I am very uncertain if I had ever seen a true "leafy Primrose," as the sender called it, certainly never any with such large leafy calyces as those which composed the regular old-fashioned tight nosegay within it were blessed with. To me they had always been Jack-in-the-Greens—a name given them from their fancied resemblance to a well known character of the ancient Morris dancers, or, perhaps, from the small bough-clad chimney sweep who, with his fellows, used to parade country towns and villages on May Day. Was this in turn but a shortened form of Parkinson's full Jackanapes-on-Horseback, taken from something ever so many people would know? But why Jackanapes-on-Horseback?

Be the explanation what it may, Mr. T. C. Corbet, my gardener friend in Guernsey, has produced from very small beginnings a fine strain of them. He has most kindly furnished me with some particulars of his work, and I may say in parenthesis that it was made much easier after

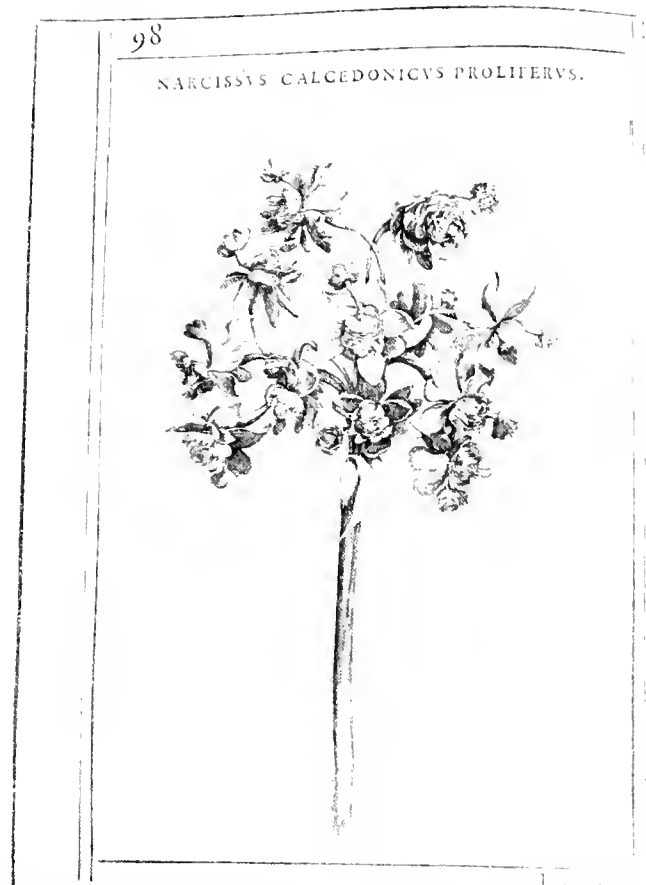
he became conversant with Mendel's Laws. Mr. Corbet happened to sow some Primrose seed in 1905. In 1906 he noticed that one plant "instead of flowering sent up 5 strong leaves on each of two stems; and this is the very start." The plant was marked. In 1907 there were six of these leafy stems, one of which produced a flower of the "ordinary common cream starry type of the wild Primrose." Divisions were made, but most of the divided bits died. Nothing more was done until 1914, when he became acquainted with Mendelism and when he found two tiny seedlings near the spot. These did not flower until 1916. They had the leafy calyces of their parents, but one had primrose-coloured and one washy pink flowers. This was a distinct break. From these two plants by means of crossings with various Primroses and Polyanthus the present wonderful strain has been produced. In the bunch sent me there was a good range of colour, and Mr. Corbet tells me about 75 per cent. come true from seed—that is, come with the leafy calyces. So far the large majority of plants are of the Primrose type, but there is every prospect of his getting a Polyanthus strain as well. He is now busy "fixing," and hopes for still further improvements in 1924, both in the colour of the blooms and in the fixity of the two types. It is of interest to note that the wild Oxlip would not mate with his seedlings. Such, boiled down, is the history of a modern Jack-in-the-Green *redivivus*.

I expect in the good old days these strange-looking uncommon Primroses were invariably increased by vegetative reproduction. They do not breed true. Now, however, Mr. Corbet hopes to be able to fix sufficiently the Primrose section of his leafy-calyxed strain that the increase may take place by the infinitely quicker process of sowing seed.

I had hoped by consulting a couple of back numbers of the *Gardeners' Chronicle* to find out something about Jackanapes-on-Horseback and

Jack-in-the-Green, but they were drawn blank. All I found was a statement that "few plants are more sportive than Primroses, and when out of their normal condition display more novelty and beauty," and a second one, that the hose-in-hose type were called Jacks in Covent Garden in 1868.

Incidentally, in one of the two references, Mr. Nelson of Aldborough Rectory, Norfolk, was referred to as the raiser of new Polyanthuses, and it is said that he produced, somewhere in the 'seventies, a fine variety called Golden Prince. This, of course, is the same man who took Lachenalias under his wing and gave us the well known Lachenalia Nelsoni which up to the present, has been almost "the one and only"



A PROLIFEROUS NARCISSUS, FROM CASTELLI'S "HORTUS FARNESIANUS," 1625.

in ordinary cultivation. Ah! but why should this be so?
JOSEPH JACOB.

FORTHCOMING EVENTS.

June 26.—Royal Horticultural Society's Fortnightly Meeting (two days).—Royal Oxfordshire Horticultural Society's Exhibition.

June 27.—Mitcham, Tooting and District Horticultural Society's Meeting.

June 28.—Royal Botanic Society's Meeting.—National Rose Society's Summer Show, to be held at the Royal Botanic Gardens, Regent's Park, London.

THE SCOURGE OF THE ORCHARDS

The Need for Summer Spraying is Urgent.

RARELY have we experienced a season when fruit trees and bushes of all descriptions have been so badly infested with insect pests as this season, and so far as aphides are concerned the trouble is by no means confined to fruits, for almost everything in the garden seems to be the host of some variety of green, black or red aphid. Sceptics and unbelievers in the value of spraying are taunting those who advocate it with the assertion that the present plague of insect pests explodes all our theories, for they say that if spraying was of any use we ought now to be almost free from garden and orchard pests, whereas we are more troubled than ever.

Such gibes and sneers must not pass without contradiction, for the matter is of too grave importance. The scepticism of the minority is very largely responsible for the slowness of progress in our warfare against garden foes. People who argue that spraying is futile should really confess that they dislike the labour and begrudge the outlay on proper spray fluids and equipment, and we might afford to leave them to their folly if the evil results of their negligence were confined to the plants and trees in their own gardens, but, unfortunately, it is the neglected corners, the odd unsprayed trees, and the few decrepid and foul orchards still to be found scattered about the country that provide fertile breeding grounds for the pests that find their way to those gardens and orchards which, having been cleaned, are healthier and, consequently, offer better fattening grounds for the migrating hosts.

The exceptionally mild winter enabled an unusually large number of pests to come safely through. The prevalence of strong winds has helped to spread the innumerable pests, and the backward growth of all kinds of trees and plants resulting from the continuance of cold nights and lack of sunshine has enabled the pests to nourish themselves upon the tender young growth before it has gained sufficient substance and toughness to ward off the attacks. Furthermore, we have had an unprecedented quantity of foreign surplus nursery stock dumped into our auction marts and market towns, and much of that foreign stock brings with it fresh hordes of pests and plant diseases.

These are the explanations of the present scourge of the orchard and the garden, and far from teaching us that spraying is futile, the facts before us should suffice to spur every garden owner and every fruit grower, large or small, on to more determined efforts than ever to kill as many insect pests as possible.

Had the benefit of spraying an orchard or a garden as frustrated if some neighbouring owner of a small garden simply neglects it and allows pests to breed and flourish without restraint, and it should be looked upon as a bounden duty to spray for the protection of neighbours as well as for personal benefit. We all dislike interference of officialdom, but unless every garden owner and cultivator voluntarily sprays it will surely come to pass before long that compulsion will have to be rigorously adopted by the Ministry of Agriculture.

The aphides can be overpowered by perseverance with simple washes. Many sprays are available, and thus early in the season the use of nicotine washes may be strongly recommended except where Gooseberries, Strawberries and other crops

needing maturity are concerned. Soluble paraffin mixtures are also good and, in fact, there is no need to dwell upon sprays, for these are available in plenty. The more pressing need is for persistence upon careful, thorough and systematic use of the sprayer. The first essential is to dilute the spray to its proper strength. It is useless to seek to increase efficacy by mixing at double strength. The probability is we may only inflict injury upon young growths. A second spraying forty-eight hours after the first is a far wiser and more effective course to adopt. Another point is the trees or plants should be thoroughly washed with clear water the day after spraying with the insecticide. Every side of a tree or plant should be sprayed. The foliage should be thoroughly covered underneath as well as above, otherwise large numbers of the insects will find dry spots and keep out of harm's way.

It is essential that any weeds which are infested with insects should be pulled up and immediately burned. Many a cleaned fruit or Rose tree has been infested by a new batch of aphides that have been hatched out on weeds growing around them. The small caterpillars now so rampant upon fruit trees are the larvae of various kinds of moths. They should be destroyed by such sprays as Katakilla, Killzall and other preparations that kill by contact. To ensure greatest efficiency a well made spraying machine should be used, fitted with a nozzle that will break up the spray

into the finest vapour-like volume, and with a pump powerful enough to drive the spray into every crevice of the bark as well as into the axils of the leaves. The larvae of the social sawfly is a pest that is difficult to deal with. The young larvae are grouped in colonies on the under surface of the leaves, and are protected by a covering web which it is difficult to penetrate. The Hubbard-Riley Kerosene Emulsion is an effective spray to use for this pest, and should be applied through a jet that will drive the fluid with sufficient force to break the web. When once the web is broken it requires but little to kill the insects. To make the Hubbard-Riley Emulsion, first boil ½ lb. of soft soap (8 per cent.) in 1 gallon of water. When dissolved and still boiling, pour the solution into 2 gallons of good quality kerosene oil. Beat the mixture up until it produces a smooth, creamy liquid. Solubility will be improved by next putting the liquid into a spraying machine and forcing it through a fine nozzle into an earthenware or wooden bowl. When cool, bottle the fluid, which may be kept at hand and diluted to one part in fifty of water as required for use. This makes a good wash for Broad Beans, Roses, fruit trees, and anything except very tender-leaved plants, that are infested with aphides or caterpillars. It cannot, of course, be used upon food crops that will be gathered within a period of a fortnight or so.

A. J. MACLELL.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Winter Greens.—As ground becomes vacant it should be filled with winter greens until the requisite number is planted. They embrace Kale, Savoys, Cauliflowers and Broccoli, and although showery weather is preferable for such work, there is no necessity to wait for rain if water can be afforded for a week or so until the roots are established. As a rule the plants should be set in lines 2½ ft. apart and about 2½ ft. allowed between the plants. Where slugs are troublesome dust the soil with lime or soot. In a few weeks the hoe must be used between the plants, and no further attention is needed.

Spinach.—During hot, dry weather it is difficult to keep up a supply of this desirable vegetable, and where this is a necessity cold pits and frames may be utilised for growing a crop during the next two months. Here the seedlings may be kept well supplied with water, and a quick succulent growth will result. Outside, a partially shaded position should be chosen and copious supplies of water afforded at intervals.

General Work.—A pinch of lettuce seed should be sown at frequent intervals to maintain a continual supply, and this remark also applies to Mustard and Cress and Radishes; while Turnips need attention if these are in demand. The thinning of all crops should be done early, before the young plants become unduly crowded. The best results are obtained if two thinnings are made at an interval of a week or so, especially where thick sowing has been practised. The hoe should be kept at work. Peas staked early before the growth falls over, and directly a crop becomes unproductive it should be cleared and the ground got ready for future occupants. Keep the walks free from weeds, and make the garden as clean and tidy as possible.

The Flower Garden.

Roses. The chief work in the rose garden is to keep the trees free from green fly, and directly this pest is seen the sprayer or syringe should be employed. Any reliable insecticide will kill them, but care must be taken not to use the solution too strong. Weeds are held in check by hoeing the beds occasionally, and suckers need to be removed before they make much headway. Specimens growing at the base of walls or the dwelling-house should be frequently examined for insect pests.

Anemone fulgens. This scarlet Wind-flower is one of the most showy plants known, especially

when grown in a mass. It is easily raised from seed, which it sown about this time, I have found to germinate freely. A cold frame is advised, and when the seedlings are large enough they may be pricked out in boxes containing light, peaty soil. If the position is well drained, they may be placed in their flowering quarters in the autumn, otherwise the spring is advised. For this plant a loamy soil is ideal, which is further improved by adding a little lime.

Plants in Vases and Tubs.—Care must be taken to prevent these suffering from drought. As the receptacles become filled with roots a weekly application of liquid manure will be beneficial. Stake any plants that need it, and remove any decayed foliage at once.

Cytisuses.—These shrubs are usually known as Brooms, and to keep them within bounds they require a little pruning immediately after flowering. When cut back to the old hard wood they seldom break into growth, and very often die. Choice specimens should have their seed-pods removed.

The Hardy Fruit Garden.

Strawberries.—Old Strawberry-beds are never profitable, so preparations should be made for securing runners to make fresh plantations later on. The best method is to layer the runners in pots 3 ins. in diameter filled with loamy soil. The young plants must be well supplied with water, and they should be transferred to their permanent quarters before they become starved. In the meantime if the fresh site is available it should be trenched and given a liberal dressing of manure. In any case it should have sufficient time to settle down before any planting is done.

Wall Trees.—About this time Cherries and Plums are often attacked by green and black fly and, unless these pests are destroyed, not only will the young shoots be injured, but the fruit will be disfigured. A non-poisonous insecticide should be employed, and the trees are best treated with a weak solution late in the evening when the sun has lost its power. The following morning the trees should be thoroughly cleansed with clear water.

Fruits Under Glass.

Strawberries.—It will now be necessary to prepare for the plants which will furnish a supply of fruits under glass next year. Young plants are usually set apart for the production of runners, and the first runner should be chosen, for it is believed this gives the best result. Three-inch pots should be filled with a loamy soil and the runner

pegged therein, and it is advisable to plunge the pot to keep the soil moist. When the runner is well established in the pot it may be severed from the parent plant and the pots plunged in ashes until the plants are ready for their fruiting receptacles. The roots in the meantime should be kept well supplied with water and the foliage sprayed over each evening to hold insect pests in check.

Melons.—If Melons are required in the autumn, seeds should now be sown, and at this season they germinate readily in a Melon or Cucumber house. Where fruits are approaching the ripening stage more air than hitherto must be admitted, and fruits that are swelling freely ought to be netted, before they begin to pull down the Vine. Later plants should be pinched at one joint beyond the fruit and, when sufficient female flowers are open to produce a crop they should be fertilised.

T. W. BRISCOE.

(Gardener to W. R. Lysaght, Esq.),
Castleford, Cheltenham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Cutting of this choice vegetable must now cease for the season. See that the beds are kept free from weeds. Many self-sown seedlings often appear. Any that shew where a blank has occurred should be left, but all others weeded out. Another moderate dressing of agricultural salt—the last for the season—should be applied when rain is likely to occur, but if the weather remains dry the dressing should be applied and watered in with a rosed can.

Seakale Beet.—Although this cannot be termed a first-class vegetable, still it has its value as a stop-gap. It is useful during June because it is then at its best and helps to eke out just before the summer vegetables turn in and there is no great variety available. It should be cleared off, however, at the end of the month, as it then begins to "shoot" and the need for it is past.

Broccoli.—The planting of this crop should be completed by the end of the month and the quarter cleared of the Seakale Beet may, after being liberally manured and dug, be devoted to part of the crop.

Leeks.—The sooner this useful crop is planted out the better will be the results. Ground that has just been cleared of Broccoli comes in handy for Leeks. As Broccoli is an exhausting crop and the Leek is a gross feeder, the ground should be liberally manured and well broken up in the process of digging. To get specimens of exhibition standard, Leeks must be grown in specially prepared trenches and fed regularly by means of drain-pipes inserted in the sides of the trenches as earthing up goes on. Collars should also be used to assist in lengthening the blanch. Quite good Leeks for ordinary use may, however, be obtained by the following method of culture: Form drills with the draw hoe 14 ins. apart and of a depth suitable for Potatoes; then with a bunch of Leeks in one hand and a quite blunt dibber in the other form holes about 4 ins. deep and 6 ins. apart, dropping a plant into each hole as the work proceeds and pushing in just as much soil as will cover the roots. The influence of the weather will generally fill up the rest of the hole and in due course the ridges between the drills are levelled down by means of the Dutch hoe.

The Hardy Fruit Garden.

Strawberries.—Go over the plants again and cut away any further runners that may be shewing and remove any weeds that may have sprung up since the plants were "bedded." As, in dry weather especially, the birds often commence to eat the berries when only half-ripe, the plantation should be netted by the end of the month. The nets may be supported by the following means: Drive stout wooden stakes firmly in at 3 yds. or 4 yds. apart, and standing about 4 ft. high when driven. Connect them both along and across the bed by tightly drawn lacing wire fastened to small staples. By this arrangement the nets are supported and one can pick the fruit in comfort without removing the nets.

Apples.—Notwithstanding the very severe weather of this spring, a certain number of Apple trees, according to situation and variety, will have set more fruits than it is desirable to retain. Some varieties, such as Stirling Castle, set fruit so freely that if young trees had not the fruits severely thinned they would fail to make sufficient wood to form the framework of the future tree. All surplus fruits must, therefore, be thinned out by degrees. Not more than a single fruit should be allowed to develop on any one spur.

Cherries. Dessert Cherries on walls should be protected from birds by suspending a net in front of the trees. Care must be taken, however, that the net is tucked closely in at the edges, as the birds will take advantage of the smallest inlet.

Loganberries will now be making rapid growth, and the supple shoots must be tied up from time to time. If any belated surplus shoots appear, they should be cut out at an early stage.

The Flower Garden.

Carnations. Although Carnations grown for decorative purposes need not be so severely disbudded as those grown for exhibition, still a certain amount of disbudding is essential for the production of well developed blooms. A number of minor flower-buds develop at the base of the main bud, and these should all be removed, so also should the tiny buds which generally shew near the base of the stem, but of those higher up the stem occurring at the axils of the leaves a proportion, say up to half a dozen, may be retained.

Chrysanthemums are now growing freely, and should have the benefit of a little stimulant. If applied in a dry form choose showery weather for its application, failing which apply and then water it in. In any case run the Dutch hoe through the whole after the application.

Sweet Peas should now be shewing their flower-buds and will be greatly benefited by the assistance of occasional doses of rather weak liquid manure. A solution of sheep droppings is hard to beat for this purpose. If this is not obtainable, a little sulphate of ammonia or nitrate of soda will give satisfactory results. Tie in any stems which fail to cling to the stakes or other support.

Herbaceous Plants.—Cut away the flower-stems of early flowering plants. Give additional ties to extra tall plants, such as Delphiniums, Aconites and Helianthus. Keep weeds in check by the careful use of the Dutch hoe and by means of hand weeding when the weeds spring from among the stems of the plants. This is an opportune time for making a general review of the stock and for taking notes of desirable discardings or additions when the time for such operations arrives.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Gilia coronopifolia.—Seed of this beautiful plant is best sown during this month. The young seedlings should be pricked off into pans containing light soil, and when large enough should be potted off singly into thumb pots. They must be well established in 60-sized pots before winter, when they should be kept on the dry side. The best place to winter them successfully is on a shelf, well up to the roof glass, in an airy greenhouse. Damp, stagnant conditions—the ban of so many Californian plants in this country—prove fatal to them. Early in the New Year, when they start growing freely, they should be given more water at the root, and may be placed in their flowering pots, which, for good specimens, should be 6 ins. in size.

Lantana Camara, of which there are many garden varieties, is very useful for greenhouse decoration. Young plants raised from seed or cuttings early in the year, should be potted on as they require it; they should be pinched frequently to keep them bushy. The old plants may be grown on from year to year and in time make large specimens.

Hypocalymma robusta.—This pretty Australian shrub should be more generally grown for greenhouse decoration. It produces its beautiful rose-coloured flowers in great profusion during April and May. It is easily rooted at this time by means of half-ripened twiggy shoots inserted in pots containing sandy peat, standing the pots under a bell glass in a cool house. This plant should be given the same treatment as that given the greenhouse *Ericas*, pinching the young plants frequently to lay a good foundation for the future plants.

Hydrangeas as they pass out of flower should have the old flower-heads trimmed off. At the same time any strong shoots suitable for cuttings should be secured and inserted singly in small pots, plunging them in a close case, in which they should root readily. Any young plants that are to be grown on as large specimens may be potted on at this time. Stand them out in an open, sunny position and, if the pots are partly plunged it will save the soil from drying up so much.

Hydrangea in the rooting plants and when well established, may copious supplies of water at the roots. When the cuttings are well rooted they should have a shift into 48-sized pots, growing them on in a cold house or frames until the autumn, when they should be freely exposed to the weather on every suitable occasion, taking care to protect them during frosty weather, otherwise the flower-buds may get damaged. There are now many fine new varieties, some of the rose-coloured forms being very beautiful, and I find they are much more dependable in flowering than some of the older varieties. Large specimen plants that were started late are now growing freely, and require ample supplies of water at the root and liberal feeding with liquid manure or diluted soot water.

Arctotis aureola. This brilliant orange-coloured Composite is now passing out of flower. It is by no means common in cultivation; this is no doubt due to the fact that its successful propagation is not generally understood. It is a difficult plant to increase by means of cuttings, but can be increased readily by layering at this time. For this purpose the plants should be turned out of their pots and planted outdoors or in cold frames, the operation of layering being rendered easier if the plants are heeled over on their side. *Arctotis asper* and *A. revoluta* are both desirable species for greenhouse decoration, and these are readily increased by means of cuttings.

Calceolarias.—Where good specimens of the herbaceous type are desired, the seed should either be sown now or early in July. The seed-pots should be watered some hours previous to sowing, the fine seeds being sprinkled on the surface of the soil. If covered at all, it should be with a light dusting of fine sandy soil. The pots should be covered with a sheet of glass and be kept shaded until germination takes place. If it is necessary to supply water, the pots should be stood in a vessel of water and not watered overhead; this is a safe rule to observe when dealing with hue seeds of any sort. Calceolarias enjoy cool, moist conditions at all times, close and warm conditions soon proving fatal to them. They are very subject to attacks by green fly, which may be prevented by frequent light fumigations. Seed of the quaint and beautiful *C. cana* hybrids is now on the market, and these plants are well worth the attention of lovers of choice plants. They are all beautifully marked, some with the violet colouring of *C. cana*, while in some of the hybrids the delicate violet scent of the parent *C. cana* is retained. As regards cultivation, they require the same treatment as the herbaceous varieties, but as many of them have the woolly leaf character of *C. cana*, care must be taken during winter not to get the foliage wet, as the plants are very apt to damp off.

Pelargoniums of the Zonal type required for flowering in winter should be in their flowering pots, which, according to the size of the plants, may be 6 ins. or 7 ins. in size. Firm potting is essential, as hard, firm growth is very important for successful flowering. For this reason the plants should now be stood out in an open, sunny position. It is an advantage if they can be given plenty of room in cold frames; they may then receive the protection of the frame lights during spells of wet weather.

Lapagerias are now growing freely, and the tramping and regulating of the shoots requires daily attention. Any young growth from the base of the plants should be protected from attacks by slugs by placing ashes round the growths. A good wad of cotton-wool wrapped round the young growth at the ground line will generally prevent attacks.

Royal Botanic Gardens, Kew.

J. CUTTS.

A Showy Olearia.—Although numbering more than a hundred species, all natives of Australasia, only one has, up to the present, proved sufficiently hardy in the open to warrant wide cultivation in the British Isles. This is *Olearia Haastii*, a native of Canterbury, New Zealand, where it grows at 4,000 ft. to 5,000 ft. elevation. *O. albidula*, is also a New Zealand species, a native of the North Island from North Cape to Taranaki, generally found growing near the sea. It is described as a large evergreen bush or small tree 10 ft. to 20 ft. high. The leaves are oblong, 2 ins. to 4 ins. long, coriaceous in texture, with a soft white tomentum on the underside. The white flowers are freely borne in large flat

panicles during late summer. Plants have grown freely for several years past in the London district, but as the winters have been comparatively mild we must wait for a hard winter to test its hardiness. In any case, for the milder parts of these islands and against warm and sheltered walls it is a very interesting and showy species.

The Nankeen Lily.—This is such a very beautiful and distinctive Lily and one so easy of culture that one wonders why it is still so seldom seen in gardens. It will prosper in almost any well drained loam or sandy peat with full exposure, and there send up its oft. stems which terminate in the later spring in generous whorls of large, recurved blossoms of remarkable loveliness. These flowers are fragrant and of a unique and very charming colour, which may be described as creamy ivory, or nankeen, the anthers being crimson. In some forms the colour may tend more towards a yellow buff, suffused with just a hint of delicate rose. In leaf and flower there is a suggestion of *L. candidum* in *L. testaceum*, as this Lily is called, and the strongly recurved flowers and other features betray the influence of its other reputed parent, *L. chalcidicum*. Anyone who has any success with the Madonna Lily will find *L. testaceum* even easier and more permanent. Syns. *isabellinum* and *excelsum*.

A Pretty Carpet.—For the margin of the bog or, indeed, any cool soil that does not get too dry there are few more fascinating little plants than *Mimulus* (*Mazus*) *radicans*. The foliage of this pretty New Zealander spreads over the soil in a perfectly prostrate manner, the dull green, purple-tinted leaves overlapping and hugging the ground like the scales of a Liverwort. Towards the end of May this sullen and apparently lifeless mat breaks into flower, and the blooms, as if to make amends for the humble obscurity of the rest of the plant, are not only large—about 1 in. across—but most striking in their milky whiteness set off with a conspicuous eye of gold and daub of violet. In bleak localities this charming thing is not to be trusted to stand the winter, but a stock may be secured by giving frame protection, and one is well repaid for such trouble.

A Stately Toadflax.—If *Linaria purpurea* (*repens*) is a plant discreetly to be omitted from the sanctuary of the rock garden, since it is a somewhat robust coloniser in some soils, it is one well worthy of a place in open woodland, among Heaths or other lowly shrubs, or the mixed border. Though not always long lived, *L. purpurea* is a perennial with the characteristic emerald foliage of the Toadflax family and branching spires which rise stiffly, yet elegantly to some 4 ft. or more, the ends of the stems and laterals terminating in spikes of little blossoms in various shades of purple. Some of these latter may be rather crude, but others—to be selected—are a delicate soft lavender, which in the mass gives a most delightful smoke-blue effect. This particular form is first-rate for associating with many of the *Ericas* when colour harmony is desired, and the white variety is a very lovely thing and not nearly so redundant as the purples. Almost any soil seems to suit *L. purpurea*, and it is excellent as a drought-resister for poor, stony, sun-beaten banks.

Trials at Wisley. The Royal Horticultural Society will carry out a trial of *Schizanthuses* and annual Larkspurs for flowering under glass during the coming winter and spring. A packet of seed of each variety for trial should be sent to the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained) so as to reach him on or before June 30, 1923.

Trial of Winter-Flowering Carnations at Wisley. The following awards were recommended by a Judging Committee representing the R.H.S. Floral Committee and the Carnation Society after examination of the growing plants on four occasions, spread over two winter seasons, 1921-22, 1922-23. The awards are recommended solely on the value of the plants for flowering between October and March, and take into consideration form and colour of the flowers, habit, vigour, constitution and floriferousness of the plants. They are not intended to mark value as exhibition flowers nor as summer-flowering plants.

Awards of merit to Wivelsheld White, White Wonder, Mrs. Walter Hemus, Enchantress Supreme and Triumph, all sent by Messrs. Allwood Brothers and Mr. C. Engelmann; Bona, The Herald, General Joffre, Aviator and Jazz, all sent by Mr. Engelmann; Iceberg, sent by Mr. Jones; and Atlantic and Oceanic (Perpetual Malmaison), sent by Messrs. Allwood.

Highly Commended. White Enchantress, Jessie Allwood, Delice, Bishton Wonder, Mikado, Wivelsheld Claret, Wivelsheld Wonder, Benora and Wivelsheld Beauty, all sent both by Messrs. Allwood and Mr. Engelmann; Sunstar, May Day, Lady Northcliffe, Nora West, Elsenham Beauty, Harlequin, Fanny, Fancy Carola and Iona, all sent by Mr. Engelmann; White Pearl, sent by Messrs. Stuart Low and Co.; Countess of Wilton, sent by Messrs. Stuart Low and Mr. Engelmann; El-peth, sent by Mr. W. F. Hamilton; West Hall Scarlet, sent by Mr. G. Carpenter; Claremont, sent by Mr. F. A. Jones; and Gigantic (Perpetual Malmaison), sent by Messrs. Allwood. Some thirty other varieties were "commended."

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

TULIPS DISEASED (C. A. Ware).—No doubt a fungus, *Botrytis parasitica*, has caused the main damage to the Tulips, and either the bulbs were diseased when planted or the soil has become infected with the resting bodies of the fungus, which will, if Tulips are again planted, cause further spread of the disease. No soil treatment is likely to avail, and it would be well to abstain from planting Tulips here for a few years.

FRITILLARIAS UNSATISFACTORY (W. F. M. C.).—The Fritillarias are not diseased, but evidently fail through lack of water. They prefer damp quarters, and would be the better for replanting in a damp (not to say wet) spot in the sun.

MADONNA LILIES ATTACKED (Mrs. C. Hants).—The Lilies are attacked by the common lily disease. This disease may be avoided by planting in a soil rich in lime, and in a place not subject to cold draughts or to late frosts.

THE GREENHOUSE.

CHRYSANTHEMUMS AND THE LEAF MINER (H. D. N.).—Spray affected plants with a good nicotine wash. Take care that old potting soil is not used, and that all frames and other places where the plants have been grown are thoroughly cleansed before using again.

KITCHEN GARDEN.

TOMATOES UNSATISFACTORY (D. M. G., North Devon). No parasites were to be found on the Tomato plant. Something has probably been amiss with the cultivation.

TOMATOES ATTACKED (T. A., Sutton-on-Trent).—The Tomatoes are attacked by the fungus *Phytophthora cryptogea*, which attacks the plant from the soil. Probably the soil used was infected. The tops of the plants may be rooted and new plants grown on, this saving time.

FRUIT GARDEN.

APPLE TREES ATTACKED (C. E. D., Dorset).—The Apple trees are badly attacked by apple mildew. Cut out the diseased shoots behind the point at which the mildew is apparent and burn them. Spray the rest of the tree with potassium sulphide (1 oz. to 4 gallons of water).

STRAWBERRY PLANTS DISEASED (B. E. S.).—The Strawberry is affected with "cauliflower disease" due to the attack of the stem eelworm, *Tylenchus devastatrix*. The plants should be destroyed and none should be planted in the affected ground for some years to come, nor should the runners from these plants be used for propagation.

CHERRY AND APPLE TREES ATTACKED (M. E. B.).—The Cherry tree is attacked by the cherry black fly and aphids, which is very abundant this year. The tree should be sprayed once, or twice if necessary, with *Katakilla* or with a nicotine wash, and so should the Apple tree. The latter is attacked by a different aphid, and from what our correspondent states, by American blight in addition. Wherever the latter occurs the place should be painted with methylated spirit.

MISCELLANEOUS.

A PROLIFEROUS DAISY (A. H. C., Newick).—The specimen sent for examination is the well known Hen and Chickens Daisy, grown and figured by many old herbalists and gardeners. It is produced by the continued growth and branching of the flower-stalks.

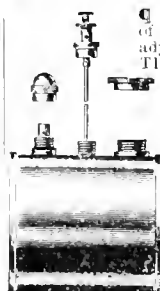
PLANTS FOR IDENTIFICATION (A. R., Lanark).—The plants sent for identification are: 1, *Diaplas glutinosus*; 2, *Fabiana imbricata*; 3, *Berberis stenophylla*. The best way to propagate *Fabiana imbricata* is to make cuttings of firm young shoots in spring, insert them in sandy soil, and place the pots in a cold close frame. Keep them shaded from direct sun till they are rooted and then gradually allow more air. Seeds provide the best means of increasing *Diaplas glutinosus*, and they are produced freely. Sow as soon as they are ripe, or they may be kept till the following spring. Cuttings also will root readily if inserted in sandy soil and placed in a little heat.

PRESERVING TOADSTOOLS FOR INSTRUCTIONAL PURPOSES (C. B., Essex).—Toadstools are very difficult to preserve. Perhaps the best method is to remove the top and place it on a piece of paper covered with a glass until the spores fall and make a pattern of the gills, which may be preserved. The top may be skinned and the skin dried by placing in warm sand, and the general form may be recorded by cutting the toadstool through the middle so as to obtain a slice showing all parts. This may also be dried, either in the same way or between pieces of paper as ordinary plants are dried.

THE DESTRUCTION OF WOODLICE (G. H. P., Malvern).—On a rock garden the best method of dealing with woodlice is to trap them. This may be done by placing here and there halved Potatoes, in which a hollow has been scooped, with the hollowed side down. If these be examined daily, and the woodlice caught by killing by dropping into boiling water or water with a covering film of paraffin, the pest may be reduced to small numbers.

NAMES OF PLANTS.—F. M.—*Mimulus luteus maculatus*.—H. J. Whyteleaf.—*Claytonia perfoliata*. (This is a North American plant now naturalised in many places in this country).—E. T., Prenton.—*Muscari comosum*, "Tassel Hyacinth."—Mrs. H., Saltwood.—1, *Esecalonia macrantha*; 2, *Tricuspidaria lanceolata* (red flowers); 3, *Olearia macrodonta* (white flowers); 4, *Picea pungens*.—C. B., Limerick.—*Billbergia nutans*.—Mrs. J., Sussex.—*Olearia stellulata* also known as *O. Gunniana*. (A native of Australia, this plant is only hardy in the warmer parts of this country).—R. M., Essex.—*Lathyrus Aphaca*.—S. R.—1, *Crassula coccinea*; 2, *Salvia pratensis*; 3 and 4, Yellow and white forms of the Banksian Rose (*Rosa Banksiae*).—"Llanrwst."—*Genista hispanica*, "Spanish Broom."—R. F. C.—*Libertia grandiflora*.

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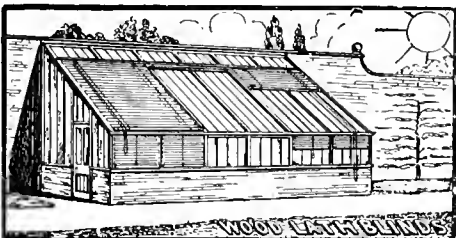
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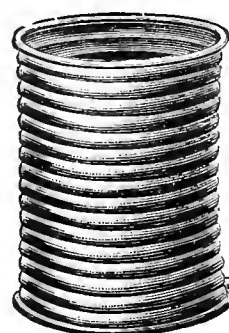
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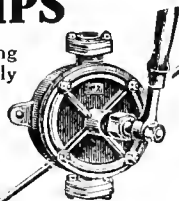
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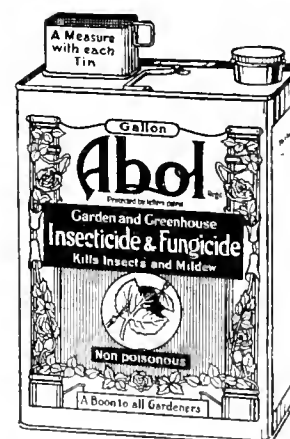
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No. 2693.—VOL. LXXXVII.]

[JUNE 30, 1923.]

GARDEN HYBRID CLEMATISES

Excepting only the Rose, the Clematis has no rivals among hardy climbers. In small gardens where they get some shelter we sometimes see them excel Roses, the majority of which thrive best in open situations.

THE many and varied species and varieties of Clematis vary in habit from herbaceous perennials 1 ft. or rather more in height to vigorous climbers with thick woody stems up to 50 ft. or more in length. The Clematis is a hardy climber which every garden-lover can grow successfully. With such a large and varied family there are plants for all positions. Failing a border, because of stone paving or other causes, Clematises to clothe verandahs or treillage in the roof garden may be grown in large tubs or boxes.

The sudden dying away of branches and, finally, of the plants for no apparent reason has been attributed to several causes. Grafting comes in for abuse as the predominant factor in the very large number of losses, but having watched carefully both species and varieties for a considerable number of years I am firmly of opinion that it is almost, if not entirely, a question of soil and position. Examination of the stems of shrivelled branches or plants will shew the bark to be split. This may be due to exposure to sun or frost. The injury is not apparent perhaps at once and fungus may establish itself in the wound, but that is not the start of the trouble.

SOIL.

The first essential is a very well drained soil. If the ground is at all heavy or water-logged, dig in an abundance of builders' rubbish (old mortar, brick and sand); also plant, if possible, on a little raised mound. It is well known that Clematises thrive in calcareous soils, though such are not essential. Ordinary garden soils are improved by the addition of a little well decayed manure and leaf-mould, but the ground should not be made excessively rich. The very vigorous fleshy stems are more liable to split than those of normal growth. A mulching of decaying

leaves and old manure is helpful on light soils in summer and a protection from frost in winter.

POSITION.

From what has already been written it will be apparent that a southern aspect with exposure to hot sun on the older stems should be avoided.

If Clematises are planted in positions facing south, shade should be afforded to the roots and the lower parts of the stems by planting among shrubs. Sometimes moderately tall perennials are employed with satisfactory results. For northern, eastern and, particularly, western aspects, Clematises cannot very well be planted too freely, to clothe walls, fences, arbours, pergolas, arches, porches, trelliswork and verandas. The strongest-growing species, if planted on the outskirts of trees and given a little support to begin with, soon ramble away up among the branches. We have our orthodox methods of pruning, but several times in poking about neglected corners I have come across the old Jackmanni Clematis rather bare below certainly, but with a wealth of growths over an old shed or wall. If this one will thrive, so will hosts of others. Plant them about where Roses and other climbers have failed.

It is worth while, to begin with at least, to give the Clematis some support in the form of rough branches, oak or bamboo for preference, as these last well. These save a lot of trouble in the first year or two's training of Clematises, especially against a wall.

PROPAGATION.

Seeds, cuttings, layers and grafts may be relied on to provide ready and rapid increase of stock. Besides raising the species from seeds it is very interesting work cross-pollinating and raising seedlings in the endeavour to obtain new and improved varieties. Unlike most plants, internodal cuttings produce roots much more freely than those taken in the usual way below the node. Layering is practically a sure method of increase, the stems being bent or twisted when pegged down and covered with sandy soil.

To propagate the named varieties in the huge quantities required by flower-lovers to-day, grafting is the only possible method as a paying



PART OF A GRAND OLD PLANT OF CLEMATIS PERLE D'AZURE
AT GRAVETYE.

recommended proposition. These flower who object to grafted plants can soon solve the problem and have them on their own roots by planting deeply or digging a sloping hole.

As Clematises are almost entirely grown in pots, the question of a suitable time for planting rarely arises. It is probably desirable not to plant from November to January if the plants are to stand in pots.

GARDEN VARIETIES.

Is there any family of handy plants exelling in beauty a representative collection of garden varieties of Clematis? They provide a succession of blossoms from May to September or October. The flowers are large and dainty, and combine rich colouring with a graceful habit of growth. The majority of named sorts have originated by the intercrossing of four species, *C. florida*, *C. lanuginosa*, *C. patens* and *C. viticella*. Because the hybrids from these species have several distinct characters, requiring rather different pruning, with also some differences in flowers and the flowering season, the specific names are in general use to distinguish each section or type. With the continual intercrossing it is not, however, an easy matter in some cases to classify them.

PATENS (AZURE) GROUP. This section is the first to flower, producing a wealth of blossoms in May and June, usually extending into July. Because of its early and free-flowering qualities, this section is valuable for culture in pots for cool and unheated greenhouses. The flowers are produced on the ripened wood of the previous year's growth. It is thus desirable to remove

thin and useless wood in July after flowering. All that can be done in early spring is to remove the thin, unripened end of the shoots. Good sorts include Fair Rosamond, bluish white, pale wine, red bar; Lady Forbesborough, silvery grey; Lasurstein, purplish blue; Miss Bateman, white, chocolate anthers; Miss Quilter, pure white; Mrs. George Jackman, satiny white, cream bar; Sir Garnet Wolseley, bluish red, round, plum, red bar; Stella, light violet, reddish plum bar; and The Queen, lavender.

FLORIDA GROUP. This section has large double flowers and, being produced on the ripened wood, requires light pruning as in the Patens group. The flowering season is June and July. In this section come Belle of Woking, silvery grey; Countess of Lovelace, bluish blue; Duchess of Edinburgh, pure white; and Lucie Lemonie, white.

LANUGINOSA GROUP. In this section are included some of the largest and best flowering Clematises. The blossoms are borne more or less throughout the summer and autumn on the short lateral shoots of the year. If the plants made good growth the previous year the knife may be used fairly freely in February to remove the thinnest wood and straggling ends of the shoots. Space out a little the shoots remaining to furnish the allotted space. There are many sorts, but I will limit the selection here to ten: alba magna, pure white; Beauty of Worcester, bluish violet (has single and double blossoms); Blue Gem, cerulean blue; Fairy Queen, bluish, pinkish bar; Gloire de St. Julien, large white, yellow stamens; Henryi, creamy white; Lady Northcliffe, lavender blue;

Lord Neville, dark plum; Marcel Moser, mauve-violet, red bar; and Nellie Moser, mauve, red bar.

VITICELLA GROUP.—This is a free-flowering type of vigorous growth. The blossoms being produced in summer and autumn on the current season's growth, early free pruning may be carried out in February. A good six are Ascotensis, azure blue; Kermesina, red; Mme. Grange, crimson velvet; rubra grandiflora, red; Ville de Lyon, carmine red; and Viticella alba luxuriens, white.

JACKMANI GROUP. Producing quantities of blossoms in late summer and autumn, this section benefits by harder pruning than any other group of garden varieties. In fact, when only required to cover a low wall or fence I have seen the violet-purple Jackmanni cut annually to within 2 ft. to 3 ft. of the ground in February. The most popular of all Clematises in our gardens to-day, Jackmanni is the result of a cross between *C. lanuginosa* and *C. Hendersonii* made in Messrs. G. Jackman's Woking nursery in 1858. Other sorts to grow in this section are Comtesse de Bouchaud, satiny rose; Gipsy Queen, dark velvety purple; Jackmanni rubra, red; Jackmanni Snow White, pure white; Jackmanni superba, dark violet-purple; Star of India, reddish plum; and The President, deep violet, darker centre.

I would reiterate that shade for the roots and the lower parts of their growth is very necessary for Clematises, and that planting in unsuitable positions is responsible for the vast majority of failures. *Verb. sap.* A O
(Consideration of the Clematis species is held over for a further article.)



THE RICH PURPLE CLEMATIS JACKMANI.
Typical of a series of hybrids.



SNOW WHITE CLEMATIS THE BRIDE.
One of Messrs. Jackman's novelties.

THE CULTURE OF PENTSTEMONS

IT may be said with perfect truth that Pentstemons are largely grown and may claim place among the flowers we term "popular," but so far as England is concerned, and particularly the southern half, my contention is that we but seldom see a good collection of Pentstemons grown in a manner that brings out

winter with little attention until the rush of early spring work is over, and thought turns to planting out the summer-flowering plants.

When the Pentstemons are overhauled, some are found to be throwing up a lanky shoot or two, some look a bit stunted and sickly, and some have "gone west," but they are taken out and



A FINE MASS OF THE SOFT PINK PENTSTEMON DAYDREAM.

in any way their real value. In Scotland, and in the northern counties of England, Pentstemons are more generally grown and are certainly grown with greater skill and care. If asked to express an opinion as to why we do not oftener see this plant at its best, I should submit two reasons, but should hesitate as to which should take priority, for each is in a measure the outcome of the other. My reasons are that southerners have not, generally speaking, the keen appreciation of the qualities of a Pentstemon that northerners have, and that they do not take the pains to grow them well. Lack of appreciation may be accounted sufficient reason for casual treatment, but on the other hand full appreciation of the qualities of a flower can only be aroused when the flower is seen in a high state of perfection, and the probability is that the sight of a batch of Pentstemons that had been skilfully handled and grown to perfection would awaken the enthusiasm that is their due.

It is not that there are mysterious secrets surrounding the culture of Pentstemons, nor is it that their requirements are so exacting that only the exceptionally favoured can provide them, indeed, it is rather the reverse, a Pentstemon makes a fairly good hand at thriving even under unfavourable circumstances, and responds so readily to even the slightest encouragement that all too often the very little help is considered sufficient, and the fairly good attempt at display is accepted as the full measure of which the plant is capable.

It is generally understood that Pentstemons may be propagated from cuttings in autumn and should be planted in their flowering quarters in spring, but if the truth be confessed many a propagator will have to admit that those autumn cuttings are frequently snapped off just as frosts threaten to cripple the plants, are put round the edge of a flower-pot and put away on a shelf or odd corner in the greenhouse to go through the

planted, with the conviction that they will soon "pull round," and with a bit of "feed" later on will make a show.

To secure the finest results a few stock plants should be set apart, their flower spikes removed by the middle of August, and cuttings taken of healthy vigorous young growths from the base as soon as they have formed four or five closely set leaf-joints. It is of great advantage to insert the cuttings singly in thumb pots, rather than putting

several into one receptacle, for thus they may be potted on without once having the check of disturbance at the root. The cutting-pots should be plunged in a frame in a shady place and kept close until the cuttings shew signs of root-formation. Early cuttings will root soon enough to admit of a shift into "sixties" during autumn, in which pots they may pass through the winter, either in a pit or a cool house. Early in the New Year the points of the shoots may be pinched out and, as soon as new growths break from the axils, the plants should be potted on into "forty-eights," and kept cool and well ventilated until good weather justifies planting out.

The bed should be well and deeply dug and some manure worked in, this preparation being carried out a month or two before planting time. Give the plants a couple of feet of space each way and plant firmly. As soon as convenient, select three or at most four well placed and strong shoots and remove the rest. Secure each growth separately to a neat but strong stake and see to it that no green fly or other pest gains a foothold on the points of the young growth.

As soon as flower spikes become visible commence feeding, preferably with liquid animal manure, and if the weather becomes hot and dry, mulch the bed with hops or with stable manure passed through a potato riddle. With such culture some magnificent spikes of large, well formed bells will be produced and the Pentstemon bed will prove to be an outstanding feature in the best furnished garden.

Remember that every check and every delay in the routine of culture, such as postponing potting until the plants are pot-bound and starved, neglecting to water so that lower leaves fall, forgetting ventilation while in the pits, or neglecting staking until wind plays havoc with the young growths, or leaving a superfluity of weak side shoots, will have a marked effect upon the ultimate strength and beauty of the flower spikes and bells. After all, we simply deny ourselves half the pleasure of cultivation by neglecting such simple tasks and unless we afford our plants good culture we can expect no more than just mediocre results. On the other hand, few plants respond more readily and generously to good treatment than does the Pentstemon.

A. J. MACSELF.

THE HERONSBILL FAMILY

THE genus *Erodium* contains in all about fifty species, mostly from the North Temperate regions, although a few are found in South Africa and Australia. More than half this number are in cultivation, but many of them are annuals of little or no garden value. Among the hardy perennials are many beautiful plants which hardly receive the attention they deserve in our gardens. They are ideal for the sunny rock garden and, provided they are given ample drainage, all the dwarf species may be successfully grown. For planting on steep rocky banks or in the crevices of old walls there are no more suitable plants, as they quickly make large tufts and furnish a welcome display of bloom for a long period during the early summer months. Cold, wet soils are unsuitable, as in such situations many kinds are liable to damp off during winter.

Propagation is effected by means of cuttings or seeds. The former should be inserted in sandy loam in June or July, selecting some of the younger shoots with a heel attached. The pots of cuttings should be placed under a bell glass or in a close frame till they are rooted, when they may be

potted off singly and grown on in a cold frame till they are fit to plant out. Seeds may be sown at any time, preferably in spring in a little heat.

The members of this genus cross with each other very readily, and there are numerous hybrids in cultivation. This tends to make the matter of nomenclature very difficult, and thus we frequently meet with the same plant under various names. Both species and hybrids, however, are charming plants and well worth a good position, and if a little care is bestowed on them at the time of planting they will amply repay with a wealth of flower for a long period. Some of the easiest kinds to grow and, incidentally, some of the most beautiful are given below.

E. absinthoides (syns. *E. Sibthorpium* and *E. olympicum*).—This pretty plant comes from Mount Olympus in Bithynia, where it forms tufts of woody stems with silvery leaves some 3 ins. or 4 ins. high. The flower-stems are branching, and during July and August bear its pinkish veined flowers well above the foliage. As an example of the confusion of names, the name *absinthoides* has also been given to a form of *E. chrysanthum*.

E. CHAMÆMELOIS.—One of the best border plants of the family, growing from 6 ins. to 12 ins. high, with masses of silver grey soft hairy leaves, and numerous pure white flowers in July and August. It is a native of Syria, and has proved quite hardy in a sunny ledge. It also reproduces itself by means of self-sown seedlings near the old plants.

E. CHEILANTHIFOLIUM (syns. *E. guttatum* and *E. trichomanefolium*).—One of the most attractive species from the rocky ledges of the Sierra Nevada in Spain. From a mass of woody stems and grey-green, finely cut leaves the flowers are produced very freely during the whole of the summer months. These are almost pure white, but the two upper



ERODIUM CHEILANTHIFOLIUM, OFTEN KNOWN IN GARDENS AS *E. TRICHOMANEFOLIUM*.



ERODIUM CORSICUM GROWING IN A WALL.

E. CHAMÆMELOIS (var. *E. Richardii*) is a tiny species from the Balearic Islands. It forms a carpet of small heart-shaped leaves just above which are borne a little white flow-er which are delicately veined with dark lines. There is also a pink-flowered form of this species now in cultivation.

petals are heavily blotched with dark purple. The plant grown in gardens under the name of *E. guttatum* is a form of this species, but in this the flowers are larger and only one petal is blotched. It may be conveniently called *E. cheilanthifolium* var. *major*. *E. guttatum*, true, is a coarse growing annual from Algeria. There is also a smaller

flowered form grown with greyer leaves. These varieties may, of course, be hybrids.

E. CHRYSANTHEMUM. A native of the mountains of Greece, this plant makes a tuft of silvery fern-like leaves, and bears rich yellow flowers. Many complaints are received of this species failing to produce seed. It may be explained that the plants are unisexual, and it is necessary to get both male and female plants if it is desired to increase it in this way. When planted together it will be found that self-sown seedlings will appear near the old plants. It is one of the best and most attractive members of the whole family. *E. c.* var. *album* is a pure white form.

E. CORSICUM.—One of the smaller kinds, this grows from 1 in. to 4 ins. high, and produces small orbicular leaves that are softly hairy and deeply crenate. The flowers are $\frac{3}{4}$ in. in diameter and vary in their shades of rosy pink, while the veins are of deeper colour. They are produced from May to September. This species is found growing on granite rocks by the sea, in Corsica and Sardinia.

E. DAUCOIDES comes from the Sierra Nevada in Spain and is only a few inches high. It has very hairy grey leaves and whitish flowers, with a darker blotch on the upper petals.

E. GUICCIARDI.—One of the taller and more handsome kinds with tufts of silvery grey leaves up to 6 ins. high. These are finely cut and very elegant. The rosy pink flowers are produced in the later summer months on branching leafy stems 1 ft. to 1½ ft. high. A native of Northern Greece, it is one of the rarer species in cultivation.

E. HYMENODES.—For planting on a rough rocky bank with a sunny aspect there is no plant more suitable than this North African species. In such a place it will make itself at home and reproduce itself freely from self-sown seeds. It reaches a height of from 1 ft. to 2 ft., and has rounded, lobed leaves on long stalks. The inflorescence consists of eight to ten flowers, which are nearly white but veined with pink, while the two upper petals are blotched with rosy purple near the base. The whole plant is clothed with soft hairs, and it is very free-flowering, coming into bloom early in the year and continuing till frost comes. This plant is frequently met with in gardens under the name of *E. pelargoniflorum*, which species is a native of Asia Minor. The latter may be distinguished by the awn-like tip to the sepals, otherwise the plants are very much alike.

E. KOLBIANUM is a hybrid between *E. supra-cannum* and *E. macradenum*, intermediate in habit, nearer to the latter in height, but with lighter-coloured flowers of larger size.

E. MACRADENUM.—A free-growing plant from the Pyrenees, which quickly forms handsome tufts of finely cut green foliage on woody stems. It only grows about 6 ins. high, with umbels of six or more flowers, on stalks reaching well above the foliage. In these the lower three petals are white, veined with deep pink lines, while the upper two are blotched and veined nearly all over with dark purple. It is one of the easiest and hardiest species. *E. m.* var. *Willkommianum* is a variety of this with larger flowers which are lighter in colour.

E. MANISCARV. This is more of a border plant, but comes in useful for the larger rock garden. It grows about 2 ft. high, with deeply divided pinnate leaves and purplish red flowers in summer.

E. PETRAEUM. Very compact in habit with short woody stems and finely cut green leaves, this is a very free-flowering kind valuable for the rock garden. Although the flowers are only borne two together on each stalk, the stalks are very numerous. In colour the petals are all rosy pink, veined with darker lines, and are produced throughout the late spring and summer months. A strong growing hybrid of this with taller, more

robust habit is a handsome plant with six or more flowers to each umbel, but the individual flowers are very little larger. It is generally known as *E. macradenum roseum*, but bears no relationship to that plant. A native of Spain, this plant has been grown in gardens under the names of *E. trichomanetolium* and *E. cheilanthifolium*.

E. SUPRACANTUM.—A charming low-growing kind from Spain with beautiful silvery leaves that are harder in texture than in *E. chrysanthum*. The flowers, three to each stalk, are pale pink, or nearly white, veined with deeper pink lines. *E. s. var. album* is a pure white-flowered variety without veins. There is a hybrid in gardens

between this plant and *E. macradenum* known as *E. supradenum*. This has silvery foliage, but the flowers approach those of *E. macradenum* in colour.

E. TRICHOMANETOLIUM is a Syrian species which I have not seen. It has densely glandular leaves, and other plants do duty for it in gardens. W. L.

COLOUR-GROUPING IN A KENTISH GARDEN

MAY sunlight on a flashing sea to the south, northward the pale swell of the Downs, beneath one's feet, facing seaward, the turrets of an ancient castle looming amid trees, and the square tower of a noble church, also half hidden by foliage. Lower still the spires and roofs of a nestling town and then the great expanse of shingle which sweeps round to the far curve of Dungeness—all this makes a charming setting to a very different scene which may be found near by, a scene shaped lovingly by the hands of cultured men.

For near this picturesque town of Hythe, and nearer still to this gem among villages—Saltwood—lies the Garden House, a beautiful dwelling seated on the sunny slope of a gentle hill, with castle and church and sea below, and within its grounds a sheltered and secluded valley that has been made into one of the most charming gardens the mind can conceive.

The garden, be it said, was begun long before the house. I believe it was a former incumbent of the benefice of Saltwood who first realised the possibilities of the valley, with its sheltered site, as a garden. Perhaps it is a hundred years or more since the idea first germinated. It was certainly an incumbent, although of a later

generation, who gave the garden fame. He was a Hodgson, and the name of Hodgson is still given honour in horticultural Kent. Because Mr. Hodgson put in a quantity of what were once classed as "American plants," and gave them the wherewithal to flourish, the garden became known as "the American Garden." It bore that name for half a century and, in our country, names stick. One may still hear people speak of "the American Garden at Saltwood." The title might, however, drop. American plants do not now predominate here and although the present owner is ever ready in the generosity of his nature to throw open the garden to appreciative visitors, it is purely a private place.

When the already famous garden fell into the possession of Mr. A. C. Leney, he developed it lovingly. He built too, the fine and handsome



THE FINE PLANT OF CLANTHUS REFERRED TO.

dwelling of which it is one of the most distinguished ornaments. A spacious house, it is yet perfectly homelike. Broad terraces surround it. There are roomy borders beneath the walls, supporting a splendid range of creepers and shrubs. The scene from its terraces is one that lingers on the mind.

In a bygone year I remember seeing on one of the walls of the Garden House—it was a northern or north-western wall I think—a plant of that singular and impressive New Zealand legume, *Clanthus puniceus*. I recalled that memory to Mr. Leney in the present year of grace, and forthwith he led me round to the south side and showed me a successor to that old-time plant—a successor without of trebled size and effect. One of the photographs which accompany these notes depicts it. It was a wonderful plant, spreading like a luxuriant Peach tree and laden with innumerable flowers. To see a plant like this, as happily and as full of bloom in the open as a Cornish Fuchsia is a rare experience.

The greatest feature of the garden proper is certainly supplied by the Rhododendrons. Mr. Leney is a warm lover of this marvellous evergreen, and not only does he plant all the meritorious novelties as fast as they come out, but he cultivates them thoroughly and thereby gets fine specimens. Still further, he "places" them with the utmost care, in order to secure beautiful colour-harmonies. Rarely does one have an opportunity of seeing such glorious colour pictures, at once opulent and refined, as one sees here.

With respect to varieties, perhaps the gem of the collection on the day of my visit was *Loderi*, admirably grown and supremely beautiful. *George Hardy* was magnificent, too, and very appealing in its delightful shade of colour. Besides these noble varieties, even the once-worshipped and still popular *Pink Pearl* suffered. *Cornubia* was in very fine condition. In sheer size and beauty the peerless *Falconeri*, here grown out of doors, was almost unequalled. *Campylocarpus*, *Smithii*



A SPRAY OF THE SCARLET CLANTHUS PUNICEUS.

aureum and Corona were other gems of the collection. Indian, Mollis and Ghent Azaleas form a beautiful subsidiary feature.

There was great interest in huge plants of *Solanum crispum*; in the stately *Gunnera manicata*; in the Japanese Maples, of which there is a good collection; in the Camellias; and not least

in *Rhododendron Cunninghamii*, forming a foreground to an old tree covered with *Clematis montana*.

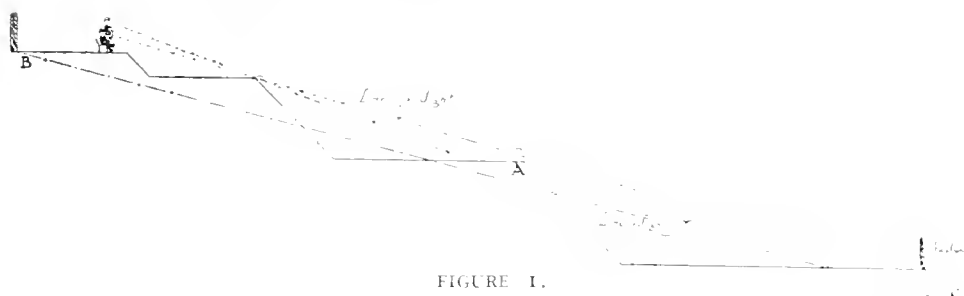
Space does not permit of further details, but Mr. Lacey is always ready to share his joy in his beautiful garden with any true flower-lover, and a visit is a pure delight. WALTER P. WRIGHT.

GARDEN CONSTRUCTION

I.—The Elements of Terracing.

SO many gardens are to be seen in which the terracing is badly managed that it may be worth while to write shortly on this subject alone. Bad terracing is neither confined to small gardens nor yet to modern ones; some of the largest gardens in Britain are

taken to make a section of the whole series of terraces concave, whereas the series shown in Fig. 1 is convex. Fig. 3 contrasts a concave stairway with a convex one; a series of terraces is really just a stairway with gigantic "steps" of varying widths and treads. Further, it is



disfigured by bad terracing, and bad old work is plentiful.

The principal fault is illustrated in Fig. 1. Sitting, or even standing, on the topmost terrace, one gets only very awkward partial views of the gardens below, except the terrace walk in the immediate foreground. The seated figure in the diagram, indeed, can see nothing of the expanse of formal gardens except the hedge which marks the further boundary of the lowest terrace. His companion, who is standing, gets partial views which are almost worse than seeing nothing at all! The terracing is shown as steep embankment.

Banking at the angle which is feasible for mown turf (2ft. rise in 7ft.—see Fig. 2) is less likely to cause such unfortunate obliteration and, as we might expect, walling is the most difficult kind of terracing to manage satisfactorily. Reference to the dotted-in sitting-height parapet, marked "A" in Fig. 1, will show that such walling accentuates the disastrous effect. A parapet is obviously necessary with a retaining wall of any height, so that retaining walls, unless very carefully placed, are doubly disadvantageous.

How, then, may the unpleasant effect we have demonstrated be avoided? In most cases very simply. In the first place, great care should be

almost always traversed by stairways in which the flat breadths of terrace serve as landings—extremely wide, sometimes, it must be admitted!

Let us now refer to Fig. 1 again. Assuming that, originally, the terracing was carried out without importing soil from a distance, the original gradient must have been somewhat as represented by the line BC. Let us take, then, a slope such as that represented and see what can be done with it. We shall now find that concavity of the terracing alone will not solve our difficulty, but that a certain ingenuity is necessary in the design if the effect is to be all it might be. The slope selected is shown by the interrupted line BC in Fig. 4. Now, in order to obtain concavity it will obviously be better to maintain the height of the topmost terrace, and for the same reason we should provide straight away a considerable fall. Let us, then, excavate below the mean level to a depth sufficient

to provide the earth necessary to make the topmost terrace—that is, to X in the figure. We shall then easily arrive at some such arrangement as is indicated (mainly by dotted lines) at NOPQ. Since the bank OP lies on the line of sight of an observer on the topmost terrace, the whole of the planting on the terraces NO, PQ is now in view by anyone leaning on the retaining parapet at M. This notwithstanding, it is obvious that the arrangement is anything but ideal, owing to the disproportionate size of the bank OP. The problem now is to produce a treatment which will obliterate this ugly bank without sacrificing the view from the parapet M. This may be done by introducing walling at O and so treating the ground which lies out of sight from M that it forms a feature entirely distinct from the area already denoted by the letters PQ. It may be noted at once that further excavation at O will produce a quantity of extra earth which, unless otherwise disposed of, will raise the height of the bottom terrace PQ.

It will, obviously, be better to insert a terrace path (XY) than to have sheer walling. Besides the gain in appearance afforded by this arrangement, we have provided a very pleasant sheltered walk from which an excellent view is obtainable of the lower garden. The whole scheme is thus shown in plan lines (BMNWXYZIV), in which TV is laid out as a garden complete in itself so as to form a satisfactory picture from the upper terrace. The treatment of the upper terraces, and indeed of the whole scheme of gardens, must be worked out in plan as well as in elevation, and if the amateur designer possesses the gift, it is well to draw in perspective views of the completed gardens from various aspects. The professional designer, it worth his salt, will not need to do this—unless to explain a design to a client—but the

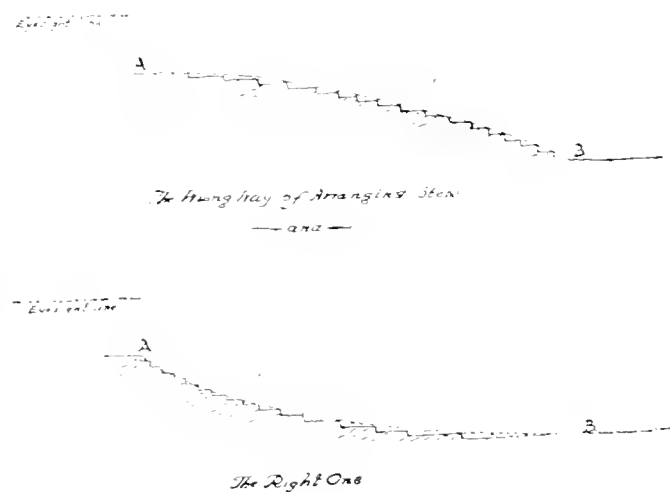


FIGURE 3.—THE CONVEX AND THE CONCAVE CONTRASTED!

ability to visualise a complete design without the aid of pen or pencil comes only with training and experience.

There is no law which can be invoked to conjure up a series of terraces. The scheme suggested is not laid down as the only suitable one for the slope under consideration, nor even as the best under the conditions given. There are quite a number of distinct ways in which such a slope could be laid out, and the best placing of the separate terraces might well depend upon interconnexion with other parts of the gardens—the garden designer has always to think in terms of cross-views. The style and size of the house, too, must necessarily affect to very great extent the character of the terracing which supports it. It is not, then,



FIGURE 4.

the actual design which is held up to imitation, but the method of work which led to it. The professional often meets a problem of garden design which taxes all his ingenuity and takes a considerable amount of time to solve; the amateur must be content to find what seemed, at first blush, a promising scheme turn out quite impracticable when reduced to exact measurements, for in this, as in most other arts, there is no royal road to success. Terracing simultaneously from two directions brings in a variety of complications with which it is not practicable to deal in a single article. It is certainly wise, moreover, in such a case, to call in the services of a qualified garden-architect.

In a subsequent article we propose to deal with the treatment of the several levels in a complete scheme of terracing, for the art of terracing needs considering in plan as well as in elevation. It will be seen from the points already made that if expert help is invoked, a fairly free hand should

be allowed, since to follow the unconsidered requirements of the owner may well be entirely to ruin the design.

There is a movement afoot to depreciate "paper-gardens," as those gardens which are properly planned are slightly called, and the detractors of the planned garden talk wisely of a garden as "a place to accommodate well grown plants." It must be admitted that a certain school of house architects with no real knowledge of plants have done garden design much disservice; but exaggerated statement leads nowhere, and the definition of a garden given above does not appeal to the writer. Substitute "see" for "accommodate," and the importance of adequate design at once becomes evident. The garden designer has Nature herself for an ally, and there is a fascination about sketching in the outlines of a picture which, if firmly lined, will *complete itself*, which can scarcely be exceeded in any other branch of art.

THE HYBRIDIST AND THE LUPIN

DURING the past two years we have seen some remarkably fine new Delphiniums, and improvements in other hardy herbaceous plants have not been wanting, yet, with the possible exception of the Bearded Iris, no plant has of late years recorded such progress as the Lupin. On second thoughts it is perhaps scarcely wise to except even the Iris; for, probably, progress with that flower has been less spectacular than with the Lupin.

Less than a generation ago the herbaceous Lupin was an affair of rather sombre purplish blue colouring, varied by an occasional dingy white. The first noticeable variation—a so-called pink—was of Continental origin. This was probably—almost certainly—obtained by crossing other species of *Lupinus* on to the old and dingy *L. polyphyllus*. Subsequently the Tree Lupin was used as a pollen parent and, largely by its influence, we have to-day not only good whites and yellows—which, though herbaceous, shew a deal of the Tree Lupin in their habit of growth—but wonderful clear blues and exquisite mauve shades. By careful selection it is now possible to obtain almost every conceivable shade of blue or purple, from the strongest to a faint suffusion where the colour gives little more than a delicate washed effect. Many of the most beautiful varieties are bicolors of blue or purple and yellow or white, while distinct shades of the same colour on wings and standard are common also.

The first-raised "pink" varieties were pleasing enough when the blossoms opened, but as the lower

ones went off they took on a purplish tinge (almost the hue of decaying meat), which was anything but lovely. Some of the newer introductions are



NEW GIANT GOLDEN TREE LUPIN LIGHT OF LODDEN.

much better in this respect, though there is still room for improvement. From these "pinks" some truly remarkable colours have been evolved, culminating in Downer's Delight, a tall and imposing variety of reddish terra-cotta hue. Mr. Downer's strain recently received a well deserved award of merit from the Royal Horticultural Society—vigour and size of spike are particularly

noticeable in this strain—but it must be borne in mind that the "red" shades are apt to clash badly with the blues and purples.

The Tree Lupin, *Lupinus arboreus*, is pleasantly scented and some of the herbaceous *Lupinus* with "Tree blood" have inherited this precious gift of fragrance. Notable in this respect is the delightful Six Hills strain, which last year at Vincent Square secured an award of merit, for which, no doubt, their fragrance was largely responsible, though the colourings shewn by this strain are very charming—delicate shades predominating. In the North of England, especially, yellow, buff, and bronzy shades have received a deal of attention and the well known north-country house of John Harkness and Sons of Bedale are to the fore with these. With yellow, buff, bronze, "pink," "red," blues and purples of varying intensity and pure and ivory whites, the herbaceous Lupin has, indeed, developed a wonderful colour-range.

The Tree Lupin, that rather short lived but quite indispensable plant for the back of the herbaceous border, is also being improved immensely. Good white and rich yellow forms there have been for a long time now; though they are no more valuable than the old soft yellow form, which is, indeed, well high indispensable. Cross pollination with the herbaceous varieties, however, has produced a number of forms delicately tinted with blue, mauve or pink. A Tree Lupin really strongly tinted in these colours the writer has yet to see, though he has heard talk of such; but, judging by the spikes shewn, the new buttercup yellow, Light of Loddon—which obtained an award of merit at the meeting of the Royal Horticultural Society on June 12—marks a real advance, for the colouring is rich and pure, the spike shapely and, for a Tree Lupin, of immense size. The Lupin has made tremendous progress of late; it is destined to make much more in the near future.

THE CAMASSIAS

CAMASSIAS belong to that omnibus race of "ought to be more grown" (Hort. writers) which at once defies any hard-and-fast definition and yet is fairly easy to recognise by those who garden. My Camassia bed, in which there are several species and varieties growing side by side, has made it clear to me that, for the time being at any rate, the whole family must be tentatively added to it. "What are those tall blue flowers?" "I have never seen them anywhere, and they are nice." "I must have nice." These were the sort of remarks made by visitors when they saw my little show this year. They seem to me to be typical of what a considerable number of people might say, for one does not at the present find them here, there and everywhere like Rambler Roses or Darwin Tulips. This might seem to suggest what I can only call "rather a tall order," but why should it not be so—the best at any rate? They have hardiness, prolificness, beauty and a potential usefulness to recommend them. They reverse the order of things when we think of the introduction of Tulips into Western Europe. The first consignment of Tulips that ever came from the East might easily have been the last. Just to see what would happen a few were saved and planted in a kitchen garden, as they were presumed to be a new article of food; and it was not until they bloomed that their decorative value was known! Camassias, on the other hand, have left their culinary usefulness behind them in North America, and we should no more think of planting them in the kitchen garden, as if they were Onions or Potatoes, than

we would put our Scarlet Runners in our herbaceous borders—but then we are not North American Indians. Once upon a time history tells us that the bulbs of *Camassia esculenta* were one of their principal articles of food. When, however, *Camassias* came to the Old World they were associated altogether with the flower garden. I cannot find that any attempt has been made to test the taste of these ancient plants. There is not a word about the Quamash in Robinson's translation of Vilmorin's book about vegetables, and we look for it in vain in Beckett's "Vegetables for Home and Exhibition"! I wonder if they have ever been served up at a British dinner-table! Quamash was the Indian word for the plant, and it would appear that the genus was originally called Quamashia ("Les Plantes Bulbeuses," by M. Bossin), to be in time changed by Lindley in 1837 into *Camassia*; and

"In spite of all temptations
To belong to other nations"

it seems finally to have adopted this as its family name. Thank you, Mr. Ker(Gawl), we are not Scillas. Thank you, Mr. Pursch, Phalangium is not in the same boat as *Camassia*. We are a bit proud of our family tree. Let us be thankful, then, that this is settled, and let us hope that it be like the laws of the Medes and Persians which alter not. It is very different when we come to species and varieties. It's just awful. Which is which, and which isn't t'other? must be left to the botanically inclined. The man in the garden can see a great divergence in the ways of the dying and defunct perianths. He sees some wrapping their segments carefully round the young seed vessels as if it were a pennyworth of precious lollypops in a paper bag and at the same time exuding some aqueous substance as if for further protection or future nourishment. He can see that certain plants have wider leaves than others and that some are taller and stouter-looking, whereas others are smaller and more slender. He notes differences in the colour of the leaves and flowers and, when planting, in the size of the bulbs. It is, of course, the various combinations of these factors that determine the various species and varieties, so it is easy to see that the possibilities of divergence are many. The prevailing colour of the family is some shade of mauve or purple, which in some cases gets very near a real blue. They flower at the same time as the later May-flowering Tulips and continue in bloom for a considerable period. Their spikes of flowers remind one of giant *Asphodels* or *Eremuri* in their general effect. They seem to be especially cut out for forming clumps in beds or borders amid other plants because of their contrast to the more usual occupants. They are ideal for what is called the semi-wild garden because they are very hardy, not at all particular about soil or position, content to remain where they are for a long time without deterioration and free seeders, thereby ensuring a numerous progeny with flowers delightfully varied in colour. All the different varieties should be planted in autumn and left undisturbed for three or four years. Although their stems are strong, they should not be put in very windy positions; but if they are, early staking must be attended to. *Camassias* seem to enjoy a slight amount of shade, but it is no necessity as certain books lead one to suppose. Now about what to buy! Few English catalogues provide much choice in the "fare" they offer. Even Suttons have only two, viz., *esculenta* with "bright mauve starry" flowers and *Cusickii* with "pretty pale lavender" flowers. If my names are correct, the colour of the flowers of the last named can hardly be called "pretty," certainly

not if they are compared with those of *Leichtlinii* Violet Queen or of *Leichtlinii* lilacea, which are bright and pretty, although just as pale. Messrs. Barr and Sons of King Street, Covent Garden, gave us a choice of six in their 1922 list. *Cusickii*, four *esculentas* and two *Leichtlinii*s.

Esculenta varieties may be known by the spread-eagling of their withering perianth segments—Bayley in his American Cyclopaedia of Horticulture says it is an undoubted and unerring "mark of the beast"—and by their lesser height compared with *Cusickii* and *Leichtlinii* varieties. They are very effective, more particularly those of a deep blue shade. *Esculenta atro-cerulea* and *Esculenta Blue Queen* are my favourites. As I have them named, both *Cusickii* and *Fraseri*

play second fiddle to the pale *Leichtlinii*s which I have already mentioned, *lilacea* and *Violet Queen*. But from some self-sown seedlings I know they are not the limit of this section's capacities. Two or three of my own are a fairly deep blue and look "champion" when their spikes are at their best. A curious feature about them is that their flowers appear to open by fits and starts, generally, if not always, beginning to expand in the early afternoon. I think this is characteristic of all the species except *esculenta* and its numerous varieties. *Camassias* seed freely and, as there is considerable variation among the seedlings, it is interesting to raise a few for ourselves. Seed may be sown either in the open air in early spring or in pans under glass in February. J. J.

THE CULTURE OF MUSCATS

AFTER some thirty years' experience in the growing of Muscats the writer is of the opinion that the only really satisfactory way to grow these Grapes is to raise them from "eyes" and follow throughout with pot culture. It a sequence of plants is arranged by striking a number of "eyes" each year or raising twice the number actually required, a constant annual supply of these delicious berries can be secured without extra labour or undue attention. Moreover, the troubles which are associated with the culture of Muscats with an outside Vine border are completely eliminated. That is to say, a sickly, unhealthy and premature yellowing of the foliage

vigorous they are less susceptible to the attacks of diseases and pests, with the result that the fruit matured is firm, well filled and luscious, and of good size, flavour and colour, and can be classed unhesitatingly as exhibition fruit. It is thought that some account of the cultural methods adopted might be useful to any growers who have not as yet tried the pot culture method for Muscats, therefore the following details are given.

PROPAGATION AND TREATMENT DURING FIRST YEAR.

A most successful method of propagation is by means of "eyes." These should be taken in January from well ripened wood. The buds should be cut out with about half an inch of woody tissue on either side of them, and should be inserted into soil in small thumb pots and plunged into a hot-bed in a forcing house with a temperature of about 75° (max.). The pots should then be covered with small hand-lights or bell-jars for a week or ten days. By this time growth will have commenced and a little air, enough to guard against a too rapid growth, should be admitted. It is important to keep the young plants growing steadily; too wide a range of temperature is often a cause of failure to establish them.



A POT OF MUSCATS IN ITS THIRD YEAR.

does not occur, neither are the rods so shy of bearing nor the bunches of fruit so liable to "tail off" or develop disproportionate "waists" as is the case where rods are kept indoors in one temperature and the roots outside in another. The writer is convinced that half the troubles attendant on the latter method of culture is due to this want of uniformity in the temperatures. Of course, where Muscats can be grown with their roots in an indoor culture-bed, the difficulty of temperature is overcome, but in small houses where space is wanted for other plants it is often impossible to spare space for such a bed.

At Lydney Park Muscats have been most successfully raised in large pots and fruited in their third year, when the number of bunches of fruit they are allowed to carry varies from four to six, representing a weight of 6lb. to 8lb. It is found that since the plants are young and

As growth proceeds, gradually raise the bell-glass or lights and, finally, remove them altogether. Next, gently raise the pots in the hot-bed until they can be stood on the surface. About March transfer the young plants to gin. pots and tie the young Vines to a cane. It is important that they should be potted up to exactly the same soil level as in the previous pots. The plants can now be allowed to grow ahead for about six weeks, during which time the pots should still be standing on the hot-bed and the temperature be maintained at about 60°. After this time repot into gin. pots and allow the access of plenty of light and air to the plants. Rapid growth will now take place, and when the young rods are about 6ft. high pinch out the leader. The plants will break behind this, and can grow unchecked for the rest of the season.

In early August transfer to 12in. pots, and to each pot apply ½lb. of half-inch bones, about ½lb. at the bottom of the pot to act as small crocks, and the other ½lb. distributed throughout

the remainder of the pot. This will ensure thorough aeration of the soil and promote drainage; moreover, the gradual disintegration of the softer portions of bone will liberate phosphates, which are valuable as plant food. The young Vines can now be stood in a light, airy house for about a month to ripen off the rods. After this period has elapsed stand the pots outside against a warm south wall, tying the rods up and plunging the pots into soil or ashes. They can be left thus for six weeks or so, when they should be heavily mulched with stable manure. This would be about mid-October, and the plants can be left outside until the end of December.

SOIL FOR VINES.

Undoubtedly the best soil for Vines is a stiff loam containing abundance of organic matter in the form of decaying root fibres. The soil in which Melons have been cultivated is excellent. This type of soil should be used throughout for the culture of Vines. When the plants exhibit signs of vigorous root activity it is often advisable to place semi-decayed turves on the top of the soil in the pots and on slates on which the pots stand, pressing them well up to the sides of the pots. The Vines root out very readily into this fibrous soil and make very strong, vigorous growth.

SECOND YEAR TREATMENT.

Some growers crop their Vines during the second year of growth, while others cut back and fruit them during their third year. The writer finds it most satisfactory to raise about a dozen rods and arrange them in the vinery, cutting back alternate ones to come into bearing in their third year and fruiting the remainder during their second year. These latter are staked and, as shewn in the illustration, trained to the roof, where about 3ft. of bearing surface is allowed to remain; this bears fruit in March. Each Vine carries three good bunches of fruit, and is cut back nearly to the ground in November.

Plants which are cut back at the beginning of the second year send out a vigorous young rod which, as in the case of the first year, is stopped at about 6ft. and then allowed to grow unchecked. Treat these Vines as during the first year with regard to hardening off, and when fruiting them during the third year allow them to carry four or five bunches of fruit. If more are allowed to remain the berries are not so fine or so well filled and the bunches are not so nicely shaped. The accompanying illustration shews five bunches of Grapes being borne during the third year by one Vine. After bearing, the Vines could be transferred to 15in. pots for further culture and treated as permanent Vines.

MANURING.

The best manures to apply to Vines are Peruvian guano and superphosphate. A little of the former should be given about every fortnight during the fruiting period and a light application of the latter at the commencement of the growing season. In order to avoid any tendency to souring of the soil, a little powdered lime may be occasionally applied and the surface of the soil lightly disturbed.

WILLIAM H. MILES.

FORTHCOMING EVENTS.

June 30.—Windsor Rose Society's Exhibition.
July 3.—Streatham and District Rose and Sweet Pea Society's Exhibition.—Royal Caledonian Horticultural Society's Meeting.
July 4.—Royal Tunbridge Wells Horticultural Society's Exhibition.—Lewes Horticultural Society's Meeting.
July 7.—Blackburn and District Horticultural Society's Meeting.

CORRESPONDENCE

A GLORIOUS ROSE.

IN spite of the exceptionally late season, the new Hybrid Tea, Princess Victoria, has already started to bloom here, and the promise this Rose shewed last year is fully confirmed. The growth is splendid, not too erect, nor yet horizontal, the shoots almost following a regular angle of 45°, thereby making a very even and compact plant. The scarlet crimson blooms all seem to come of perfect shape and good enough for any exhibition box. The blooms also tone so well with the dark foliage and purple stems, in fact, the combination of bloom, foliage and growth is perfect. Had we but a Rose Test Garden there is little doubt that

Whitebeams are one of the most difficult groups of European plants to name, for the foliage varies so much in the same species and even on the same tree. Several kinds of great rarity grow on the limestone of the Wye Valley, about Bristol and near Cheddar. The genus *Sorbus* has been monographed by Professor Hedlund, and the best name for the common Whitebeam is *Sorbus Aria*, Crantz.—H. S. THOMPSON.

A REFINED AND BEAUTIFUL ANNUAL.

THAT charming Portuguese annual, *Cynoglossum linifolium*, has been the subject of much admiration of late among visitors to the



THE WHITE-FLOWERED CYNOGLOSSUM LINIFOLIUM.

this production of Messrs. McGredy would secure the highest award, and, in my opinion, as a good all-round Rose nothing better has been put on the market for many years.—HERBERT L. WETTERN, Oxford.

WHITEBEAM.

THE photograph of this handsome tree, on page 310, shews remarkably fine gradations of light and shade, often difficult to get in plant photography. In Surrey G. J. refers to the "strikingly conspicuous" corymbs of cream-white blossom; but about Bristol this year the blossom has been conspicuous by its absence, as has been more or less the case with many flowering trees and shrubs. In numerous cases both blossom and foliage were partially withered or destroyed by the cold winds and frosts of May, and in one district, resplendent last year with the blossom of Whitebeam in great variety, a week ago I actually saw no sign of flower or fruit.

As mentioned by me in a letter to the *Manchester Guardian* (May 12, 1923), *Sorbus* is a better generic name than *Pyrus* for the Whitebeams, Mountain Ash and Service Tree. English botanists have been slow in comparison with their Continental colleagues, who long since adopted *Sorbus* for these plants, and kept *Pyrus* more correctly for the Pear and Apple group; for there is a marked difference in the flowers, fruit and foliage. The

gardens at Gravetye. It is a graceful, effective and easily grown plant, however, sending up slender, wiry branching sprays of pure white flowers to a height of 18ins. Leaves and stems and even the bracts which persist at the base of the ripening burrs are of a delightful grey blue colour, rendering this graceful Hound's-tongue as distinct as charming during its period of bloom. The illustration shews a group of self-sown plants which survived the winter and are growing in poor, stony soil on a border raised above the ground level and in line with the eye. It is perfectly hardy and to have it at its best should be sown in September on the spot where it is intended to bloom, although it is certainly very pretty if scattered broadcast in spring, but in this case does not grow so high. Like the beautiful Chinese *C. amabile* it ripens seed abundantly every year and will renew itself on the spot if the soil is left undisturbed.—E. MARKHAM.

LATE-FLOWERING SAXIFRAGES FOR THE ALPINE HOUSE.

WHEN speaking or writing of late-flowering Saxifrages, one thinks mostly of the Encrusted varieties, which are second favourites to the Kabschia or Cushion section—perhaps in some people's estimation they rank first. They are certainly very useful for foliage as well as

floral decoration. Their silvery rosettes of leaves tend to relieve the monotony when there are no flowers in the early winter months and, in any case, they have an individuality which is interesting at all times. The Aizoon types, so far as my experience goes, are not for the alpine house; they seem to be more at home on the rockery. *Saxifraga Aizoon crustata*, however, makes a pretty foliage plant with its neat silvery rosettes. *S. cochlearis* flowers very well indoors. The white flowers are borne on erect stems, so that the plant has a stiff appearance, but if *Cotyledon simplicifolia* is arranged with it, the latter having drooping umbels of rich yellow flowers, it gives a very pleasing effect.

SS. lingulata and *lingulata lantoscana* ought to be in every alpine house. They make such a bold show with their arching sprays of white flowers and large rosettes of leaves. *S. catalanica* must not be forgotten. It flowers exceedingly freely in pyramids of fairly large white red-stemmed blossoms. As all the late-flowering Saxifrages are blessed with white flowers, it is really a good thing that there are other plants of different colouring that flower with them; such as *Campanula Steveni*,

I should think it would be hardy in the milder districts and on light, well drained soils.—*CALEDONIA.*

I HAVE been very much interested in the articles on "Fragrant Foliage," having for the last two years tried to collect as many kinds as possible in a tiny enclosed garden. I have Lavender, Rosemary, Balm (common and variegated), Bergamot, *Artemisia tridentata* and *A. arborea*, *Origanum hybridum* (apparently scentless), *Santolina*, Thyme, *Mentha Reiqueni*, *Phlomis*, *Salvia*, *Leimon Verbena*, *Perovskia atriplicifolia*, *Elsholtzia Stauntonii* (a charming little shrub), and an extremely unpleasant smelling *Laurus* called, I believe, *regalis*. The one thing I long for and cannot obtain is Balm of Gilead. Can any of your readers tell me where to find it?—*E. H.*

THE FLOWERING OF SAXIFRAGES.

I HAVE never in my long experience of growing my favourite Saxifrages, had such a mass of flower spikes as this season; this photograph of the upper part of a miniature "cliff," is almost entirely of a robust variety of *S. lantoscana*, with



A WONDERFUL SHOW OF ENCRUSTED SAXIFRAGE BLOSSOM.

with its large, well expanded blue flowers; *C. Raddeana*, with rich blue flowers on slender stems nearly a foot high; and *Onosma tauricum*, a charming alpine, admired by all who see it, not only for the delicious honey scent of the flowers, but also for their peculiar tubular shape—are particularly suitable. There are of course many others, such as *Gypsophila cerastoides*, *Lithospermum intermedium* and, in the shadier parts of the house, *Primula Bulleyana* and the graceful *P. sikkimensis*, which is still making a glorious display.—*R. C. JOLLEFF, Oxford.*

FRAGRANT FOLIAGE.

I HAVE been reading with interest and pleasure "Somers's" third contribution on the above fascinating subject. "Somers" says he only knows two of the Marjorams, viz., *Origanum vulgare* and its golden form. Might I be allowed to supplement these by indicating other two species which I have grown. The first is *O. Onites* (Pot Marjoram), too well known to require description; the other is *O. Dictamnus* (Dittany of Crete), a sweet-scented plant of procumbent habit with pinkish flowers. As I grew it in the conservatory both as a hanging plant and for draping, I cannot speak as to its hardiness, but

some sturdy spikes of the rare *S. catalanica* (true) in the lower part to left. In the winter the silvery rosettes on this little cliff give constant delight to the eye of the Saxifrage lover.—*KENNETH ROGERS.*

IS GLADIOLUS BRENCHEYENSIS HARDY?

AN enquiry recently appeared in this column as to garden experience of the hardiness of *Gladiolus brencleyensis*. I know of a fine group of this plant which has stood in the open out of doors for twenty years. A bulb was accidentally introduced into an Asparagus bed and was allowed to remain and flower year after year. Two years ago, when the bulbs had become a congested mass and some were visible on the surface of the bed, a hundred good bulbs were removed to a flower border, where they have since continued to thrive without protection. Some "spawn" or small bulbs must have remained in the Asparagus bed, for there is now a thicket of young plants coming up in the old place. The bed has, of course generally received a mulch in winter, but for some years it did not receive even this amount of protection. The garden I speak of is on cold, chalky soil in Wiltshire, high up near the edge of the downs, and hangs towards the north, so it is by

no means a specially favoured spot. Does not this suggest that *Gladiolus brencleyensis*, if given some protection until thoroughly established, might be more commonly treated as a hardy plant and left in the ground year after year. I should add that the bulbs thus treated flower magnificently and rather earlier than replanted bulbs.—*W. ARNOLD-FORSTER*

GREEN GOOSEBERRY JAM.

I THINK, perhaps, the following recipe for green gooseberry jam may be of interest: Trim and wash 3½ lb. of green (unripe) Gooseberries. Place in preserving pan with five breakfastcupfuls of water. Boil water and fruit one hour. Add sugar and again bring to boiling point, then boil for one minute only. If boiled over the minute the preserve will turn pink and its charm will be gone.—*C. C.*

PELARGONIUMS WITH BEAUTIFUL FOLIAGE.

"WHERE are the friends of my youth?" was Dean Hole's opening line in an article of his on "Old-time Roses," and the same thought was in my mind on reading the interesting note by Mr. W. Linders Lea on page 251. I well remember Tricolor "Geraniums" of fifty years ago. As a young chap they were my hobby, and I had a good collection of the best sorts. Mrs. Pollock was the first to be sent out, followed by *Sophia Dumasque* (one of the best), *Lady Cullum* and many others of which I cannot remember the names. Mrs. Pollock was a seedling raised by Mr. Grieve. Probably the best of the silvers was *Italia Unita*. Tricolors used to be well shewn by the late Mr. Charles Turner of Slough. At the Reading Show in the old Abbey ruins he once staged some fine specimens, trained flat like a cart-wheel, as Pelargoniums used to be shewn in those days, and fully 2 ft. across, brilliantly coloured. The plant of *Lady Cullum* was particularly rich in its scarlet, black, yellow and green colours. Many fine varieties originated at Reading, for the Curator of the Forbury Gardens, a Mr. Davis, was a very successful raiser of seedlings which found their way into the trade. About thirty years ago I saw at Heaths at Cheltenham a fine stock of these Pelargoniums, the principal variety being Mrs. Cox, and evidently from the large quantity grown there must have been a good demand; it seems strange they should now be little more than a memory. Possibly the turn of the wheel of fashion may again bring these beautiful plants into favour. All they require is the ordinary treatment of bedding Pelargoniums, to be grown close to the glass, with all the sun and air they can have to bring out the bright colouring of the foliage and, as Mr. Lea points out, a flower spoils them.—*J. P.*

A BEAUTIFUL ASTER.

I CONSIDER one of the most charming of the more recent introductions in Asters to be *A. Farreri*. This is an excellent plant for rock garden or margin or border and, while it is perfectly hardy, it appears to delight in any well drained, gritty loam with full exposure. The leaves are a rich green, somewhat long and narrow, pointed and hairy. In the later spring flower-stems rise to about 1 ft. in height with a pendent bud, which latter, as it assumes the perpendicular, expands into the large and handsome flower. The rays of this lovely blossom are long and narrow, of a rich violet-blue, and they are disposed in that touzled, informal kind of fringe which is often so much more attractive than that of the stiffer, more conventional form. The centre of the bloom is a full, warm orange surrounded with an "iris" of neutral tint.—*N. W.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Parsley.—A few lines of Parsley should be sown to furnish leaves during the winter months, and a position sheltered from the east is preferable, while the seed-bed ought to be so arranged that a cold frame can be put over the plants in winter if necessary.

Potatoes.—When the early crop is lifted sufficient tubers should be set apart for "seed" next season, and those about the size of a hen's egg are best. They should be placed in the store-room or shed, and need not be covered. In preparing the ground for other crops a levelling of the soil is all that is necessary.

Seakale.—If strong crowns are required for early forcing, the plants will now need every attention. The soil should be deeply hoed, and where there are a number of growths on each plant they should be reduced to one without further delay.

Vegetable Marrows.—During a spell of dry weather the plants will need a copious supply of water, and when the fruits are set a weekly application of liquid manure will be beneficial. To hasten the formation of fruits the growths may be pinched at the first leaf after the appearance of a female flower. Another batch of plants may be put out for succession.

Endive.—The main sowing of this salad should be made at this season, and a later one in July or August. It is most valuable during a severe winter when Lettuce is killed or rendered unfit for use until spring. The seed should be sown in drills six inches apart and the seedlings thinned to the same distance. A light rich soil is advised for Endive, but tolerably good results are obtained from most gardens. Endive should be carefully blanched before it is sent to the kitchen, and a good method is to tie up the plants loosely and then cover with an inverted flower-pot. At the same time place a piece of slate over the hole of the pot to exclude light. Only a few plants ought to be done at one time, because directly it is ready it must be used or the plants will decay.

The Flower Garden.

Viburnum Carlesii.—This is a delightful shrub which should find a home in every garden, but the object of this note is to draw attention to any suckers that may be forming at the base of the plant. As a rule it is grafted on the common Viburnum, and this stock is most troublesome in producing suckers. Lilacs and Rhododendrons which have been grafted are afflicted in the same way. All suckers should be removed or they will soon destroy the plant one wishes to grow.

Gladioli.—These should be staked and tied up before they are likely to be damaged by wind, for once they are bent over they rarely fully recover their symmetrical appearance. Heavy stakes are not needed.

Violets.—The moist conditions prevailing at the time of planting out gave the runners a good start, and now if the weather is dry a sharp look-out must be kept for red spider, which is the Violet's worst enemy. The plants may be syringed over each evening, more especially after a hot day, and given an occasional dusting of soot, when red spider will rarely appear. Keep the ground free from weeds and remove all runners as they appear, which will assist the plants in building up strong crowns. Where the soil is poor weak liquid manure will be beneficial.

Chrysanthemums.—The early-flowering varieties are well nigh indispensable to gardens, particularly where cut flowers are needed in the autumn, and every effort should be made to produce useful plants for this purpose. Early staking is essential, and after this date no further stopping is necessary. Give a thorough hoeing and then mulch the roots with decayed manure or leaf-mould, while water will be required if the roots become dry.

The Hardy Fruit Garden.

Gooseberries, etc.—Excellent fruit may be obtained from small fruits grown as cordons. They may be trained to wires or on a wall, while if some are placed on walls with a cool aspect the fruiting season is prolonged. This remark applies especially to Red and White Currants, and the former if protected from birds will keep in good condition till late in the autumn. During the next week or two these trees may be summer pruned, which consists of stopping the side growths

at the fourth leaf, but the leaders may be allowed to extend for a few more weeks. If insect pests are present, the trees should be cleansed thoroughly with a non-poisonous insecticide, afterwards giving them a good hard syringing with clear water. If the roots are approaching dryness, give them a soaking of water, hoe the soil, and then afford a mulching of decayed manure or any material that will conserve moisture. Bush trees of Gooseberries and Red and White Currants may also be pruned, but Black Currants should not be touched till the fruit is gathered.

Fruits Under Glass.

The Orchard House.—The centre of this house being used for pot trees, the time has arrived when some of them will be producing ripe fruit, and when this is gathered the trees ought to be transferred to their outside quarters. Plunge the pots and keep the roots moist, while during dry weather the foliage should be freely syringed. Freedom from red spider and other insects is essential.

Vegetables Under Glass.

Cucumbers. Where the plants are showing signs of exhaustion they should be rooted out, and after fresh soil has been provided, young plants be set in position to provide future crops. Cucumber plants are so easily raised from seeds at this season that any unproductive plants should be discarded at once. Those in full bearing may be assisted with some reliable fertiliser or weak liquid manure, while at all times the roots should be liberally supplied with moisture. Syringe the foliage with tepid water twice each day, and close the house between three and four o'clock. A thin shading is advised during very bright weather.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale.—Make sure that young plants have all been disbudded thoroughly. This means that the buds have been reduced to one and the strongest retained. Go over established plants that are to be blanching in the open and cut away any flowers that have developed on uncut crowns. A light dressing of salt in showery weather will be helpful to this plant.

Cauliflowers.—Where plants are showing any signs of being attacked by the maggot of the cabbage fly the following antidote will generally arrest the evil: Dissolve two heaped tablespoonfuls of Epsom salts in a little hot water and add this to a gallon of cold water. Pour alongside the stem of the suffering plant sufficient of the solution thoroughly to wet the affected part. The provoking thing is that in dull, cloudy weather the damage cannot be detected until a bright day comes round, when it is irreparable. Early planted stock will now be turning in for use, and if they develop more quickly than is desirable, break some leaves over the curd to preserve its whiteness till they can be used up.

Vegetable Marrows.—As the main shoots extend peg them down carefully to prevent them being blown about and damaged by high winds. Keep a sharp look-out for the appearance of female blossoms, which shew the embryo fruit at their base. Promptly after the opening of a female flower pick a male one (they are generally plentiful), tear away the corolla, and lightly touch the stigma of the female blossom with the pistil. Fructification will almost certainly result.

General Work.—The principal work for some time to come will be that of keeping crops clear of weeds by hand-weeding and hoeing, the latter operation serving the double purpose of keeping down weeds and aerating the soil. Certain crops, such as Onions, will be benefited by occasional applications of some weak stimulant, and if a spell of dry weather sets in watering should be resorted to.

The Flower Garden.

Autumn Crocuses.—There is such a wealth of variety of the common spring mongrel Crocuses that we are apt to overlook the merits of the scarcer distinct species, some of which flower in spring and some in autumn. Of the latter section *C. speciosus* is one of the best, its lilac flowers and rich golden anthers being very attractive. This species is also a splendid "doer," increasing rapidly in a suitable environment. *C. pulchellus* and *C. Tournetii* are also among the best. As the corms of these autumn species should be planted during July, those intending

purchasing should lose no time in securing their supplies. If it is intended to purchase any of the *Colchicums*, they should also be ordered now. *C. Bormulleri* and *C. speciosum* are two of the best.

Carnations. Seedlings in their earlier stages are very subject to attacks by the Carnation maggot. This pest commences its operations on the leaves and gradually bores its way into the stems. Its presence can be detected by whitish marks on the leaves, and when seen it should be squeezed with the thumbnail.

Roses will now be commencing to open their flowers, and as it is undesirable to interfere with the plants during the flowering period they should be looked over for pests and, if present, they should be promptly dealt with. Any Briar suckers should be removed immediately.

Hollyhocks are gross feeders, and are much benefited by occasional doses of weak liquid manure. Tying should also be attended to as the rapid growth proceeds, and previous recent tyings should be slightly readjusted or the shoots are apt to get deformed. Any leaves that are badly infested with the dreaded fungus should be removed.

Fruits Under Glass.

Figs. Trees which were started early and have had the advantage of a fairly brisk temperature should now be showing ripe fruit, so drier conditions both at the roots and in the atmosphere should be maintained until the crop is picked. If the work of disbudding has in any way been neglected, the pruning knife should be used to remove any surplus or badly placed young shoots. If the young shoots retained are pinched, it will encourage the production of fruits for the second crop and will facilitate the process of swelling them.

Melons.—Mid-season crops will now have set their fruits, and these should be supported by nets as soon as they have attained the size of pigeons' eggs. From now until the fruits are full size they will require liberal supplies of water at the root, with weekly applications of weak liquid manure. Shoop droppings are very suitable for this work. Guano water at the rate of two teaspoonfuls per gallon also gives good results. The house must be well charged with atmospheric moisture morning and afternoon to keep red spider at bay. Pinch out all young laterals and sub-laterals as they appear. Tie the shoots of second crop plants as they advance.

The Orchard House.—As the earlier trees ripen their fruits and are harvested the pots or tubs should be moved outside and the trees be vigorously syringed. Afterwards the trees should be stood in full sunshine on a layer of coal ashes, so that the wood may get thoroughly ripened. The vacancies thus caused in the house might be filled up with late Tomatoes which have been standing rather thickly elsewhere. Fire-heat may be entirely dispensed with now, when less atmospheric moisture will be required.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Salvias.—Several species are very useful for supplying flowers during the autumn and winter; especially in the country, where winter fogs are not troublesome. In the immediate neighbourhood of London their successful flowering is very uncertain, as one night's fog is sufficient to strip them of every flower and bud. *Salvia splendens* and its varieties are most popular. Where large specimens are required, the plants should now be got into their flowering pots, or they may be planted out in a piece of rich ground, lifting and potting them up towards the middle of September. The best ones for large specimens are *S. splendens* and its variety *pyramidalis*. It is also worth while to grow a few plants of *S. splendens violacea*, with its violet-purple flowers. Where small plants are required for the stages, preference should be given to one of the good dwarf varieties. *Glory of Zurich* is as good as any. This variety comes into flower very quickly, and if raised from cuttings at this season will make good, useful plants for late autumn. Other useful *Salvias* for flowering during the winter are *S. azurea* variety *grandiflora*, *S. involuta* variety *Bethelli*, *S. rutilans*, *S. leucantha*, *S. Greggii* for autumn flowering, and *S. Heeri*, which flowers early in the New Year. They all succeed under the same treatment and if grown in pots should be stood out on a bed of ashes, partly plunging the pots to prevent them blowing over.

Sparmannia africana, which is so useful for flowering in winter, should now be stood outdoors in a sunny position to enable the wood to become thoroughly ripened, as this is the only way to ensure its flowering freely. Plants rooted early this year should now be established in their flowering pots, which should be 6 in. or 7 in. in size. Such plants in their first year are very useful for furnishing the stage.

Coleonema album.—This South African plant is very useful either as a small plant or as a large specimen for furnishing the conservatory. It makes a neat, compact plant with slender heath-like shoots, and produces its small, white flowers very freely. Unlike many hard wooded plants its successful cultivation presents few difficulties. It soon makes a large specimen if planted out in a bed in the conservatory. It may be easily propagated at this time by means of half-ripened twiggy shoots, inserted in pots containing sandy peat which should be stood under a bell glass in a cool house.

Coronilla glauca and its variegated form are very useful for greenhouse decoration; *C. valentina* is also suitable for the same purpose. They are both hardy against a wall in the west, but in colder parts of the country they require the shelter of a cool greenhouse. They are easily propagated by means of half-ripened twiggy shoots, inserted in pots containing sandy soil and stood under a bell glass in a cool house. The young plants should be pinched several times to lay a good foundation for the future.

Cosmos bipinnatus.—Although generally grown outdoors in beds or borders, this plant is well worth growing in pots for furnishing the conservatory during the autumn months. For this purpose the required number of plants should now be put into 10 in. or 12 in. pots. During the summer months they should be plunged out in an open position and given the same treatment as *Chrysanthemums*. The plants should be well staked and kept regularly tied, as the side shoots are apt to break off at the main stem. These plants are very useful for giving a supply of cut flowers. The early-flowering forms are best for outdoor cultivation; the ordinary and later-flowering type may, with advantage, be used for indoor work.

Lavatera thuringiaca is the species that is generally grown and shewn as *L. Olbia*. Although more or less hardy in the South, it usually gets cut to the ground during the winter. Grown in pots, it is now in flower, and its soft pink blossoms are freely produced. After flowering, the shoots should be partly shortened back, and when the lateral shoots are some 3 ins. in length they should be secured as cuttings. These root readily in a close case in a cool house. The young plants grown on make useful specimens for the following year. If large specimens are desired, the old plants should be grown on; they only require the shelter of a cold frame or cool house.

Royal Botanic Gardens, Kew. J. COURTS.

DWARF FRENCH BEANS

Late sowings of these Beans yield crops that are much appreciated.

EARLY sowings are general and very often failure follows, so that the most satisfactory results are obtained when the young plants can be grown without any serious check. For many years I made a point of sowing seeds at the beginning of July and again at the end of that month. Of course, a sheltered position for the plants is essential. Rarely will the plants resultant from the early July sowing fail to yield a good crop, while those from the later sowing will also prove satisfactory if the months of September and October are favourable as regards normal weather conditions. In the northern counties it is not advisable to sow seeds after the first week in July.

Early varieties should be sown; I found *Ne Plus Ultra* and *Canadian Wonder* answer well, the latter for early date sowing and the former for the later sowing.

If the soil is really in a poor condition well rotted manure must be dug in; but soil of medium richness, or that previously manured for a quick-maturing crop, will do for our purpose without

further attention. Usually, old kitchen garden soil will do nicely for dwarf Beans.

A border facing south and with a wall or close fence on the north, is ideal for this late Bean crop. I favour sowing the seeds in single rows, 6 ins. from seed to seed and 20 ins. between the rows. If the soil is very dry pour water in the open drills, sow the seeds and cover with the dry soil, but do not water afterwards. Germination will be rapid, and the plants will grow sturdily and be self-supporting. Before they have a chance to suffer from lack of moisture apply a mulch of rotted manure 2 ins. or a little more in thickness. The pods are very tender and they will be exceptionally numerous on every plant treated in the manner described.

GEO. GARNER.

Sweet Rockets.—Though now seldom seen, the old double Sweet Rockets (*Hesperis matronalis*) are among the very choicest of the border flowers of generations ago. The usual colours are white and purple, but there are, or were, two distinct forms of these in cultivation, the older and more precious one being dwarfier and stockier than the other. That this form in particular is now rare must be regarded with no little regret, for its compact heads of double flowers, like those of a Ten-Week Stock, were deliciously fragrant, and the plant was invested with that quiet charm which belongs to old-time flowers. As with many of the old double Wall-flowers, these Rockets appear to have lost vigour owing to long continued propagation by cuttings, but they also seem to resent and to dwindle under the enervating influence of our more southerly districts, since what remains of their strongholds are still in the north. The single-flowered, typical plant, on the other hand, is still as robust as any weed, which it will soon become in most gardens. Albeit, this is a handsome and fragrant plant for naturalising in grass or rough places in company with *Valerian* (*Centranthus*), *Campanula macrantha* and *C. lactiflora*, *Willow Herb* and such like.

A Too Little-Known Greenhouse Climber.—It would almost appear, from the absence in many greenhouses to-day of those beautiful climbers, the *Chorizemas*, that they are either not known or that gardeners look upon them as needing more heat than they can afford. Probably the latter theory is the correct one, as the orthodox method of growing them, and the one which obtained exclusively forty years or more ago, was to house them in the humid, heated atmosphere of the stove. Readers are reminded that the same practice was followed with many other plants that to-day are grown with very satisfactory results in the greenhouse—*Hoyas*, *Gloxinias* and *Streptocarpuses* among the number. The *Chorizemas* are among the most charming of the Australian climbers, and are well served if planted in large pots or tubs in peat and loam and sand and allowed to clothe a pillar or ramble on the rafters of the house. The flowers (a delightful combination of red and yellow in *C. varium*) are freely borne once the plants are established, and the plants are worthy of inclusion in any greenhouse where the winter temperature does not fall far below 55°.

A Handsome Sedum.—There are few of the later-flowering and hardier Mexican *Sedums* which can compare with *S. compressum* in size and beauty of foliage and flower, and this is one which can stand our winters and inclement springs better than most of its class. *S. compressum* is an evergreen, perennial species with semi-prostrate stems which rise to some 6 ins. to 8 ins. in height. The leaves of the rosettes are about 3 in. wide, apiculate, slightly glaucous and fleshy and of a pale lettuce green, the older ones being flushed

with red and beaded at the margins. The flower-stems ascend to about 6 ins. above the rosettes in May (where the climate is a genial one), and these branch and produce copious heads of buds which open with the first warm days of the later spring into a dazzling array of rich orange yellow blossoms, each one of which is nearly half an inch across. *S. compressum* in full flower is a most striking and beautiful object, and there is little doubt but that this species would be more widely grown were its fine qualities and ease of culture more generally realised. A light, gritty soil and sunny situation are desirable.

Potentilla nitida.—This is one of the choicest of the great *Potentilla* family, but, being a high alpine, it is not among the easiest to grow in every garden. It will, however, generally prosper in a free, gritty soil containing plenty of old mortar and where there is free exposure. In any event it is a plant of such superlative charm that it merits infinite patience and care. In some gardens where *P. nitida* had been almost given up in despair it has flourished quite extraordinarily when planted in close contact with other plants of similar nature, which suggests that isolation on some arid rock-garden ledge is inimical to its welfare. *P. nitida* makes a close-set mat of silken, silvery trefoil leaves 1 in. or so in height, just clear of which the lovely flowers are borne in early June. In the best forms these are a clear rose pink, but there are others in a number of intermediate colours between that and the pink-eyed, pearly white kind often listed as *P. Clusiana*. The latter may, however, be distinguished from *P. nitida* by its leaves, which have five lobes instead of three.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ANTIRRHINUMS ATTACKED (G. B. B.).—The *Antirrhinums* are attacked at the base by the disease caused by the fungus *Phytophthora cryptogea*. The best way to avoid this trouble is always to use fresh soil, give plenty of air and light and never overwater.

LILIAM CANDIDUM FAILING (H. D.).—The failure of *Lilium candidum* is probably due to the disease *Botrytis cinerea*. In the early stages of the disease the plants should be sprayed with liver of sulphur (Potassium sulphide), using 4 oz. to 1 gallon of water. Add also a little soft soap to the mixture. The plant sent for naming is a variety of *Verbascum Chaixii*.

GERANIUMS UNSATISFACTORY (G. P. and Sons).—The spots on the *Geranium* leaf sent appear to be abrasions due to thrips. None is present now, but if they recur fumigation if indoors, spraying with a nicotine wash if outdoors, is necessary.

ENGLISH IRISES (Folsted).—These *Irises* will thrive in partial shade, but do better in a more open quarter. In October they should be planted 3 ins. deep—the covering soil should not be deeper. They increase and may be left in a suitable soil for two or three years, then lifted, separated and replanted in another border or part of it.

PYRETHRUMS UNSATISFACTORY (B. R.).—*Pyrethrums* will succeed in any ordinary garden soil. In clayey loam the planting is best done towards the end of February. In our correspondent's case the plants should be put in late in the autumn or early in winter, taking care to do this work when the soil is fairly dry and not in frosty weather. The mat-like roots should be opened out and some fine soil worked in among them, making all soil firm. Pack old cinders and ashes round the crowns and a thin layer on them to prevent slugs eating the crowns and the new shoots in spring.

SWEET PEA FLOWER-BUDS DROPPING (H. I.).—Very frequently the first-formed flower-buds fall prematurely for the following reason: the growth of the plant being rapid at this stage overcomes the bud, the latter turns yellow and drops off. In the meantime many more buds are forming, and they to some extent arrest the growth of haulm; nourishment is more equally divided between the two and the flowers develop. Any check through coldness of soil or air coupled with too much moisture at the roots will cause bud-dropping.

ROSE GARDEN.

ROSE HUGH DICKSON UNSATISFACTORY (O. B.).—The foliage of the *Rose* sent appears to have been damaged by cold winds. The malformation of the flowers may arise from improper pruning or from permitting too great a number of flowers to remain on the bushes.

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THE GREENHOUSE.

PLANTS FOR FLOWERING IN THE GREENHOUSE IN WINTER (F. W.).—Our correspondent may buy a few plants of *Chrysanthemums* now and grow them in the open air till October; also some Perpetual-flowering *Carnations*, placing them on a bed of ashes till August, repotting if necessary and transferring to the greenhouse during the last-named month. With regard to *Hydrangeas* and *Regal Pelargoniums*, young plants of the former should be bought and a few old ones of the latter to propagate from in the summer. The *Azaleas*, too, should be bought in the autumn to flower in due course, as cuttings of these would be useless. Several plants on each of the following would ensure a varied and bright display: *Cinerarias*, *Primulas*, *Cyclamens*, *Kalanchoe carnica*, *Genistas* and *Sparmannia africana*. The young plants of *Canterbury Bells* are best retained in pots throughout, repotting till the flowering size is reached.

TREES AND SHRUBS.

CLIPPING YEW HEDGES (L. H.). The ordinary clipping of Yew hedges with shears may be done at any time between May and August as often as required. When hard cutting back into the older wood is contemplated, this is best done in May when new growths are beginning to push.

PLANTING A YEW HEDGE (A. G. C.). Our correspondent's letter descriptive of the planting of the new Yew hedge suggests that the cause of failure may be one, or partly all three, of the following reasons: (1) Yew should be moved with good balls of soil attached to the roots. (2) Planting should be done in early September so that new roots are made before winter, but May is an even better month to plant Yew hedges. (3) The autumn of 1922 was damp and showery, but newly planted Yews would require a thorough watering several times at intervals of a week. The rain at that time was not sufficient to reach the roots. If there is still life in the plants much with a mixture of old decayed manure and leaf-mould; afterwards water freely.

WILD GARDEN.

NATURALISING THE PURPLE ORCHIS (S. H. A.).—The Purple Orchis (*O. mascula*) requires heavy loam in pasture land. The best time for transplanting is as soon as the foliage has turned brown and the new tubers are formed. Plant them in little groups, not singly. Flowering plants from seed take two or three years to develop. The flowering of *Orchis* species is very erratic. Some years very few are seen, while the next season they may be very plentiful. *O. mascula* may be obtained from Mr. G. Reuther, Fox Hill Nursery, Keston, Kent.

FRUIT GARDEN.

PLUM SUCKERS (Folsted).—The suckers from the old Plum plantation will probably be from the Mussel stock. In the winter they may be divided and replanted to form a wind-break. In this respect they would answer better than Danions, but for fruiting the latter should be planted.

FRUIT UNDER GLASS.

PEACH TREE UNSATISFACTORY (P. H. T., Goring).—Probably the tree is attacked by silver leaf; but, to make certain examine the wood some distance from the affected leaves. A brown stain indicates the presence of *Sterium purpureum* (silver-leaf fungus). Remove the branch behind the place where the brown stain is apparent and paint over the wound with tar or lead paint.

PEACHES AND NECTARINES UNSATISFACTORY (J. H.).—The flowers of the Peach and Nectarine appear to have been fertilised properly, but the embryos are now dying and so the fruits drop. Lack of water may be a cause or, possibly (but from their appearance we do not think it probable), insufficient lime.

MISCELLANEOUS.

SOIL TURNING GREEN ON SURFACE IN POTS (H. P., Hants).—It is the natural greenness of the soil that causes the surface to become green and slimy after it has been watered in the pots for a time. Coarse silver sand is better than builders' sand, especially as the soil is fibreless. Leaf-soil half decayed would be better than peat. In addition to the sand, use, in moderation, some old mortar rubble broken up rather finely.

NEW ZEALAND PLANTS (Mrs. W., Heston).—*Kowhai*, yellow (*Sophora tetraptera*) is a half-hardy deciduous tree, 6ft. to 12ft. high, with pinnate leaves and yellow flowers. Requires the shelter of a wall in the colder parts of this country. *Pohutukawa* (*Metrosideros tomentosa*) is a tree growing 30ft. to 40ft. high, with narrow, oblong leaves and rich crimson flowers in terminal, many-flowered, dense cymes. July. Greenhouse plant. *Scarlet Ti Tree* (*Cordyline indivisa* var. *atropurpurea*) has stems 6ft. or more high with heads of long strap-shaped leaves 2ft. to 4ft. long. Hardy in the south-west. *Eucalyptus leucocorydon* (Iron Bark, White Gum).—A medium-sized tree with lance-shaped leaves and yellow flowers. A greenhouse plant, only hardy in warmer parts. *Scarlet Flax* (*Phormium tenax* var. *atropurpureum*).—A tufted perennial with long iris-like leaves, 3ft. to 6ft. long, purple in colour, with a reddish tinge. Flowers red, on a tall panicle in August. Hardy in sheltered places. *Rock Lily* (*Arthropodium carthartum*).—A greenhouse perennial with tufts of spreading narrow leaves 1ft. long. Flowers white, in branching racemes, 3ft. high. All the above require greenhouse treatment in the colder parts of the country, but may be grown outside in the south-western or other sheltered and warmer districts.

NAMES OF PLANTS.—S. M.—1. *Mesembryanthemum conspurcans*; 2. *Crassula* sp. (please send when in flower); 3. *Mesembryanthemum muricatum*.—M. O. S., Mon.—*Juniperus chinensis*.—G. H. W.—1. *Tamara tetrandra*; 2. *Crataegus Carrierei*.



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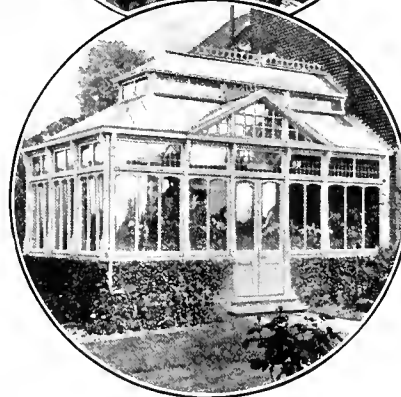
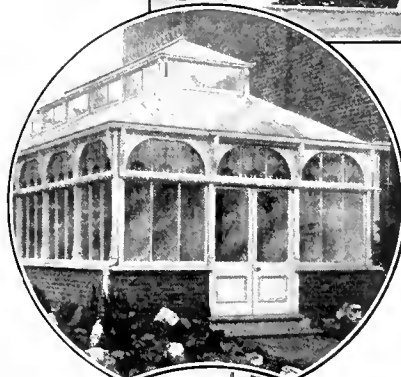
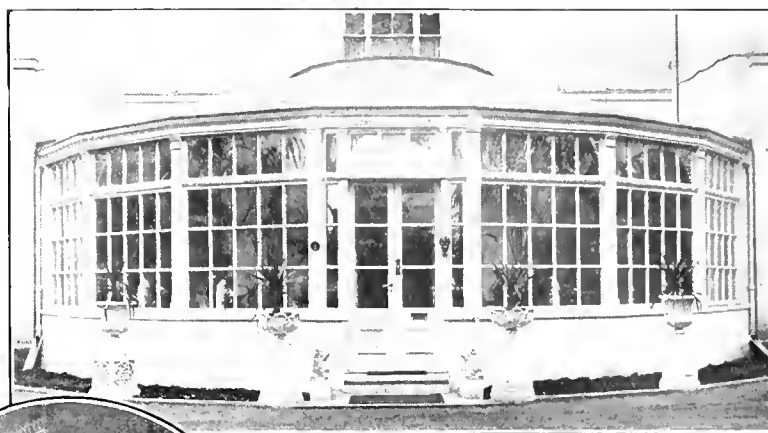
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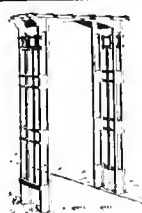
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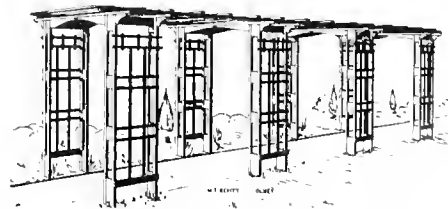
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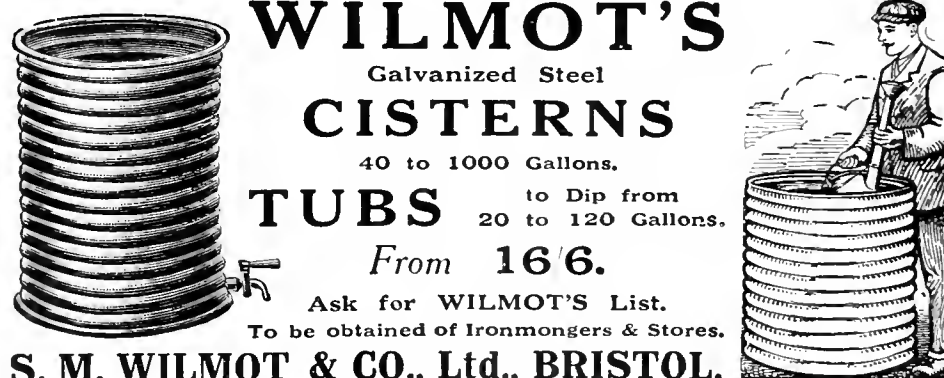
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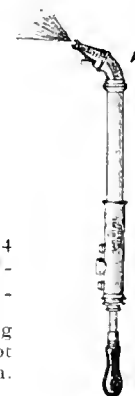
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[JULY 7, 1923.]

SOME CLEMATIS SPECIES

WHILE it must at once be admitted that for brilliant effect in the garden the species do not rival the large-flowered hybrids, a considerable number of them are attractive and useful hardy climbers. For pleasure-ground planting and the outskirts of woodland the species of *Clematis* should receive more attention. To copy nature, plant the stronger growers against trees and shrubs or at the foot of rough hedges over which they can ramble. In this case give the plants a good start by trenching a 3ft. ring of ground, and support them with stout stakes for the first year or two to prevent damage by the swaying of the branches up which it is intended they should climb. The Holly, the Yew and the Evergreen Oak (*Quercus Ilex*) are excellent "host" trees for the strong-growing Clematises. They are also useful, of course, for draping walls, fences and arbours. What to do with the butts of large trees after they are sawn from the trunks is by no means an uncommon question. In some instances the difficulty can be solved by turning them over on to the sawn surface and covering with Clematises.

While botanists have described more than 200 species of herbaceous, sub-shrubby and woody Clematises, not more than about twenty hardy climbers are worthy of considerable attention among the species. These are natives of Europe, North America and Asia.

C. MONTANA, the Mountain Clematis of the Himalayas, was first introduced in 1831. I give it pride of place among the species because of its free and rampant growth in British gardens. It is, no doubt, a very well known climber, but one worth planting in ten times larger numbers to clothe the bare walls of tall buildings, to cover arbours and summer-houses with masses of its pure

white flowers in May and to hang like a screen or curtain along the veranda and from the bungalow roof. Mr. Wilson introduced a summer-flowering form from China which has been named var. *Wilsoni*. Several varietal names have been given to selected seedlings with larger flowers, such as *grandiflora* and *superba*.

C. montana var. *rubens* I should place in a list of the twelve most valuable garden plants introduced from China by Mr. Wilson. He found it during his first Veitchian expedition of 1900. The purplish hue of the foliage, with reddish leaf-stalks and young stems and rosy red blossoms, at once attracted attention. It is as vigorous and, if anything, flowers more freely than the typical *C. montana*.

The flowers of *C. montana* and varieties are produced on the previous summer's growths, hence whatever pruning is necessary owing to its position should be done immediately after flowering. When growing at will over tree-tops, arbours, etc., little, if any, cutting is called for.

To explain one very useful position I may be pardoned for introducing a personal episode, though climbers other than the one mentioned would do equally well. Our house was a new one and my

father would not allow nails to be driven in the wall. He planted *Vitis inconstans* (*Ampelopsis Veitchii*). The stack-pipes were not fixed close to the wall and appealed to me as a position for a treasured seedling *Clematis montana* I had raised; it soon reached the top. Twenty-five years have passed, it is still there, and I am hoping now to visit the old home and prune my seedling as I have done many times in the interval of years.

C. ORIENTALIS.—This is the oldest member of a group of yellow-flowered climbers, natives of the Caucasus, Persia, Manchuria, North China and the Himalayas. The best known is *C. tangutica* from Central Asia, a very beautiful climber with rich yellow blossoms followed by globular, fluffy white clusters of feathered styles. The variety *orbicula* has attracted attention of late at several shows of the Royal Horticultural Society. *C. akebioides* is a form introduced rather more than twenty years ago by Mr. Wilson. In addition to small botanical differences our plants are more vigorous than the type and have darker yellow blossoms which continue to expand until late autumn with fluffy seed appendages through the winter. The long trailing shoots, which may grow up to 20ft. or more, should be pruned from

youth upwards, or the ultimate result is a few long bare stems and a heavy top.

C. FLAMMULA.—This deliciously fragrant species was first introduced to our gardens from Southern Europe in 1596. If restricted to one species this would be my choice, because of its Hawthorn-like fragrance, free growth and its season of flowering—August to October. Growing 15ft. or more in height, it is, however, not a plant one can closely train to a wall or fence, so that this Virgin's Bower must be allowed to ramble at will over porches, arbours and verandas. Against a wall or fence place rustic poles for support. Trailing



ONE OF THE MOST BEAUTIFUL OF NEW CLIMBERS, CLEMATIS MONTANA RUBENS.

The rosy blossoms have a setting of reddish purple foliage.

C. Yew, etc.—Blossoms against an ivy-covered wall or the frame of a house—creamy white blossoms—new to great advantage against the dark back—red. The flowers are produced on the shoots of the current year, so that pruning, which should be fairly liberal, is best done in February. Being inclined to become leggy and bare of shoots at the base, juvenile plants should be stopped fairly frequently to provide a good foundation for subsequent years.

C. rubromarginata is a hybrid between *C. Flammula* and *C. Viticella*. The flowers are white, heavily margined with reddish violet, and inherit the delicious fragrance of *C. Flammula*. A most valuable late summer and autumn flowering climber.

C. ALPINA.—Because of the petal-like organs between the sepals and stamens this species was formerly kept by Linnaeus in a distinct genus under the name *Atragene alpina*. It was first introduced to Britain in 1792, and is a native of North Europe, the mountains of Central and South Europe and North Asia. The plant is a slender woody climber with stems up to 8ft. or 10ft. long. The leaves consist of nine leaflets arranged in threes. The solitary nodding blossoms are bluish violet produced during April and May. In our uncertain climate this is a season when we may expect frosts, so that the Alpine Clematis should be planted in a fairly sheltered position. It is readily raised from seeds.

To the *Atragene* section also belongs the dainty Clematis *macropetala*, introduced from Kansu by the late Mr. Reginald Farrer in 1914. The blue-coloured blossoms have white centres

composed of numbers of petal-like segments, the flowers suggesting those of an *Aquilegia*. The normal flowering season appears to be from about mid-June onwards, though plants we grew in pots in a cold frame blossomed during April. This points to the plant being a useful climber for the indicated greenhouse.

C. CHRYSOCOMA.—This is a species from Yunnan (China), first introduced to France by the Abbe Delavay in 1884. It is a plant which requires some nursing and attention unless we garden in the favourable climate of the south and west, though I remember reading in *THE GARDEN* of it doing well with Mr. A. K. Bulley in his rockery at Ness in Cheshire. It is a plant for the warm west wall trailing up among a few pea-sticks 3ft. or 4ft. high; young shoots push up each year from the base. In Cornwall I am told it grows taller. The creamy flowers are tinged with pink.

A hybrid *C. chrysocoma* × *C. montana rubens* named *C. verticillata*, raised at Verrieres et Bursson by Messrs. Vilmorin, is a valuable addition to hardy climbers. In freedom of growth the hybrid favours the male parent. The glistening rose-coloured blossoms are freely borne in May and June.

Another Chinese Clematis of recent introduction is *C. FARGESII*. It has satiny white blossoms 2ins. to 2½ins. across, and its flowering season is quite a long one—June to September. The plant suggests in some respects a summer-flowering *C. montana*, so that it is a useful climber for verandas and porches.

C. VITICELLA.—This South European species is one of the parents of many garden Clematises.

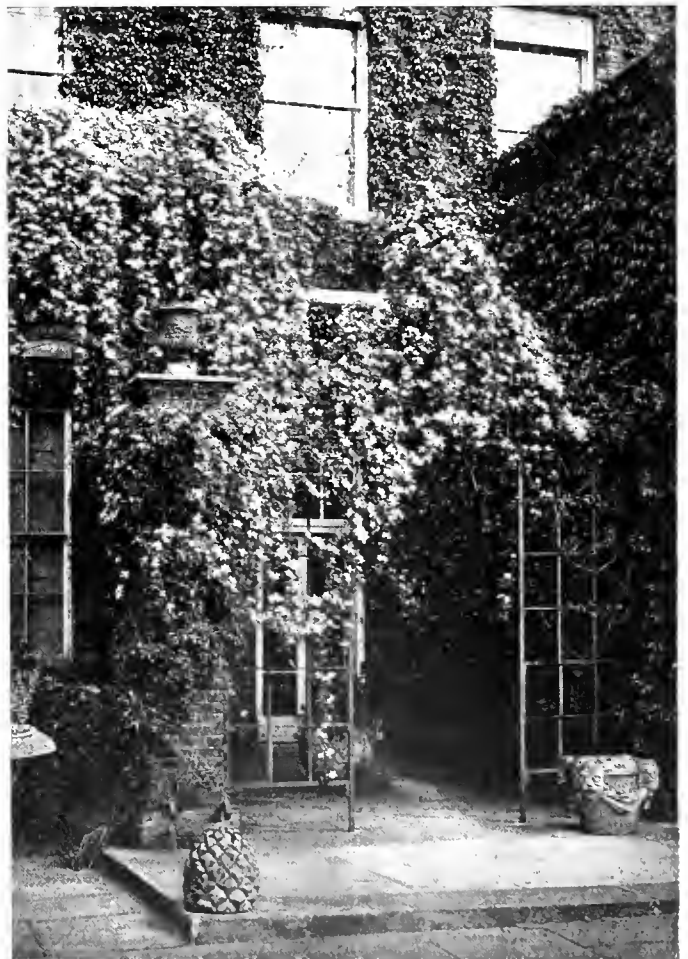
The average height is about 10ft. or 12ft. The blossoms are freely produced from July to September, and are 1½ins. to 2ins. across. The colours vary from mauve to blue, purple, rosy purple, reddish purple and white. This Clematis is not so woody in growth as some species, the ends of the shoots dying back for a length of 2ft. or 3ft. in winter. This does not matter, as the flowers are produced on the young growths of the year and, in any case, fairly hard pruning is necessary.

C. PANICULATA. This species was introduced from Japan, and is said to be also a native of China. It is vigorous in growth, and flowers freely in autumn after a hot summer, such as that of 1921, when our plants were covered with white blossoms about 1in. across. A hawthorn-like fragrance is pleasing. Prune freely in February or March if the plants have covered the allotted span.

C. REHDERIANA.—This free-growing Clematis from Western China was first introduced to France in 1898. Kew received a plant from M. Lemoine in 1904 under the name of *C. Buchaniana*. Mr. Wilson introduced the same plant in 1908, and it was named *C. nutans*. Subsequent investigations proved that the Chinese plants were distinct from these two species, which are both Himalayan. Hence the name *C. Rehderiana* was given by Mr. Craib to the subject of this note, which is a very distinct autumn-flowering climber. Vigorous in habit, it will grow up to 20ft. or more in height, producing in autumn a wealth of primrose yellow blossoms which are notable for their cowslip-like fragrance. *C. Veitchiana* is a form or variety of *C. Rehderiana* with doubly pinnate leaves.



CLEMATIS FLORIDA, VAR. BICOLOR, BETTER KNOWN AS *C. SIEBOLDII*.
Petals white, centre of flower purple.



THE INVALUABLE CLEMATIS MONTANA.
Perhaps the best known, as it is the easiest to grow, of Clematis species.

C. COCCINEA.—A native of Texas, this species is rather tender and requires the shelter of a wall at Kew. It has reddish scarlet pitcher-shaped blossoms, which the hybridist has used to some extent in the raising of several garden sorts, notably Countess of Onslow. The flowering season is late summer and autumn.

In addition to the purely garden Clematises a number of hybrids have been raised which, in addition to their decorative value, are of some scientific or botanic interest. *C. Hendersonii* is a hybrid between *C. Vitiellae* and *C. integrifolia*, producing rich bluish purple blossoms in summer and autumn. *C. Jouiniana* is a most useful autumn-flowering climber with bluish white blossoms. The parents are *C. Vitalba* and *C. Davidiana*. *C. Durandii* is another *C. integrifolia* hybrid with bluish purple flowers.

THE SUB-SHRUBBY CLEMATISES are very showy plants for shrubbery and mixed flower border. *C. tubulosa* (*C. heracleifolia* of some gardens) is one of the best known, growing about 3 ft. high and having deep blue flowers freely borne on the herbaceous stems in late summer and autumn. This group we usually cut to the ground in spring, though on a wall or fence *C. Davidiana* becomes more woody and climbs to a height of 8 ft. or more against 4 ft. or 5 ft. in the open. *C. stans* is a native of Japan and has pale blue or almost white flowers. Though dying back nearly or quite to the ground in some winters, it will make shoots 5 ft. to 6 ft. long in one season. *C. Lavalleyi* is another of this group notable for its vigorous growth and long inflorescences, though they are not so large and rich in colour as *C. Davidiana*. A. O.

THE BEST HARDY GERANIUMS

For Border or Woodland.

WHY the hardy Geraniums are not more often grown it is difficult to understand, for here is a race of plants consisting of many kinds of superlative merit for border and woodland. Most of them are absolutely hardy, they are not fastidious as to soil, propagation is comparatively easy, practically all are perennial and long-lived, and they are most reliable and abundant bloomers.

In considering a few of the more notable of these, omitting those usually grown in the rock garden, a good word may first be put in for the old *G. grandiflorum*, an excellent species for a cool, half-shady place which it may be allowed to cover with its handsome foliage and big blue flowers. Though it will thrive with full exposure, the blossoms of *G. grandiflorum* are inclined to appear a purple colour in direct sunlight, when their season is also more brief than it is under cooler conditions. Near to this comes the taller *G. ibericum*, with its copious heads of rich violet-purple, darkly veined blossoms. This is a plant that is much improved by good feeding, though it likes a dry, warm spot. Its one failing is that its flowering season is short, but it makes up for this by assuming brilliant leaf tints in autumn. So much may also be said of the somewhat similar *G. gymnocaulon*, which has bluer flowers; but both of these apparently allied Eastern species are apt to vary considerably in colour and habit.

Like the above, *G. armenum* is herbaceous, but it is much larger, its long, branching stems and deeply cut leaves covering a couple of square yards by early July. This mound of green then breaks into innumerable flower-heads, the blossoms, which open usually in pairs, being about 1½ ins. across and of an intense blood crimson. To some eyes there is more than a suggestion of magenta in these gorgeous blooms, but while this may be most apparent when the latter are fading, the jet black centre and veining are sufficient to tone down and refine any special virulence the colour of the petals may possess. In any event none but the ultra-squeamish would do other than welcome to the garden such a remarkable plant as this, but those who are discreet will, naturally, allow it plenty of greenery for background.

The Madeiran *G. anemonæfolium* is unique among its kind and, to my mind, quite the handsomest of the taller ones in cultivation. Though it has been known to us for over a century, this plant is still rare, possibly because it is not deemed perfectly hardy. Nevertheless, since it will endure tolerably keen frosts, put up with excessive

wet and other miseries, and yet bloom heartily from early June until the end of July, it is a species that one feels justified in including in any such

two upper petals narrower than the three lower ones as in some *Erodiums* and *Pelargoniums*. This admirable plant is easily raised from seeds and always comes true, and in many gardens self-sown seedlings are of quite common occurrence.

If one were to place *G. anemonæfolium* at the head of a selection chosen for any locality of moderate climate, *G. Wallichianum* could put up a good claim for that position as an all-round, hardy species. Here, however, we have another old plant that is not so well known as it ought to be, but even though one may suspect it of tenderness, since it comes from Nepal, it appears to be able to withstand any amount of frost. In any case, it being quite deciduous, there would be no difficulty in protecting its thick, carrot roots with a covering of ashes or litter where the climate is uncommonly severe. As, however, this was not found necessary even in the early part of 1917, when not a single plant here was injured, *G. Wallichianum* may, I think, be accounted safe enough for general use. This species is not less distinct in its own way than the foregoing, since it is a semi-trailer and one of the few of its race which enjoy a cool corner, where only morning or evening sun comes. A well grown plant will cover several square feet with its tangle of ruddy



THE ROSY GERANIUM ENDRESSI WITH *SENECIO CLIVORUM*.

list as this one. This magnificent species makes a luxuriant, tufty growth of large, fleshy leaves, deeply cut and glossy, not unlike those of the Water Hemlock, which rise stiffly from a short, woody stalk. The leaf-stems, and those of the flowers which rise clear of the leaves to some 2 ft. to 3 ft. in height, are covered with iridescent hairs. As to the blossoms, which are borne in clusters at the tips of these many-branched stems, these open in couples, and they are of a most exquisite clear satiny rose which glows to a vivid ruby at the eye. From the latter protrudes a prominent wisp of stamens of its own gleaming hue, and these are rendered the more conspicuous owing to the petals opening almost flat. These petals, which are without any veining, do not overlap, as do those of most other Geraniums mentioned here, the flowers being starred and the

stems and grey green leaves, and this mass of growth will bear from mid-July to autumn a prolific crop of blossom. In the best form of this species, viz., E. C. Buxton's Variety, these flowers are an untarnished azure with a large central zone of white and, being saucer-shaped and about 1 in. across, they bear a close resemblance to those of *Nemophila insignis*. These flowers are infinitely superior to the lavender purple ones of the type, the variety will come fairly true to colour from seed, and if care be taken regularly to weed out all but the bluest forms, one may preserve the purity of the strain indefinitely.

G. collinum, if my identity fails not, is also a semi-prostrate species of about 1 ft. in height, with deeply divided leaves of a more grassy green than most and pairs of blood crimson flowers

in July, these being about 2 in. in diameter. Of somewhat similar habit, but with a more, less straggling growth, is the new comer, *G. Russell Prichard*. This is said to be a hybrid between *G. Endressii* and *Fraversii*, and must be considered one of the most valuable of recent additions to this family. Though one may at once detect the influence of *G. Fraversii* in the beautiful silky and silvery leaves and stems of this variety, it is not so easy to guess where *Endressii* comes in, for while the flowers of the hybrid are of a most sumptuous and intense velvety crimson, those of the best forms of *Fraversii* can hardly boast of anything stronger than a clear rose, and *Endressii*'s pink, full as it may be, is subdued by a chalkiness of the raspberry-like description. *Albert G. Russell Prichard* is a glorious thing, one that will win distinction on sheer merit in the gayest of June's gardens.

G. Traversii, the New Zealander, I need hardly add to what has been said, is an exceedingly choice species, none too robust save in well drained, warm soils, and the only one of the larger *Geranium* species in common use which has really silvery leaves. There are many forms of *G. Traversii* with both large and comparatively of one goes by the foliage; small blossoms, and these may vary from white through various degrees of blush to a fresh rose. *G. Endressii* alone is well worth a place in any garden. But feeble and mild as it may appear, *G. striatum* must not come within a mile of *Endressii* or the two will people the earth with their half-caste offspring and pass on to this Pink Peril a zest for colouring which seems to increase in intensity in direct ratio to the swarming increase of the redundant hordes.

Garden forms of *G. sanguineum* must be included in this selection, for few of these are other than first-rate for sun-beaten banks or the foreground of dry borders, where they will cheerfully maintain a long succession of these fiercely magenta-crimson flowers, which have earned for the native type the name of Bloody Cranesbill. The white form, or sub-species, known as *G. s. alba*, is a really choice plant, bigger and bushier than the crimson with leaves of a darker green and abundant blossom of a chaste and delicate beauty. *G. nepalensis* of the trade is, I rather think, not the rightful owner of that name, but a glorified form of *sanguineum* and of which the larger flowers are certainly no less gaudy. As for *G. lanceastrum* and *nodosum*, the only excuse one has to offer for including such a dwarf as the former in this list is its undeniable sweetness and charm and its supposed relationship with *sanguineum*; and the rather larger *nodosum* slinks into the company on the strength of the fact that, since it interbreeds so blatantly with the *G. sanguineum*, a few seasons' intercourse between the two will yield a tribe of intermediate forms which blazon every degree of "bloodness" which it is possible to conceive. However, none of these, species or hybrids, deserve to be called harsh in colouring; their foliage is very lovely at this season and again in autumn and, as I have said, they will often live happily where a House Leek would suffer thirst.

The last group which claims mention here is that of *G. pratense*, the 2 ft. to 3 ft. native, so well known in old cottage gardens. Of this species the best forms are the pure white and pale blue singles, the heavy old plants for open woodland spaces, both of them appearing to best advantage in partial shade. So much may also be said of the rarer double blue (not the common double in that colour), which is a really handsome plant, growing in cool, good soil up to nearly 4 ft. and bearing a generous and successional crop of good-sized blossoms in a clear smoke blue which is very appealing, especially in evening light. N. WATTS.

SHRUBS OF A MIDSUMMER GARDEN

A GARDENER should, perhaps, not expect to wring much encouragement out of an almanac, but I confess to a sudden spasm of hopefulness which thawed my coagulated soul a few days ago when I came across the statement, "June 21: Summer Commences." That at least inspired me with the feeling that there was still time for this dismal season to make amends for its inclemency. And with that consolation to cheer one on, the outlook might have taken a brighter turn had not that very same almanac, on the self-same page, cast one's illusions into the abyss by blandly remarking, "June 24: Midsummer

Fuegias and Solanums point to a soil that is warm and congenial to root action.

Among the above *Fremontia californica* is now perhaps the proudest shrub in the garden, its somewhat stilly radiating branches blazing with the big, golden, orange-centred flowers, which are of so leathery a texture that they are able to defy the rough and chilly winds. *Solanum crispum* also has never been better. Though its blue-purple flowers are a paler hue than usual, this gradually improves with the advancing season, the form known as *S. c. autumnalis* being of a particularly rich colour later on. *Sollya heterophylla*, a twining shrub from Australia, is very

charming on a south wall, its myrtle green foliage being strung with dainty little bell-flowers in a clear violet-blue, swinging on elegant hair-like pedicels from the leaf-axils.

Of a good many Clematises *C. Henryi* has long ago won for itself a place of high appreciation here, not only because it is still one of the handsomest of its kind, but because it is such a hearty grower and perennial blossomer. We have it both on a wall and covering an ivy-clad, decapitated Oak tree, and in both situations it opens its enormous white flowers as soon as those of the montana class have gone off and continues to provide us with an unbroken succession until autumn. Lady Northcliffe is very lovely on a similar kind of stump, but with Golden Hop instead of Ivy for company, and



THE BEAUTIFUL AND LONG-FLOWERING ST. DABEOC'S HEATH,
DABOECIA POLIFOLIA.

Day." I do not know whether our learned chronologists often amuse themselves with that form of humour and, happily, it does not matter. I metaphorically rubbed in some whale oil and penetrated the outer gloom to see how the flowers were faring.

If one confesses the truth, however, it has not been so much the flowers as ourselves which have done the grumbling during the last six weeks. The former hardly ever looked better than they do now and the earlier ones have seldom had so long a season, the explanation being that in a normal season sunshine and rapid evaporation combined are with us in excess of the rainfall. This time the plants in our sharply drained, porous soil have had all the moisture they need, while the sunshine, if niggardly to us, has been ample for their needs. Had the winter been cold and severe and the spring late, another tale might have been told; but the splendid growths which one sees to-day on such heat-loving plants as *Romneyas*, *Fremontias*, *Dendromecons*,

another variety which has proved to be extraordinarily floriferous and long-lived is *Comtesse de Bouchaud*. The satiny rose blossoms of this fine old Clematis are produced in abundant masses from June to the end of August and sometimes well into autumn.

Comparisons may be especially odious when it comes to Cistuses, for they are all lovely. But if I ever were doomed to grow but one variety, I think my chosen idol would be *C. immaculatus*, an unblotched variety of *C. ladaniferus*. Immaculate indeed are the very large blossoms of this beautiful shrub, and never are they so chaste and refined as when one happens to catch them at that rare moment when the half-opened flower is unfolding its spotless purity of its petals and yielding its delicate creases to the gentle warmth of an early sun.

All winds, again, are not without their virtues among the Cistuses, for in dull, cool weather one can often enjoy a full display of blossoms until late afternoon. *Cistus Gauntlettii*, which

might be described as a fuller-toned Sunset, with a more robust habit and an amazing prolificacy, retains its gorgeous flowers longer than most, and a colony of *C. obtusifolius*, which only gets morning sun, being overhung by Oaks, will often preserve its pure white, yellow-based petals until late evening or the following morning. Both *C. (Helianthemum) formosus* and *C. f. unicolor* are much more punctilious. No eight-hour day is tolerated in their union, and such artful machinations as "summer-time" they scorn. Even so, we love them not the less but probably more for the brevity of their morning hour, and they are still without a rival in their class.

Yet another plant which has shewn its appreciation of cool conditions is *Menziesia (Dabecia) polifolia*, the young flowering growths being finer and more abundant than we have seen them for a long while. The rosy purple blossoms of this type, moreover, have not suffered from that sun-bleaching which so often mars their really good colour, and both these and those of the lovely white form are unusually large and full in the bell. These and other forms of the same thing may be said to open the season of the summer Heaths, but *E. cinerea* runs them close. Of this latter the variety *rosea* is perhaps the best for all-round use, and its abundant flowers in a full, yet soft rose are very charming. *E. c. atropurpurea* is another admirable variety in a deeper, more crimson shade, and, not to be overlooked, is the quite dwarf but very brilliant *E. c. coccinea* with bronzy foliage and little bells of a dazzling crimson-lake.

Among other things now in bloom on the Heath slope are some *Helianthemums*, mainly a grey-leaved, yellow variety, much like the common wild species greatly enlarged, *H. humulatum* and the trailing *H. polifolium roseum*, a very easy and free grower with flowers of a pale salmon-buff shading to rosy orange at the centre. A very sunny corner of thin soil is now gay and fragrant with Wild Thyme, another impoverished place is the happy home of the double form of the common Bird's-foot Trefoil mingled with the white foam of *Galium saxatile* (Heath Bedstraw), and there are some groups of *Linum perenne*, whose sheeny turquoise blossoms on their elegant stems are not less delightful among Heathers than are the Harebells of later days. *Genista sagittalis* is also here, covering its unkempt foliage with woolly heads of yellow flowers. *G. germanica* is rather more successful in winning one's admiration than is *saxatilis*, but neither are quite so appealing as the rather humble little *G. dalmatica*, with its delicate, pea-green foliage and bright yellow spikes of bloom. All of these and others will have to give place, however, before the month is out, to the dazzling glory of *G. tinctoria flore pleno*, which will transform its spreading mass of glossy dark green foliage into a blaze of brilliant gold.

Where cooler conditions prevail *Gaultheria trichophylla* is concealing its china blue berries, big as robin's eggs, beneath its pretty foliage, and here also one welcomes the handsome leaves and tall white spires of *Galax aphylla*, a prince among woodland plants. *Zenobia speciosa* is in this select company, its branches hung with milk-white urns, and there are one or two others of the same class of shrub which, however, do not seem to prosper quite so well in the absence of peat and natural moisture. Their ally, *Kalmia latifolia*, however, is perfectly content, and this is always a precious shrub in any of its forms, which vary from pale blush to pink.

Escallonia macrantha is a fine shrub where it does well, the best of the early flowerers of its race and one that will bloom almost throughout the season. Here it is quite hardy enough to make

a bush 8ft. to 10ft. high in open spaces in the woodland, and not only is its glossy foliage as sweet as a Balsam Poplar, but the large sprays of flowers, so liberally yielded, are a bold ruby crimson, just escaping that heavy, Victoria Plum red which is characteristic of not a few Chilean shrubs. As soon as it gets leggy *L. macrantha* should be cut

back to near the ground, the result being finer foliage and larger and better blooms. *E. exoniensis* is another early and very worthy member of this group, producing an abundant crop of rose-tinted, creamy white flowers of a waxy texture which have an admirable background in the deep green of the highly burnished leaves. A. T. J.

THE SOUTH SEA MYRTLES

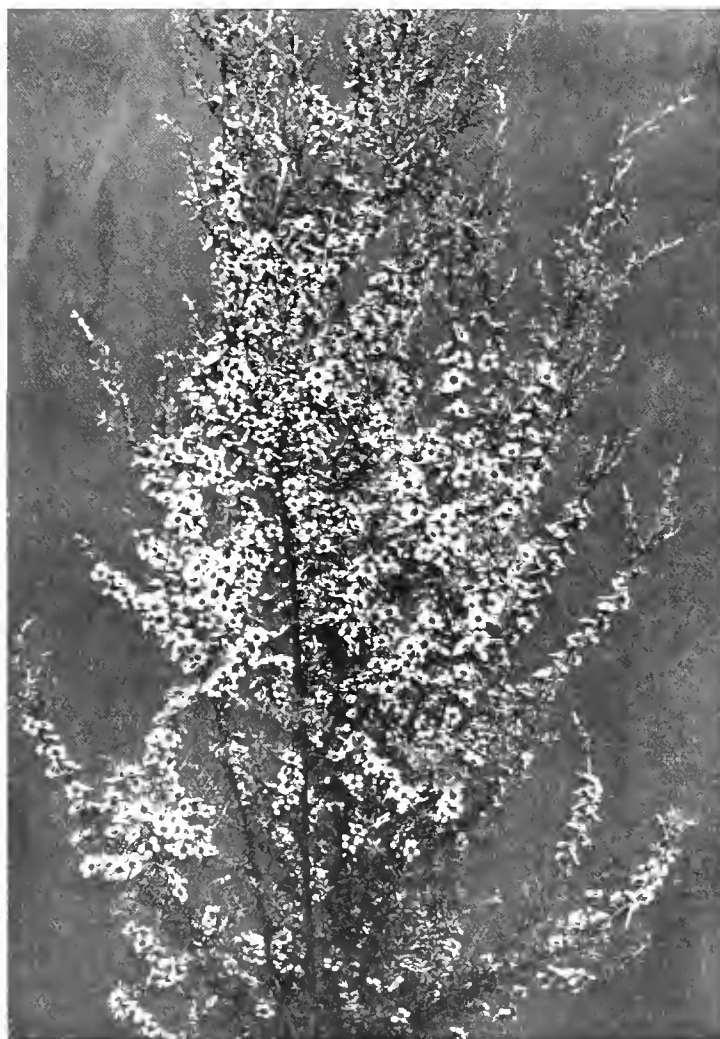
THESE are not many really choice New Zealand flowering shrubs that can be grown generally in all the milder parts of this country, but the subjects of this note, the various members of the *Leptospermum* family—afford a notable exception. Though not strictly hardy, the *Leptospermums* will, as suggested, prosper as unprotected bushes almost anywhere on or near our west and south coasts, and in much severer climates they will do admirably against a wall or fence. A light, free soil is, however, desirable with full sun and as much shelter from cutting winds as may be. Perhaps the best known of the South Sea Myrtles is *L. bullatum*, whose small, glossy green leaves, which grow so densely on the slender whippy growths, are almost hidden from view in the later spring by the multitudes of pure white flowers. These latter are about the same size and shape as those of the common Hawthorn,

and they have dark centres which serve to intensify their milky whiteness. *L. scoparium* is, according to some, synonymous with the above, but not a few nurseries list a pale blue lilac form under that name.

L. s. Nichollii is an even more attractive bush whose similar leathery foliage is suffused with a warm plum red. In this variety the flowers are a rich blood crimson, the opening buds being a brilliant ruby. *L. Chapmanii* might be said to come between the foregoing with rosy crimson flowers; then there is *L. stellatum*, whose elegant growths become starred with white flowers rather smaller than those of the above. *L. L. levigatum* and *lanigerum* also have white blossoms on a glaucous and silvery (hairy) foliage respectively. Yet another notable member of the genus is *L. Boscawenii*, whose foliage is slightly tinted with a ruddy bronze, the large pale blush flowers having a deep crimson eye.

In addition to these, several pretty hybrids, some of them of distinct merit, have recently been introduced. A prostrate form has appeared, and the near future will doubtless produce not only fresh novelties, but a greatly increased and deserving popularity for this interesting race. The blooming season of the various *Leptospermums* may be said to extend throughout the summer. Propagation of most kinds may be carried out by seed, which germinates readily, self-sown seedlings being by no means uncommon. Cuttings may also be struck without difficulty in the late summer. In either case growth is rapid under congenial conditions, and the plants begin to bloom when a foot or so in height. Though 4ft. to 6ft. may be considered the average stature of most of the *Leptospermums*, some kinds attain far greater heights in the south-west.

P. L. N.



THE BLuish LILAC LEPTOSPERMUM SCOPARIUM NYMEN'S VARIETY.

THE GREAT SUMMER ROSE SHOW

THE Summer Show of the National Rose Society must be classed as a great triumph for the management and the exhibitors over most adverse circumstances. Even those of us who can recall more seasons than we sometimes care to, cannot remember one which was so unkind towards flowering plants and especially to Roses. Following a mild winter the spring has been very backward and, except for a very few fleeting glimpses, we have, as yet, had no summer. To have blooms of the quality associated with the great summer Feast of Roses at Regent's Park a fortnight's real summery weather was required, and that weather consistently failed to materialise.

The adverse conditions have been so general throughout the country that over a week ago it was fully evident that the exhibits could not possibly be up to the standard of the Society. The Council met and seriously considered the question of postponing the Show for ten days or so, but the arrangements were so far advanced as to present serious if not insuperable obstacles to any attempt at abandonment. So it was decided, and wisely as matters have turned out, to continue as per plan and hold the Show. There were, naturally, gaps in the tents. The blooms were not of the superb quality of the past two or three years, but there were sufficient blooms of all types to make it a successful Show, and the quality was decidedly higher than was anticipated. On every hand one heard some such remark as "A week ago I could not have cut a

handful of Roses and did not expect to be able to set up a single stand," but these gloomy forebodings were far from being justified. Early in the day nearly all the Roses were distinctly in the bud state, and even at noon, when Queen Alexandra and Princess Victoria visited the Show, the blooms had not developed a great deal, but during the afternoon, under the influence of the warm weather which favoured the Show, the blooms opened out well, which made a wonderful difference to the appearance of the exhibits. Those who came even long distances to the Show had no reason to be dissatisfied, but owe a large debt of gratitude to Mr. Courtney Page, the untiring hon. secretary, and the exhibitors for providing what, in all the circumstances, was a really wonderful Show.

As ever, it was the new Roses that formed the first attraction, and throughout the live-long day there was a long queue outside the tent and, of course, a constant stream of members passing through. On the whole these new Roses were quite equal to the average at the Summer Show. The two gold medal varieties Bessie Chaplin and Lady Roundway were generally allowed to be worthy of that distinction, and the judges had not been influenced by the difficulties of the season in making the awards. With the certificated varieties, too, sentiment certainly did not appear to have entered into the matter. They all were particularly good varieties. It was pleasant to find that, besides being of good form and colouring, nearly all the new Roses were fragrant to a notice-

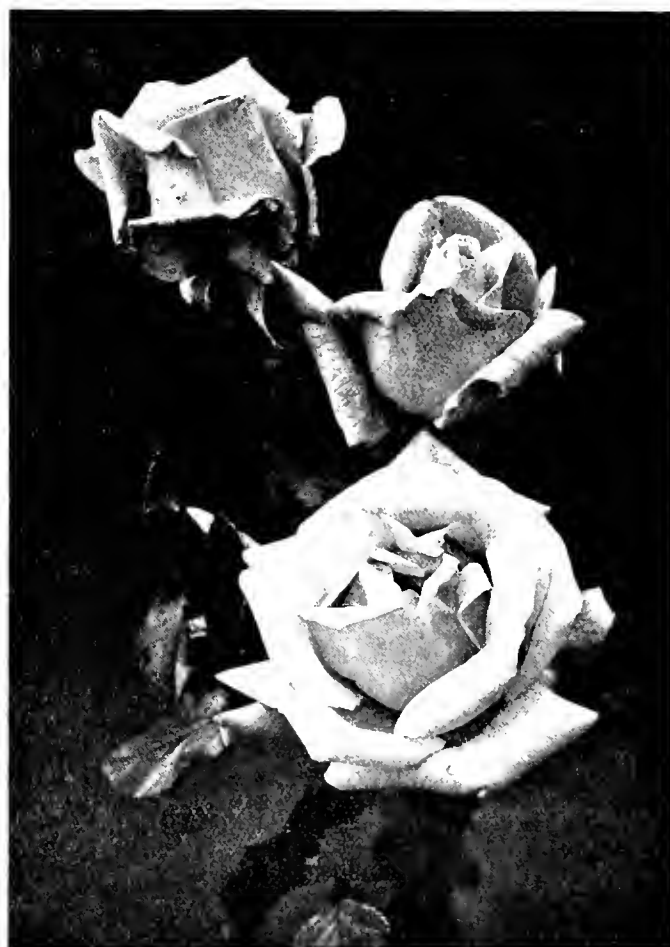
able extent. For some reason Mr. George Prince did not appear to have entered his basket of the new seedling Rose which was there named Victoria, but it had the old Damask Rose perfume and enraptured the few who discovered it. Princess Victoria was charmed with the flowers and their delightful fragrance and, to his great pleasure, permitted Mr. Prince to take the basket of blooms to Marlborough House.

The class for new Roses distributed during the past five years is nearly always disappointing, and one can only conclude that the raisers of gold medal Roses are too busy propagating them to have sufficiently good blooms for the Kibbee Stuart Cup. The cup was won by Mr. E. J. Hicks with a dozen moderate blooms. The best were Marjorie Bulkeley, Souv. de G. Remoya, Mrs. E. Hicks and Victor Teschendorff. Mr. G. Prince was second, and he had good blooms of Rev. F. Page-Roberts, Souv. de J. Pernet and Admiration. The class for twelve blooms of any new variety was decidedly better, and here Messrs. Alex. Dickson and Sons won the first prize with very good examples of Maud Cuming, the variety which received a certificate of merit. Messrs. B. R. Cant and Sons were a good second with brilliant blooms of Princess Victoria, and Mr. Hicks came third with Mrs. Henry Morse.

From the spectacular point of view it was the "Representative Groups of Roses" that were the feature of the Show, and although they were not equal to some former efforts, they were worthy of praise. Mr. E. J. Hicks had decidedly the



A LARGE AND SHAPELY HYBRID, MAUD CUMING.



THE GORGEOUSLY COLOURED LADY ROUNDWAY.

most successful group, and he won the Champion Cup, Gold Trophy and Edward Mawley Memorial Medal. The arches of Climbing Lady Hillingdon and Mrs. H. Stevens with tall pillars of Wichuraiana varieties in the background drew attention to the large stands of lovely blooms of Padre, Betty Uprichard, Chas. E. Shea, Hortulanus Budde, Golden Ophelia, Mrs. Henry Morse and many other excellent sorts. Messrs. B. R. Cant and Sons were second, and their best vases were of K. of K., Léontine Gervaise, Lemon Pillar, Emily Grey and Paul's Scarlet Climber. The Rev. J. H. Pemberton was third.

In the small groups Messrs. W. R. Chaplin Brothers, were awarded the first prize. They had plenty of blooms of very fine quality. The chief were Premier, Emma Wright, K. of K., Isobel, Ophelia and Mrs. C. E. Shea. The best roft. by 3ft. group was arranged by Mr. E. Easlea, who shewed Hoosier Beauty, Irish Fireflame, Ophelia, Melody, Henrietta and similar varieties. Mr. T. Edwards was second, and he had an excellent vase of Hortulanus Budde.

It was surprising to find so many exhibitors of seventy-two distinct blooms of exhibition Roses, and all were of quite fair quality. The Championship Trophy was won by Messrs. D. Prior and Son with a collection of even quality and a good distribution of colours. Perhaps the pinks predominated, and these included Mrs. Henry Morse, F. W. Dunlop, Mrs. G. H. Welch, Mrs. Charles Hunter and Lohengrin. Of the more brilliant colours Augustus Hartmann and Princess Victoria were very good indeed, while Modesty, Bessie Brown, Mrs. C. West and Mme. Melanie Soupert were also worthy of note. Messrs. B. R. Cant and Sons, who were second, had rather more reds, including E. Godfrey Brown, Captain F. Ball, C. V. Haworth, H. V. Machin and George Dickson; while their blooms of Gorgeous, Mrs. George Norwood and Mrs. Bryce Allen were also of good quality. Messrs. F. Cant and Co. were third.

There were no sets of three blooms each of thirty-six varieties, but there were some very good exhibits of forty-eight distinct blooms. Mr. George Prince won the China Trophy with quite a good collection which only lacked colour to have made it really excellent. His outstanding varieties were Mrs. Lamplough, Martha Drew, Modesty, Candeur Lyonnaise, Mrs. H. R. Darlington and Rev. Page-Roberts. Messrs. Jarman and Co., who were second, had rather more colour, their bright varieties being H. V. Machin, G. W. Forestier and A. Hartmann. Lady Ashtown and Ophelia were also good.

Messrs. Chaplin Brothers were alone in the class for twenty-four distinct varieties, where they were awarded the first prize for a good collection, but there were half a dozen sets of eight varieties, three blooms of each, and this was quite a good class. The prizewinners were Messrs. Jarman and Co., Mr. George Prince and Mr. Henry Drew in the order named. The chief varieties were C. V. Haworth, Mrs. Henry Morse, Mrs. E. Hicks, Hoosier Beauty, Media and White Maman Cochet.

Tea and Noisette Roses were surprisingly good, and Mr. George Prince won the first prize with a splendid eighteen blooms of such sorts as Lady Plymouth, Mrs. Foley Hobbs, Souv. de Pere Notting, Mrs. C. Hall and a beautifully coloured Auguste Comte. Mr. Henry Drew was second.

The baskets of cut Roses did not make the glorious display of last year, but by the middle of the afternoon, when the blooms had opened fully, they were much more attractive. The best Hybrid Teas were the new Maud Cuming exhibited by Messrs. Alex. Dickson and Sons in the new class and Hoosier Beauty by Mr. Prince in the



SEALING-WAX RED, THE BRILLIANT SINGLE ROSE
LITTLE JOE.

other. W. R. Smith, shewn by Mr. Henry Drew, was the best basket of Tea Roses. The baskets of decorative Roses, though also fewer, were as good or better than was expected. Messrs. Alex. Dickson and Sons, shewing K. of K., Sunstar and Betty Uprichard in good condition, were first with the seven, and Messrs. J. Prior and Sons won premier place with the three baskets. The collections of decorative Roses were very showy, and the Polyanthas were quite pretty. Ellen Poulsen, Coral Cluster, Alice Amos and Perle d'Or were the chief sorts in Mr. Prince's first prize collection.

The premier blooms in the trade classes were Candeur Lyonnaise (H.P.) shewn by Mr. George Prince; C. V. Haworth (H.T.) shewn by Messrs. F. Cant and Co.; and Lady Plymouth (T.) shewn by Mr. George Prince.

NEW ROSES.

Bessie Chaplin.—This was decidedly the finest Hybrid Tea Rose in the Show. The blooms were of perfect rounded shape, full in the centres with the outer petals beautifully disposed. The colour is a very pleasing silvery shell pink, occasionally slightly reddened on the outside, and the substantial broad petals are recurved. The buds are often of a shining rose cerise colour. The stems and foliage are perfect, and added to

these merits it is deliciously fragrant. Gold medal to Messrs. Chaplin Brothers, Limited.

Betty Hulton.—This appears to be a free-flowering variety which is of value for all decorative purposes. The shapely blooms are fairly large, and their colour is almost saffron yellow with an attractive sheen of gold. The blooms are sweetly scented. Shewn by Messrs. Alex. Dickson and Sons.

Gwynne Carr. A medium-sized, fully double Hybrid Tea Rose of deep shell pink colouring which becomes much paler as the blooms develop. It is a fragrant bloom and possesses long, stout stems. Certificate of merit to Messrs. Alex. Dickson and Sons.

Lady Roundway.—For glorious rich golden orange colouring there was no Rose in the Show to compare with this. The medium-sized, fully double blooms vibrated with warm colour and, being a Pernetiana seedling, the foliage is hard, but we must confess we thought it rather skimpy. It is said to be of bushy habit and perpetual flowering. That it is free-flowering was abundantly clear from the stems and plant which accompanied the stand of blooms. Gold medal to Messrs. B. R. Cant and Sons.

Little Joe.—This is a very uncommon single-flowered Hybrid Tea Rose. It is a medium-sized cupped bloom made up of usually five broad, substantial petals of sealing-wax red colouring with a small golden eye. The foliage is good. If it proves to be free-flowering, as we understand it is, it should be an exceedingly desirable garden Rose. It was raised by Mr. F. J. Looymans. Certificate of merit to Messrs. D. Prior and Son.

Maud Cuming.—The colouring of this handsome and large Hybrid Tea Rose is very baffling. The general colour impression is peach shot with coral pink, but there is also more than a suggestion of orange and the outer petals are delicately veined. It is, however, a fragrant and beautiful Rose, fully double and of globular shape. The bold shell-like outer petals and the general colouring remind one of a Peony. The foliage is good and the stems have comparatively few spines. Certificate of merit to Messrs. Alex. Dickson and Sons.

Shot Silk.—This appears to be a very free-flowering variety suitable for the garden and for house decoration. It is a fully double Hybrid Tea Rose of very uncommon orange rose colour heavily shot with golden yellow. The roundish petals are nicely recurved and it is very sweetly scented. The dark green foliage suggests Pernetiana parentage. Certificate of merit to Messrs. Alex. Dickson and Sons.

Vesuvius.—This is a practically single fairly large deep crimson maroon variety of which the blooms shewn were obviously not at their best. Even so it attracted a deal of attention. Shewn by Messrs. D. Prior and Son.

Further details of this Show are, for want of space, held over for our next issue.

DELPHINIUMS AND CAMPANULAS AT VINCENT SQUARE

THE stranger within our gates who on landing came straight to the Royal Horticultural Society's Hall on June 26 and 27, might well be excused if he concluded that Great Britain has been favoured with ideal weather throughout the spring. He would have found the hall filled with glorious flowers as perfect in form and as rich and varied in colouring as even the most critical would wish. There were so many groups that the Floral Committee recommended the award of forty-one medals, while the floral novelties placed before the Committee were so numerous as to make a show by themselves.

In quantity Sweet Peas and Delphiniums predominated, and they were of high quality, but even these must give place to the splendid *Salpiglossis* which were sent from the Society's garden at Wisley. These plants deservedly had the central position in the hall, and the large circular group made a memorable display. The delicate texture and beautiful colourings of this flower make a great appeal. While every possible shade and combination of colours were represented, yellow seemed to predominate, and this gave a most fascinating golden tone to the flowers. We understand that the plants had been grown in a cool greenhouse, and they were models of skilful cultivation. A gold medal, unanimously recommended, was a fitting honour for these splendid plants.

A second gold medal was awarded to Messrs. Sutton and Sons for a splendid collection of Sweet

Peas arranged in the charming manner that is characteristic of the Reading exhibits. The countless spikes of bloom were all of the highest exhibition quality, and a great many of the very best varieties were represented. Messrs. Dobbie and Co. also set up a fine collection of Sweet Peas which was second only to the foregoing. Besides many varieties already in commerce, they had several which are to be distributed next year. *Mary Rose* is a very attractive variety of deep pink shade and *Royal Sovereign* a rich orange yellow. *Youth* was shown on behalf of Messrs. C. C. Morse and Co., the famous Sweet Pea firm of California, and in this variety they have what "over there" is termed "a winner." The pictorial effect of the blush pink on the upper segments of the white flowers is particularly charming. In the annexe Messrs. Robert Bolton and Sons shewed in considerable quantity some of their novelties. *Daffodil* is well named. *Come Valley* is a desirable mauve variety, *Comrade* is beautifully tinted with pink, and *Wizard* a very fine deep orange-scarlet. Messrs. J. K. King of Coggeshall shewed a good selection of standard varieties in the body of the hall.

The Delphiniums shown by Messrs. Blackmore and Langdon were magnificent, and in their stately grandeur and lovely colouring shewed no signs of the unfavourable spring. Their two new sorts were displayed in quantity and, besides these *Queen Mary*, *Queen of Bath*, *King Bladud* and the *Alake* were excellent. Near by Messrs. R. H. Bath, Limited, had some splendid *Paeonies*.

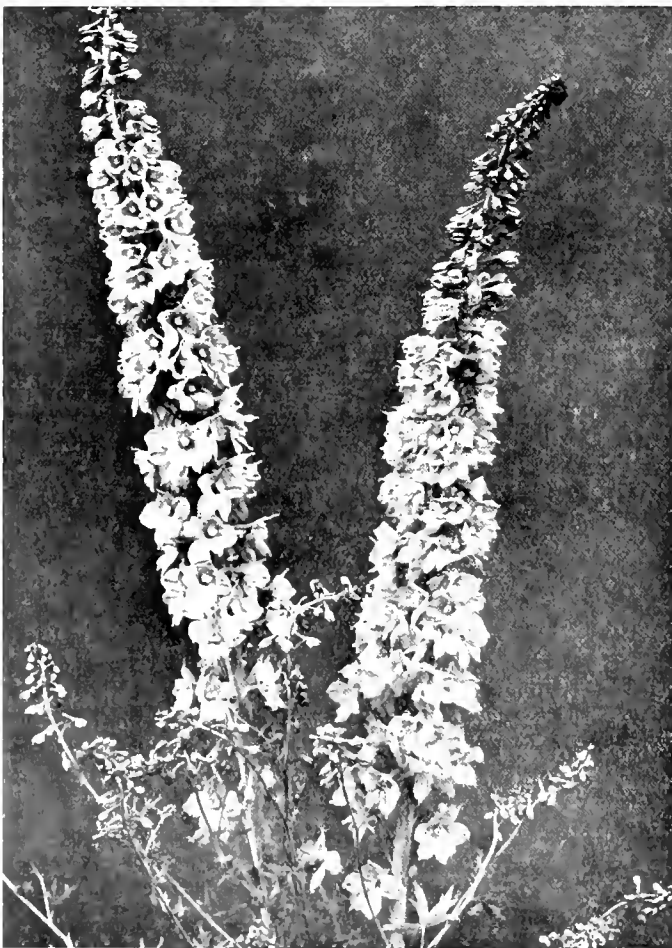
The very large, fully double blush flowers of *Lady Carrington* excited a deal of envious admiration. *Edulis superba* is a lovely rich pink, and there were also several good *grandiflora* varieties. As a background Messrs. Bath had many good Delphiniums. A large number of *Promies*, both singles and doubles, were staged by Messrs. Kelway and Co., and these embraced many beautiful colours.

Chief among the other border flowers were *Roses* and *Pinks*, though the former were not nearly so numerous as at recent shows. Messrs. B. Ladham, Limited, had a great many very fragrant *Pinks*, and Mr. Charles Turner also had a good collection. *Pheasant's Eye*, *Aurora*, *Elsie*, *Charles Ladham*, *Glory* and *Florizel* are all very pretty. *Dianthus Pirebright Glory*, a free flowering prettily fringed and fragrant variety, is excellent for massing.

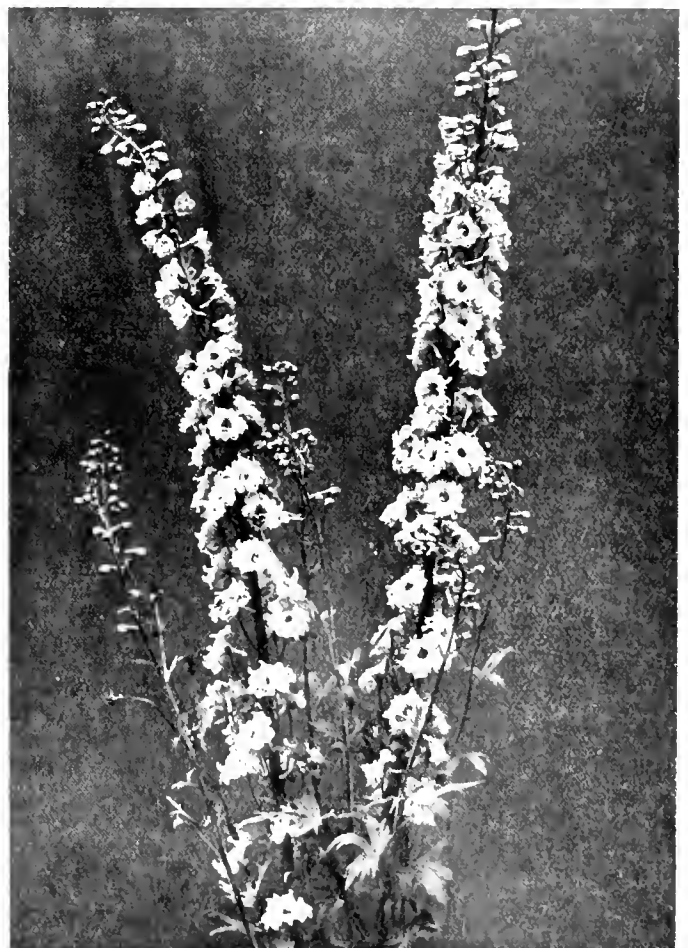
Messrs. John Harkness's exhibit of *Lupins* was crowded out into the orchid annexe, and indeed they almost rivalled *Orchids* in their range of colouring. This flower does indeed make progress!

Carter's *Island Poppies* *Crépe de Chine* were delightfully arranged, and shewed how useful they are for table decorations. *Campanula Felham Beauty* was very well shewn in several collections, and in addition Mr. F. G. Wood had several batches of the dwarf yellow *Mimulus Burnettii*.

The association of the brownish apricot spikes of *Verbascum Cotswold Gem* and *Cotswold Queen* with *Hesperis matronalis alba plena* in the group



THE BEAUTIFUL AZURE DELPHINIUM BLUE BOY.



DEEP HELO MAUVE DELPHINIUM UNIQUE.

of Messrs. R. Tucker and Sons was a particularly happy one.

Stove plants were represented by splendid specimens of *Dracena Lindenii* from Baron Schröder's gardens at The Dell, Englefield Green, and these were raised above a large quantity of brilliant plants of *Crassula coccinea minor*, all superbly grown. Messrs. L. R. Russell, Limited, had one of their famed collections of miscellaneous stove plants, among which those with ornamental foliage were very handsome. The Hon. Vicary Gibbs sent a very praiseworthy collection of *Streptocarpus*.

There was only one collection of Roses (no doubt the others were reserved for the Regent's Park Show) and only one set of blooms for the Clay Cup competition. Greenhouse Carnations were as numerous and as beautiful as ever, and Mr. James Douglas brought a collection of his magnificent Border Carnations almost as a sort of preliminary canter for the special show at the next meeting. On the present occasion the blooms were perfect in form and colouring.

Unfortunately, the first of the silver medals which Messrs. G. Bunyard and Co. are offering for various fruits shewn by amateurs did not bring any competition. On the present occasion the medal was offered for the best collection of Strawberries, and it was deservedly awarded to the only exhibit. Mrs. R. W. Ascroft, Orchard Cottage, Effingham, shewed four very good dishes of Royal Sovereign, which had a most refreshing aroma, and they were attractively set out with vases of Sweet Peas. At the next meeting a similar medal is offered for Cherries grown by an amateur.

Messrs. Barr and Sons exhibited a very good collection of seasonable vegetables of high quality. Cauliflowers, Lettuce, Turnips, Carrots, Broad Beans and Peas were the chief dishes.

NEW AND RARE PLANTS.

Campanula persicifolia gigantea Queen of June.—The name is very cumbersome, but can easily be shortened for everyday use. It is a very handsome variety, much of Telham Beauty type, and with its tender pale blue colour is a fitting companion to that popular variety. It is well worth an award of merit, but for some reason, best known to the majority, the Floral Committee passed it over. However, it was greatly admired by visitors. Shewn by Messrs. B. Ladhams, Limited.

Campanula The King.—A very ordinary cup-and-saucer *Campanula* of medium blue colour. Award of merit. Shewn by Messrs. B. Ladhams, Limited.

Carmichaelia flagelliformis.—In general appearance this New Zealand shrub is much like a *Notospartium*. It is a practically leafless shrub, making plenty of wiry shoots freely furnished with small, deep lilac coloured, pea-shaped flowers. It is moderately hardy, and interesting rather than beautiful. Exceptionally well flowered sprays were shewn by Lieutenant-Colonel Messell.

Delphinium Blue Boy.—This is a very long spike made up of medium-sized, star-shaped flowers of bright blue colour with a white eye. It is quite the best of its colour and type. Award of merit. Shewn by Messrs. Blackmore and Langdon.

Delphinium Mrs. Townley Parker.—A handsome, compact, well rounded spike of large single flowers of Cambridge blue colour with a small white eye. Award of merit. Shewn by Messrs. Blackmore and Langdon.

Delphinium Unique.—The name is quite appropriate, for it is a very remarkable *Delphinium*. The spikes are long, graceful and a trifle loosely furnished with medium-sized, perfectly round, semi-double flowers which have prettily waved reflexed margins. The colour is deep heliotrope mauve, and there is a small black eye. Award of merit. Shewn by Mr. T. Carile, Loddon Gardens, Twyford.



THE CURIOUS WEIGELA-LIKE KOLKWITZIA AMABILIS.

Kolkwitzia amabilis.—This uncommon hardy shrub is of somewhat spreading habit, and its flowers much resemble those of an *Abelia* or a *Weigela*, but it differs decidedly from either in its hairy stalks and calyx. The bell-shaped corollas are pinkish with yellow throats. The opposite leaves are broadly ovate and prominently veined. Award of merit. Shewn by Lieutenant-Colonel Messell.

Lilium Golden Orb.—A graceful, medium-sized variety of *Hansonii* type and, except that the flowers open quite flat, a deal like *L. Mrs. R. O. Backhouse*. The individual flowers are from 2½ ins. to 3 ins. across and the rich yellow colour is freely spotted with small crimson dots which are darker in colour towards the centre of the flower. Award of merit. Shewn by Messrs. Wallace and Co.

Lupinus Harkness' Regal Strain.—The award was given to a very beautiful strain of *Lupinus polyphyllus*. Many charming shades and combinations of colour were represented, and those of old gold and pink tones were especially delightful. Award of merit. Shewn by Messrs. John Harkness and Sons, Bedale.

Papaver Ethel Swete.—This new Oriental Poppy was shewn by three exhibitors. It is a very handsome, large flower of satiny pink colour and has a black centre. Award of merit. Shewn by Messrs. Barr and Sons, Messrs. Gibson and Co., and Messrs. Harkness and Sons.

Papaver Mrs. H. G. Stobart.—A very similar variety to the above but of rosy cerise colour. Both sorts are well worth growing. Award of merit. Shewn by Messrs. Barr and Sons, Messrs.

Gibson and Co., and Messrs. Harkness and Sons.

Cattleya Hentschellii Rosslyn Var.—A strikingly handsome stove Orchid. The large flowers are of royal purple colour. The large lip is attractively frilled and has an orange-yellow throat. Award of merit. Shewn by Mr. H. T. Pitt.

Lælio-Cattleya Mrs. Willoughby Pemberton The Dell Variety.—Three very large flowers were

shewn on a magnificent plant. The sepals and petals are of sparkling blush mauve, while the large, spreading, frilled lip is of rich crimson colour with a broad bar of golden yellow in the throat. It is a strikingly handsome variety. First-class certificate. Shewn by Baron Schröder.

Odontoglossum Ernest Bristow.—A medium-sized spike well furnished with roundish flowers. The sepals and petals are greenish yellow heavily marked with chocolate. The lip is freely and prettily spotted with lilac, which becomes deeper in tone towards the centre. Award of merit. Shewn by Messrs. Armstrong and Brown.

O. Orosius magnificum.—A handsome spike of large and shapely flowers. The bright chocolate sepals and petals are faintly tipped with very pale blush, while the lip is distinctly banded with milk white. A gold crest brightens the flowers. First-class certificate. Shewn by Messrs. J. and A. McBean.

FORTHCOMING EVENTS.

July 9.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardeners' Society's Meeting.

July 10.—Royal Horticultural Society's Fortnightly Meeting.—National Rose Society's Provincial Show at Saltaire (two days).—Jersey Gardeners' Society's Meeting.—Wolverhampton Floral Fête (three days).

July 11.—Ipswich and East of England Horticultural Society's Show.—National Sweet Pea Society's Show at Bath.—East Anglian Horticultural Society's Meeting.—Richmond (Surrey) Horticultural Society's Show.

CLOVER AS A LAWN PLANT

THAT white wild Clover has a remarkable faculty for withstanding drought, even on the poorest, driest and most sun-beaten of gravelly and sandy soils, is well known. That being so, one wonders why it is not more often used along with grass in the making or upkeep of such lawns as are liable to burn to a tawny brown before the summer is half over.

It may be urged that Clover does not wear as well as grass, that it is liable to cause slipping on tennis courts and to upset the precision of the putter on the links. Then the fact that Clover is a different tone of green to that of most lawn grasses has also been raised as an objection to its inclusion in grass seed mixtures.

But even if one were to admit all this, there are still places where the use of wild white Clover as a sward plant would prove of such inestimable value that its virtues would easily overwhelm any objectionable features which it may be alleged to possess. Indeed, as one who has a good deal of experience with lawns which burn quickly (*i.e.*, ordinary garden lawns), I am "all out" for a Clover blend, and that a strong one. As for the patchiness of such lawns, it is a matter of opinion whether a sward that shows what one may call a shadow-pattern of various shades of green, harmoniously united one with another, is not a pleasanter thing to look upon than one wholly of the same unbroken tint. A thousand times rather would I have this, or even an ancient sward consisting of two-thirds of moss, its gentle undulations soft to the tread as a pile carpet, than the crude, uncompromising grassiness of one of these artificial-looking plats which are hardly less barbaric than the bristling miniatures of the same thing one sees in seed-pans at the shows.

The verdure of wild white Clover is of a peculiarly soft and pleasing shade, and personal experience with this "weed" on poor, thin turf fully bears out the contention held by scientific investigation, *viz.*, that the presence of wild white Clover among grasses tends to encourage rather than to obstruct the welfare of the latter. This not only because the Clover is able to manufacture its own supplies of nitrogen, but because it at the same time enriches the soil for companion plants and, by covering the surface with a network of stems and succulent leafage, helps very materially to check that rapid evaporation which is the direct cause of sun-burned grass.

This native Clover, moreover, takes very kindly to the mowing machine. It springs up after the latter much more quickly than the grass wherever the soil is hot and dry, and if the mowing is done without a collecting box—always the wisest way under such conditions—it will be found that the Clover leaves very quickly shrivel and soon disappear from sight.

It is probable, though I have not tested the matter, that Clover may, as suggested, prove unsuitable for tennis lawns and golf greens; but in regard to its wearing qualities my experience is that for the average garden lawn it is every bit as serviceable as grass, and much more so where the latter is apt to burn. In some districts wild white Clover may not present such good verdure as grass during the winter months; but it is during that period that its value to the dry lawn of which we are speaking is of the least account. Even on the most sterile swards the grass will generally pick up with the autumn rain and soon make good any falling-off that may then happen to become evident in the greenness of the Clover. Though wild white Clover (the native species)

may be introduced by seed or plants into any lawn, it is seldom necessary to do this in a locality where the plant already exists. With a little encouragement it will soon appear, and with this object in view all that one need do is to dress the ground with basic slag. Enough of this sprinkled over the grass in February, until the grass is dusty, and again in June—preferably in showery weather—

will be sufficient, but an annual spring application will be found desirable. S. P.

The above article raises an interesting point and we shall be pleased to publish readers' views in our Correspondence columns. It is, of course, the difficulty of persuading Clover thoroughly to carpet a lawn which causes the patchy effect generally deplored.—Ed.]

THE NORTH BORDER

THE border on the north side of a wall or house is a source of serious consideration. Few people realise the opportunities for beautifying this or the number of plants that will not only grow but flourish on the north side. If a climber is required that will thrive, the Morello Cherry is perhaps the best that can be chosen. It is true that the fruit is not suitable for dessert, but for the purpose of the kitchen it forms a very welcome addition from the cook's point of view. This Cherry, in addition to being useful, forms a very beautiful background at certain seasons. *Jasminum nudiflorum* will flourish on a north wall and be pretty in winter and spring.

Along the border itself Ferns will lend a touch of brightness, and there are some of these which thrive on the north and which will remain green for a considerable part of the year.

Fuchsias are always popular both as indoor and outdoor plants, and it is pleasant to know that these will help to beautify the north border,

where if properly tended they will flower very well indeed. There are as well certain of the Iris family that will not only add a touch of decorative colour to the north garden, but because of their height will, if arranged in clusters, form a pretty background for plants of a more dwarfing nature.

Primroses will lend colour early in the year when in any part of the garden it is not too plentiful and so has an especial value, and the Snowdrop will bloom as well here as anywhere. Daffodils may also be safely planted to bloom early in the season, while Ivy, which may be obtained in various qualities and with distinctive markings, will also add to the beauty of the north border, if kept well within bounds.

Another flower which we must not forget is the Japanese Anemone. This may be planted in clusters, but certainly should not be omitted from this garden, while the old-fashioned but nevertheless beautiful Michaelmas Daisy should not be despised.

Foxgloves (*Digitalis*) and Pansies will, in their proper season, lend a touch of gayer decoration to this border; the former likes a shady border, while the modest but favourite Forget-me-not will grow and flower well here.

The flowers and plants mentioned do not comprise all that are suitable for planting on the north, but enough have been given to show that the garden facing in the direction from which least sun is obtainable need by no means be left barren.

Next to the choice of plants for the north garden comes the arrangement of these along the border or in the bed. Naturally, here one is rather more limited than is the case where the border faces any other direction. Perhaps an arrangement of evenly distributed clumps is the best, taking great care that all the flowers which bloom at the different seasons are so arranged that the patches of colour are evenly distributed, with the highest at the back. J. W. M.



THE SHADE-LOVING JAPANESE ANEMONE.

CORRESPONDENCE

FUCHSIA ENFANT PRODIGE.

CAN any reader tell me where I can obtain a plant of *Fuchsia Riccartoni* var. *Enfant Prodigue*? For some reason or another it does not now seem to figure in nurserymen's lists.—B.

[Our correspondent's contention that the plant is difficult to procure is borne out by a scrutiny of a great number of lists.—ED.]

LILIUM TESTACEUM.

ALTHOUGH *testaceum* has long been recognised as a good garden Lily, it cannot be said of it that it has become a general favourite, and its absence from many gardens almost leads one to suppose that it presents some cultural difficulty, or is owing to some misapprehension as to its hardiness. I am sometimes surprised to find in places where other Lilies are represented that this charming sort with its buff or nankeen yellow blooms, enhanced by red anthers, is not to be found. I find it does best when planted out in a south aspect in light, well drained soil, and is a source of pleasure when its flowers appear in July. So grown, the bulbs require no protection in winter and will go for years without needing disturbance. The colour of *testaceum* is somewhat unusual, and should induce those who are interested in Lilies to grow it.—CLAREMONT.

THE NECESSITY FOR STAKING

GLADIOLI.

WHEN putting out Gladioli in spring the mistake is sometimes made of planting the corns too near the surface instead of covering them with 4ins. or 5ins. of soil. As a consequence of this the beating of wind and rain upon the flag-like foliage is liable to uproot them. To prevent this catastrophe it is wise, where shallow planting has been done, to stake them, and I have found nothing answers better than thin bamboo canes. In inserting them it is, of course, understood that they must not be so near the corns as to injure them, and the stems should not be tied tightly.—L. W.

A ROSE WITHOUT A RIVAL!—

HIAWATHA.

IT may appear presumptuous to say of any particular Rose that it is without a rival, or even to claim for it some distinguishing characteristic over others, in these days when there are so many beautiful varieties, but beauty is fleeting and the fairest Rose of the morning has often lost much of its charm by noon! *Hiawatha* (a single sort too!) is different from any other. Of that there is no shadow of doubt, and its very remarkable trait is the longevity of its blossoms. As we know, who grow it, it yields numerous crimson clusters with golden anthers and, when the latter fall, there is revealed a white centre to the petals which rather increases their attraction than otherwise. It is these clusters so lavishly produced which often in a hot season will last three or four weeks before the petals fall, while in a normal season they will continue in beauty longer than this. As a grower of *Hiawatha* from the time of its introduction I know of no other Rose for which one can prefer a similar claim and, certainly, there is no variety that is better adapted for clothing with flowers for the longest possible time an arch or pergola. Its staying power is unique.—W. LINDERS LEA.

[Admitting that *Hiawatha* is a long-lasting variety, we think it must yield pride of place in

this particular to the fresh rose-coloured *Leuchstern*. With the latter variety (also a single Rambler, but not a *Wichuraiana* hybrid) the petals *never* fall. The blossoms eventually simply shrivel up.—ED.]

A NEAT SMALL SHRUB.

VERY easy to cultivate is that trailing alpine shrub, *Veronica Lyallii*, which rarely exceeds a foot in height. It is a native of New Zealand, being found abundantly in the mountainous districts of both the North and South Islands up to



THE NEAT VERONICA LYALLII, WITH PALE MAUVE FLOWERS.

4,500ft. elevation. I have used it as an edging to large beds of Roses and a very desirable plant it is for this purpose, quickly forming a dense thicket of growth, and if permitted to do so, it will spread into a carpet a yard in diameter. A plant of such dimensions is decidedly attractive when decked with myriads of elegant sprays of flowers. This is, too, a worthy plant for the rock garden, in which case it may be given perfect freedom and used on dry, sunny positions, where the profusion of pretty white flowers, each with a ring of pink at their base, is very attractive and lasting. The little branches root wherever they come in contact with the soil, and cuttings placed in warm frames in the autumn strike freely.—E. MARKHAM.

ROSA HUGONIS.

MAY I ask "North Wales" if he can account for the behaviour of the blooms on my bushes of *Rosa Hugonis* this year? There are plenty of them, every branch having a row of blooms on either side of it. Not one, however, has properly expanded. None has got beyond the big bud stage which gives one the expectancy of a mass of fully-out flowers on the morrow. Several to-morrows have come and then they are over without ever having been open. The bushes are very healthy and vigorous. The soil is on the stiff side decidedly, but it was well worked and enriched before any Roses were planted. They are in an oval bed which gets the morning and midday sun, but very little in the afternoon.

In the middle of the bed are three fine plants of *Rosa Moyesii*, tall and bare legged, but with a good show of leaves and buds on their upper storeys. Between the plants of *Hugonis* there are little bushes of *Willmottiae*, but this year they have hardly had a flower on any of them. Could "North Wales" tell me if what is meat for one is poison for the other? The *Willmottiae* are all outwardly the picture of health.—JOSEPH JACOB.

AQUILEGIA ECALCARATA.

"W. I." mentions in his valuable contribution on Columbines (page 316) *Aquilegia ecalcarata*, which tallies with the description of the plant by Edwin Blake Payson in the "North

American Species of *Aquilegia*," No. 19 (Easter, Vol. 226, 1891). Unfortunately, another Columbine had been previously (1889) described under the same name by Maximowicz in the "*Flora Tangutica*." This charming plant of purple colour (according to Farrer, burnt sienna brown) seems to be very rare, as I have been unable to get seed. I think that Maximowicz's plant should have the preference in nomenclature.—EAST MOLEYSEY.

GIANT MIMULUSES.

AS an old admirer of the *Mimulus* I am always looking after the developments in these attractive and showy plants, and have had reason to regret the fact that most of the large-flowered stocks are not too hardy and are liable to succumb in severe winters. A greater study of the hardiest species and varieties might well be made by those who have time and facilities for doing so, as there are many positions where these flowers could be planted with advantage. I am induced to write this note after seeing the magnificent varieties shewn at Chelsea from the Chalk Hill Nurseries, Reading. The flowers shewn were really magnificent, and if the claim made for them of hardiness and perennial character is well proved, then admirers of the *Mimulus* may well look after the Chalk Hill ones. Of different character, but very charming also, are those of Messrs. Bees, Limited, which are smaller in size. Last summer, when sojourning at Wanlockhead, some 1,300ft. above sea-level in the hills of Dumfriesshire,

I came across a fine red *Mimulus* in the garden of Mr. T. Watson, which was quite hardy there and which is doing well with me now. It is evidently one of the varieties owing their origin to *M. cupreus*, but it is quite as good and a more vigorous-growing plant. I trust the Chalk Hill ones may be as satisfactory as this. By the way, it seems essential to some of these "Monkey Musks" that they be divided and replanted occasionally. I have found this to be the case with several, including the hardy *M. Buriatti*, that good hybrid between *M. cupreus* and *M. luteus*.—ESSAY

PRIMULA WINTERI.

IT is a rare treat to see a good number of fine plants of *Primula Winteri* in a Scottish garden. It is represented by a plant or two in a fair number of places, but is not always so successful as its owners would like. The difficulty is to give it a cool spot, moist in summer, but not oversaturated with moisture in winter, and many have lost it from undue exposure to the sun and others from planting it in too dry a compost. It is frequently well satisfied with a crevice of the rockwork if planted in a vertical position. I do not think I have ever seen such a number of good healthy plants which had flowered freely in due time (winter and very early spring) than the group I saw in the garden of Mr. K. McDouall at Logan, Wigtownshire. These were growing in the joints between the blocks of peat which formed the "retaining wall" of the beds in what is called "the peat garden." The soil of the beds is mostly loam and peat but supported by blocks of pure bog-peat about the size of two bricks together. In the joints of these *Primula Winteri* had been inserted and, the peat retaining the moisture well, the *Primula* seemed to enjoy its position and other conditions. The plants were pictures of health and were splendid with their handsome leaves so finely powdered with the meal which is such a marked feature of this species. Even were it never to yield us its lovely fringed, lobed flowers of a glorious lavender-lilac it would be prized by all who can grow it successfully.—S. ARNOTT.

LILIUM PHILIPPINENSE.

NOW and again one learns of unexpected successes in certain parts of the country with plants only considered tender or half-hardy, but which, if planted in special districts in suitable soil, prove hardy and afford every satisfaction. Of such is *Lilium philippinense*. Few would expect that a Lily from the Philippine Islands would be hardy in any part of Scotland, but it has now been amply proved that it will flourish and flower in some Wigtownshire gardens, to the great satisfaction of their owners. I came across plants of it in the middle of May in the Wigtownshire gardens of Sir Herbert Maxwell of Monreith and Mr. Kenneth McDouall of Logan. They were not in flower, but were so vigorous and had flowered so well before that it is apparent that this lovely Lily is hardy there. It is a great beauty with its narrow, grassy-looking leaves and its long trumpet of snowy whiteness borne semi-erect on a slender dwarf stem. Like others of the Euhria section, it is of remarkable beauty. It is generally cultivated in pots, and those who live in all but the milder parts of the country are recommended to continue this practice, but dwellers by the sea in the warmer regions of the three kingdoms may well test *Lilium philippinense* with every prospect of high pleasure derived from the loveliness of this trumpet Lily.—NORTHERNER.

There is, of course, an alpine form of this plant hailing from Formosa (*L. philippinense formosanum*

Prie's Variety; which is much harder than the type and which certainly stands outdoors in favoured localities.—[E.N.]

FASCINATION IN IRIS.

I ENCLOSE these two photographs showing a flower of *Iris Lady Lilford* (*Pogoniris* × *Oncoeyclus*) with very complete fasciation. Each flower was complete, except in the stem; but the



THE FASCIATED FLOWER.



ANOTHER VIEW.

two flowers spread their petals in a circle as one flower, making six standards and six falls. I thought they might be of interest and perhaps worth publishing in *THE GARDEN*.—H. STEWART WACHER.

IRISES IN A NORWICH GARDEN.

THE writer thinks that if in any garden on the extreme east side of England this flower is well done, that garden is The Grove, Old Catton, Norwich. When the late Dr. Cecil Osburne was there he laid a good foundation by procuring the best obtainable, and by adding year by year and by division had an area of fully a quarter of an acre devoted to this flower. Miss McLintock is following on with the same enthusiasm.

It was my good fortune to see them in all their glory on a mid-June day. The health and vigour of the plants and the brilliance and intensity of the colours in the flowers left nothing further to

be desired. Abazar, Dominion, Lord of June and Asia struck me at once by the enormous size of their flowers. Miss McLintock said there was nothing to approach them at Chelsea Show for size. One would like to tell of the other gems of the collection, but it would only be reiterating the best kinds of the day of which mention has appeared from time to time in your columns. When I came away I wondered if the old doctor's drastic treatment of basic slag and lime, of which he wrote in *THE GARDEN* so much, was responsible for such healthy, vigorous growth.—AYTCH PEA.

NATIONAL HARDY PLANT SOCIETY.

I SHOULD like to suggest to the Executive of the above society that a reduced charge for membership might be made to *bona-fide* members of affiliated societies. I am very glad to see that this society is again to the fore.—COUNTRYMAN.

TOMATOES

The Treatment of Backward Plants.

SO far this year it has not been a difficult matter to grow fine specimens under glass where artificial heat was available early in the season. As, however, so many amateur cultivators wish to grow their main and late crops without the aid of fire-heat, they will, perhaps, meet with trouble later on, unless the weather, late in summer and early in the autumn, becomes exceptionally warm. I do not propose to deal with Tomato diseases in this note, but simply to refer to a few points that will prove helpful to beginners. The batches of plants are now all planted out, and from personal experience I know that those possessing small houses are tempted to grow too many plants in them. Where the plants are only 1ft. or so apart I would not hesitate to pull out every alternate one forthwith, that is, young, newly planted specimens. Those retained will then have a chance and prove more remunerative. Usually when overcrowding occurs the leaves are ruthlessly cut off or mutilated. Every main leaf should be retained as long as possible and kept healthy by surface mulchings with wood ashes and charred soil, or the application of nitrate of potash, not soda. Also one or two dressings of superphosphate or lime will prove beneficial not only to the plants but to the fruits, the latter colouring much better and being free from those patches of hard green skin which are so unsightly.

Those cultivators who are unable to obtain wood ashes and superphosphate of lime may use with good effect lumpy fibrous loam which has been well saturated with farmyard liquid manure and apply it as a surface mulch 2ins. thick. Fresh soil is beneficial every year, but in some instances it is impossible to obtain it. A friend living in a town used one year turfy peat from a neighbouring common. The following year he could not obtain new turf, so thoroughly soaked his old in liquid manure, placed it on the stage gins, deep and eventually gathered 12lb. of Tomatoes from each plant, the latter growing to a height of 8ft. Clear water and a small quantity of nitrate of potash were applied. I saw the crops and the photographs of them. Under glass every plant should be topped the last week in August just above the last-formed truss of flowers, then the cultivator may reasonably expect to gather a full harvest. If this is not done a great deal of really useless haulm is grown every autumn. A free circulation of air and a buoyant atmosphere are two essentials in the successful cultivation of Tomatoes late in the season. G. G.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Dwarf Beans.—A small sowing of these may be made, but it should be understood that they may be destroyed by frosts just at the time when they begin to be productive. Nevertheless, as a chance crop, it is worth the risk.

Broad Beans.—The tops are often infested with black fly, so it is advisable to remove them when several trusses of flowers are seen, because this aphid only feeds on the young leaves. A dusting of tobacco powder or a weak solution of insecticide will destroy the pest.

Broccoli.—Continue to plant out Broccoli and Winter Greens until the requisite number are planted and, if the weather proves dry, a liberal watering will be necessary. Use the hoe freely among the earlier crops and fill up any gaps in the rows.

Vegetable Marrows.—These are growing freely and when the roots need it a thorough soaking of water should be given, and weak liquid manure afforded at intervals of a week will prove beneficial. If this is not available, a light sprinkling of artificial manure may be given, especially during showery weather. Weak and worthless shoots should be removed and other growths pinched occasionally to encourage the early formation of the fruits.

Carrots.—During the present month a sowing of a stump-rooted variety may be made with the object of securing young roots for the kitchen in the autumn. When the seedlings are sufficiently advanced thin them slightly and keep the ground free from weeds.

Onions.—In many gardens this is an important crop, and it behoves the grower to give every encouragement to the plants by frequently hoeing the soil and affording an occasional sprinkling of old soot between the lines. Weak liquid manure will help them, and a suitable substitute will be found in a reliable artificial manure if used in moderation during showery weather, or it may be watered in.

The Flower Garden.

Flower-Beds.—Plants that were put out in May are now well established, although growth is not so far advanced as last year, while annuals sown in the open have failed in several cases. The beds will need the hoe occasionally, while all weeds and decayed foliage should be removed. Such plants as Ivy-leaved Pelargoniums, Phlox Drummondii and Verbenas may need pegging down to the soil. The grass between the beds should be mown frequently, the edges clipped and all gravel walks kept free from weeds so that the whole presents a clear and smart appearance.

Campanulas.—The perennial varieties are almost indispensable for the borders and rock garden, and as they are readily raised from seeds, now is a good time to sow in pans of light soil. Give a thorough watering before sowing, and after this operation has been completed place the pans in a cold frame and see that the soil never becomes dry. Until germination is effected the lights may be covered with a piece of canvas or mats. This will maintain a uniform moisture, and the seedlings will appear more regularly. When the young plants are large enough to handle, prick them off in boxes or cold frames containing a few inches of light open soil, and here they may remain until next spring, when they should be transferred to their flowering quarters.

Mimulus.—These are favourites of mine, and last July I scattered some seeds on the ground, where they germinated freely. They stood the winter, and quite early this spring they began to flower, while a few weeks later the display was very fine. The Giant forms are most effective and produce enormous flowers of various shades and markings.

Tulips.—The May-flowering section which were lifted from the beds in May should now be taken from their temporary quarters and stored in a dry shed until the autumn. Clean the bulbs of all loose material, and the small bulbs may be picked out with a view to planting them in the reserve garden, where they will attain flowering size.

The Hardy Fruit Garden.

Apples and Pears.—So far as I can see, the crop is a poor one in this neighbourhood, but a few isolated trees are bearing a number of fruits. Where the crops are heavy, thinning of the fruits should be resorted to, for it is a great mistake to overcrop, especially young trees. First remove all deformed specimens and those not fully exposed

to the sun, but see that the crop is distributed equally over the tree. If fruit is required for exhibition, the thinning should be more severe and suitable varieties selected for the purpose.

Cherries.—Early varieties will be ripening their fruits, and as soon as these are gathered the trees should be given a thorough cleansing with a solution of some reliable insecticide. Examine the growths and see that the far twigs have not been tied too tight, or the bark will be cut and the shoot injured. Continue to tie in the growths of Morello Cherries.

Fruit Under Glass.

Vines.—The rods from which the bunches have been cut should not be neglected, and it is recommended that the foliage be syringed twice each day whenever the weather is hot. The borders, especially those inside the house, should be kept moist, and when the necessity arises for applying water it should be done thoroughly so that the lowest roots receive their share. Open the ventilators to their fullest extent and allow the lateral growth to develop, but overcrowding should be prevented. When the growths have ripened and the foliage falls, no more water or syringing will be needed until the rods are cleaned and started next season. Later Vines will be ripening their fruit, and here a little ventilation should be allowed throughout the night. All split and decayed berries should be removed immediately they are seen, or the bunch will soon be ruined.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Jerusalem Artichokes.—Run the Dutch hoe through the lines and, a few days later, earth up the plants with the draw hoe and, if the soil is not fairly loose, slacken it with a fork prior to earthing up.

Globe Artichokes.—Endeavour to have the "heads" used as soon as they are fit, as they lose their tenderness and succulence before they quite attain full size. Any that cannot be utilised should be cut as soon as they get out of season, for if left to develop they make a heavy drain on the plants.

Spring Cabbage.—It seems like looking a long time ahead, but in the North, if one expects to cut Cabbage in April, the seed should be sown by the middle of July. There is a considerable variety to choose from, but the following can be thoroughly recommended and pretty much in the order in which they are here given: Harbinger, Sutton's April, Ellam's Early and McEwan's Vanack.

Vegetables Under Glass.

Tomatoes.—One sometimes sees plants that are ripening off their fruits almost entirely denuded of their foliage. This is bad policy, as plants so maltreated produce tough-skinned fruits with a lack of succulence. No bad results will, however, follow the removal of an occasional leaf or portion of a leaf where such overlap and may, consequently, encourage the spread of fungoid disease. Later crops should be attended to in the way of removing laterals, top-dressing and giving occasional doses of weak liquid manure.

Cucumbers.—Plants under glass that are becoming exhausted should be cleared away and a second crop planted in their stead. If plants have not been prepared in anticipation of this, cuttings can be readily rooted if kept close and shaded. Those who have plants in frames can generally get rooted shoots quite readily, or if necessary they can be quickly rooted by layering. If the supply of Cucumbers is in excess of the demand for current use, the fruits should be cut when still quite small, and will be useful for pickling purposes.

The Hardy Fruit Garden.

Training Young Trees.—Give attention to the training of young trees, whether on walls or trellis, the building up of a healthy well balanced specimen being more important than the securing of a certain amount of fruit at the present stage. Any badly placed intractable shoots should be removed.

The Pleasure Grounds.

Flowering Shrubs.—Remove in due course the spent flowers of such plants as Rhododendrons, Lilacs and Spiræa arifolia and Anthony Waterers. The same attention should also be given to such herbaceous plants as the following, whether in

the shrubbery, the wild garden or on the edge of lawns: Spiræa Arneus, Senecio cordifolia and tanguticus and Cranberry cordifolia. Should a spell of drought occur, the following moisture-loving plants should not be allowed to suffer for lack of water: Gunneras, Rodgersias and Saxifraga peltata.

Lawns.—Mow all lawns weekly, while tennis lawns, bowling greens and such-like should be mown twice a week. These playing lawns must also be frequently rolled, preferably when they are in a moderately moist condition. Clip edges fortnightly, and keep walks and drives free from weeds.

The Flower Garden.

Flag Irises.—As these pass out of bloom cut away the spent flowers. Break up and transplant any scarce variety that it is desired to increase. Do not bury the fleshy rhizomes, as the floriferousness of these plants largely depends upon the thorough ripening of these rootstocks.

Dahlias are very subject to attacks by earwigs. The common custom of trapping them by means of an inverted flower-pot placed with a little moss in it on the top of the stake, while quite efficacious, is rather inartistic. Pieces of crumpled brown paper or sections of beanstalks placed in an obscure position among the foliage are quite as efficacious and do not offend the eye. Tie and thin the shoots as growth proceeds.

East Lothian Stocks.—These attractive flowers are often sown too early in the season; if sown now, they will have every chance of passing safely through the winter except in the colder districts and on badly drained soils, in which cases summer sowing need hardly be attempted.

Biennials.—As the earlier crops in the kitchen garden are used up, the vacant ground should be forked over and utilised for the reception of Wallflowers and such-like plants. Put the plants in nursery lines about 9 ins. apart, allowing 6 ins. between the plants in the line. By this means the plants will become bushy and strong by the time they are to be transferred to their flowering quarters in the autumn. It is good policy to plant some portion of the stock of Wallflowers a little wider apart, to be left in position all winter to furnish cut flower in the spring so that those in the flower garden may be left intact. Sweet Rockets should be transplanted direct from the seed-bed to their flowering quarters.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Azaleas of the indica section, as they complete their growth, should be stood outdoors in an open position. Large plants should be partly plunged to prevent them blowing over. Other hard-wooded plants as they complete their growth should also be stood outdoors, all large plants being securely staked and secured against stormy weather. They include most of the hard-wooded Australian, South African and New Zealand plants, and most of them benefit by having their flowering wood hardened and ripened before winter.

Humea elegans.—This is very useful for the conservatory, and seed should be sown some time during this month and again next month, according to the requirements of the establishment. Humea elegans is generally regarded as being somewhat difficult to grow successfully, and this is undoubtedly true as regards the final stages of growth, but in its earlier stages there is no difficulty, especially if it is grown perfectly cool and watering is carefully done at all times.

Stocks.—If these plants are required in flower early in the year, seed should now be sown. Stand the pots in a cold frame until the seeds germinate. The seed should be sown very thinly, as the young plants are very apt to damp off if at all crowded. When large enough to handle the seedlings should be potted off singly into small pots, using for the potting compost a good loam with or without the addition of a little leaf-soil. Instead of sand some old lime rubble should be used, as lime in some form is very essential for the successful cultivation of Stocks. Good plants can be flowered in 5 in. or 6 in. pots and grown throughout in cold frames, except during the winter, when it is an advantage if they are placed in a cool, airy pit or greenhouse. The intermediate Stocks are best for pot work, also a good selection of the Beauty of Nice varieties. Seed should be procured from a good source, as good strains are very important.

Canterbury Bells are very useful for the decoration of the conservatory. Seed should be sown thinly in boxes and germinated in cold frames, afterwards transferring the young plants to the reserve garden in a piece of well manured ground. From there they should be lifted during autumn and placed in suitable-sized pots according to the size of the plants. Well grown plants will require six, or ten, pots, but if space is a consideration during winter they may be placed in smaller pots, giving them a shift into larger ones during the spring.

Double Wallflowers of the so-called German varieties are very useful for pot work, and seed should now be sown and the young plants grown on in the same way as Canterbury Bells.

Campanula persicifolia and its varieties are all excellent for growing in pots, and entail very little trouble. They should be lined out in the nursery garden during spring, or even at this time, where they should make good strong clumps for potting up during autumn. During the winter they may be stood at the bottom of a wall, protecting the pots with ashes or such-like material to safeguard the pot from frost. The fine variety *Telham Beauty* makes a splendid pot plant and flowers over a long period. This is really *Campanula persicifolia* var. *maxima*, which is quite an old garden plant. If this plant is grouped with *Nicotiana suaveolens* in the conservatory, it makes a very charming picture. For this purpose the *Nicotiana* should be sown early in the New Year.

Nicotiana suaveolens.—If seed of this dainty white-flowered Tobacco plant is sown at this time, the subsequent plants will flower during the autumn. Seed of this plant is listed by Messrs. Sutton and Sons as *Miniature White*.

Nicotiana Sanderae is an excellent plant for the conservatory. If seed is sown at this time, very bright and useful plants will be had for the autumn months. They should be grown in cold frames in their younger stages, removing them to a cool, airy greenhouse as they require more head room.

Pelargoniums of the Show and Regal types are not now so commonly grown as they used to be; still, they are very useful for the conservatory. As they pass out of flower they should be stood in cold frames or at the bottom of a wall in a sunny position, where they may remain until they are cut back during August. At that period the plants required for growing on should be given the shelter of a cold frame, any shoots removed being used as cuttings for increasing the stock. J. COULTIS.

Royal Botanic Gardens, Kew.

GENERAL BULBGROWERS' SOCIETY OF HAARLEM (HOLLAND).

THE various Floral Committees of the above Society have made the following awards:

FIRST CLASS CERTIFICATES.—Breeder Tulip Red Monarch (Breeder Tulip Panorama & Feu Ardent), deep scarlet with orange glow, centre yellow. Cottage Tulip Mongolia, dark creamy yellow (seedling); Dutch Iris ten Cate, self-coloured dark yellow; Iris filifolia (*Niphium præcox*) The First, light blue standards, falls very soft blue, very early.

AWARDS OF MERIT.—Double Early Tulip l'Aurore, soft carmine; Darwin Tulip Turner, pink, white bordered; Cottage Tulip Jeanne Désor, golden yellow with orange-red stripes; Aster alpinus Dunkle Schöne, bright violet large-flowered double; Aster subcæruleus Venus, light violet, centre orange, large flowered and long stemmed; Armeria cephalotes Miss Max, a very soft violet rose (seedlings); Iris filifolia (*Niphium præcox*) D. Haring, standards very soft grey blue, falls creamy white with yellow blotch (seedlings); Iris nitolia (*Niphium præcox*) P. de Moulm, standards dark indigo blue, very long, falls blue with clear yellow blotch (seedlings); Dutch Iris Hoogstraten, self-coloured light blue, yellow blotch; Dutch Iris van Sevel, standards grey blue, falls white with big yellow blotch; Iris pallida Riese von Cönnern, bright sky blue, very big flowers on long stems; Iris squalens Ambassadeur, standard bronze, violet shaded,

falls purple-violet; Isotolion Ledebouri, dark blue, early; Lilium unbellatum splendens, vermilion with orange (seedlings); Pæonia Whitmaniana rosea, soft pink (seedlings); Pyrethrum hybrid. Eileen May Robinson, soft pink, large-flowered single.

New Gardens for Ramsgate.—In the presence of nearly 2,000 spectators Dame Janet Stancomb-Wills, D.B.E., on Friday, June 15, handed over to the town of Ramsgate the Winterstoke Gardens, the "beauty spot" created at her own expense on the East Cliff. The Mayor of Ramsgate, Sir John Burnet, A.R.A., R.S.A. of London (who designed the gardens), and the members of the Town Council were present. Sir John Burnet, on being asked to give a description of the work carried out in forming the gardens, said that they formed the first portion of a comprehensive scheme prepared by him for the improvement of the Ramsgate front. The main feature of the new garden was a semicircular-shaped colonnade placed in a recess some 20ft. deep, cut out of the chalk cliff. Access to this recess was given by a pathway sliced off the face of the cliff leading down from the level in each direction to the centre. The face of the chalk cliff along the side of these approach paths and in the recess itself has been "rockified," the rock clothed with such shrubs and plants as will stand the severe conditions prevailing at Ramsgate. The secluded position of this colonnade would enable those sitting there to enjoy the sea air and at the same time be protected from the sun and east wind. On the upper terrace, approached from the lowest level by two broad flights of steps, are the gardens proper, in the centre of which, and immediately over the shelter, is a circular pool enclosed on the north side by a semicircular Roman seat, from which there is a magnificent view of the sea. This seat is backed by a hedge of golden Euonymus. At one end of the site is a formal seat and pool, in colour to match Portland stone, and at the other a more informal pool backed with rock. At the north end is a "rest garden" sheltered from the north winds, the breadth of turf and surrounding planting giving it a most restful appearance. On this higher level are ample lawns, paths and seats. A charming feature is a series of geometric flowerbeds cut out of the turf, each bed being massed with low-growing plants. The colonnade, Roman seat, pools and other formal features are formed of reinforced artificial stone. Messrs. Pulham and Son of 71, Newman Street, London, W., have carried out the whole of the work, including the laying of the lawns and planting of trees and shrubs, which are all selected to suit the soil and climate and to stand the rigorous conditions prevailing at Ramsgate. The bulk of the shrubs and trees had to be planted while small, and as many of them are by nature slow growing, it will necessarily be some time before the full effect of this generous gift of Dame Janet is realised. Dame Janet Stancomb-Wills, in handing the gardens over to the Mayor, on behalf of the town of Ramsgate, said that the laying out of the ground had given her the greatest possible pleasure for two special reasons. The first was the joy of turning what was once a wilderness into a thing of beauty, the second being that in carrying out the work a large amount of previously unemployed local labour was found employment for the twenty-one months the work had been in hand.

Aldenharn House Gardens.—The Hon. Vicar of Gibbs has again kindly consented to the opening to the public of the gardens of Aldenharn House on the Saturdays of July, August and September, and the August Bank Holiday Monday, on the

same conditions as in previous years, viz., that children must be accompanied by a grown-up person and that dogs will not be permitted. These facilities will not be available on Saturday, July 7, as this is the date of the annual floral fête of the Elstree and District Horticultural Society at Aldenharn Park, when admission is only possible on payment of the Society's entrance fees.

A Large Shipment.—Messrs. Sutton and Sons of Reading have recently despatched a large consignment of agricultural seeds to their New Zealand agents, Messrs. J. G. Ward and Co., Limited. These seeds, together with the packages, which included twenty-five galvanised iron tanks, had an aggregate weight of 36 tons, and eleven railway wagons were required to convey them to the docks.

An Alpine Violet.—Not many growers of rock plants cultivate the attractive little *Viola bosniaca*, but it is worth remembering by those who have a penchant for the Violet species. It is small in size, it is true, but that is no disqualification for a rock plant, and its colour is a good warm pink. It is often put down in works of reference as flowering in July and August, but it anticipates that time by a long way and is in blossom in May. It seems to be a good perennial and may be increased by seeds or cuttings.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SHRUBBY ROSES FOR THE CUMBERLAND COAST (M. H. S.-N.).—As the common *Rosa rugosa* does so well with our correspondent, a number at least of the bushes planted should be *Rugosa* Hybrids, which flower from June to September. Some of the best are *Blanche Double de Coubert*, semi-double, white; *Mme. C. F. Worth*, double, reddish carmine; *Mme. Georges Bruant*, semi-double, white; *Mrs. Anthony Waterer*, crimson, semi-double; *Conrad F. Meyer*, silvery rose; *Nova Zembla*, white; *Flambriata*, bluish. These are all pleasingly fragrant. The Scotch *Roses*, *Rosa spinosissima* varieties, should thrive in such positions, also *Rosa Hugonis* and *R. Willmottiae*, but these only flower in June and early July. *Fellenburg*, rosy red; *Grüss an Tepitz*, crimson; *Rosa alba*, white blossoms and attractive fruits in autumn, should also suit the position. Many of the newer single and semi-double Hybrid Tea *Roses* are perpetual flowering, but they are unsuitable for semi-wild planting.

CARNATIONS AND DELPHINIUMS ATTACKED ("Bell," Belfast).—The pest present is the springtail in large numbers. It is generally most abundant in soils containing very large quantities of vegetable matter. Reduction of this and good drainage are aids to its extermination and hot water the best way of killing it.

ROSE OF SHARON (J. B., Reading).—Rose of Sharon is the English name for a handsome and exceedingly hardy member of the St. John's Wort family with golden yellow, saucer-shaped blossoms 2ins. to 3ins. across. It will grow and flourish under the shade of trees and is practically evergreen. It reaches a height of a foot or so, and its botanical name is *Hypericum calycinum*. It would certainly not revive after being dried for a year or more, but perhaps this peculiarity was legendary. The plant is obtainable from any nurseryman and is very moderate in price.

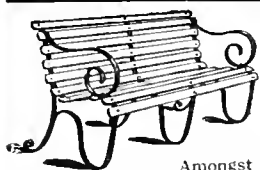
KITCHEN GARDEN.

ONIONS ATTACKED (E. B.).—The Onions are attacked by the disease known as white rot, due to the fungus *Sclerotium ceporum*. There is no cure for plants once attacked, and they should be destroyed so as to avoid, so far as possible, infection of another crop. The ground should be limed this autumn.

MISCELLANEOUS.

TESTING SEEDS (G. W. G.).—It is not possible to tell by microscopic examination and with absolute certainty whether a seed is alive or not. An electrical method was reported at one time, and it might be well to consult such works as those of Pfeffer, Jost, Bosc and other physiological writers, where references to special papers will be found. A useful list is given in Vilmorin's book on the vegetable garden.

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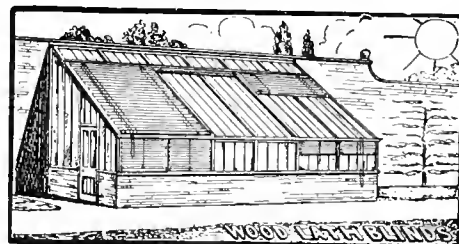
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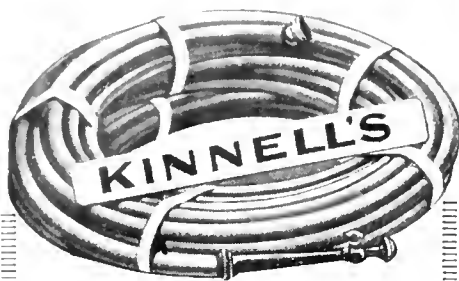
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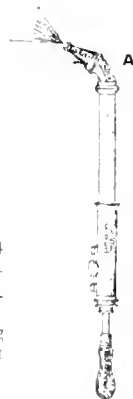
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R. WALLACE & CO., Ltd.,
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No. 2695.—VOL. LXXXVII.]

[JULY 14, 1923.]

THE USE and ARRANGEMENT of BEARDED IRISES

THE choice of position in the garden for Bearded Irises is a matter that depends to a very great extent on the garden. It would be absurd to attempt to devote a portion of a small or even a moderate-sized garden to Irises exclusively. It is also unnecessary. Where space permits it is a very excellent arrangement for many reasons, but it must be remembered that, wonderful as is the range of colour and diversity of form, the flowering period is restricted to certain months in the year, and that when out of flower they are no more attractive than many other plants that are just as indispensable.

In gardens where space is limited there are two positions in which they can be used successfully. One is in the vacant spaces that always occur in the front of shrubbery plantings. Bold masses planted in such positions are always attractive during the flowering period, and even when there are no flowers the sword-like green or grey foliage adds a useful note to the shrubbery. Used in association with flowering shrubs they are wonderfully effective. Think, for instance, of the effect of *Viburnum tomentosum*, a snowy mound of white flowers associated with groups of the taller Bearded Irises. But whether the shrubs are evergreen or deciduous flowering, the introduction of Irises among them will always produce some wonderful effects.

The colours of the Irises have to be rightly chosen, and either contrast or harmony can be achieved. There are, for instance, some evergreen shrubs with cool grey foliage at Iris-time. With these as a background it is impossible to go wrong. The violet and blue shades of the Irises will melt softly into the tone of the shrubs, or the warmer-coloured forms light up to more vivid splendour

by virtue of the contrast with the coldness of the shrubs' tones. Wistarias grown as bush specimens also associate well with Irises.

Some gardens are too small to have room even for a shrubbery that offers much opportunity for this sort of treatment, but few are so small that they cannot afford space for them in the herbaceous border. Nor is there anywhere in the garden more suitable for them, and startlingly beautiful effects can be obtained by associating them with other perennial plants in this way. A May or June border in which are planted groups of Irises in positions in which they borrow from some plants or lend to others some charm of combination is by far the happiest result that can be achieved throughout the garden year. Years ago it was discovered that one of the best plant combinations was Lupins and Irises. Since then both plants have progressed enormously in the colour range offered to the gardener. For some time it has been truthfully asserted that there is no other genus that has the colour wealth of the modern Bearded Iris, and now hybridists offer us Lupins of innumerable intermediate shades ranging from

pure white to black purple and maroon, through every shade of pink, blue, violet, cream, buff, orange and even crimson. Here, then, is a wealth of colour large enough to meet the most exhaustive demands that may be made on it, and the garden-lover who cannot have his or her heart's desire in colour combination with them, lacks the knowledge to choose the right material.

It is all very well for some very good gardeners, both amateur and professional, to scoff as they do at what they call "colour fads in the garden." True, sometimes this colour arrangement is carried to extremes, and where harmony is aimed at monotony is often achieved. I have heard it argued that Nature never groups her colours. Nor does she. Nature makes no attempt to harmonise the music of the woodland, such as the warbling of birds and the sound of falling water. But in music the sounds are arranged, and in good painting the crude colour is rejected and softened to fine harmony. All sound and all colour is of Nature, and it is only its selection and arrangement that makes art. The very essence of good gardening is that it selects, civilises and arranges, and the

garden is just as much the domain for artistic endeavour as is the music room or studio.

So in planting the Bearded Irises, if by care in colour association the true value of the plants can be emphasised, the delicacy of tone of some brought out, the vivid richness of others strengthened, this is assuredly desirable.

In the herbaceous border every group of Irises should form a selected picture. The potential variety of colour grouping is so great that it is impossible to particularise in the present article, and in any case the selections for colour grouping must be left to individual desire. A group of dark purple Lupins will suggest to some a splash of the



EARLY JUNE—A FEAST OF BEARDED IRISES.



BEARDED IRISES BY THE PATHSIDE,



IN SEMI-NATURAL GROUPING



AND LINING A PERGOLA.

brightest golden yellow Irises, to others a grouping of the amber, bronze and copper tones. A group of pale yellow *Lupinus* will likewise produce in some a desire for the combination of rose shades of Irises, in others the richest of violets. The lightest, bluest violets of the Irises are not good when planted in association with the bluest of the *Lupinus*.

Some other excellent plants for association with June flowering Irises are the *Ligerones*—*Quakeress*, *B. Ladham's*, *Asa Grey* and others. *Nepeta Mussini* (*Catmint*) is another plant that is very useful for this purpose. Some of the *Aquilegias* also planted in masses around groups of Irises are capable of producing some enchanting results and *Pyrethrums* in bold masses grouped near Irises, the colours of both being carefully chosen, will give rich results. Grey foliage, especially the young tender grey green of *Artemisias* and *Achilleas*, with pale violet or mauve-tinted Irises give wonderfully soft and pleasing effects. One of the most striking effects I have seen lately was a large mass of *Cheiranthus Allioni* from which rose the rich purple of a late May or early June flowering Iris. Royal purple and gold this!

These are a few of the plants that can be associated with the Iris in the herbaceous border, but next them should always be grouped plants that flower at an earlier or later period, so that the continuity of the colour effect throughout the border is maintained.

In the larger garden, wherever it is possible, the finest results of all are obtained by devoting a portion to the cultivation of Irises primarily, just as one does for *Roses*. Gently undulating land, grassy paths winding between banks of the glowing tufts and exquisite forms of the modern Irises, offer a realm of endeavour well worthy of the most enthusiastic exploration. Informality in arrangement is preferable and colour grouping desirable, and this is easy now that most catalogues divide the Irises up into colour groups and state height and time of flowering.

One word of warning. There is a tendency to plant all sorts of things in grass. "Naturalising" it is called, and some very charming effects are obtained in this way when the right material is used. Do not, however, do it with the Bearded Irises. It is not naturalising them but murdering them. They will not stand it, and if they are to succeed the grass must be kept clear of their roots. So long as the grass of the path is kept even a few inches away they are happy. Another warning is, do not plant them in dense shade and expect them to do more than grow foliage luxuriantly for a time. To flower they must have sunshine, and the more they get the better they like it.

The use of Irises to border a pathside or to line a pergola seems to be extending. For this purpose varieties should be selected with good foliage, so that the best possible effect may be produced when the plants are out of flower—some fifteen-sixteenths of the year if a mass of colour is sought for at one time and seven-eighths of the year, anyhow! The pergola idea—so that the pergola be not too shady—is an especially good one because it is easy to arrange a sufficiency of colour on the pillars for the greater part of the summer and autumn, while an edging of *Nepeta* might, of course, be arranged to the Irises, but this excellent plant is in many gardens being overdone. It is truly an admirable foil for many brilliantly coloured flowers, particularly *Roses*, but one can have too much of a good thing, and one certainly does tire of *Nepeta* everywhere. *Madonna Lilies* and *Delphiniums* alongside a pergola are effective, but I notice there is no copyright in the idea. Perhaps Bearded Irises would make a pleasant change!

TRAVELLER.

A SELECTION OF THE BEST JUNE-FLOWERING IRISES

OF late years the tall Bearded Iris has become a very aristocratic representative of the flower garden. He has moved, as it were, from the region of Bloomsbury and its purlieus to the more dignified environment of Mayfair, as befits his more exalted circumstances. In the Bloomsbury days the speculative builder could afford to mass Iris roots among the other riff-raff of the local plant seller in the oblong space surrounding his very speculative building; to-day, the real florist enthusiast hesitates about the cost of starting a collection of the newer good Irises. That is the result of having one's being in Mayfair!

But all good things cost money, and the value, interest and pleasure obtained from a dozen well selected varieties of modern Irises, even if they cost a couple of guineas or more, make this outlay a highly satisfying investment. All the varieties valuable from a garden point of view are not necessarily expensive, but it is only natural that many of the very finest are highly priced. Were it not so one could accept the theory that the flower was not being improved as it ought to be.

In America there is a very energetic body of flower-lovers called the American Iris Society, and among their many beneficent activities they have evolved an Iris symposium. This symposium has nothing to do with rounds of bacchanalia, but rather the bringing together of a host of votes on the relative merits of every known variety of Iris. These votes were recorded on a scale of 10, but bearing in mind that progress towards perfection was still going on, the apex value of 10 was not allowed to be used for present-day varieties, and in actual fact only one variety reaches the elevation of 9.6. It stands to reason that, where a number of Iris experts have deliberately weighed up and recorded their opinion of every Iris known to them and the average value of all votes brought down to a decimal point by the recording committee, the results can be taken as a fairly dependable guide for the Iris purchaser who is not an expert. In briefly describing a few of the finer Irises of to-day I have given the symposium value in parentheses after each name, thus—*Crusader* (8.7), and if the list is to be of any economic value to the reader I have thought it only fair to quote the generally ruling price of the varieties also.

Standing at the top of the symposium list is *LENT A. WILLIAMSON* with a rating of 9.6 and a market value of 25s. to 30s. per plant—an expensive luxury. While I should probably not place this new variety quite at the top of the poll, there is no gainsaying its position as a flower of striking merit, of which the glory lies perhaps more in the refinement and majesty of its build than in its colouring, though that is dignified and pleasing. The smooth, broad falls are velvety pansy violet and the standards lavender.

PALLIDA PALMATICA var. *PRINCESS BLAIRICE* (9.5), 2s., comes next on the list, and is generally considered as fine as any of the so-called light blue Irises. It is a cool silvery lavender self of robust habit with broad, glaucous leaves, its only fault being that if poorly or carelessly grown the colour is not constant, becoming stringy or streaked. A very fine Iris! *Ambassadeur*, *Ballerine* and

light violet-blue, well rounded and elegantly waved at the margins; falls similar in tone, but slightly deeper in the shading. The sweet scent of this variety is an additional charm to a very desirable plant, and it can be procured for 7s. 6d.

DOMINION is surely the most talked-of Iris in existence. In spite of the massive size of its leaves it is somewhat slow-growing, which, coupled of course with its fair reputation and high quality, accounts for its artificial price of three or four guineas. Magnificent as *Dominion* doubtless is, those who have seen some of Mr. Bliss's newer seedlings of similar type recognise that its rating is too high to stand for the future. While the same argument may apply to all Irises in a sense, it is more acutely applicable to *Dominion* because of its being the forerunner of a new and distinct race of seedlings, some of which will, doubtless, eclipse the parent in quality. The standards are light violet-blue and the giant falls rich velvet purple-blue. The texture of the flower is little short of wonderful.

SOUVENIR DE MME. GAUDICHAU (9.3), 15s., is, at its best, my favourite Iris, and (again at its best) I should be inclined to give it a rating of 9.5. Last year, after the fine ripening season of 1921, as I saw it on Messrs. Wallace and Co.'s stand at Vincent Square, no one could convince me there was anything better in the Iris world than *Guadichau*, but it was down to 9 this year, or perhaps even 8.8; but I shall not lose my faith in it. It is not so large as some flowers, yet it seems to have every good point—size enough to shew off its great beauty and wonderful colour; habit of growth, the "carriage" of its blooms, and the form and grace of the flowers leave little to improve upon. The standards are silky violet and the falls deep violet plum. A strong and lovely bit of colouring.

LORD OF JUNE (9.1), 2s. 6d., is deservedly one of the most popular of all, and is probably the most strongly and sweetly scented variety in existence. A flower nobly built on generous lines on a plant of robust habit. *Lord of June* cannot be left out of any collection. The standards erect and well arched, are clear lavender blue and the falls deeper, toning into violet-blue.

ALCAZAR (8.9), 2s. 6d., is another indispensable on account of its fine stature, freedom of flowering, commanding colour and easy growth. Standards reddish violet-blue, falls deep purple with bronze flush. A well grown clump of this makes a splendid picture in the garden.

CRUSADER (8.7), 7s. 6d.—I consider this Iris worth a rating of 9, both by virtue of its clear blue colour tone and the almost perfect form of its falls. In the latter there is a smoothness of texture which will be very difficult to excel in future developments of the flower, and the branching habit of the plant gives plenty of room for each bloom to shew itself to perfection. The colour is an iris blue of the clearest and most beautiful shade.

OPERA (8.7), 3s. 6d.—A distinct variety of rather unusual colouring and very shapely flowers. Standards bronzy purple; falls of velvety appearance, deep red-violet with a blend of orange on the reverse side. Excellent for the front row, as it grows rather dwarf, the spikes rising only about 2ft. 6ins.

ED. MICHEL (8.6), 5s.—This, again, is of a strikingly distinct colour, being almost claret red and practically a "self." The standards are slightly frilled and the falls large and wide, giving the flower an imposing appearance. A great improvement upon *Caprice*, which was formerly looked upon as the best of the red-toned Irises.



ONE OF THE BEST OF THE NEGLECTA SECTION,
IRIS MONSIGNOR.

By kind permission of Messrs. Barr and Sons.

Dominion are bracketed (9.4), and as all are worthy of mention we shall take them in that order.

AMBASSADEUR comes near to being, so far, the perfect garden Iris. Tall and stately, rich in colour and the acme of refinement in form, it is a gem which ought to be in every garden. In colour it is reminiscent both of *Prosper Laugier* and *Alcazar*, but superior to either in every way. The standards are ruddy violet and the falls deep velvety violet purple. The price is about 10s. 6d.

BALLERINE is another tall strong grower of branching habit and a typical pallida. Standards

Afterglow (8.0, 12s. 6d.). I have given this the last place in a dozen very choice varieties because of its exceedingly soft colouring. Both standards and falls are a lightly blended greyish buff with faint lavender flush, shading to rich yellow by the haft, which is reticulated grey-brown. The spikes are well branched and the growth excellent.

It is not easy to mark out any special dozen among the goodly number of great Irises available for selection at the present day. I have purposely avoided many new seedlings now on the market, magnificent specimens of the hybridiser's art, but costly and not yet thoroughly tested in all kinds of soils and climates. Even then, perhaps, I should have given places to Queen Caterina (9.1) of pallida dalmatica type; Shekinah (8.8), the most resplendent of all yellow Irises in the tall growing section; Phyllis Bliss (8.9), in lavender pink, in very fine form this year as shewn me by Mr. Wallace a few days ago at Vincent Square; Magnifica (9.1), a huge violet bicolor of sweetest scent; and Avalon (9.1), a pale mauve of refined form and splendid substance.

Among the older varieties, too, there are many Irises which will still hold their own in the best company, and may safely be planted by those who seek high-class flowers at a moderate price. The following would be a good dozen in varied height and colouring: Isoline (8.6), 2s. 6d., buff pink with russety mauve; Lady Foster (8.8),

5s., a large pale blue veined old gold at the haft, sweetly scented; Monsignor (8.4), 1s. 6d., standards pale violet, falls deeper violet heavily overlaid dark purple, fine rich colour effect; Quaker Lady (8.4), 3s. 6d., a very lovely softly toned flower in smoky lavender, yellow and orange; Erstran (8.2), 3s. 6d., a lovely contrast between the pure white standards and deep purple falls, rather dwarf; Archévéque (8.3), 2s. 6d., also dwarf but conspicuously rich in colour, deep velvety violet and violet-purple; Montezuma (8.3), 5s., old gold stippled with bronze; the base of the falls is almost white with a broad margin of bronzy yellow; Prosper Langier (8.3), 2s. 6d., a popular variety, tall grower with strong, erect stems; standards smoky cinnamon with sheen of pink, falls violet carmine; Azure (8.2), 2s. 6d., a finely toned blue Iris, with lavender shading in the standards and violet in the falls; Dora Longdon (8.1), 5s., standards pale lavender suffused yellow, falls rich reddish violet edged yellow, very free and a pretty Iris; Trojana (8.1), 2s. 6d., a true branching Iris giving this habit to many of the newer seedlings; a stately bicolor of rich reddish violet and purple; Fairy (8.9), 2s. 6d., very tall; medium-sized flowers of creamy white flushed blue in the styles; delicate and sweet; Lorely (7.9), 2s., standards bright primrose, falls dark raisin purple edged yellow; a brightly coloured variety giving a fine effect in the mass.

J. L. GIBSON.

BEARDED IRIS SPECIES

IN this section of the genus *Iris* are to be found many of the most desirable and attractive kinds, useful for the herbaceous border, isolated beds, margins of ponds, as well as irregular groups in open woodland. For the rock garden there are the many forms of *I. pumila* and *I. Chamaeiris*, welcome for their dwarf

habit and early-flowering properties. They are all of easy culture, succeeding and flourishing in a good loamy soil which, if it contains lime, is so much the better for the plants. While many of the larger so-called "German" Irises will in many places flourish and flower freely for many years without being disturbed, they are all benefited

by a periodical lifting and dividing. When this is done the soil should be thoroughly trenched before replanting, adding fresh loam at the same time. There have been many discussions as to the correct time of lifting and replanting these Irises, but when all is said and done there is little in it. A good time is directly after the plants have flowered, carefully selecting the strongest rhizomes for the purpose. If planted firmly and well watered in, they will soon become established and make good growth before the winter. Some will flower the following spring, but, generally, they are at their best during the second season after replanting. We will first deal with the *pumila* section, as this is the earliest to flower.

I. PUMILA.—Of early-flowering Bearded Irises this is one of the most desirable, perhaps the best form being the variety *cerulea*. It is variable in colour, and some other dwarf Irises are frequently grown under this name, but the very short stem and long perianth tube of *I. pumila* distinguishes it from the others. The whole plant is only a few inches high, with stems bearing single flowers of dark lilac or sky blue colouring. The falls are densely bearded and reflexed. It is a native of Central and South-Eastern Europe from Austria to Asia Minor and the Caucasus.

I. CHAMAEIRIS.—This is a much commoner plant than the above, and very variable in colour. In many gardens it does duty for *I. pumila*. It has a stout creeping rhizome with green ensiform leaves 3 ins. to 4 ins. long. The stems of some forms reach a height of 6 ins. and are one-headed, with bright yellow flowers in the typical plant. The falls are 1 in. broad with a dense yellow beard, while the haft is tinged and veined with brown. It is found in Central Europe from Southern France to Dalmatia. The principal varieties are *italica*, with a dark violet limb, in habit like the type; and *olbiensis*, a taller plant, also with dark violet flowers.

Other dwarf Irises include

I. ARENARIA.—This grows in dry sand in Eastern Europe, with much-branched creeping rhizomes and tufts of narrow leaves. The stems are very short and each bears one or two bright yellow flowers. **I. BALKANA** grows about 6 ins. high, with red-purple flowers, the beard of the falls being composed of white hairs. It is a native of the Balkans and flowers in May. **I. EPIFLORA** reaches a height of 1 ft. It has somewhat glaucous leaves and violet-purple flowers, the falls of which have a bright yellow beard. As its name implies, the stems are two-flowered. The fragrant blossoms are produced in April. It is a native of Portugal and Morocco. **I. FLAVISSIMA** is a pretty little Iris with narrow leaves 4 ins. to 5 ins. long, and rich lemon yellow flowers 1½ ins. across. It is a native of Siberia and Mongolia, ascending up to 6,000 ft. elevation in the mountains of Turkestan. This is a very hardy species, of which the var. *Blondvii* is more robust, with broader leaves and larger flowers.

I. LUESCENS is a handsome, easily grown Iris, reaching a height of 1 ft. It has broad, slightly glaucous leaves. The flowers have a bright yellow beard, while the blade is veined with purple. The var. *Statella* is recognised by its pale yellow, almost white flowers, while it usually flowers earlier than the type. Both are excellent garden plants and well worth growing.



THE WHITE IRIS KASHMIRIANA IN ITS KASHMIR HOME.

I. REICHENBACHIANA is allied to the last-mentioned, nearly a foot tall, with slender stems and pale yellow flowers having a bright yellow beard. It is a native of Serbia and flowers in May.

The section *Variegata* contains many charming forms, some of the best of which are:

I. VARIEGATA.—A most variable plant of which there are numerous garden varieties. The wild plant is chiefly found in Austria and Hungary, and has clear yellow standards and falls that are more or less completely covered with dark red brown veins. From this come all the beautiful forms of an infinite range of colour found in gardens, including one that is nearly pure white. Perhaps the finest of all is the "King of Irises," which has falls of a rich mahogany colour that are edged with gold. Another is var. *aurea*, with clear yellow flowers.

I. CENGIALTI.—An elegant plant of dwarf habit with deep sky blue flowers flushed with purple. It comes from Northern Italy. The var. *Loppio* has dark purplish blue flowers.

I. APHYLLA.—This plant has numerous synonyms of which some are *hungarica*, *nudicaulis*, *bohemica* and *furcata*. It grows about 1 ft. high and produces dark lilac flowers, which have a beard of white hairs on the falls. A feature of this plant is that the stem seems to rise naked from the rhizome, and the leaves die off early. It is a native of Eastern Europe from Hungary to the Caucasus.

I. LURIDA.—This has flowers of a dull purple, the lower part of the falls being veined with purple on a yellow ground. It is closely allied to *I. squalens* and *I. sambucina*, and is a native of South-Eastern Europe.

I. BENACENSIS.—This is a beautiful early-flowering plant with purple flowers. The beard is purplish white to half way down the fall, then yellow. It is a native of the Southern Tyrol on calcareous rocks.

Belonging to the *Germanica* group are many important garden plants of great beauty with large, highly coloured flowers.

I. GERMANICA.—This is the commonest of all Irises and one of the most useful. It is found in most cottagers' gardens all over the country, so needs no description, its bright purple flowers with the yellow beard being well known. There are several good garden varieties, including *Sirvas*, with narrower leaves and falls of an indigo purple, while the standards are almost of an Oxford blue; *Amas*, with slightly fragrant flowers of very large size; *alba*, with white flowers; *Kharput*, with rich blue standards and violet-purple falls; and *Purple King*, a rich purple.

I. IMBRICATA (syn. *I. flavescens*) is one of the most distinct, with clear yellow flowers. It grows about 2½ ft. high, with broad leaves, and flowers in May and June. It comes from the Caucasus and Armenia, and is one of the easiest of all to grow.

I. SQUALENS.—This is a taller-growing plant, and as a group contains some of the most richly coloured as well as some of the dullest coloured flowers in the section. In the more typical kinds the upper part of the fall is bright lilac purple, while the claw is veined with lilac-purple on a whitish or yellowish ground. The standards are of a plain dull lilac and yellow or brownish yellow. It comes from Central Europe and extends to the Caucasus. One of the best forms is *Jacquimiana*, with flowers described as a combination of coppery purple and velvety maroon.

I. SAMBUCINA.—The strong scent of Ekler, on account of which the name is given, is characteristic of this plant. It is less robust than the above, with narrower segments to the flower and falls coloured and veined with claret-purple. It is found wild in Central Europe to the Caucasus,

I. KASHMIRIANA.—A sweet-scented not very hardy species from Kashmir, which bears its white flowers in May.

I. NEGLECTA.—A very variable plant of which there are numerous garden varieties. *I. neglecta* is characteristic in having both standards and falls of the same kind of blue, though the former are always of a lighter shade than the latter. Unknown in a wild state.

I. AMENA (syn. *I. hybrida*).—In this the standards are usually pure white, while the falls are of some shade of blue or violet. There are many beautiful varieties, one of which is called *Thorbeck*, with deep velvety violet falls and white standards. In others the falls are veined with some shade of blue or purple on a white ground. One of the best is Mrs. H. Darwin.

I. CYPRIANA.—A native of Cyprus, with tall stems and large, bright lilac flowers in June.

The *pallida* group consists of four well marked kinds:

I. FLORENTINA.—Supposed to be the orris-root of druggists, but it is not the only one that is used. It is a handsome early-flowering plant, very free-growing, with somewhat glaucous foliage and stems 2 ft. or more high. These bear several large

white flowers tinged with lavender and having a bright yellow beard on the falls; a native of Central and Southern Europe. The var. *albicans* comes into flower later than the type, and has almost pure white flowers.

I. PALLIDA.—This is characterised by its broad and very glaucous leaves and tall stems. These are branching and usually have fragrant flowers of a lovely blue lilac shade in the more typical forms. One of the best is var. *dalmatica*, with very large flowers of a deep lavender colour and a bright yellow beard on the falls. Queen of May has flowers of a soft rosy lilac shade. There are numerous other beautiful varieties. The type is a native of South Europe and Western Asia.

I. Plicata.—A distinct kind, marked by having the white falls veined with lilac at the margin and standards also white flushed with violet at the edge. It grows from 2 ft. to 3 ft. high and flowers in June. It is supposed to be a cross between *I. sambucina* and *I. pallida*.

I. SWERTII is closely allied to the above, and is probably derived from the same cross, the only difference being in the colouring of the margin, which in this case is pale pinkish purple instead of violet.

W. L.

IRISES FOR THE WATERSIDE

THESE are but two species of *Iris* which are really aquatic, our own native *Flag*, *Iris Pseudacorus*, and its American cousin, *I. versicolor*. This New World *Flag* is variable in colour, but always some tone of purple, either reddish or bluish. Neither of these aquatic Irises is specially free to flower, albeit some strains are freer than others, nor do they lift their flowers quite clear of the foliage, but they certainly add dignity to the pond margin with their handsome spear-like foliage. It is important, moreover, to select the best forms, for some forms of *Pseudacorus* are much more prolific in blossom than others; while there is a very attractive pale primrose form, generally listed as *Bastardi*. The reddish form

of *I. versicolor* is called *Kermesiana*, but the best blue-purple forms are equally lovely.

Granted that the two species mentioned are the only true aquatics, there are other kinds which do not object to winter flooding—some of them, at any rate, appreciate it. Most noteworthy of these is the Siberian *Iris*, *I. sibirica*, which, in good forms at least, bears its flowers in quite remarkable profusion on 4 ft. tall hollow stems well above the foliage. The writer considers this the handsomest of Irises, but not everyone would agree with him, of course. It is not absolutely necessary to grow this plant in wet ground—it will hold its own in the herbaceous border—but those who only know it under such conditions are not competent to speak of its worth. The



THE STately IRIS SIBIRICA BY THE POOL-SIDE.

best form of colour and form, but there is now a form called Perry's Blue which is probably the nearest to a true blue to be found in the genus Iris, for it is worthy of note that, while blue in some shade and combination is the commonest of colours with this genus, it appears always to be mixed to greater or smaller degree with red. In all the race of Bearded Irises, species and hybrids, there is not one which approaches pure blue, and the same may be said of the winter-flowering *I. unguicularis* and related species, and of the gorgeous *Krempferi* forms, upon which the Japanese have lavished so much skill and care. To return, however, to *I. sibirica*, there is a white form often offered in nurserymen's lists which is only mentioned here to warn readers that it is dingy in colour and has nothing to recommend it.

I. orientalis is an allied species no doubt, but it is unfortunate that catalogues often list it as a form of *sibirica*. From a garden point of view it is entirely distinct, and, it must be admitted, much less valuable. The flowers, individually, are larger, but borne less freely on the spathe, while the spathes themselves are scarcely so freely produced. It loses ground principally though in the fact that the blossoms scarcely appear above the tops of the "grass," which is a little lusher than is the case with the more western species. In most forms of this Iris the spathes are tinged with red. An excellent form in which the spathe colour is particularly bright is listed as var. *saugunea*. Perhaps the most valuable form of this plant, however, is the albino usually listed as Snow Queen. This is large and of good form and, though not a

dear plant, is of considerable pleasing and. It associates especially well with the richly coloured form of *I. sibirica* and blossoms at the same period.

A new species from Western China, *I. Wilson*, bears much the same relation to *I. sibirica* that *Primula Bulleyana* bears to *P. japonica*; that is to say, it is, for garden purposes at any rate, practically a colour form of the older species. Unfortunately, *I. Wilson* lacks the rich colouring which made Bulley's *Primula* so much appreciated; the flowers are soft yellow, a colour usually very effective in the garden, but in this case hardly strong enough for the size of the flower. Another yellow species belonging to this section is *I. Forrestii*, which in habit of growth is not unlike a dwarf *I. orientalis*. The yellow here has more body. It is a pity that *I. Wilson* does not combine this colouring with its own more graceful habit of growth, but perhaps the hybridist will put things right. The drawback is that no artist with the pollen-brush can produce a species, and some of us, at any rate, feel differently towards a genuine species than we do towards any garden plant, however splendid.

Yet another of the *sibirica* clan is *I. Delavayi*, to which moisture is even more necessary than to any of its relatives. This grows about the same height as *I. sibirica*, and the flowers are deep purple conspicuously blotched with white. As with the last-named species the flowers are decidedly on the small side. Besides these we have the American *I. prismatica* with small purple *sibirica*-like flowers and the Himalayan *I. Clarkei* with solid stems and flowers of various shades

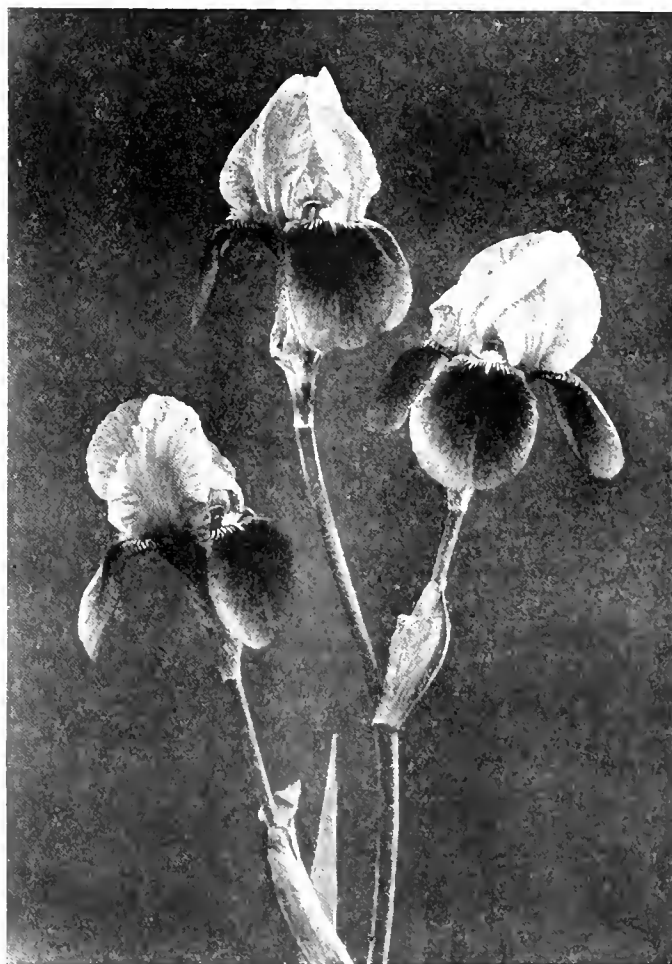
of purplish blue. Neither of these species is often seen in garden.

Two very similar species as growing are *I. aurea* and *scholastica*, the former with bright yellow flowers and the latter with blossoms shading from clear yellow at the centre to white at the edges. Both are excellent border plants, but both give of their best when granted bountiful supplies of water at the root. They are thus first rate for waterside planting where flooding is not to be feared. A hybrid between these two species is perhaps a better garden plant than either, being freer to flower. These Irises would be worth growing, however, even if they never flowered, for their truly magnificent foliage. *I. Monnieri*, a species (?) of uncertain origin, has blossoms of a beautiful deep lemon shade and a habit of growth very similar to that of the two species previously mentioned. A form intermediate between this and *I. aurea* is listed as *I. Mon-aurea*.

All this about waterside Irises, and nothing about the gorgeous Japanese Flags! Perhaps the writer is saving up the best till the last? Well, that is hardly the case. The fact is the very numerous Japanese garden forms of *Iris Krempferi* will not tolerate marshy ground. It is true that they are impatient of drought; nevertheless, they are very far removed from being bog plants. A really well cultivated herbaceous border suits them as well as anywhere, but they may of course be used—and used very effectively—by waterside if care is taken to see that the soil in which they are to grow is perfectly sweet and will remain so. No doubt for this reason, winter flooding is very



THE SLENDER-GROWING "PINK" VARIETY MRS. J. STERN.
Spike kindly supplied by Mr. Amos Perry.



THE SPLENDID NEW "DOMINION," BERTRAND.
The sensation of the Orpington Nurseries' Stand at Chelsea.

inimical to them. There is quite an extensive range of colour in these flowers and it is best, undoubtedly, to select one's varieties when in flower. Present-day taste leads further and further from the rather bloated double forms so beloved of the Japanese, but these make, at any rate, bold splashes of colour.

Just as the popular imagination has invested Iris Kämpferi with bog-loving attributes quite alien to the plant, so has it overlooked the fact that there is a moisture-loving bulbous Iris. Iris xiphoides, the miscalled English Iris, is never

so happy as when growing in stiff, rather cold and wet soils. Indeed, it will stand winter flooding which would be fatal to the Kämpferi forms. The English Iris has of late been out of fashion and it is now not at all easy to procure bright self-coloured "unbroken" varieties. Let us hope that some of the hybridists may quickly take it in hand again, for it might easily be made quite as effective as any Kämpferi variety can be, and it has a great advantage in being bulbous. It is such a simple matter to people the earth with bulbous plants!

made of recent years with these Bearded Irises is from one point of view very marked, from another view point it is less remarkable. Let us take three old natural varieties—*pallida*, *dalmatica*, and the *germanica* forms *Annis* and *Kharput*—and set beside them modern sorts of similar colouring. Have we advanced so far after all? From another point of view let us review all the pure white and golden yellow June-flowering sorts and decide if we feel proud of them!

Yet, of course, there has been immense progress (especially if we do not adopt the American standpoint), and greater progress may be expected in the near future. The gold and carmine *Citronella*, certificated last year, is a beautiful thing, so, in quite a different way, is the sort certificated as *ochracea* *corulea* but now usually listed as *Sunset*. Even more noteworthy than these is Mr. Dykes' *Thundercloud* (certificated recently), which bears its violet-coloured blossoms with splendid freedom. This is not a large flower, however, and will make small appeal "across the pond," unless for breeding purposes, yet English raisers are to the fore with varieties which suit the New World market. There are, for example, such sorts of *Dominion* type as *Duke of Bedford*, so well shewn at the Iris Show last year, and *Bertrand*, illustrated herewith, one of Mr. Bliss's handsome productions. The flowers are very large even for a "Dominion," it is a tall grower (3½ ft.), the "grass" is handsome, and the flowers are a study of shades of lavender and violet, quite distinct from all others of the *Dominion* race. Such a beauty must have a certain following "on this side"; it is certain "over there" to be a "best seller."

Great improvements have been effected among the "pink" *pallida* varieties, and greater still are in store. Among those in commerce the splendid *Aphrodite*, yet another of Mr. Dykes' seedlings, is one of the brightest and best. It is tall and shapely, and its colouring, if not pink, is very much brighter than that of most "pink" sorts. Another excellent "pink" sort is the rather early-flowering Mrs. J. Stern, a slighter grower altogether, with standards noticeably lighter than the falls.

It must never be overlooked that in the *pallida* section we had practically everything but an extensive colour range to start with. Such is not the case with the *variegatas*, for example. Unquestionably *Iris König* is a great improvement upon the older forms, but there is still room for many good new varieties.

The *pallida* varieties as collected are quite up to the average in freedom to flower—at least on moist soils—but some of the products of the breeder's art in this section are much superior in this respect. The rather small-flowered *Corida* has been noted in this connexion. Another very free-flowering sort is the quite new *Eden Phillpotts*, one of Mr. Amos Perry's seedlings (and a very fine one) of *pallida* × *Cengialti* parentage. It is a self of rather dark lavender blue colouring and the flowers, which are produced on branching stems, of great size.

From the same raiser Lord Lambourne is another very noteworthy sort which found many admirers at this year's Chelsea Show. The flower is large and shapely, and the reticulation on the falls very handsome. The colouring is a little difficult. On the whole, probably, the raiser's description can hardly be bettered: "Standards rose-fawn, suffused pale bronze, falls rich madder crimson with a bold white reticulated base, illuminated with a brilliant yellow beard." This is a tall, strong grower.

Another tall sort and an equally strong grower is *George Yeld*, named in honour of the president of the British Iris Society. This is a particularly graceful variety, the arrangement of the blossoms

WHITHER?

Under the above heading the Editor discusses present-day tendencies in Iris breeding.

THE immediate future of the Iris concerns itself almost entirely with the Bearded sorts, for while some raisers—Mr. W. R. Dykes, for instance—have laboured hard at the *Apogon* Irises, crossing them not only with one another, but also with Bearded kinds, the great garden-loving public on both sides of the Atlantic takes little interest in any Iris outside the range of what the "man in the street" calls "German" sorts. Again because, on the average, they are taller and more handsome and also, no doubt, because they flower at a season when they are particularly welcome, the June-flowering varieties have a big pull in the race for popularity over those which flower earlier.

Readers will notice that Mr. J. L. Gibson on another page weighs some outstanding varieties in the balance of American opinion. With due respect to Mr. Gibson, who is, of course, a recognised authority, it seems to us that an American judgment on an Iris "cuts no ice"—to use their own phrase—in this country. To see Mr. Wister, the president of the American Iris Society, and some of his enthusiastic colleagues inspecting a collection of Irises is to realise very quickly that in America the Iris is just as much a Florist's flower (capital F, Mr. Printer!) as at one time the laced Pink was here.

Colouring, as such, is of little account, though the amount of reticulation on the falls is a point: form (above everything) and size are the great criteria. Form is judged—at least so it seems to the writer—from the point of view of an arbitrary standard, just as one judges the points of a Leghorn or Wyandotte fowl, for instance, and as regards size the American Iris fancier—fancier is the right word in this connexion—has no use for a good "little 'un."

Now, the Iris has not yet become a fancier's flower in Great Britain and, personally, we hope it never may; consequently, some varieties which are assured of popularity in this country will never gain favour in the United States of America, and, conversely, certain varieties which have received good marks in the American symposium are destined never to become popular in Britain.

Two of the finest Irises from an American point of view are *Alcazar* and *Dominion*. Many people,



PERHAPS THE BRIGHTEST OF "PINK" IRISES, THE TALL AND STATELY APHRODITE.

while admiring the carriage and colouring of *Alcazar*, cannot appreciate its form, particularly as regards the falls. No one will deny the beautiful shape of *Dominion*, but who would consider it free-flowering? and surely freedom to flower is a great point—an essential point we should say—of any border plant. It would be a thousand pities to let the splendid form of *Dominion* be lost, but its main value—or so it seems to us—lies in its usefulness to the hybridist.

It is always difficult to name one's favourite variety of any flower, but among Bearded Irises the writer's favourite is certainly the small-flowered *pallida* *Corida*, which bears shapely spikes of nicely formed and well poised flowers in the greatest profusion. The progress that has been

on the much branched stem being particularly good. The standards are bright apricot with rose shading, and the falls crimson, edged buff,

the white reticulation bold without being heavy, the beard orange. Mr. Perry introduced many years ago the now well known and late-flowering

Black Prince. It is shapely and free-flowering, the standards lavender and the falls black violet, cleanly edged with pale violet.

LATE-FLOWERING AZALEAS

BECAUSE they are unable from a botanical standpoint to separate Azaleas and Rhododendrons, botanists include them all in the genus Rhododendron. The original broad distinction was the evergreen Rhododendron with ten stamens and the deciduous Azalea with five stamens. When species were introduced with these characters reversed or which did not fall into either group,

there was nothing to do but sink one of the names in the herbarium. The popular name of Azalea will always, we must hope, be retained to indicate the most beautiful family of hardy deciduous flowering shrubs cultivated in our gardens.

Most of the varieties are at their best from late April to early in June, with a wonderful wealth of blossoms during May. These notes are intended

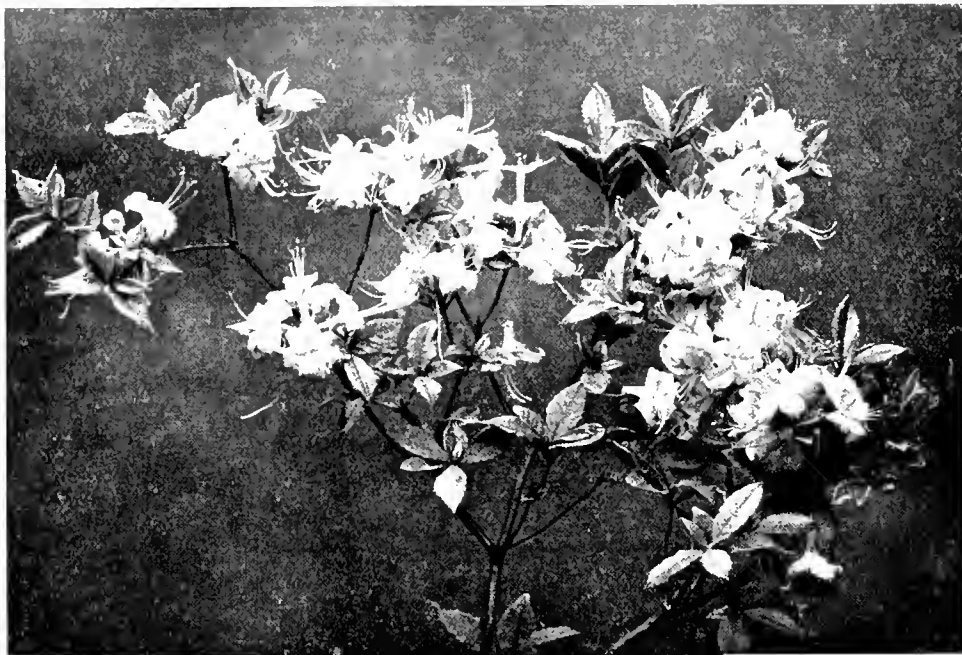
to draw attention to the possibilities of a race equally rich in colours, flowering from mid-June and throughout July. We already have several species flowering at this season, beautiful in themselves and with a delicious fragrance, but they lack the rich and varied shades of colour so charming in the spring and early summer-flowering hybrids. Some crossing has been done with these species already, and especially with *R. occidentale*, but the hybrids invariably flower in advance of the species, which is only natural when an early-flowering pollen-parent is used. To obtain the object in view, breeding must be systematically focussed on the raising of seedlings, and the crossing of the latest to flower, for several generations.

The one thing we may be "up against" in the raising of a race of late-flowering Azaleas is that they will be at their best during the hottest weeks of the year. We know, however, that the wild Azaleas grow in shady, damp situations, and we should do well to follow Nature more in our planting. The Cornish growers may have an ideal climate for Rhododendrons, which is half the battle, but they are also fully alive to the value of mulching. Here again we should copy Nature by mulching annually with leaves, using sticks to hold them in position. Rhododendrons and Azaleas are surface-rooting, with fine roots which drought will soon kill. Leaves keep the surface cool and moist in summer and warm in winter.

A peaty soil is by no means essential, for Azaleas thrive in a moist, loamy soil that is free from lime. Hard or close ground can soon be brought into condition by trenching and adding plenty of leaf-mould. While named sorts must be increased by layering, cuttings or grafting, the species can be freely raised from seeds. Much more should be done in the raising of seedlings from hybrids for woodland planting. The probability is, in such case, that these will give a wide variety, while there is always the possibility of something even better than the named parent plant.

RHODODENDRON OCCIDENTALE.—This species was first introduced from Western North America, about the middle of last century, by William Lobb when collecting on behalf of Messrs. Veitch. It is the best of the late-flowering section, being at its best about Midsummer Day and lasting well into July. For planting in open woodland with, possibly, a running stream we can scarcely wish for anything better. There are forms with white flowers and a yellow blotch, and others of pleasing pink shades. The deepest form at Kew is labelled *R. occidentale* var. *roseum*. By crossing this species with some of the earlier-flowering section Mr. Anthony Waterer has raised a number of hybrids with light-coloured blossoms. The best of these we have grown are *Exquisite*, *superba*, *gaucosa*, *delicatissima* and *magnifica*. Whether there is any *R. occidentale* blood in the richly coloured *Knap Hill Scarlet* I do not know. One thing we may safely assume is that flowering during the second half of June, it will be a useful plant for hybridising with the light-coloured species. *Davisi*, the popular variety with cream-coloured flowers often grown in pots for forcing, is one of the first *R. occidentale* hybrids.

Not the least desirable character of *R. occidentale* is that flowers and foliage develop together, and added to this is a delicious fragrance. Eight to



THE FLAME-COLOURED RHODODENDRON CALENDULACEUM.



THE WHITE-FLOWERED "SWAMP HONEYSUCKLE," RHODODENDRON VISCOSUM.

ten feet appears to be the ultimate average height of large bushes.

R. viscosum.—The white Swamp Honeysuckle is one of the last of the deciduous Azaleas to flower. Commencing in late June, the bushes blossom throughout July, the flowering period

white blossoms freely stained with purplish lilac. Raised about one hundred years ago, this is the *R. fragrans* of Paxton, *R. odoratum* of Loddiges, and in nurseries is often grown as *Azalea odorata*. The latter name is most appropriate, for it is certainly one of our most fragrant hardy shrubs.



THE WHITE-FLOWERED FORM OF RHODODENDRON OCCIDENTALE.

even extending into August in late districts. The flowers being among the smallest of the Azalea family, the name of Swamp Honeysuckle is most appropriate for this species. The colour varies from white to those with buds and blossoms daintily tinted with pink. The delicious fragrance appeals particularly to ladies, and when this species is planted in sufficient quantity the scent is powerful enough to pervade the air.

R. viscosum was first introduced from Eastern North America in 1734. As a wild bush it favours the moist ground and swamps of Maine and Kentucky, its distribution extending from Canada to the Southern United States. Young plants commence flowering when 1 ft. high and blossom each year with unerring freedom until the twiggy bushes are 6 ft. to 8 ft. or even 10 ft. in height. The viscid or clammy character of the flowers is more pronounced in this species than in any other species of the American group.

The old florists are reputed to have used this species freely in raising the hybrid Azaleas of the first half of the nineteenth century, but in the desire for large flowers more attention has been given to *R. molle* and *R. sinense* as parents, with the unfortunate loss of much of the pleasing fragrance. Some of the oldest bushes in the Azalea Garden at Kew in the white, pink and rose tints of the flowers, fragrance and viscid character suggest *R. viscosum* as one of the parents.

R. viscosum VAR. *GLAUCUM* (*Azalea glauca* of the old florists) in its best forms is a pleasing shrub with a silvery sheen to the foliage, the under-surface being blue-white. The best known hybrid of *R. viscosum* is *R. azaleoides*; the other parent is said to be *R. maximum*. It is evergreen or semi-evergreen in character, very free and bushy in growth up to 5 ft. or 6 ft. in height and more in diameter. The flowering season is June and early July, when the bushes are crowded with

It is one of the easiest Rhododendrons I know to root from cuttings during late summer.

R. CALENDULACEUM is the Flame-coloured Azalea of Eastern North America. It is a widely distributed species, and variable in the colour of the flowers (red, orange and yellow) and the season of flowering. This is the species from which the rich colouring in many of the Ghent Azaleas was obtained. The early flowering of these hybrids suggests that the *R. calendulaceum* used was the form flowering in May or early June. Seedlings of more recent introduction are at their best about the middle of June. With their rich orange-coloured flowers this form should be a valuable one to cross with *RR. viscosum* and *occidentale*.

A. O.

MORE ABOUT THE GREAT ROSE SHOW

(Continued from page 345)

THE lack of exhibits was, naturally, more pronounced in the amateurs' classes than in the trade section. Few amateur rosarians grow anything like the maximum number of plants permitted by the rules for the various divisions. Consequently, as they have only comparatively few plants to cut their blooms from, such a very adverse season has even more harmful effects than with the trade grower. But in spite of this and with the full knowledge that their blooms were often of such second-rate quality that in an ordinary season they would scarcely have been placed in a vase for the sitting-room, the amateurs rose nobly to the occasion and, rather than "let the Society down," brought what they had. As the

day wore on it must have been with pleasurable feelings that these high-spirited exhibitors saw their blooms, under the influence of the genial warmth, gradually expand, disclosing unsuspected beauties and value.

Yet one missed the names of some of the prize-winning exhibitors of former years. With exhibition Roses Mr. W. J. Bambridge (Kettering), Mr. F. H. Fulgate (Colchester), Dr. F. G. Hayes, Mr. H. Amos, Mr. J. C. Wiseman, Mr. G. Marriott, Mr. F. Slaughter, Mr. H. N. Rogers and the Rev. R. Burnside all shewed blooms that did them credit. These names are not placed in any order of merit but as characteristic of the first prize winners. In other classes premier honours were taken by Mr. H. R. Darlington, Mr. J. J. Williamson, Mr. S. W. Burgess, Mr. F. H. Fulgate, Mr. W. J. Green, Mr. W. E. Moore and Mr. M. H. Ward, and they also shewed blooms which compared very favourably with those of the trade growers.

The vases and stands in the tent for decorations with the Roses were all splendid from the rosarians as well as the decorator's point of view. Nearly all the blooms had the imprint of glass-house culture, but they were charmingly fresh and beautiful. In the open class the best table was that of Mme. Butterfly arranged by Mrs. A. R. Bide. In the amateurs' classes Mrs. Courtney Page was very successful, and displayed especial taste in her arrangements. In the class for single Roses she used Irish Elegance. In the other Mme. Butterfly was the variety, and in both cases the flowers were arranged with consummate skill. The dinner-table class, which requires the flowers to be grown by the exhibitor, must have given the judges considerable trouble, and they awarded the first prize to Mrs. H. Barton, who associated Emma Wight with Old Gold; while Mrs. Courtney Page, who was placed second, used Sunstar, Ethel James and Isobel. Both were very charming tables. Mme. Butterfly was largely used in the bowls and vases arranged for effect. Mrs. Bide in the open class and Mrs. Courtney Page in the amateurs' were the most successful exhibitors.

The usual silver medals were awarded to the premier blooms of the various sections. The medal blooms in the amateurs' classes were Frau Karl Druschki (H.P.), shewn by Dr. F. G. Hayes; Mrs. E. J. Hudson (H.T.), by Mr. W. E. Moore; and White Maman Cochet (T.), by Mrs. F. Pridham.

Many non-competitive exhibits added to the attraction of the Show. Messrs. William Cutbush and Sons arranged a very beautiful group of standard and dwarf cluster Roses in pots. Mr. J. C. Allgrove brought many well flowered sprays of *Rosa Fargesii* and *R. Moyesii*.

Apart from the Roses there were many interesting exhibits of other flowers and horticultural appliances on view in the Palm House and in close proximity to it.

Messrs. Blackmore and Langdon brought up a very representative collection of their magnificent Delphiniums. Near by Mr. William Vandell of Maidenhead shewed a goodly collection of Violas. Saxifraga Tumbling Waters was again well shewn by Captain Symons-Jenne, while Messrs. J. Cheal and Sons had on view their admirable Star Dahlias. These varieties are excellent for cutting purposes and, unlike some of their "elders," are not susceptible to the ravages of earwigs. Peonies and Delphiniums in many shades were admirably displayed by Messrs. R. H. Bath, Limited, of Wisbech.

Messrs. Allwood Brothers had two exhibits, one being just outside the Palm House. Here, as in their other exhibit, they shewed a representative collection of Perpetual-flowering and Perpetual Border Carnations and Allwoodii.

Sweet Peas were well shown by Messrs. Dobbs and Co. and Messrs. Andrew Ireland and Hitchcock. Mesembryanthemums, Campanulas, Primulas and well flowered plants of *Nierembergia rivularis* were put up by Messrs. Maxwell and Beale of Broadstone. Mr. C. Engelmann had a fine collection of Carnations, among which Lady Northcliffe, Tarzan, Laddie, Thor and Cree were conspicuous.

Mr. Ernest Dixon shewed a model garden which deservedly attracted a great deal of attention. Outside Mr. Dixon had, in conjunction with the Rural Industries, Limited, of Cheltenham, some excellent garden furniture, which, by the way, is English made. The chairs are exceptionally comfortable, and the writer took the opportunity—during Mr. Dixon's absence—of writing these notes at the exhibit. Not far away the House and Garden Sundries Company, Limited, shewed an excellent garden hammock and stand. Here, again, we had a rest—in fact, we had quite an enjoyable day! The combination has many advantages. It is, for example, exceedingly useful for those who do not possess trees in their garden; it also folds up into a very small space. This firm also shewed and demonstrated their "Everyman's" patent straining wire.

Mr. Haws of Clapton shewed capital watering cans in all shapes and sizes, and Messrs. Abol, Limited, shewed and demonstrated their world-famed syringes. They also shewed insecticides and fertilisers. Mr. H. J. Greenwood of Bracknall displayed the Willmott plant stakes, which hold securely all kinds of plants without tying.

Messrs. Maurice Prichard and Sons of Christchurch had a fine lot of their single and double-flowered *Dianthus Prichardii*. Messrs. Carter Page and Co. shewed Dahlias of all sections and also had a small rockery.

Delphiniums, Pæonies, Irises, Columbines, Campanulas, Sunbeam Poppies, Pyrethrums and a host of other hardy plants were shewn by Messrs. George Bunyard and Co. of Madstone.

The Cross Bone Manure and Lime Company, Limited, of Bridlington shewed artificial manures.

Messrs. Shanks shewed and demonstrated their well known mowing machines, as also did Messrs. Ransomes, Sims and Jelferies. Messrs. Jeyes' exhibited their famous horticultural washes.

Messrs. Hawker and Botwood, Limited, of Grays, Essex, exhibited their well known non-poisonous insecticide and fungicide, which they have so aptly named "Sox." Here, too, were to be seen Dyoweed, a *non-arsenical* weed-killer; "Maskris," a natural organic manure claimed to be a most effective substitute for stable manure; and Prize Crop, the well known fertiliser.

In last week's report, a new crimson single Rose from Messrs. D. Prior and Son was inadvertently referred to as *L'equus*, the name of another single variety already in commerce. The one exhibited by Messrs. Prior is named *Etna*.

THE ENKIANTHUS.

A FLAT, horizontally spreading system of branching, similar to that of the Cedar, is very characteristic of many trees and shrubs in Japan. It is a type of growth much beloved of the Japanese artist, as one may see on many a screen and fan. *Enkianthus campanulatus*, introduced from Japan in 1880, has this mode of branching, and is a shrub 4 feet to 6 feet high, sometimes more. Its greatest charm in the garden is the rich crimson hue of its leaves in autumn. The bell-shaped flowers are elegantly disposed and of a pale creamy yellow veined and tipped with red. It belongs to the Ericaceæ, or Heath family, and like most of its allies enjoys a peaty soil, or, failing that, an open foam with plenty of leaf-soil added.

CORRESPONDENCE

OUR WATER LILY FLOWERS IN WATER.

HOW should the above be treated in order to prevent them from shutting up in the evening and usually not opening or only partially opening again the next day? Should the flower be picked when in full bloom and when fully expanded by the sun, or otherwise? I find that different sorts of Lilies behave differently.—B.

The difficulty in question was submitted to two well known experts, and their replies are given below.—ED.]

THE cause of the Water Lilies refusing to open is that the flowers partly close at sunset, lose their equilibrium and become water-logged. The best way to prevent this is to have the flowers removed at the end of the day, lay them on a moist cloth and replace next morning. If the flowers become too rigid and there is a difficulty

and under glass Water Lilies must be grown fully exposed to sunshine. *Victoria regia* opens its flowers only at night; so it is difficult to get over these hereditary habits.—HORTULANUS.

MIMULUS BARTONIANUS.

THIS splendid *Mimulus* was raised some years ago by Mr. H. O. Barton of Co. Antrim, its parents being, I believe, *M. cardinalis* and *M. lewisii*. In cool, good soil this plant will attain the height of 3ft., that in the accompanying illustration just managing to peep over the rim of the 40-gallon water-butt. The foliage of *M. Bartonianus* is a darker green than that of most of its race, the deeply veined leaves and stems being slightly silvered with hairs and sticky to the touch. The first blossoms usually appear here in early June, that is, when the plant is about one-third of its usual stature, and they are about 2ins. across and very attractive in their



MIMULUS BARTONIANUS, ROSEY CERISE WITH A YELLOW THROAT.

in opening, place them in tepid water. With care Nymphaeas can be kept from ten to twelve days when out.—AMOS PERRY.

INVESTIGATIONS in the past and again recently on the opening and closing of Water Lily flowers shew that it is due to the action of sunlight, and the absence of sunlight respectively. The common white Water Lily opens at 5 a.m. at Upsala, Sweden, but not until between 7 a.m. and 8 a.m. at Innsbruck, Austria; and in both cases this coincides with the shining of the rising sun upon them. The flowers close at 5 p.m. at Upsala, and between 7 p.m. and 8 p.m. at Innsbruck. This is due to the fact that the sun rises earlier at Upsala than at Innsbruck, during the flowering season. The flowers never open at exhibitions unless the sun shines upon them, though the exhibitors may be expert growers. If the flowers are out while open they can certainly be enjoyed for a time, but they should be as fully exposed to sunshine as circumstances permit. Tepid water might delay their closing towards the end of the day. Outdoors

bright rosey cerise with a distinct yellow throat. Flowering continues with great abundance throughout the later summer and often well into autumn, when the plant dies back to the base. *M. Bartonianus* is said to be quite hardy at Edinburgh, and here it is a robust and long-lived plant. Propagation may be carried out by striking cuttings in early autumn.—A. T. J., North Wales.

STRAWBERRY CULTURE.

ON page 324 in the issue for June 23 it is stated that "old Strawberry-beds are never profitable." I should like to say that this year, in spite of the exceptionally gloomy season, our Strawberries (Royal Sovereign), which were put down five years ago, have produced a record crop of very fine berries and the plants are better than they have ever been. We have been eating the berries for the last week, and yesterday (June 27) we picked 17lb. and there are still plenty to come, so we have been more fortunate than our neighbours with large gardens. The soil here is very light and sandy.—W. R. OGILVIE-GRANT.

THE CAMASSIAS.

I WAS much interested in the letter of "J. J." in your issue of June 30 on the Camassias. I myself have a cream-coloured variety (or ? separate species) which grows about 3 ft. high and has large flowers. It was among a "mixed" collection from Messrs. Barr's, but all the others were a small pale mauvy blue, probably *Cusickii*. I have some seedlings from both of these kinds, and I should be interested to learn how many years they are likely to take before flowering.—L. H. Cox.

PLANTS WITH LEGENDS.

I SHALL be so glad if you will help me in the making of a garden of flower legends, each plant to have its own legend or to be introduced in a legend or be known on account of its medicinal properties in olden days. I have the legends of the following: *Hypericum*, *Myrrhis odorata*, Christmas Rose, *Veronica*, Pansy, *Myosotis*, *Galium*, *Verbena* and *Nicotiana*.—AN OLD SUBSCRIBER.

[The Daisy has a legend. According to Celtic belief each child that is carried back to God by the Angel Death throws down on earth some new and lovely flower. While Malvina was weeping for her child the maids of Morven came running to her calling "Malvina; oh, Malvina! we have seen the infant whom you mourn," and presented her with a Daisy. Do not forget the legend of Narcissus. Many legends

are woven round the Rose. A very old one is that the Arabs believe the first Rose to have sprung from a drop of sweat from the brow of Mahomet. A Christian legend is that it "had its origin in the terrestrial Paradise." The white Rose belonged to Harpocrates, the God of Silence. It became the emblem of secrecy, and was suspended over the guest table, so that confidential talk should not be divulged; hence the saying *sub rosa*. The early Christian Church dedicated the white Lily to the Virgin Mary as an emblem of moral beauty and purity; hence the name Madonna Lily. While Eve sat weeping for the lost Paradise, and nothing but snow had fallen since then, an angel came to earth to comfort her and, breathing on a snowflake, caused it to fall to earth a living flower, the Snowdrop. The above are a few, but many other legends exist. Some of the medicinal plants of olden times and many of the present are the Dandelion (*Taraxacum*), Balm (*Melissa officinalis*), *Mentha piperita officinalis*, *Betonica officinalis*, Borage (*Borago officinalis*), *Paeonia officinalis* (Common Peony), Milfoil (*Achillea Millefolium*), Marsh Mallow (*Althaea officinalis*), Foxglove (*Digitalis purpurea*), Goat's Rue (*Galega officinalis*), Spearmint (*Mentha viridis*), Pennyroyal (*Mentha Pulegium*), Lungwort (*Pulmonaria officinalis*), Sage (*Salvia officinalis*), Winter Savory (*Satureia montana*), Meadow Sweet (*Spiraea Ulmaria*), Common Thyme (*Thymus vulgaris*), Lemon Thyme (*T. citriodorus*), Angelica (*Archangelica officinalis*). etc.—ED.]

trees. As a rule it is the tips of the young growths that become infested with aphids and, in most instances, it is an easy matter to dip them, using a small vessel containing a solution of insecticide. Afterwards well wash the trees with clear water.

Fruits Under Glass.

Peaches.—Trees that are planted out in the houses and from which the fruit has been gathered ought not to be neglected but every inducement given them for the wood to become thoroughly ripened. To this end the ventilators should be opened to their fullest extent both night and day and, whenever the weather is fine, the foliage may be syringed twice each day. The border should on no account be allowed to become dry. If the trees are infested with red spider, they should be thoroughly cleansed with an insecticide.

Vegetables Under Glass.

Tomatoes are producing heavy crops and the roots should be fed with liquid manure and *Le Fructeur*. All side growths should be removed. At this stage the white fly appears and, unless it is held in check, the plants and fruit present a sorry sight. Syringing with XL All insecticide will destroy them, and there are some excellent fumigants available which are especially destructive to white fly.

T. W. BRISCOE

(Gardener to W. K. Lysaght, Esq.),
Castelford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Lettuce.—Make a rather extensive sowing, as by the time the plants are fit for use they will keep longer in good condition than those maturing during the summer months. Continue to make weekly sowings of Mustard and Cress, and sowings of Radishes every ten days. Tie up Cos Lettuces as they develop.

Brassicas.—Draw some earth up to the various members of this tribe which were planted out last month. Where there is a glut of Cauliflowers fit for use they will keep in good condition for a considerable time if they are cut promptly and stood on their bases in a flat vessel containing 2 ins. of water plus a pinch of salt. The vessel should be stood in a cool place where the sun's rays do not penetrate.

Marrows.—Continue to thin and regulate the shoots, stopping any of the main ones that threaten to get out of bounds. Impollinate, about midday, the female blossoms as they open. As stems, foliage and fruits are largely composed of water, copious supplies should be given should a spell of drought set in.

General Work.—Keep crops free from weeds by the use of the Dutch hoe between the rows and by hand weeding in the rows. Do not allow crops—especially Peas—to suffer from lack of water, but beware of the dribble system, which does more harm than good. Thin later sowings of Turnips as they develop.

Fruits Under Glass.

Melons.—Provision should be made for maintaining an adequate temperature where Melons are being cultivated in frames or hotbeds. This is done by using what are popularly known as "linings," which means that the entire hotbed is surrounded by an additional 18 ins. of fermenting material. This is sometimes composed of grass mowings, but they are less satisfactory than the ordinary mixture of stable manure and last season's leaves in equal proportions. These materials should be loosely formed into a conical heap, and when they begin to generate steam should be moved, and re-formed into a similar heap. When they again become heated they should be applied to the hotbed, beating them firmly with the back of the fork.

Peaches and Nectarines should receive close attention as the fruits begin to ripen, and should be picked just as they part easily from the tree. The fruits must be carefully handled, as they are very easily damaged. However, despite the closest attention, a certain number of fruits will fall of their own accord. To meet this contingency a herring net or other small mesh net should be arranged pocketwise under the trees to intercept the falling fruits.

Late Vines.—The berries will now have almost or altogether attained to full size, so within the next fortnight the border should receive a liberal supply of water, after which it will be advisable to cover it with a layer of clean wheat straw to prevent too rapid evaporation. It is not advisable to give another watering until the crop has been

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Turnips.—A good breadth of this useful winter vegetable should be sown in lines 12 ins. to 15 ins. apart, and, later, the seedlings thinned to 6 ins. or 8 ins. Good varieties are Golden Ball and Greentop White; the latter should be chosen if only one kind is grown. Look out for the fly, and as prevention is better than cure, the lines may be dusted with lime and soot occasionally. This operation should also be carried out directly the seedlings are expected to appear. The work is best done early in the morning while the dew is still on the plants.

Shallots are fast approaching the ripening stage and, when the foliage shows signs of maturity, the bulbs should be lifted. If the weather is wet, the ripening process can be completed in a dry, airy shed, or the bulbs may be laid on mats and placed in full sunshine whenever possible.

Leeks growing in trenches will need assistance if the weather proves dry and a sprinkling of soot will be beneficial if applied during showery weather, or previous to watering the plants. Another batch may be planted out to furnish a supply next spring.

Peas.—A sowing of an early variety, such as Gradus, Pioneer and Chelsea Gem, will be found very useful for a late supply—and during the last few years late Peas have been very successful in this district. The late variety Autocrat has also given excellent results. Continue to stake other lines of Peas when they are well through the soil and give a mulching of manure, or grass from the lawns, if a spell of dry weather sets in. Plants producing a crop should be kept moist at the root.

Herbs.—If dried herbs are needed, advantage should be taken of any that have made sufficient growth, which may be cut and dried in the sun or shed. Both methods give good results.

Tomatoes.—Keep these to a single stem, and when three trusses of fruit are set pinch out the top of the plant. Give a mulch of rotten manure and keep the roots supplied with water.

The Flower Garden.

Pinks.—If fine flowers are required, a young, healthy stock should be maintained, and to this end a few cuttings should be inserted annually. Young shoots pulled off with a heel make excellent cuttings, but a few of the lower leaves should be removed. A large percentage would form roots

outside, but for the choicer alpine varieties a cold frame should be chosen, placing a few inches of gritty soil in the bottom. If it is possible lightly to syringe the cuttings three or four times a day when the sun is hot, no shade is needed and little air need be admitted. Otherwise, the lights should be covered with a thin canvas and the soil prevented from becoming dry by an occasional sprinkling of water through a fine rose can. Watch for damp and, if present, admit more air.

Hardy Cyclamens.—These are charming plants for naturalising purposes and growing under trees where the shade is not too dense, and the present is a good time to plant them. All the species and varieties are good, and a little leaf-mould and mortar rubble added to the soil will prove an advantage.

Chrysanthemums.—If the weather proves dry, these surface-rooting plants will need water and, after a thorough soaking has been given, a mulching of short manure will help to keep the roots moist. Stake the shoots when needed, and if black or green fly appears, spray at once with a solution of some reliable insecticide.

Wallflowers should be planted out in lines 1 ft. apart, the centre of the plants being removed when they have made a few inches of growth, and it must be borne in mind that no further pinching is needed. Polyanthuses, Forget-me-nots, Sweet Williams, etc., may be planted out in nursery beds. Water will be needed until the roots are established.

The Hardy Fruit Garden.

Strawberries.—Plants from which the fruit has been gathered should be cleared of runners and dead leaves, and the plantation well hoed. If the plants have carried a heavy crop and, as a result, are in a weakly condition, the bed may be mulched with manure and, if the weather is dry, two or three soakings of weak liquid manure given. A sprinkling of artificial manure would also be of considerable benefit. Where it is intended to destroy a bed, the plants should be dug up directly the fruit is picked and the ground trenched, affording a liberal dressing of manure as the operation proceeds.

Aphids.—Such trees as Plums and Cherries will need watching for green and black fly and, if present, measures should be taken to destroy these pests. Where the trees are producing a crop of fruit which may be approaching the ripening stage, an insecticide ought not to be sprayed over the

harvested. Ventilate rather freely if the weather is favourable, but, in order to economise in artificial heating, reduce ventilation to small dimensions before the sun has gone quite off the house.

The Flower Garden.

Pinks.—Cuttings, or pipings as they are often called, should now be taken and "made," that is, after inserting them firmly in a sandy compost in a cold frame or under hand-lights. Here, it kept close and shaded from the direct rays of the sun they will emit roots in a few weeks, after which they should be gradually inured to full light and air prior to being planted out. I should like to put in a plea for the retention of the beautiful laced varieties, once the florists' pride, but sadly neglected of late. Free use should also be made of such varieties as Mrs. Surland, Her Majesty, Napoleon III and the common Mule Pink. The Allwoodii Pinks are now so widely known that they should require no recommendation here; they are quite a unique class.

Sweet Violets.—Remove all runners as soon as they appear, the object being to build up a single strong crown on each plant, this being essential to the subsequent production of a good crop of large, long-stemmed flowers. Stir the soil from time to time with the hoe, and do not allow the plants to suffer from lack of moisture. Also stir the soil shortly after watering should the latter be required.

Sweet Peas are now flowering, and one need not hesitate to cut freely for the decoration of the home, as the harder they are cut the more profusely will flowers be produced. Uncut spent flowers should be removed before they have time to produce seed. Tie in shoots which fail to catch the stakes, water copiously if drought occurs and feed occasionally. CHARLES COMFORT (Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Ivy-Leaved Pelargoniums are very useful for the conservatory. If good plants are required for next year, cuttings should be rooted towards the end of this month or during August. The young plants should be stopped frequently and grown on steadily in a cool greenhouse. If large specimens are required, three good plants rooted last autumn and now in 48-sized pots should be used to each roim. or 12in. pot. If carefully trained to neat stakes, they should, by the beginning of June next year, be fine large specimens some 6ft. in height and, with suitable care and feeding, will remain in flower for several months. Strong-growing varieties, such as Mme. Crousse, Scarlet Crousse and Souv. de Charles Turner, are best for this purpose. If planted out these Pelargoniums are very useful for covering back walls in sunny greenhouses. They are also excellent as basket plants. Baskets are best made up with young plants, and the latter should be pinched several times to get the baskets well furnished.

Begonias of the tuberous-rooted varieties are now making a good display in the conservatory. The earliest display is obtained from tubers raised from seed last year, and such plants should be assisted with frequent applications of diluted liquid manure and soot water. A quantity of the strongest plants raised from seed sown early this year should be potted up. These plants should be obtained from cold frames where they have been planted out in beds of light rich soil. Such young plants, if well grown make a good succession during late summer and autumn to the earlier batches.

Begonia Evansiana (syn. *B. discolor*) is very useful for the conservatory during late summer and autumn. The plants should now be placed in their flowering pots, which should be 6ins. or 7ins. in size. This plant is one of the oldest of our garden Begonias, being first introduced in 1812. It is nearly hardy, and I know of plants that have stood for several winters at the foot of a warm wall in the neighbourhood of London. It is also interesting as being one of the few Begonias that develop buds in the axils of the upper leaves, such buds attaining a ready means of increase. The beautiful *B. gracilis* also develops buds in the same way. This summer-flowering Begonia is more generally known as *B. Martiana*, which is really a fine variety of *B. gracilis*. This plant must not be confused with the *B. gracilis* of the Continental growers, who wrongly apply this name to a section of *B. semperlorens*. The true *B. gracilis* sends up a single straight and very succulent stem, and enjoys a light rich compost and partial shade during the hottest part of the day.

Bulbs for forcing and pot work generally should be ordered as soon as possible. This is important so that they may be at hand when the proper potting season comes round. Early potting is very essential, as it allows the plants time to develop plenty of roots before they are required for forcing. In the case of Freesias it is very essential that they be potted towards the end of August or beginning of September. In addition to Narcissi, Tulips and Hyacinths which are so largely grown in pots, there are many other bulbous plants that should be more generally cultivated in like manner for the conservatory and greenhouse. The following plants are suitable for this purpose: *Ixias* in many varieties, *Spiraxis*, *Babianas* and *Tritoma crocata*. These are all very cheap and very charming. *Allium neapolitanum* with its pure white flowers is very useful when some five or six bulbs are grown in 48-sized pots. *Ornithogalum arabicum* with its large white flowers with black centres is very fine, although one must confess its regular flowering is somewhat uncertain. *Gladioli* of the ramosus and minus sections are also very beautiful and useful for a supply of cut flower. *Lachenalias*, although charming, are very much neglected at the present day. All the plants mentioned only require the shelter of cold frames in their initial stages, removing them to a cool, airy greenhouse as they come into flower. However, at the proper season I hope to deal with their potting and other cultural requirements.

Royal Botanic Gardens, Kew. J. COUTTS.

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.

DIVIDING PRIMULA JAPONICA (L. B.).—Our correspondent does not say in what position the plants are growing. If on a rockery they should be in a moist part, and in any position the soil should be deep, rich and moist, with the drainage ample to prevent stagnant water lodging. Given these conditions and the absence of grubs, which sometimes cause the sudden death of the plants attacked, division may be safely carried out soon after the plants have flowered, in the autumn, or in March.

IRIS MADAME CHEREAU (Folsted).—This is one of the best of the bearded Flag Irises and, if true to name, our correspondent has anything but a worthless specimen. The lavender or sky blue colour in the flowers does vary a little; it is mainly a matter of shade, as a quite open, sunny position where the soil is rich, deep and well drained, is an ideal one for them. This has, of course, been a rather sunless season; in a normal one, probably, the flowers will be quite satisfactory.

ROSE GARDEN.

ROSES AND BLACK SPOT (W. J., Salisbury).—On no account spray with copper sulphate by itself. Bordeaux mixture is the best spray, and it would probably be better to remove the affected leaves as soon as possible. Drastic removal of healthy foliage would, of course, be detrimental.

FRUIT GARDEN.

FIGS DROPPING OFF TREES (W. M.).—The majority of the embryo fruits that form the previous year drop off the following spring or in the early part of the summer when growing in the open air. Of course, a check of any kind, whether from extreme cold or unfavourable root conditions, hastens the fall of these early Figs. Embryo fruits should be forming on many shoots at this season, and the point only of each shoot should be pinched off forthwith; the result will be the rapid swelling of the tiny Figs and their due ripening during September.

MISCELLANEOUS.

NAMES OF PLANTS.—T. W. W.—*Dolichium nudicaule*.—L. H. C., Newick.—1, *Lysimachia punctata*; 2, *Oxalis floribunda*; 3, *Oxalis corniculata* var. *atropurpurea*; 4, *Helianthemum vulgare* var.; 5, *Alyssum maritimum*.—E. F. B., Peebles.—*Saxifraga granulata* var. *dore plena*.—A. R. O. S., Totnes.—1, *Pteris semipinnata* var. *gigantea*; 2, *Polypodium Phymatodes*; 3, *Asplenium Filix-foemina* var. *cristatum*; 4, *Scolopendrium vulgare* var. *furcans*; 5, *Nephrodium Filix-mas* var. *cristatum*; 6, *Polypodium aureum*; 7, *Polypodium Dryopteris*; 8, *Aspidium falcatum*; 9, *Aspidium angulare*.—H. P.—A, *Phyllostachya viridi-glaucescens*; B, *Arundinaria nitida*; C, *Kalmia latifolia*.—Hastings.—*Cratogeomys grandiflorus*.—P. R. T., Herts.—*Phacelia ciliata*.

The Rockets.—If one has a love for a really beautiful and showy old-world flower one should grow the Rocket, *Hesperis matronalis*, which is deliciously scented, especially in the evening, and which remains in bloom over an extended period. This is a hardy perennial, varying in colour from pink and purple to red, reddish purple and white. There are both single and double forms, the double white being grand. All varieties, in addition to their imposing appearance in the borders, are splendid for cutting and reach a height of about a yard. Propagation of the single forms can be effected without the least difficulty by seeds sown in spring, but the most satisfactory way of increasing fine forms is by division. This should be done in July or August by lifting the entire clump and splitting it up into single pieces, which are then at once re-planted either in the reserve garden or their permanent positions. Where one has a stock of established plants, these can safely be transplanted either in spring or autumn. To increase the splendid double sorts, such as the Scotch or French varieties, the easiest method is to strike cuttings. These can be obtained from the parent plants about the middle of June, and should be trimmed clean of the larger leaves at the base and immediately inserted in a bed of light gritty earth in a cold frame. Avoid over-watering, but keep moist at the roots and rather close for a week or two. Light overhead sprinklings are a great assistance in keeping the foliage fresh until roots form. Once roots are formed the frame can be lifted off so as to expose the plants fully to air and sunshine. Early in autumn the plants may be placed in their permanent quarters.

Arsenate of Lead Spraying and Bees.

The issue of the British Bee Journal for July 5 raises the question whether the spraying of fruit trees in blossom with poisonous compounds such as arsenate of lead is dangerous to bees. A correspondent attributes the loss of a great proportion of the workers in some of his stocks to poisoning from newly sprayed Apple trees. He only saved the stocks, he states, by removing the supers and resorting to rapid feeding with syrup. There would seem to be every possibility that bees might be poisoned in the way suggested, and the matter should certainly be cleared up.

An Example Worthy of Emulation.

A member of the Bath City Council has offered to present a large number of fruit trees to be planted in the public parks of Bath. They had, he said in the Royal Victoria Park at Bath some of the most beautiful trees in the West of England. Fruit trees with their blossom in the spring and fruit in the autumn would be beautiful at both seasons. It would be a lesson in self-control for the boys of Bath. They could not tell what the children would do until they tried them and they should not be condemned beforehand. If some of the children were as bad as was suggested, whose fault was it? Could they blame the children? It was grown-ups (men and women) who were responsible for the conduct of the children to-day.

FORTHCOMING EVENTS.

July 17.—Winchester Horticultural Society's Meeting.

July 18.—Hayward's Heath Horticultural Society's Exhibition (two days).

July 19.—Potter's Bar and District Rose Society's Exhibition.

July 20.—Birmingham Horticultural Society's Exhibition (two days).

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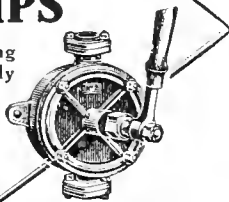
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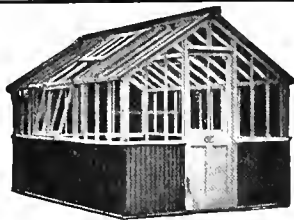
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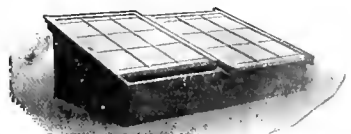
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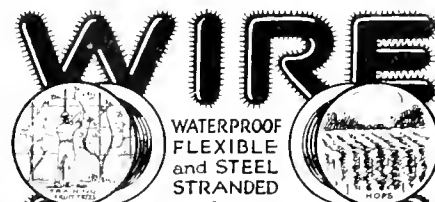
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No. 2696.—Vol. LXXXVII.]

[JULY 21, 1923.]

SUMMER-FLOWERING TREES AND SHRUBS

THE great blaze of colour in the shrubbery comes in spring with the generality of the Brooms, most of the Barberries, the Double Gorse, the Lilacs, the Laburnums and Flowering Cherries and Apples, to mention only a few of the more noteworthy. Some of the Spiræas hang on a little later and the beautiful *Exochordas* usually blossom along with the Scotch Laburnums. After this there is apt to come a blank.

In favoured gardens *Buddleia Colvilei*, illustrated on page 366, is not far behind. This plant in its native state in the Sikkim Himalayas, where it is found at an altitude of 10,000ft. to 12,000ft., is described as a large shrub or small tree, attaining a height of some 30ft. In this country in the South and West it is fairly hardy in the open; in colder parts of the country it is surprising it is not more frequently tried as a wall shrub. Where climatic conditions permit, its successful cultivation presents no difficulty, as it is a strong-growing plant, and, when flowering freely, presents a striking appearance with its flower spikes of small *Pentstemon*-like flowers, which vary in colour from rose purple to a rich dark crimson. There appear to be at least two forms in cultivation; one the lighter-coloured variety which is figured in the *Botanical Magazine*, tab. 7449, and the fine darker-coloured form which has rather smaller flowers. This *Buddleia* is readily propagated by striking the twiggy side growths as soon as they are firm enough to prevent damping, such shoots rooting readily under a bell-glass in a cool house. Success is, however, more certain if a pot-grown plant is introduced to a greenhouse and the young growth secured for cuttings.

Then comes quite a number of the Mock Oranges, perhaps the very best being the

species *Philadelphus grandiflorus*, which has the merit—as most of us think—of being scentless. *P. inodorus* is an allied species, though less elegant in flower and foliage. Some of the dwarf-growing *Lemoinei* hybrids are late to flower, notably *P. purpureo-maculatus*. Another very handsome (probably hybrid) Mock Orange is *P. insignis*, sometimes—especially in Continental lists—catalogued as "*Souvenir de Billiard*." This, like *P. grandiflorus*, to which it probably owes relationship, grows 10ft., 12ft. or 14ft. high. The flowers, produced as freely as on the small *Lemoinei* forms, are cupped and pleasingly, but not strongly, perfumed.

About this season *Romneya Coulteri* first begins to expand its satiny, golden-stained platters, while a great wealth of *Escallonias* helps greatly to keep the shrubbery bright. The great stand-bys in this family are still *E. E. macrantha*, *Philippiana* and the hybrid between them, *langleyensis*. There are quite a number of new forms with *Philippiana* and *macrantha* blood—*edineensis*, *newryensis* and *Donard Seedling*, for instance—and these are useful additions

to the shrubbery, but if we were confined to two *Escallonias*, the sorts selected would still be *macrantha* and *langleyensis*, and probably if three were wanted *Philippiana*, deciduous though it be, would be the third.

Escallonia rubra, somewhat in the way of *macrantha* as far as general appearance goes, is a taller grower, ultimately attaining a height of 15ft. or so. It is fairly hardy in most localities, but less handsome in flower than *E. macrantha*; nor does it, like that species, flower the year round. The only other kind useful for the general run of inland gardens is *E. exoniensis*, a hybrid of *rubra* parentage sent out by Messrs. R. Veitch of Exeter. This easily attains a height of 15ft. and the flowers are white or bluish white. This, like *E. macrantha*, is a continuous bloomer and, given open weather, it is quite possible to pick sprays in midwinter.

The *Ceanothuses* of the *americana* and *azureus* clan, including the invaluable *Gloire de Versailles*, provide cloudy blue colouring at this season and, like the *Escallonias*, they will see that the shrubbery is not devoid of blossom until late in autumn.

Another beautiful shrub with the same estimable trait is the scarlet and yellow *Desfontainea spinosa*, which, alas! stands our winter outdoors only in favoured gardens. There is quite a batch of late-flowering Brooms of which the blossoms last into July, but there is matter here for a separate article. The Spanish or Rush Broom, *Spartium junceum*, is really in a class apart, not only because it has a genus to itself, but on account of its really late-flowering and very distinctive characters. This is the only Broom which is at all useful for cut flower. The golden, sweet pea-like blossoms never wilt when placed in water. The *Spartium* is apt to prove none too



AMONG THE HANDSOMEST OF DAISY BUSHES, *OLEARIA MACRODONTA*.

give shelter and to attract the bees.

Most people keep too little for the health garden. Suffice it here to say that a large number of these flower in late summer. Similar conditions rule out the Roses, though several species and the great majority of hybrid Ramblers flower in July. It is only necessary here to mention them so that they may not be overlooked when planning the shrubbery.

There are two of the Magnolias which produce blossom in late summer and autumn, though neither can be said to make a show of flower at any one time. *M. grandiflora* is evergreen, and in most districts appreciates the shelter of a house wall. The other species—the Swamp Bay, *M. glauca*, so called from the bright glaucous colouring of the undersides of the leaves—is deciduous or sub-evergreen. Both species are somewhat variable, and there are named sorts in commerce.

The Hydrangeas are all summer and autumn flowering shrubs. The kinds usually met with in shrubberies are paniculata, including its sterile variety *grandiflora*, and *arborescens*, which produces masses of greenish or yellowish white trusses. A new sterile form of this *H. a.* *grandiflora* has pure white flowers, but, as in the typical plant, the trusses have a tendency to "go over" at the neck, especially after rain. Many a beautiful lady has been spoiled by bad ankles, and the weakness of the footstalk is certainly a serious detriment to this Hydrangea. *Hydrangea Bretschneideri*, which is earlier to flower than most, reminds one irresistibly of the wild Guelder Rose, *Viburnum Opulus*, when in blossom. It is quite

large, but it is said that its flower-freckles should have a more artistic effect.

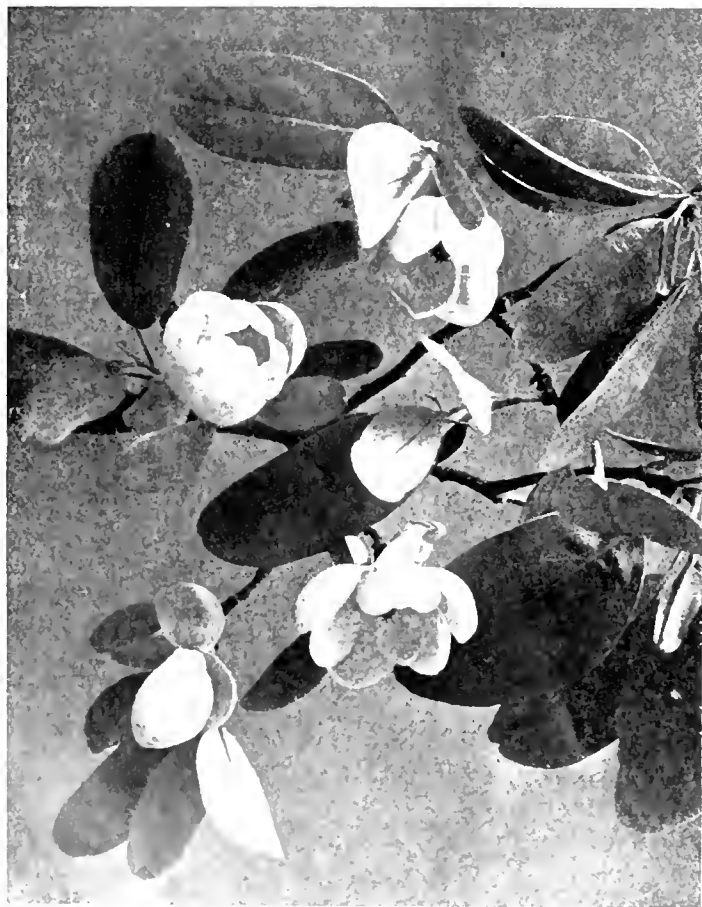
Hydrangea hortensis is hardly enough anywhere near our seashores, and may be seen outdoors in many a cottage garden in mid-Sussex, to go no further afield, but is unreliable at Kew. Where the type plant stands outdoors the splendid variety *Mariesii* should be grown. The marginal flowers of this variety only are sterile and of pleasing mauve-pink colouring. Comparatively few in number, they are rendered conspicuous by their size, being often six inches across. There are, however, at least three forms of *Hydrangea hortensis*—or, at any rate, very closely related species—which will stand outdoors in many of the more favoured inland counties. These are called *acromata*, *Lindleyi* (or *japonica*) and *stellata*, the two former with sterile flowers only at the corymb flower, and the last named with curious "double" flowers.

The great glory of the late summer and early autumn shrubbery, however, is *Buddleia variabilis*. This was not always a highly esteemed shrub, and for its neglect there are two explanations. In the first place, the forms originally introduced from China were really not comparable to those collected a few years later mainly by Mr. E. H. Wilson; secondly, the necessity for hard pruning, if really fine trusses are desired, was probably not, at first, so well understood. The best forms in cultivation are in their order of coming into flower: *Veitchiana*, *magnifica* and *superba*. There is usually a week or ten days between *Veitchiana* and *magnifica*, and a good fortnight between the latter and *superba*. *Veitchiana* and *superba* are of much the same lilac and orange colouring, though the latter makes a finer spike. *Magnifica*, however, has flowers of richer colouring,

a deep but bright violet purple, contrasting well with the orange at the throat.

No reference to summer-flowering shrubs would be complete which overlooked the Olearias. The species illustrated on page 365 (*O. macrodonta*) is not only quite the handsomest, but one of the earliest to flower. It stands outdoors—away from a wall—in some of the Midland Counties, and is much harder than is generally supposed. The same may be said of *O. stellata* and the very similar but but rather laxer and larger-flowered *O. Gunniana*. The tenderness of the "Daisy-bush" family is largely legendary. Some of those considered most tender are at the present time harder than many *Cistuses* which are habitually grown outdoors, though the beautiful *O. semi-dentata* will not, at the time of writing, stand outdoors except in specially favoured districts. The fact is that it is unwise to accept evidence of a newly introduced plant's tenderness as final. Many species at first proved tender have in the long run acclimatised themselves, and this is particularly so with the Olearias. A light well drained soil and a sunny aspect should, of course, always be afforded the choicer ones. *Olearia nitida*, the curious semi-succulent *O. nummularifolia* and the truly remarkable *O. insignis*, which in its younger stages looks herbaceous, all stand outdoors in such inland counties as Warwickshire.

There are other families of plants which yield flower at this season, but, except the Veronicas—the most useful of these is *salicifolia*—and the Clematises, which are climbing shrubs, we have mentioned the showiest and most important, though mention should certainly be made of *Caryopteris* and *Indigofera*.



THE SWAMP BAY, *MAGNOLIA GLAUCA*.
The foliage is vividly glaucous beneath.



THE ROSE-FLOWERED *BUDDLEIA COLVILLEI*.
Needs the shelter of a wall in most districts.

NOTES ON FREESIAS

COMPARED with Hyacinths, Tulips and Bunch-flowered Daffodils, the Freesia is a new-comer into the world of decorative greenhouse flowers. One of the best books on bulb culture that I have come across is "Bulbs and Bulb Culture," by the late Mr. D. T. Fish. The edition which I possess was probably the last; at all events, it was published in 1885. The Freesia is not mentioned—not even *refracta* or *refracta alba* nor *Leichtlini*. The coloured Freesia did not appear for a long time after this. *Armstrongii*, which is the parent of all the coloured varieties, was only found in 1898, and the first bulb was not flowered in England until the following year. Hybridists, however, at once seized upon it, and the ball of new varieties was set rolling. Lavenders, roses, pinks, heliotropes, warm apricots, and other shades and colours have now come into being along with fine new whites and yellows of all kinds from pale primrose to deep orange. These last probably owe but little to *Armstrongii*, unless the new-comer has in some way stimulated a dormant factor for yellow into life.

Raising seedling Freesias is very fascinating if only a sufficiency of greenhouse room can be given up to the young plants. These will bloom in February and March if a low temperature of 45° to 50° is not exceeded in the winter months and enough warmth kept up at nights to exclude frost. Seed should be sown *very thinly* in August or September and kept under glass. After germination the seedlings should be grown on and given much the same treatment as the bulbs. Then when the foliage has died down the young plants should be very carefully turned out so as to keep each bulb with its offsets together. In August every little lot is put into a 3½ in. pot and grown in the usual way. As far as my experience goes no one has got to Tipperary yet. It is still "a long, long way to go." I am very fond of Tulips, I am very fond of Daffodils "that come before the swallow dares." But I want something before Daffodils "dare." I have found my philosopher's stone in the Freesia. To those who feel the call of Nature to give her offspring that

chance in life which is beyond her powers. To be able to do this and to be a fellow worker with but after, the Grand Dame!

"Her 'prentice han' she tried out man,
And then she made the lasses, O!"

"Yes," someone is thinking, "why all this ecstasy over Freesias? Are there no other flowers in



A MEDLEY OF COLOURED FREESIAS.

the world?" Freesias have "found" me, as Crocuses, and Orchids, and Pansies, and Daffodils, and Delphiniums, and Roses, and Carnations and Auriculas—to draw one's bow at a venture—have found others.

Two problems perplex the grower of coloured Freesias—duds and breaking. I do not think my friend Mr. Dalrymple used to take all I have written at various times about Freesias breaking quite seriously. I fear he has had a rude awakening this last blooming season. "'Et tu, Brute!' You, Wistaria!* you!" They seem to manage matters better in Holland. Mr. John Hoog

*Wistaria was raised by Mr. Dalrymple. It was the apple of his eye. "My W. is perfectly lovely, I wouldn't give an offset of it for all the Apotheose in the country."

has recently written to say that this aggravating behaviour is unknown among his many varieties at Harlem! A small boy at a preparatory school came in late for dinner. The master noticed he said a remarkably short grace to himself. Curiosity prompted him to ask him what he said. "Marvellous," he replied. That's the word I apply to Mr. Hoog's experience. I wish he would tell us how it is done. I have grown a large number of the Zwamenburg varieties, and (yellows excepted) only Dainty and Conquest have remained unchanged. Duds are more understandable. They occur when bulbs are not sufficiently ripened. I have called them "Weary Willies," but I "apd." The fault is in the cultivator, who has failed to give them the necessary warmth before potting them. I advise everyone to try keeping the bulbs for a fortnight, or three weeks if possible, in a warm temperature of 65° to 70° before planting. Last autumn I tried it for the first time and the result surprised me. Several friends have written to say they have suffered from duds this year. May I advise as a safeguard for another season this treatment? One compensation about duds is that one seldom finds a bad one. This is a comfort when the variety is a valuable one, for they will behave all right another year and need not be thrown away.

FREESIAS AS WINDOW PLANTS.

Being the possessor of Bailey's big American Cyclopaedia, I have read all that is written under the head of Freesias. It surprised me not a little to find these words: "they flourish in home windows with less care than most other bulbs." I would never have thought it, and my house windows being quite out of the question for allowing me to make a first-hand experiment, I have never done so. However, a present of a few bulbs to the late Mr. John Bain when he was living in retirement at Gairloch in Ross-shire has shewn me there was far more truth in the remark than I imagined. This famous gardener wrote in 1920: "I had a most lovely potful of Merry Widow Freesias. Every bulb flowered." Along with Hyacinths and other bulbs they made "quite a show in my cottage window, especially the Freesias." We are not all of us John Bains, but as the proof of the pudding is in the eating, I asked him if he would give me some details of how he did it so that I could pass on the information to others who want to try window culture. The letter from which I quote is dated November 2: "After I potted them in the autumn, I left them out of doors until they started well into growth, and took them in when there was any sign of frost. Being so close to the sea we do not get any sharp frost until late in the year, so I have one or two pots still out of doors and only took the most advanced in at the end of last week. My windows face north-west, so get but very little sun through the winter. I gave the pot of Merry Widow that flowered so well last spring when it began to show flower a little potato guano, which I think it liked very much. It gave the foliage a nice dark colour and the blooms were very fine." I wish we had been told something of what happened after November. I can only suppose the usual routine was followed: turning the pots round daily, careful staking and watering, putting them out of reach of frost at nights, giving all the sun and air possible and so on. Perhaps some kind reader who has successfully negotiated Freesia culture in a window will put pen to paper and tell us how he does the trick. The writer in Bailey seems to say that only the Chinese Narcissus is easier to manage. What a popular plant the Freesia, with its delightful and unmatched aroma, might become if only the general experience of growers confirms its adaptability for window gardening.

JOSEPH JACOB.

THE SUN-LOVING ÆTHIONEMAS

THE genus *Æthionema* consists of about forty species of somewhat low growing plants, native chiefly of the Orient, although six or seven are found in parts of Southern Europe. Many of them are of great beauty, very free flowering, and well suited for dry, sunny positions in the rock garden. Although perennial in habit, with shrubby stems, several kinds are short lived and require to be propagated frequently in order to keep up the supply. An exception to this is *Æ. amicum* as well as *Æ. ibericum*, both of which, when planted in suitable situations, continue to flower annually for several years, the former making

a beautiful display on a sunny ledge. Quite a dozen species have been, or are, in cultivation, the best of which are:

Æ. AMICUM. This is an Armenian plant similar in habit but more profuse in growth than the better known *Æ. pulchellum*. It has rather longer and greener foliage, with racemes of larger pale pink flowers. Commencing in April, its racemes of flowers are produced throughout May and June, making it a valuable plant for the sunny rock garden.

Æ. ARMENIUM. A choice little species, also from Armenia, with narrow, closely set foliage on stems only 3 ins. high. The deep pink flowers

are produced in short racemes in early spring. It is principally a plant for growing in pots for the alpine house. A form or hybrid of this is *Worley Rose*, a very free-growing, hardy kind with rosy pink flowers.

Æ. CARYOPHYLLUM is an annual from the Orient, making little tufts 2 ins. high, with fleshy oval leaves and pale pink flowers in summer. It may be sown in the open ground in spring.

Æ. CORDATUM.—Although distinct, this species has not much to recommend it. It has, unfortunately, a lax, untidy habit. It comes from Asia Minor and Syria, and has fleshy cordate leaves and yellowish flowers in June.

Æ. CORNIFOLIUM (syn. *Iberis jucunda*).—The native home of this little gem, which also goes by the name of Lebanon Candytuft, is in the mountain ranges of Asia Minor and Syria. It is not quite hardy in the northern parts of this country, but in the warmer south it can be grown with success as a crevice plant or on a rocky ledge. It forms a pretty little bush about 4 ins. high and rather more in diameter. Very slow-growing, it should only be associated with the choicer and neater-growing rock plants. It does best in loamy soil with plenty of limestone chippings mixed with it. Perfect drainage is essential, as, indeed, it is with all the other species. The delicate pink flowers are produced in July and August in densely crowded, almost umbellate racemes, and are veined with a deeper rose. The glaucous evergreen leaves are somewhat cuneate in shape and about half an inch long.

Æ. GRECUM is a tufted little perennial 6 ins. high with oval, fleshy leaves and pale pink flowers in racemes. It comes from Greece.

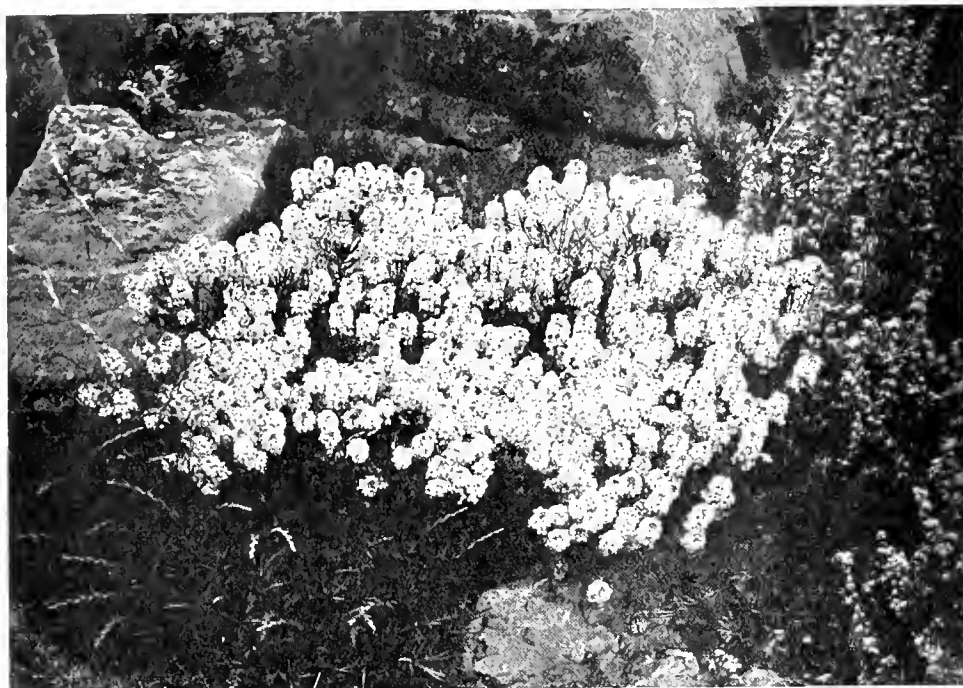
Æ. GRANDIFLORUM.—This is a shrubby perennial from Northern Persia which grows to a height of 1 ft. to 18 ins., with numerous twiggy stems clothed with linear, nearly green leaves. During the summer months it gives a profusion of deep rosy pink flowers in very long racemes. It is not so hardy as some of the others and requires a warm, sheltered position, preferably planted between stones where it is assured of ample drainage. When once established it resents disturbance and many plants are lost through attempted removal. Seeds are produced sparingly, but it may be increased by means of cuttings.

Æ. IBERICUM is probably the hardiest member of the genus, forming a tuft of low-lying foliage covered in April and May with short racemes of white flowers. It does well in the rock garden in good loamy soil, and may be increased by division. It is found on the Taurus range of mountains in Cilicia.

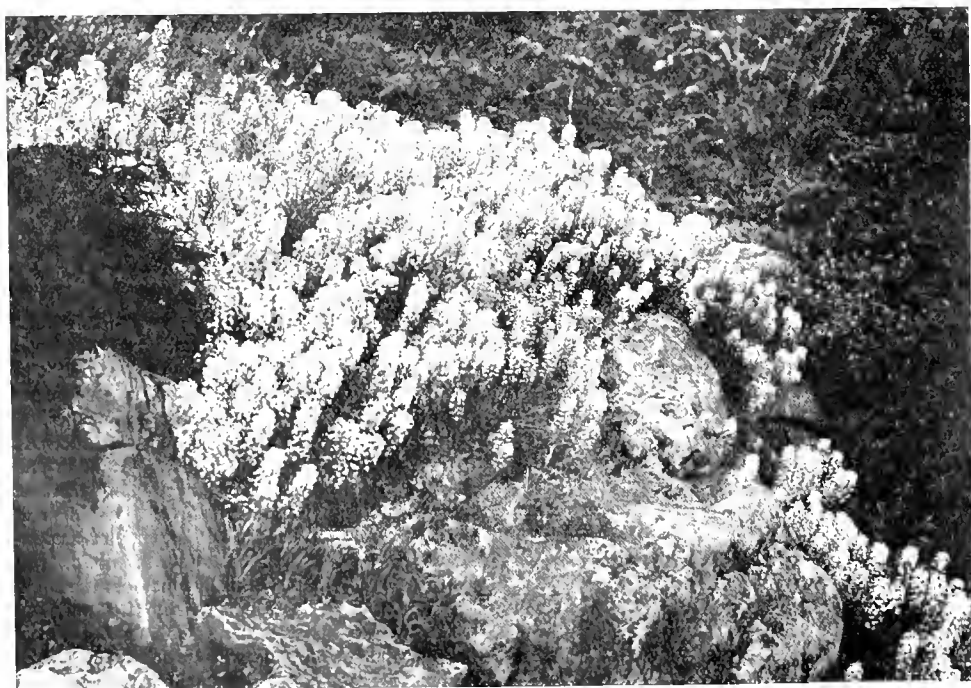
Æ. PULCHELLUM (syns. *diastrophis* and *persicum* of gardens).—This charming plant forms a bush up to 8 ins. high, with numerous twiggy stems clothed with linear glaucous leaves. During the spring and early summer months the pale rosy lilac flowers are produced in dense racemes, quite covering the whole plant. It is one of the best, quite hardy on a well drained ledge, and prefers a loamy soil with plenty of limestone chips.

Æ. THOMASIANUM is a pretty little alpine from the Piedmont with rosy lilac flowers and suitable for the moraine.

Except in the case of the annual kinds, seeds are not produced very freely, but all the perennial species may be increased by means of cuttings in the summer as soon as the flowering season is over and the plants commence to produce fresh shoots. The cuttings should be inserted in pots in a very sandy soil and kept in a close frame till they are rooted. They may then be potted off singly in small pots so that the pots get full of roots before the winter. The best time for planting out is in the late spring. W. J.



THE PALE, ROSY LILAC ÆTHIONEMA PULCHELLUM.



ÆTHIONEMA AMICUM HAS GREENER FOLIAGE AND LARGER FLOWERS THAN Æ. PULCHELLUM.

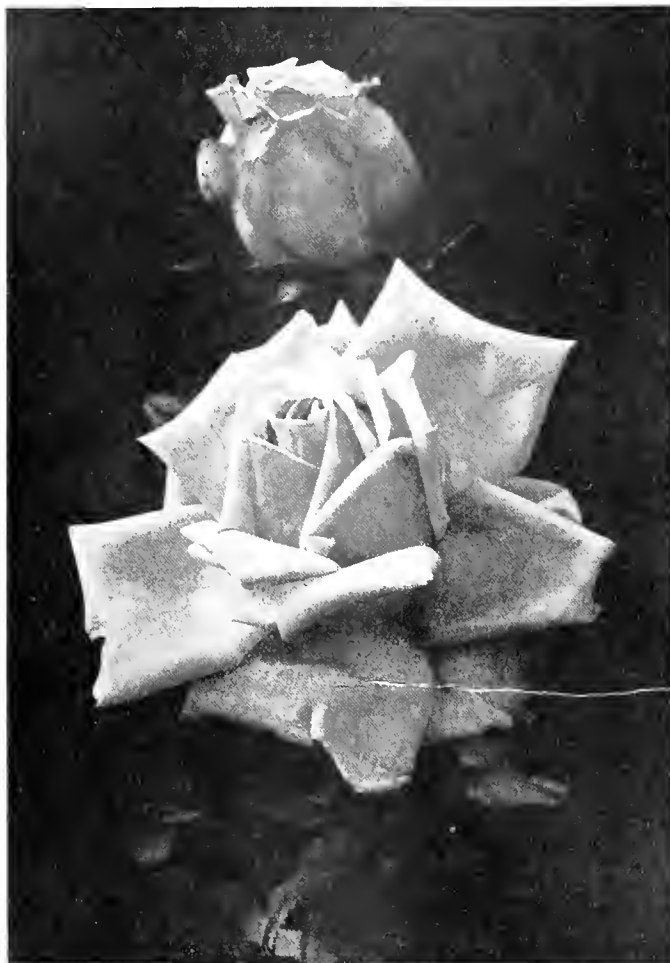
MODERN ROSE CULTURE

IF the last twenty years has witnessed a greater revolution in Rose culture than was achieved in all previous time since Theophrastus wrote his celebrated book on the subject in 287 B.C., few would dare to assert that the Roses of to-day are in any sense superior to those of Dean Hole's time. Varieties have, of course, increased to an extent undreamed of even a few years ago. English and Irish hybridists, stimulated into activity by the skill and competition of the French rosarians, still among the keenest in the world, have flooded our gardens and shows with Hybrid Teas. Germany, Holland and even America have done their part in this race for priority until the average rose-grower has become utterly incapable of keeping pace with each recurring season's output of novelties.

The primary reason why it is impossible to make comparisons between the Roses of one generation and another is that Rose culture has never been carried on with any definite objective in view. There has been no great or common ideal of any stability, so that the blossom which was lauded yesterday might well, to-morrow, be neglected for the more novel attractions of some newcomer. Then any conception of what should constitute the perfect Rose has probably never existed, for fashions and tastes change in this as in other things. Even our gardens themselves have lately undergone a period of reformation, during which earlier designs have been supplanted by entirely new ideas, so that the formalities of the later Victorian days have become as remote as those of Tudor times.

However, if the amazing multiplication of new sorts of Roses has been the means of producing some notable and enduring results, annually revitalising one of the most important branches of gardening science, it has at the same time been instrumental in bringing about a reversion towards Roses of an earlier type. This, I think, is the most pronounced feature of modern Rose culture. We, doubtless, grow as many Roses of the bedding or decorative classes as ever we did, though the orthodox rose garden does not appear to be the essential adjunct that once it was deemed to be. But the tendency nowadays is to recall and reinstate those rare old Roses of an earlier England, the old and half-forgotten favourites, like the Moss Rose, the Damask and the Cabbage, whose exquisite fragrance—surely the Rose's most precious possession—may be sought for in vain in "the scentless breath" of too many modern creations.

This awakening of a fresh interest in these ancestral types has, however, extended further than I have indicated. From those groups of



THE ROSE-COLOURED ROSE BESSIE CHAPLIN.
This secured a Gold Medal at the Great Summer Show.

Tudor and other varieties which rose historians have lately established in Shakespeare's garden at Stratford we have gone right back to the Briar or single forms, even to the Roses of Horace, who described the ephemeral character of their blossoms and their fragile loveliness with the one word, "short-lived." Not only have our own Dog Roses and Sweet Briar been brought into our gardens, with or without the splendid adornments wrought upon them by the cunning of the hybridist, but the ends of the earth have contributed their share. From China in particular have some wonderful species been introduced. Indeed, the citron yellow *Rosa Hugonis* and the beautiful *Rosa Moyesii*—unapproached among singles in the texture of its velvety petals, and without a rival in the quality and depth of the crimson-searlet which frames its circle of gold—may be mentioned as a brace of singles destined to exceed in public esteem any modern Rose of garden origin. Again, in some of the Briars introduced by Lord Penzance, and which still bear his name, no less than in many other productions, notably of the Irish nurseries, one is attracted not only by that elegant simplicity which is so appealing a feature of the single form, but by the true rose perfume and those rare blends of colour which so often betray the "blood" of certain species of

the East and which might be described as tones of glowing orange chrome.

But single Roses have qualifications other than these. Many of them are species, and for the species, as distinguished from the mere variety or hybrid, many gardeners of to-day have a decided predilection which is in part no doubt due to the enormous extension in the culture of alpine plants during late years. There is, indeed, a peculiar interest attached to a plant of specific rank which will always afford it a distinction seldom accorded the "made-up" article. Then it will not be overlooked that the majority of the Roses of this type are June Roses. That in itself would be sufficient to make a strong appeal to our national sentiment, for the great bulk of the Teas and Perpetuals, no less than those of the ubiquitous Rambler class, do not usually come into full bloom until July is well in. Thus have we, in making this return to our first loves, not only indicated in a very practical sense a phase of that modern trend which is ever leading us towards the attainment of a clearer vision and deeper appreciation of natural beauty in gardening, but we have achieved the possibility of realising that June in the garden may be, what it has always been in the lane, an actual rather than traditional "Month of Roses."

A. T. JOHNSON.

FERNS FOR THE WATERSIDE

THE common idea that Ferns imperatively demand very large supplies of water, though true in the main, is by no means universally so. Nature is for ever searching for homes for her children, for unoccupied territory to plant with growing things. Thus it has come about that walls, which one would imagine to be quite incapable of supporting them, are found literally covered by Spleenworts, Polypodiums, Hartstongues, etc.; while, again, in damp, swampy places one finds glorious masses of Marsh Shield Fern, Sensitive Fern, Royal Fern, Cinnamon Fern, Chain Fern, etc. Obviously, then, when considering our plantings, it is the old, old problem—that of fitting the plant to the place. Nature will always back one's efforts, but one cannot reverse her decisions. There are Ferns that *do* imperatively demand moisture, and, if one has a bit of streamside or water garden with a "squishy" slope on the margin, one possesses an ideal opportunity for grouping that will appear attractive right through the year. A Fern is always an attractive plant even at its deadiest and dullest, with its sere brown fronds so cosily tucked over the crown, like a blanket protecting from cold and frost. See these, too, when covered with hoar frost and one has a picture nearly as fascinating as the uncoiling of the fresh green fronds in late spring, when these seem as if they were running a race with time and *must* complete a certain amount of extension before sunset.

When selecting a site for waterside planting a vital point is to mark the lowest summer level of real moisture and see that planting is not done above this. Mere proximity of water is not enough: it must be available for the roots to drink, or the fronds become a helpless, flaccid mass upon the ground, a condition of things which, if prolonged, results in death. It does not matter if the water occasionally overflows and floods the roots; they will tolerate this for short periods, but they must not be left high and dry.

Onoclea sensibilis is very free growing in a really wet site, extending itself by means of creeping

mazones, from which spring the distinctive fronds to a height of from 1ft. to 2ft. Owing to the thin texture of the fronds this Fern does not love sunlight and is happiest when a good bed of rich loam is put down for it in partial shade. The Marsh Shield Fern (*Nephrrodium Thelypteris*) is very hardy and one of the most delightful when a low-growing species is required for planting by the waterside. In making up the soil for this, old potting compost or fibrous loam is excellent, while it especially appreciates being really near water and having plenty of pieces of rock among its roots.

Whenever I see a good specimen of the Royal Fern, *Osmunda regalis*, I always feel a sensation of envy. I should, even were I the possessor of a dozen of the best, so unique and handsome are

the magnificent fronds and wide spreading, as they tower upwards to a height of 4ft. or more, and, during the first half of the summer, shew the rapid growth of the curious fertile fronds which have gained for it the name of "flowering" Fern. Another *Osmunda* that thrives gloriously is the Cinnamon Fern, *O. cinnamomea*, of which the young fronds and stems are covered with cinnamon-coloured wool. The elegant pale green fronds form a bold and handsome tuft that never looks better than where isolated from taller plants and set in a carpet of some low-growing plant that runs right close up to the roots. One of the most beautiful garden pictures that I can call to mind consisted of a giant specimen of this Fern surrounded by dozens of *Primula japonica* in deep crimson red.

The Hart-tongues grow almost out of recognition by the waterside, the thick, leathery leaves attaining a length of 3ft. and even 4ft. where there is sufficient moisture. The wonderful crispum varieties are no less successful than the commoner forms, and a lavish use of these alone is sufficient to create an unrivalled picture of beautiful fern. The Chain Fern, *Woodwardia angustifolia*, is quite dwarf compared with the tall growers which we have been considering, and therefore makes a grand carpeter for lavish planting between taller and more vigorous growers. The fronds attain a height of about 1ft. and a width of 3ins. to 4ins. The Virginian Chain Fern, in addition to moisture, must have space, for it will quickly cover a yard of ground with its long and narrow and simply divided fronds. HAVELOCK.

HARDY PLANTS AT WESTMINSTER

THE fortnightly meeting of the Royal Horticultural Society on July 10 marked the reversion to single-day shows for the remainder of the season. There was, however, no noticeable falling off in the quality of the exhibits. It was essentially a hardy plant show. Delphiniums, in particular, were extremely well shewn by, among others, Mr. H. J. Jones, Messrs. Blackmore and Langdon, Messrs. Kelway and Son, Messrs. R. H. Bath, Limited, and Mr. T. Carlile. Mr. Jones' exhibit followed the style he has made memorable with displays of Chrysanthemums, Dahlias and Phloxes. Tall, bold pilasters formed a background to a multitude of big vases in the foreground. Pinkish mauve and soft helio shades predominated, and we especially noted Andrew Carnegie, Roselaire, Elaine Lettor, Manny Heel and Ryecroft, all in this restricted range of colouring. Relief was afforded by the stronger colouring of F. W. Smith, The Alake, etc. Particularly noticeable was the high quality of the individual spikes. (Gold medal.)

Messrs. Blackmore and Langdon had huge masses of such splendid sorts as Millicent Blackmore, the rosy purple Lord Rosebery, The Alake and the brilliant Blue Boy. In Messrs. Kelway's large collection we noticed James William Kelway, which might be described as a glorified The Alake, and Star of Langport, a beautiful pale-coloured variety. This firm also had a number of vases of their named Gaillardias. Messrs. Bath's most notable varieties were, perhaps, Mrs. Creighton and The Alake, but they had a very good and complete collection. Mr. Carlile also had a nice lot, in which strong-coloured sorts predominated, so that his exhibit and that of Mr. Jones, one on either side of the entrance to the tea annexe, provided a foil to one another. The "Reckitt's blue" F. W. Smith was very conspicuous on this exhibit.

Messrs. Barr and Sons had an interesting mixed group of herbaceous and bulbous plants, including *Campanula persicifolia* Telham Beauty, Madonna Lilies, the tall Catmint,

Nepeta Ukrania, and *Salvia virgata nemorosa*, which makes so splendid a foil to flowers of soft yellow or buff colouring. The Irises included *Mon-aurea* and *ochroleuca* Queen Victoria, the latter a fine form with bold falls and some excellent forms of the English Iris, *I. xiphioides*. The deep almost true blue Nimrod was noteworthy among these.

Messrs. Carter and Co. filled quite a length of tabling with Iceland Poppies in deep rich orange yellow and pure white, as well as a range of

delicate salmon and apricot tones reminiscent of the cultivated Alpine Poppies.

Messrs. George Bunyard had some very interesting herbaceous plants, but this exhibit of the Maidstone firm suffered from overcrowding. Presumably, space had not panned out as expected. The most striking things here were *Eremuri*—Shelford and Bungei; *Iris* Shelford Giant, which might be described as a handsome but pallid *ochroleuca*; and Japanese (*Kämpferi*) Irises.

Messrs. Rich and Co. shewed their Oxe-eye Daisy *Rentpayer* and a much better one with flowers like those of a good white *Pyrethrum*—*Chrysanthemum leucanthemum* Beauty of Bath. Messrs. Carter Page and Co. shewed Sweet Williams well, especially the black crimson Negress. Cup-and-Saucer Canterbury Bells and herbaceous plants generally were also shewn, among the last named the deep lavender *Catanache cœrulea*, so effective for cut flower.

Messrs. Tucker and Sons brought from Headington, near Oxford, an interesting collection of alpine plants and herbaceous cut flowers, mostly the former. *Edraianthus dalmaticus*, *Pentstemon heterophyllus*, *Allium pedemontanum*, the quaint and woolly-foliated *Origanum Dictamnus* and the rare old dwarf Sweet William, *Dianthus barbatus magnificus*—once a favourite in the markets—were, with a great variety of dwarf Campanulas, some of the most interesting plants on view. Among the cut flowers were *Lilium regale* and the rather effective purplish rose *Centaurea rigidiflora*.

Messrs. Joseph Cheal and Sons had a bank of cut hardy flowers, including such useful perennials as *Sidalcea Listeri* and a really good deep-coloured form of *Campanula lactiflora*. Among growing plants also shewn we noted the turquoise *Pentstemon heterophyllus*, the golden platters of *Asteriscus maritimus* and such useful Campanulas as *W. H. Paine* (one of the garganica kindred) and *Raddeana*.

Messrs. Maurice Prichard and Sons exhibited alpines in pots, including quite a collection of dwarf Campanulas, these including *kewensis*,



THE SOFT LAVENDER PEACH-LEAVED CAMPANULA, *C. PERSICIFOLIA* RYBURGH BELLS.



SOFT LILAC, ROSE SHADED DELPHINIUM
MY LADY.

Miss Willmott, *Miranda* (like a bloated form of the last), *pulsilla alba*, W. H. Paine, G. F. Wilson and *pulloides*. One of the prettiest of the *Scutellarias* was noted here—*S. indica japonica* it was labelled—and the always attractive *Sedum coruleum*.

Right opposite to the entrance to the hall Messrs. Sutton and Sons had a circular bed of Cup-and-Saucer Canterbury Bells in purple, mauve, white and rose pink. These were well grown plants which had reached perfection we should say about a week before the meeting. Some of the blossom was distinctly *passé*; still, they made a brave show.

A second exhibit of Messrs. M. Prichard and Son consisted of herbaceous stuff, much of it suitable for waterside planting. The *Astilbes* included *Vesta*, *Venus* and *Peach Blossom* and *Spiraea Aruncus* was also included. A fairly wide selection of *Kämpferi* Irises, *Veronica spicata* and variety *rosea*, and *Delphinium Maurice* Prichard were other interesting items. The last named is, apparently, a *D. nudicaule* hybrid with bluish pink blossoms. The Christchurch

firm also had a goodly selection of Pinks on view. Of these we selected the rosy *Summer Charm* is especially effective.

Mr. Frederick G. Wood of Ashted, Surrey, had an interesting collection of herbaceous flowers, including a good form of *Campanula lactiflora* and a form new to us of the native *Verbascum Blattaria* (V. B. *grandiflorum*) with shapely buff pink flowers. This should be excellent for naturalising in the woodland wild. *Anchusas*, *Sidalceas*, *Prunella grandiflora* and dwarf *Campanulas* were also well shewn here. A fine pan of *Campanula Hostii*, in particular, found many admirers.

Mr. G. W. Miller's exhibit was noteworthy for the lovely *Campanula persicifolia* Dainty, a shapely semi-double form with flowers of the palest lavender tinting, giving a delightful chintz-like effect. *Lilium pardalinum* and *L. Martagon punctatum* were also attractive.

Messrs. J. Waterer, Sons and Crisp had, as usual, some interesting plants on view. The quaint little magenta-flowered *Verbena Maconette* with its irresponsible white stripes, *Wahlenbergia vincaeflora*, *Sisyrinchium consolida*, *Potentilla Tonguei* (buff, orange eyed), the bright rose *Erodium cicutarium* and *Campanula Raddeana* being a few selected almost at random.

Messrs. Lowe and Gibson of Crawley Down, Sussex, had a small collection of *Herbertii* Pinks in front of a number of vases of seedling *Gladioli*. The best of the Pinks were *Queen Mary*, *Simplicity*, *Model* and *Victory*. The *Gladioli* were stated to be all from seedlings raised from seeds sown in 1922. They were mostly *primulinus* forms of varied and pleasing colouring and excellent form.

The most conspicuous plant in Mr. B. Ladham's exhibit was *Lavatera Olbia*, but more interesting, perhaps, were the blue and white *coronata* forms of *Campanula persicifolia*, which correspond to the Cup-and-Saucer Canterbury Bells inasmuch as the sepals are petaloid. The effect produced is, however, very different, and the flowers have rather a hose-in-hose effect.

On Mr. George Downer's exhibit we noted, besides his strain of "red" *Lupins*, *Romneya trichocalyx* and the quaint and aptly named

Gaillardia Ruffle of which the much crimped blossoms are golden orange with a dusky eye.

Mr. G. Reuther had, as usual, something of everything, especially of everything uncommon. The Swamp Honeysuckle (*Rhododendron viscosum*), *Carpentaria californica*, a number of useful *Escallonias*, some *Philadelphuses* (notably *Virginal* and *purpurea maculatus*), *Desfontainea spinosa*, *Orchis foliosa*, *Cypripedium calceolus*, *Ixias* in many forms (including *viridiflora*), the quaint little *Lilium Grayii*, *Campanula Raddeana* and *Pentstemon Cobaea* were some of the more noteworthy.

Mr. Ernest Dixon of West Hill Nursery, Putney, made quite a display with the dwarf white *Campanula Spethley*, which attracted so much attention at Holland House in 1921.

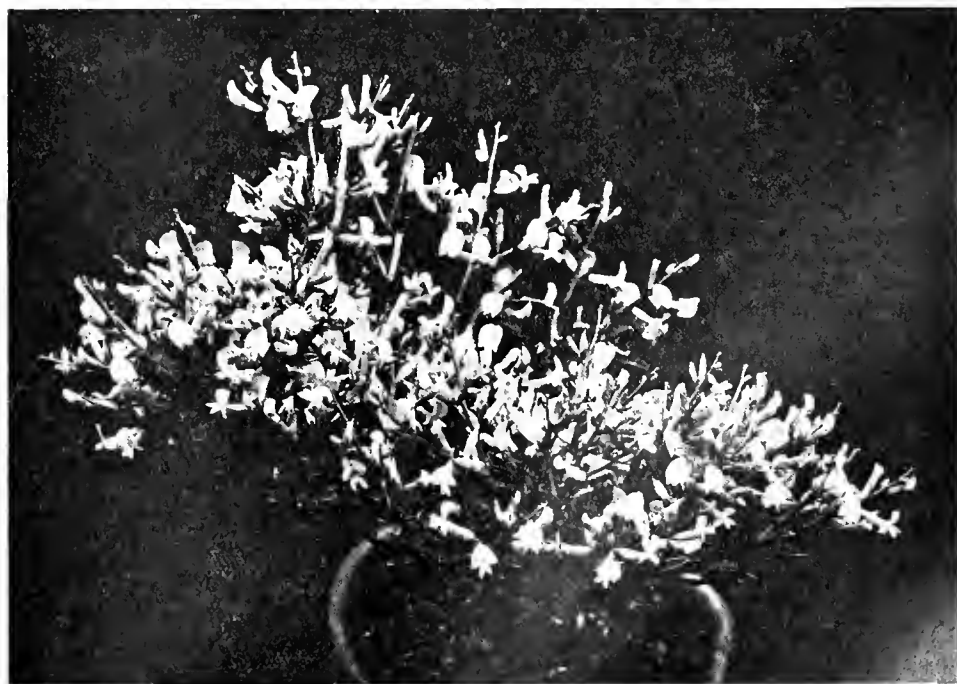
Messrs. G. Stark and Son of Great Ryburgh had an exhibit of *Campanula persicifolia* Ryburgh Bells (see under "New and Rare Plants") and their Ryburgh strain of *Papaver Rhoeas*, all more or less double and wonderfully beautiful in their range of salmon, peach and apricot.

Mr. Charles Turner of Slough had branches of interesting flowering shrubs, including *Ochna multiflora* with vermilion bracts and green and black fruits. This will not stand outdoors in many districts, but is an excellent plant for the cool greenhouse. The scentless *Philadelphus grandiflorus* and PP. *Gordonianus* and *Pavillon Blanc* were also well shewn.

Mr. W. Wells, jun., of Merstham had a very useful collection of herbaceous plants in the orchid annex. *Salvia virgata nemorosa* (true) was exceedingly attractive as associated with *Hemerocallis Thunbergii*, *Erigerons*, *Delphiniums*, *Sidalceas* were all well displayed, so was a bold mass of *Alstromeria aurantiaca*.

Mr. E. Scaplehorn of Beckenham had *Gladiolus Halley*, English Irises, *Ixias*, *Scabiosa caucasica* and other herbaceous plants.

Carnations, as usual, were numerous. Mr. Englemann shewed a fine collection of *Perpetual*-flowering varieties, among which the following were conspicuous: *Saffron*, a self-descriptive flower; *Topsy*, deep crimson; *Thor*, orange scarlet; *Laddie*, salmon pink; and *Peerless*,



THE GOLDEN YELLOW ANTHYLLIS HERMANNIÆ.

rosy cerise. On the exhibit of Messrs. Stuart Low and Co. we noted their White Pearl, undoubtedly the finest white Carnation to date. Here, too, were to be seen the Hon. Nita Weir, which is said to be an improvement on Enchantress Supreme, both as regards colour and lasting

salmon. This is a very vigorous Rose which should find its way into every garden. The Rev. Pemberton had a small exhibit in the orchid annex.

There were several exhibits of greenhouse plants. The largest was that of Messrs. Russell and Co.,

Turnips, Peas and various saladings. We understand that funds are urgently wanted to enable further training centres to be opened. The hon. secretary is Mr. C. E. Rose, 23, Daleham Gardens, Hampstead, N.W.3.

NEW AND RARE PLANTS.

Anthyllis Hermannia.—This is a pretty shrublet like a miniature Broom smothered in golden yellow, evil-smelling flowers. It has only recently been discovered that the plant is hardy—at least in most districts. Shewn by Mr. W. Wells, jun.

Campanula persicifolia Ryburgh Bells.—This is a very handsome pale lavender form with widely expanded bells. A tall, strong grower, this should make an excellent companion to the deep-coloured Telham Beauty, which in some respects it resembles, but the blossoms are more widely expanded. Award of merit. Shewn by Messrs. George Stark and Son, Great Ryburgh.

Carnation (Border Mrs. Groom.—Presumably, this variety received an award on account of its uncommon colouring—a shade of salmony terracotta. It is not everybody's flower by any means, for the colouring is strident and it would need a bed quite to itself in the garden. The blossoms are of fairly good form and good average size. Award of merit. Shewn by Mr. G. R. Groom, Stoke Road Nurseries, Gosport.

Delphinium Advancement.—This should be a fine back row plant. The very lengthy spikes are pyramidal in shape and very loosely arranged—too loosely, we suspect, for the Committee. The flowers are rosy heliotrope with guard petals of bright azure. The spikes shewn were from one year plants, and it will probably receive the A.M. when next shewn. Exhibited by Messrs. Hewitt and Co., Solihull.

Delphinium My Lady.—This is a medium grower with an exceptionally handsome spike of large shapely flowers, the colouring soft lavender toned with rose. Award of merit. Shewn by Mr. F. Gifford, Hornchurch.

Delphinium Sylph.—A shapely white sort. The newly expanded blossoms are tinged with green, but they pass off pure white. As white Delphiniums go, this is a very good one. Award of merit. Also from Mr. Gifford.

Irish Kämpferi Pyeford Gem.—A variety of moderate size with a good broad fall which, however, as shewn appeared rather lacking in texture. The standards are plum colour, the falls white, heavily reticulated blue and purple—usually purple on one side and blue on the other! Shewn by the Right Hon. Viscount Elveden.

Vuylstekeara insignis picta.—This trigeneric hybrid, produced by crossing *Miltonia Bleuana* with *Odontonia Charlesworthii*, produces a shapely spike of flowers of which the principal colouring on sepals and petals is chocolate plum edged with white. The lip is paler, more broadly edged, the crest orange. Award of merit. Shewn by Messrs. Charlesworth and Co.

[The Report of the National Rose Society's Provincial Show at Saltaire is, owing to pressure on space, held over for our next issue.—Ed.]

FORTHCOMING EVENTS.

July 24.—Royal Horticultural Society's Fortnightly Meeting.

July 25.—Mitcham, Tooting and District Horticultural Society's Meeting.—Guildford and District Gardeners' Association's Exhibition.

July 26.—Royal Botanic Society's Meeting.—Saffron Walden Horticultural Society's Show.



THE PURE WHITE CAMPANULA SPETCHLEY.

This, with a few pieces of rock and some Thymus Serpyllum, formed Mr. E. Dixon's attractive exhibit.

qualities; and Eileen Low, an excellent deep salmon variety. Messrs. Allwood Brothers had an extensive exhibit of Perpetual-flowering and Perpetual Border varieties. Of the former we noted excellent blooms of Edward Allwood, which is claimed to be the premier scarlet Carnation, and Mary Allwood, cherry salmon. Jessie Allwood is a deep yellow Mahmaison. Immediately opposite this exhibit the same firm staged their now greatly improved Allwoodii in great variety.

The National Carnation and Protea Society held the first of its two shows in conjunction with the R.H.S. In the numerous classes Mr. J. Douglas, Miss Shiffner of Lewes and Mr. H. A. Knapton of Orpington were the principal winners. On the whole the blooms exhibited were very good, but there was little competition. Mr. James Douglas was the only one to stage a trade exhibit. We noted The Grey Douglas, which is a large flower of deep heliotrope colour with a silver sheen; Viceroy, yellow ground, edged and streaked deep carmine crimson; Melanie, apricot self; and Glean, an excellent yellow self.

There were only three exhibits of Roses, this no doubt being due to the provincial show at Saltaire of the National Rose Society. Messrs. George Bunyard and Co. shewed many varieties, including Isabel, a beautiful orange scarlet single; Lania (H.T.), reddish orange; Independence Day (Pernet.), deep orange, an excellent bedding Rose; Golden Ophelia (H.T.), a delightful yellow Rose the petals of which are cream coloured; and Golden Emblem (Pernet.), the well known and excellent golden yellow sort. Much interest was shewn in the old Damascus Rose des Peintres, which, although not beautiful, is delightfully and sharply scented. Some of the blooms in this exhibit shewed the effects of the drought, but on the whole they are of outstanding quality. Messrs. Frank Cant shewed excellent blooms of such varieties as Golden Ophelia, Mme. Abel Chatenay, pale salmon pink with deeper centre, still one of the finest garden Roses; Red Letter Day (H.T.), scarlet crimson; and Lady Pirrie (H.T.), coppery

who had numerous varieties of Crotons and Caladiums. Here we noted a very fine specimen of *Medinilla magnifica*. This is an evergreen shrub for the stove hailing from Manilla and producing rosy pink flowers in very large pendulous terminal racemes. Mr. R. Arnold of Streatham had a large exhibit of beautifully coloured Caladiums. Messrs. J. Cheal and Sons, in addition to their herbaceous plants, shewed many of their now famous Star Dahlias. Here we noted White Star, Crawley Star, clear rose pink (the first Star Dahlia introduced by the firm), and Yellow Star. Apart from their garden value, these "Stars" are excellent for cutting purposes. Petunias in many colours were well shewn by Messrs. W. Hopwood and Son of Cheltenham Spa.

Messrs. R. and G. Cuthbert of Southgate staged some excellent *Streptocarpus* in white, mauve, pink and blue shades. These were interspersed with foliage plants. There were only two small groups of Orchids and these were exhibited by Messrs. Sanders and Messrs. Stuart Low and Co.

In the competitive classes for Cherries there was only one exhibit for the Bunyard medals; this came from Sir C. Nall Cain, whose six dishes included Kentish Bigarreau, May Duke and Duchesse de Palluan. Two very fine trade exhibits, however, came from the Sittingbourne district. These were shewn by Messrs. Deane and Co., Limited (Silver-gilt Hogg medal), and Messrs. G. Webb and Son (Silver Hogg medal).

Messrs. Gill and Son of Rhododendron fame shewed a new Strawberry called Gill's A 1. This is a cross between Royal Sovereign and Mme. Kooli. The fruits are exceptionally large and of irregular shape. We did not have the opportunity of testing this variety, so cannot speak as to its flavour, but the aroma was excellent. It is certainly not a pretty fruit.

The only exhibit of vegetables came from the Guild of Blind Gardeners. The vegetables shewn, which were very creditable, included Potatoes,

SPECKLED FOXGLOVES—AND OTHERS

ARE there people, I wonder, so consistently fond of gardening that their gardens never bore them? If so, I am not one of them, for there are times when mine grows unbearably stale; and, curiously enough, those times are not in the dreary months of winter nor yet in the nipping spring, but in the full tide of summer when everything is lush and lusty. Nor, unfortunately, can I always keep my discontent to myself, but must grumble it into Robin's ears (Robin being youthful successor to Christopher, many of whose virtues he possesses, with points peculiarly his own). "Life might be worth living were it not for this blessed garden!" I say, as much to myself perhaps as to Robin, when the spiritual barometer is low. "If you wish to be happy, Robin, take care never to possess a garden of your own—with its eternal weeding and sowing and hoeing and mowing and staking and its 365 disappointments per annum. Rather, if you can, rent a cottage close by the gates of Kew, where you will have a capable staff to save you all trouble. If you cannot manage Kew, squat beside some other garden, where you can have the delights without the worries and disappointments. For the disappointments of other people, Robin, are comparatively easy to bear, though of course if we were good Christians, they ought not to be." For one so young, Robin has a wonderful faculty of discreet silence; but his sapient smile, which I have learned to read like print, tells me candidly enough just how seriously he takes these plaintive explosions. Young as he is, the boy has discovered for himself that life is not all "beer and skittles," and he knows full well, besides, that, if it were, both the beer and the skittles would lose their consoling savour. And Robin is right; so they would. Still, there it is—there is no use denying that a garden gets at times to be an "Old Man of the Sea," which one would gladly shake from one's shoulders for a spell if one could. When you feel like this about your garden, take sound advice

and quit it if you can, as I quitted mine for a fortnight early in June, a tolerably quiescent time of the year for most gardens: Tulips over; Irises not yet fairly on the move (though Lord of June is raising lovely standards and Prosper Laugier is spreading its wine-red falls); here and there a Foxglove reddening its thimbles; Paony knobs shewing seams of colour; and forests of Poppy heads, not yet burst, but plump to the point of bursting. At this time Nature does not seem particularly alert, though she is not slacking, as you might erroneously suppose—busy, rather, preparing for her crowning achievement, the big burst of summer. Meantime, however, she seems to pause (possibly to some extent she actually does pause, but it is only to recoil for a better leap). Anyhow, there is a temporary lull in the colour pageant of the year. Then is the time for a run to town and a fortnight's surfeit of bustle and sweet sound—Melba, Elman, Paderewski, Chopin, Tchaikovsky, Holst—and so back again, replete, to shoulder once more the "Old Man of the Sea," and just in time to witness the midsummer transformation scene.

In early June I left the garden marking time, after its unparalleled display of May Tulips. I found it on my return a wilderness of colour, unbelievable as the output of one short fortnight: Delphiniums, Paeonies, Marigolds (superb), Lupins (on the wane), Irises (but the germanica race below par), Rock Roses, Nigellas, Poppies, Mock Oranges, Deutzias (various, single and double, snow white and exquisite), jungles of Anchusa as blue as indigo, and (unobtrusive, but welcome sight) *Herba-barona*, bristling with flower-heads, an indubitable Thyme. As for climbing and rambling Roses, they crowded overhead with tropical extravagance, and not only overhead, for the ground also was thick petalled underfoot. But of all the things that clamoured for attention perhaps those which clamoured loudest were the Foxgloves, about which flowers I had to take my bearings in order to find exactly how I stood;

This year I have grown four strains of Foxglove: (1) My own strain, if strain you can call what has gone on, year after year for a decade, sowing itself without any process of selection or elimination except that exercised by the slugs and an indiscriminating hoe. (2) The Munstead strain, the distinction of which I understand to be a pure white flower entirely free from throat-spots. If this is the standard aimed at, my experience of the Munstead Foxglove enables me to say that the strain is well fixed. Among my many Munstead plants I find only two rogues, a purple and a light pink, both with throats more or less densely speckled. But in my own primeval strain I have found in various parts of the garden Foxglove spires, half a dozen at least, indistinguishable from those of the Munstead plants—the same habit, the same white colour, and the same absence of throat spots. Therefore, I cannot see the relevancy of a "Munstead strain" for what comes unsought in an ordinary garden; unless, of course, one wishes his Foxgloves to be all of them white and all unspotted, in which case I can with confidence recommend the Munstead flowers. I like these flowers myself, and should always wish to have them in considerable numbers. But my heart's desire in Foxgloves is neither white nor unspotted. It is rather a flower with a densely speckled throat—spots of all sizes from a pin-head to a pin-point. As to colour, though I like white very well, I wish my Foxgloves to run through the whole *Digitalis* gamut, from the purple of the sylvan *purpurea* (a shade which would hardly be tolerable in anything but a Foxglove) up through various light purples and pinks to absolute white. The range is not so extensive that we can afford to forgo any one of the shades. We want our Foxgloves as tall and stately as possible, and the "gloves" as large as we can get them, not overcrowded, but arranged in that lovely honeycomb fashion so characteristic of the flower. We further desire as large a range of colour as we can get, and we especially want our Foxgloves boldly spotted. At least I do. And I fancy that something like this was the ideal the late Rev. W. Wilks set himself when he tried to do for the Foxglove what he had already done for the Field Poppy: which brings me to strain No. 3—the Shirley. From my own plantation of Shirley Foxgloves I conclude that Mr. Wilks was on the way to achieve what he proposed to himself, but had not quite reached his objective. I have no doubt that had he lived for a few years longer he would, by his patient and intelligent system of selection and elimination, have established a strain which all flower-lovers would have desired to grow. As it is, if my own Shirley flowers fairly represent the strain, I cannot think that anything much out of the way has so far been achieved. "Good," but not "supreme" would be my verdict; by which I mean that the flowers, though good, are not equal to what I conceive to have been the Wilks ideal. Some of the throats are finely spotted, archipelagos of crimson islands on a ground of cream and pink. But otherwise, as regards vigour, habit, or range of colour, there is nothing remarkable about the flowers. On the whole I see no convincing reason for rooting out my own haphazards in order to make a fair field for the Shirley strain, though I hope that the new blood introduced may improve the general quality of the Foxgloves in my garden. Presently, no doubt, some capable hybridist will take in hand and complete the task which Mr. Wilks had so well begun.

Strain 4 is, strictly speaking, not a strain, at least I think not, but a species. I had the seed last year as that of "Sutton's Primrose Giant," the catalogue description giving the shade as "cream" or "buff." The shade is not easy to



THE STATELY FOXGLOVE.

name, but it is nearer to primrose than to cream or buff. Anyhow, it is clear and charming. Gargantuan flowers are not, rather of medium size, but this has not been a season for giants. Altogether this is a handsome Foxglove which I am glad to have and which I hope to keep now that I have it, though, in my garden, species are not easily kept intact. A group of some score of spires of the Giant Primrose, if not the most beautiful, is certainly the most interesting subject I have at present in the garden, especially when the evening sun shines through the flower. Then it becomes a super-Digitalis. I take this species to be *Digitalis lutea*. It is certainly not *grandiflora*.

I am this season, I suspect, somewhat Digitalis-ridden, which may be the reason why my prophetic soul sees such great things in store for the Foxglove in the near future, when the destined hybridist takes the flower in hand. He will have at least a score of species to work upon; and though many of these, perhaps most of them, are of little except botanical interest, we know that species, possessed of little beauty in themselves, may be potent to modify other species in desirable directions. In any case it is to be hoped that the hybridist of the future will eschew such fasciated abominations as the Foxglove now known as *Digitalis monstrosa*.
SOMERS.

CORRESPONDENCE

ROSA HUGONIS.

OUR experience with this Rose in the present season corresponds with Mr. Jacob's. Plenty of buds on the point of expanding, but not a single full-blown flower. Here it has never behaved like that before; I suppose it must be set down to the account of the cold, dark summer of 1922, the effect of which has been so apparent in deficiency of blossom on many plants, from Horse Chestnut down to Bearded Iris. On the other hand, *Rosa Moyesii* is a furnace of bloom, and its rose-coloured variety *Fargesii* is also full of flower. It may be noted that no vicissitude of season affects the display on any species of *Olearia* or *Leptospermum*; not, at least, on any of the species grown here. *Olearia nitida* throughout May has been followed by *O. macrodonta*, *ilicifolia*, *stellulata*, *semi-dentata* and the dingy *O. Traversii*, after which no doubt *O. nummularifolia* and *Haastii* will take up the running with their accustomed profusion. Of the *Manuka*, *Leptospermum scoparium* and its crimson variety *Nicholii*, *lanigerum* and *ericoides* are, if possible, more fully set with bloom than usual.—HERBERT MAXWELL, *Monroville*.

TWO PRETTY EDGE PLANTS.

THOUGH the accompanying illustration does faint justice to that beautiful form of *Veronica rupestris* known as var. *Treherne*, the constellation

of daisy-like flowers will be recognised as those of *Vittadenia triloba* (*Erigeron mucronatus*). Both of these are excellent plants for the front of a dry, sunny border or the rock garden, and together they make a brilliant mass of colour from early summer for many weeks. Indeed, the *Vittadenia* is an all-season bloomer, and its bright little golden-eyed flowers, which open pink and pass off into white, are produced in amazing prodigality. In some gardens this plant seeds rather too freely, but the stray seedlings are easily uprooted when young. The *Veronica* is not only quite as free a blossomer as the typical form, but its flowers are, individually, larger than those of the latter, rather a paler blue, and they enjoy the advantage of being accompanied by a foliage which is a clear yellow during the flowering season. This is not only a plant of the highest merit, but it is undoubtedly one of the choicest and most distinctive of all the trailing *Veronicas*.—NORTH WALES.

CLOVER AS A LAWN PLANT.

THERE is a good deal of truth in what your contributor "S. P." says, but most people would admit that drifts of Clover meandering haphazard over a lawn of an entirely different colour present a terrible appearance. We have a fair amount of it on the lawn here, but it is similar

in shade to the grass and is not very noticeable. I have not found that it stands drought much, if any, better than grass; if the grass burns up, clover does the same. In most gardens the reverse seems to hold good; but the modes of establishing it on lawns detailed by "S. P." are hardly to be recommended. Lawns consisting chiefly of Clover, if they are to look well, require as careful production as all-grass lawns. I am not aware that there is any difficulty in persuading it to establish itself evenly if it is sown evenly when the lawn is first being formed; but who could expect it to look otherwise than patchy if an attempt is made to introduce it on an already existing lawn? At its best White Clover produces a dappled effect that is not unpleasing, even though it is not nearly so beautiful in colour as grass. (In saying this I am disregarding "S. P.'s" preference, which is abnormal.) Why use it, however, when the yellow variety is so much better? Its colour is much nearer to grass than that of White Clover; its leaves do not hold moisture after rain as those of the white sort do; it stands drought and hard wear as well or better, and in its perennial character and general constitution it is the equal, if not the superior, of White Clover. There appear to be only two considerations which militate against its general use, the first being that nobody knows about it, and the second that it is (therefore, possibly) difficult to get hold of. The first of these drawbacks you, sir, might do something to dissipate; as regards the second, I believe Messrs. Rowntree of St. Albans supply it—I know they used to, and while I have not seen any very recent catalogue of theirs, I presume they still do so.—K. A. BAYNE, *Oulton, Birkenhead*.

DITTANY OF CRETE.

PROPOS "Caledonia's" note (page 336) on that nice old-fashioned herb the Dittany of Crete, of which Turner, in his *Herbal*, 1568, says, "I have seen it growyng in Maister Riches garden naturally, but it groweth nowhere else that I know of saving only in Candia," it used to be a favourite with the cottagers in Kent, but not having seen it for many years I was pleasantly surprised to find it happy and at home on a wall top in Glasnevin Botanic Gardens last year. Kentish folks used to call it the Hop Plant from the resemblance of its inflorescence to that of the Hop.—K., *Dublin*.

FRAGRANT FOLIAGE.

WILL you permit me to thank various correspondents of THE GARDEN for their kindly and helpful comments on my articles on "Fragrant Foliage." Some of them have obligingly introduced me to other plants with scented leaves which, though known to me by name, have not hitherto been cultivated in my garden. I should be glad to know, from someone who grows them, about the Basils: which of the two is best worth growing for its scent? Bush Basil (*Ocimum minimum*), I suppose. It is an annual, and therefore I should not expect to list it permanently among my sweet-foliaged plants. But I should like for once to possess a "pot of Basil." The Common Hyssop, though generally regarded as a kitchen or medicinal herb, has a place of honour in my garden. To my sense it smells as strongly of camphor as the Camphor Tree itself. Further, I know no plant which attracts so many butterflies and other flies of various kinds.

Mr. Warner's remarks on the keenness of the sense of smell in insects are of special interest. I was aware, of course, that insects possess a sense analogous to our sense of smell. The house fly and the carrion flies are sufficiently convincing proofs of this. I had not realised, however, that



VITTADENIA TRILOBA AND VERONICA RUPESTRIS TREHERNE.

the sense played quite so significant a part in the life-economy of insects as Mr. Warner shews to be the case. Mr. Warner will, however, pardon me, I hope, if I say that I fail to gather from his otherwise interesting and instructive remarks any adequate explanation of the fact (if it is a fact) that the Labiate Order contains a larger proportion of plants with fragrant foliage than most, if not all, other Orders. That "flowers with a lip are specially contrived to attract insects" and that "the flowers are beautiful but complex machines to secure cross-fertilisation" is true, no doubt. But if labiate flowers are so wonderfully

to shew that smell is an important sense in insects and that certain flowers of the labiate family, for instance, have this or that odour agreeable to insects. What one wants to know is the correlation of labiate flower-structure and fragrance of leaf which so frequently makes the one go with the other.—SOMERS.

IRIS BLACK PRINCE.

HAVING seen your appreciative remarks with regard to Iris Black Prince, I am venturing to send you a photograph of this plant as I saw



IRIS BLACK PRINCE, WITH BLACK VIOLET FALLS.

contrived for purposes of cross-fertilisation, why should an Order, the flowers of which are so fortified, have in addition fragrant foliage to a greater extent than other Orders. If I am right in trusting to my own experience that labiates have, to a larger extent than other Orders of plants which we cultivate in our gardens, leaves that emit a perfume agreeable or disagreeable to the human sense of smell, any explanation of the fact must consist, I should think, in shewing that the labiate structure of blossom and the perfume of the foliage act and react on each other in such a way as to facilitate the fertilisation of the plants. Is there, then, anything in the structure of labiate flowers (a deficiency of perfume, for instance) which requires that some lack in the bloom should be supplied by fragrance in the leaf? This might account for the prevalence of fragrant foliage in labiates. But, as far as I remember, the flowers of such labiates as have fragrant foliage are not specially deficient in scent. I have just been experimenting with Lemon Thyme and Herba-barona, and find that the blossoms smell as strong as the leaf. This is true also, I think, of the blossom and leaf of Rosemary and Lavender. The blossom of Catmint (*Nepeta Mussini*) if held to the nose gives its characteristic perfume but slightly. The leaf emits no perfume except under pressure. Both leaf and flower when rubbed emit the strong odour which gets the plant its name. So I must still ask, I am afraid, why so many members of the labiate Order in particular have their leaves strongly perfumed. It is not sufficient, I venture to submit to Mr. Warner,

it, some years ago now, growing at Mr. Perry's nursery. I think it makes a pleasing picture even in black and white, but one has only in imagination to supply the velvety blue-black of the falls with their violet edging and the much diluted violet of the wings to realise the splendour of the flower. Mr. Perry, I know, considers this the best of the pallida and Cengialti crosses to date, and I thoroughly agree with him.—H. C.

THE GARDEN LEAGUE FOR DEVASTATED FRANCE.

WE are anxious to bring to the notice of readers of THE GARDEN our appeal for The Garden League for Devastated France (*L'Œuvre du "Jardin de la France Dévastée"*), which has carried on its work quietly and most effectively in the ruined area of France since early 1920. With a view to making the society better known in this country—as it was intended from the first that it should owe its support to our garden lovers whose ground was spared to them—a British Committee of the League has been formed this year. The following are a few facts concerning the above-named League, which is registered under the War Charities Acts of France and England. It is a society on Franco-British lines, whose practical work for the restoration of garden ground was founded and is carried on by a trained woman-gardener supported by Franco-British Committees and with the special approval of the French Government (represented by the Ministère des Affaires Étrangères, Ministère des Régions

Liberées, Ministère de l'Agriculture and Ministère de l'Instruction Publique et des Beaux-Arts) and of the Préfectures of the devastated departments of France. Its patrons are Their Excellencies the British Ambassador in Paris and the French Ambassador in London. The president of the British Committee is Major-General Right Hon. J. B. E. Seely, C.B., C.M.G., D.S.O. Lord Lambourne and Mr. Rudyard Kipling are vice-presidents of the League, which numbers among a long list of distinguished supporters in this country the Right Rev. Herbert Bury (Anglican Bishop for North and Central Europe), Viscount and Viscountess Burnham, Lady Maud Warrender, Sir Capel Wolseley, Bart., and Lady Wolseley, Sir Harry Brittain, M.P., and Lady Brittain, Mrs. Wintringham, M.P., Sir Frederick Keeble, Miss Gertrude Jekyll, Miss Ellen Willmott, and the firms of Sutton and Sons, James Carter and Co., Robert Veitch and Sons, R. W. Wallace and Co., etc.

The Garden League has already helped and encouraged (with the official co-operation of the French Inspectorate) 250 school gardens, as well as hundreds of other ruined vegetable and fruit gardens, where lack of tools and other necessities had sometimes made impossible a fresh start on this shell-scarred ground. British school children are "adopting" these school gardens and sending them gifts through the League. It has already given more than 1,200 garden tools, very large quantities of vegetable seeds, and also medicinal and other plants, besides over 1,000 fruit trees—chiefly "formed" trees for present bearing. It stimulates the teaching and practice of good gardening and helps to start gardens in conjunction with social work, which the misery of life in the devastated regions makes especially valuable. It helps, where possible, to restore the gardens of the societies of horticulture in such cities as Reims and Verdun, which, unlike our own, were destroyed by the war. Lastly, and best of all, the Garden League helps to cement a lasting friendship, more particularly through their children and young people, between the French and English speaking nations, whose blood was mingled in the cause of Right and Liberty. In this connexion we record with special pleasure the keen appreciation, shewn by the French Ambassador, the Comtesse de Saint-Aulaire, for our work in its dual aspect in France. Writing from the French Embassy in London, Her Excellency expresses her personal thanks for what has been accomplished and continues: "I have heard from so many people the beautiful work you and your Committee have carried out in the devastated regions, and I cannot prevent myself from telling you my own admiration. Your work has not only been a material one, but it also helps to bring more and more together our two nations. By sending seeds and fruit trees the children of England prepare the best harvest of gratitude, and you will have helped to draw closer that brotherhood which was born in the war and which must always bind England and France."

Will readers of THE GARDEN help the needy funds of the Garden League for Devastated France in order that it may carry on its good work for the real *entente*? Contributions in money, in kind and in personal service entitle to membership. A minimum subscription of 2s. 6d. is welcomed from those who cannot contribute large sums. Collecting envelopes for amounts of 10s., 20s. and upwards gladly provided. Schools will be brought into touch with a French school garden needing restoration or help. Offers of seeds, tools and fruit trees will be received with pleasure. See address at foot of letter, from which further information may be obtained as

to ways of helping by voluntary service, propaganda, etc., whether in England or France. The League has, at the time of writing, a temporary office in England at 31, Upper Berkeley Street, W.1. (Tel. Paddington 6097). HELLIS COLL.

Founder and Hon. Organising Secretary, The Garden League for Devastated France.

Le Jardin de la France Dévastée, Ministère des Affaires Étrangères, Bastion 55, Paris, XVI. (Tel. Passy 77-53 and 85-70.)

ROUND ABOUT A JULY GARDEN

TOWARDS the Campanulas at this season one always has a feeling of gratitude, because they break into flower just when so many things are going off and when the first symptoms of shabbiness begin to invade the spring freshness of rock garden and wall. Then there is their simple charm, their winning grace, and that tone of refinement which pervades most of them, more especially the little fellows.

Indeed, there are few flowers in the long round of our garden year so appealing as those Bell Flowers of the *pumila* and *pulla* classes. Whether these are threading the crevices of one's dry wall, making neat little mats of colour on the rock garden ledges or filling the chinks and angles of the steps, they are always cheerful and surpassingly lovely. One can hardly differentiate between such treasures as these, but many of us will have a very special regard, perhaps, for *C. pumila*. Miss Willmot in a gentle azure and the pure white form of the same thing. Then there is *Miranda* with larger and rounder bells, a cool smoke blue and, in a deep and lustrous violet, the delightful *C. pulla* G. F. Wilson, which is peculiarly fascinating.

Other Campanulas there are in plenty, but for the moment the above are among those most in evidence among the dwarfs. One cannot, however, pass by that ramping beauty, *C. Raddeana*, whose big violet bells are usually the very first to open, nor that good old stand-by, *C. Portenschlagiana*, and those of the select little *garganica* set. All of the last mentioned are first-rate wall plants excepting, perhaps, *W. H. Paine*, whose navy blue is accentuated by the distinct central zone of white. The form *albus* of *C. g. hirsuta* and *C. g. erinus*, of which the starry flowers are a deep periwinkle blue, are also special favourites here.

The manner in which some of the *Linums* continue to produce their countless flowers day after day throughout the mid-summer months, and this on a diet of dust-dry grit and what sunshine the gods vouchsafe, is an eternal source of wonder and admiration. *L. narbonneense* is probably the most surprising in this respect, its masses of clear yet bold blue, often a yard across, being renewed every twenty-four hours or so without the slightest symptom of failing vigour. *L. arborescens* has this year been hardly less prodigal of its wealth of glistening gold, and *L. monogynum* will not cease to yield its snow white heads of blossom until autumn comes, despite the fact that it is a more prolific seed-bearer than most. *L. salsoloides*, if less vigorous, is another constant bloomer from July onwards, the icy whiteness of its elegant blossoms being most delicately shaded with a pearly lustre. The prostrate form of this Alpine Flax is very choice and distinct, and another charming plant which bears no little affinity to the last, save that its flowers are a pale turquoise like those of *perenne*, is *L. collinum* (?).

The Daisy tribe is not notable for varieties which excite uncommon interest, but there is one which is a little gem, and that is *Belis cornulescens*. This is said to be a form of *B. rotundifolia*, but can claim not only specific distinction but a rare beauty of its own. The leafage of this dainty thing comprises a compact rosette of silky, grey-green foliage from which

springs up throughout the summer a succession of Daisies which are in size and form almost exactly like our own wilding, but their yellow centres are fringed with rays of that most refined and cool lilac blue one associates with the Caucasian Scabious.

Near the above *Verbena radicans* is creeping with wiry stems and dark green, leathery leaves over the dry, well drained soil, putting up at intervals a closely clustered head of purple flowers. Some of the Prickly Thritts are also happy under such conditions, the spiny cushions of *Acantholimon glumaceum* being gay with rosy pink blossoms. This well known species is soon followed by the choicer and more uncommon *A. venustum*, with greyer leafage and taller flower-stems, which stand up above the leaves in elegantly curved sprays of larger flowers in a brighter, fuller pink. This delightful little plant has proved as steadfast here as the preceding.

Always reliable on the driest of ledges is *Hippocrepis comosa*, the Horse Shoe Vetch, a precious native of our limestone cliffs, which throughout July will cover the sombre green with which it drapes the rock or shelving bank with numbers of little circlets of gold. This has never erred from the straight and narrow way with us by trespassing, as do so many of its pretty but wanton relations, nor do its horse-shoe seed-pods produce any offspring. Bigger and bolder, but not better, is a southern legume, *Coronilla cappadocica* (iberica), which enjoys any sun-beaten slope, covering it with a loose tin. mat of glaucous foliage which is adorned throughout the latter half of summer with handsome coronets of gold.

It is at this season that we can most willingly forgive that pretty pest, *Oxalis obliqua* (which I am told is its right name) for being a very murrain at others. Its large, drooping bells in a lively rose-purple are extremely attractive, and the olive green, luscious foliage, with crescentic markings in maroon, is worthy of them. At other seasons, however, one may as well make a virtue of a necessity, for once this charming scourge develops a liking for you no human agency will extirpate its swarming legions. Another *Oxalis* which must be the midget of the clan, since one can hardly conceive any plant of smaller dimensions, is creeping in a faint film of palest green over some hot, gritty soil. The lobes of its tiny trefoil leaves, which are as depressed as those of *Mentha Requienii*, are no larger than the head of a pin, while from the hair-like stems is put up at intervals a yellow upright flower not much above one-eighth of an inch across. This wee straying I cannot identify, and its origin is as obscure as that of the scarecrow in the fable.

The Hypericums are at their best in July, and reptans and *olympicum* are competing one with another in a blaze of gold for the supreme honour of being the "best" of their class. Be that as it may, I will risk being considered pedantic by saying that I would sooner have *H. Coris* than either of the above were I ever doomed to possess but one species of this dazzling race, for there is a grace and airy lightness about the latter which is very fascinating and distinct. *H. Coris* is, moreover, a plant of commendable refinement, for as one by one its galaxy of golden stars pass away, there are no messy remnants left behind

to mar the beauty of those to follow, which is more than one can say of some of its more gaudy neighbours. Even in winter its fine, healthy foliage never looks shabby. Of *H. repens* much might also be said, for this is a cheerful thing at all seasons, the wiry, moss-green foliage covering the ground like some prostrate Heath. The tall, upright flower-spikes of *H. repens* produce a long succession of bloom in a good firm yellow which has not the characteristic dandelion burnish of so many of these little sun worshippers. *H. fragile* and *H. nummularium* are both admirable and distinctive, but plants bearing the name of the latter are by no means always the right thing. Nor can one pass by the delicate grace of sweet little *H. cuneatum*, whose ruby buds break out into orbs of gold which seem so absurdly large for so small a plant.

Though the earlier Pinks have completed their round, there are still plenty left, and these mainly comprise a swarm of pretty mongrels which might not be permitted to usurp so large a part of one's rock garden, wall and edgings did they not so cunningly win one's affection by their happy, contented natures and delicious fragrance. *Neglectus* and *caesius*, *superbus* and *alpinus*, *deltoides*, *zonatus* and many another have all lent something of their beauty and charm to this cheerful throng. A very shaggy little Russian fellow in a dead white and whose dreadful name I have forgotten is one of the most fragrant. But it is mainly to the *superbus* influence that one is most grateful for the majority of those many fringed Pinks whose cool shades of colour, which range from white to pale lavender and blush, will be no less welcome throughout the later summer than the perfume which they so generously distil. The great sheaves of clear rose blossoms produced by *D. Fettes Mount* are also as rich in their old clove scent as they are good and pure in colour, and another hybrid of medium stature whose very large, single, rose pink flowers with a blood crimson zone are very highly perfumed is *D. Gladys Cranfield*. A good strain of *D. striatiflorus* in a soft shrimp pink is an all-season bloomer of old repute, and one only wishes that some of its near relations of the hybrid *barbatus* set were one-half so permanent and reliable.

North Wales.

J.

STRAWBERRIES FOR FORCING AND NEW PLANTATIONS

Some Simple Methods of Layering.

IF the runners are healthy and substantial, they cannot be layered too soon in July, either for growing on in pots, for forcing, or for the formation of new plantations. The runners on plants that have fruited one year only are the best, and they must be the first plantlets formed on the runners, not the second or third. Some runners bear even four, but the one nearest the parent plant is the best; all others should be cut off. Of course, runners on two and three year old plants may be used if they are strong and healthy, and there are not many obtainable on younger plants.

For all purposes small pots may be used for the layering; those commonly called "large sixties"—3½ ins. across—are best. The most useful compost is one formed as follows: fibrous turf, two parts; horse manure from which all rank gases have been expelled, one part. Where this is unobtainable, then use good loam as fresh as possible, but in which the grass and its roots have died, and a small quantity of rotted manure

Do not add sand, as Strawberries do not thrive so well if sand is added as without it.

The runners from two rows of plants should be gathered neatly together in the space between the rows and be denuded of all surplus plantlets. Three parts fill the pots and firm the soil in them; half bury the pots in the ground to ensure steadiness, place a runner on the soil in the pot and a flat-shaped stone on it. Stones are better than pegs, as they maintain some moisture under them and hasten the formation of new roots in the soil. Apply water through a rosed watering-can and afterwards frequently if the weather is dry. When the young plants are sufficiently rooted, cut off the stem, severing it from the parent plant, and

transfer the pots to the north side of a wall or fence, leaving them there for a week or so to allow the plants to become established in them. Syringe once every day, twice in hot weather. If some are required for growing in pots to be eventually fruited in them, a selection of those possessing the plumpest crowns should be made. They may be repotted direct into these pots—5 in. and 6½ in. ones—and placed in a very sunny position throughout the autumn months to get the crowns plump and leaves matured.

Those for the new plantations should be planted out as early as possible, as such early established plants always yield the biggest crops and the finest berries. G. G.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—The final planting of Celery should take place without further delay, and the earlier crops be earthed up as the necessity arises. The trenches should be cleared of weeds, side shoots and decayed leaves, and if the soil is at all dry a thorough soaking given the night previous to earthing up. Before commencing operations draw the leaves carefully together and tie them with raffia or any similar material, which should be removed after the soil has been set in position. Care should be taken to prevent the soil entering the hearts or centre of the plants.

Lettuce.—A liberal sowing of Lettuce should be made for use during late autumn and early winter, selecting both the Cabbage and Cos varieties. Continuity, Hicks' Hardy White and All the Year Round are reliable kinds. The soil should be in good condition, and when the seedlings are large enough a liberal thinning should take place and some of the young plants be transplanted in lines 1 ft. apart.

Spring Cabbage.—This is a most important crop, and everyone is anxious to secure good sound hearts as early as possible in the spring. I do not recommend a large sowing at this date, but a little seed sown now may produce an early crop next year. The main or principal sowing should be deferred until early in August. Last year we grew April, Ellam's Early, Imperial and Flower of Spring, and with the exception of April, which was a few days earlier, there was little to choose between them. The seeds should be sown thinly in lines 1 ft. apart and transferred to their final quarters when large enough. The small varieties, such as April, may be set out 1 ft. apart, but the large kinds will need another 6 ins.

Endive.—Another sowing of Batavian Endive may be made for a winter supply. Radishes should be sown, also Mustard and Cress. Keep the whole of the garden free from weeds, and ply the hoe between the various crops.

The Flower Garden.

Carnations.—The layering of Border Carnations should be proceeded with to give them a chance of becoming well rooted before winter sets in. A compost consisting of finely sifted loam, leaf-mould and sand should be prepared and placed around the plant before the operation begins. Select the best and strongest shoots, and any weak, spindly growth may be removed. A few of the lower leaves should be pulled off and a slight longitudinal incision or tongue made with a sharp knife, and the shoot pegged down and lightly covered with soil. Keep the compost moist and in a few weeks roots will form. It is the practice with some growers to pot off the layers later on and winter them in cold frames, but there is no reason why they should not be transferred to their stations in the borders or prepared bed. If the position is empty, it should be deeply dug, given a liberal dressing of manure and sifted lime rubble.

Roses.—In many districts there is a keen desire to secure a few Briars in the autumn and winter with the object of doing a little budding the following summer. Now is the time to do the budding providing the bark works easily; if not, the operation must wait. Select good buds and use a sharp knife.

Antirrhinums.—These charming plants may be had in bloom several weeks earlier than is usual

if the seed is sown at the present time. It will germinate freely in the open ground if the drills are well soaked with water previous to sowing. When the seedlings are large enough they should be planted out where they are intended to flower. The soil need not be rich.

The Hardy Fruit Garden.

Loganberry.—This is probably one of the most useful fruits grown, and it rarely fails to produce a crop, which is a valuable attribute in a season when other fruit is scarce. It is cultivated much more freely than a few years ago, being found in both large and small gardens. The Loganberry is a vigorous plant, and at the present time the new shoots are making considerable headway. After the fruit has been gathered remove all the old growths down to the ground-level and replace them with new canes. Overcrowding must be guarded against, and to this end the weak shoots of the current season may also be cut out. Young growths of Blackberries should be tied up occasionally to prevent them being broken.

Raspberries.—Directly the fruit has been disposed of cut out all the old canes and any young shoots not required for next season. If the soil or mulching material is hard between the rows, it may be lightly pricked over with a fork.

Fruits Under Glass.

Strawberries.—Runners that were layered in pots a few weeks ago will have rooted sufficiently to be severed from the old plant. The pots should then be plunged in ashes until they are ready for their fruiting receptacles. In the meantime keep the roots well supplied with water, and damp them over with a fine-rosed watering can late in the afternoon. Remove all runners as they appear.

Vines.—Where the fruit is ripe the viney should be kept as cool as possible, and plenty of air should be admitted. If the weather is wet, a little warmth from the hot-water pipes is recommended. Wasps are often troublesome, and if they are at all numerous the ventilators should be covered with muslin.

Figs.—Trees that are producing a second crop may be fed with liquid manure or some approved fertiliser, such as "Thomson's" or Le Fructeur. Spray the foliage with soft water whenever the weather is hot, both in the morning and afternoon. Overcrowding of the growths should be prevented and plenty of air admitted. Pot trees should be given a sunny position outside and the roots well supplied with moisture.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chelmslow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—If there are signs of rain, give the crop a final application of nitrate of soda or other quick-acting fertiliser. Those who practise autumn sowing—a system which has much to recommend it—should select a quarter which has just been cleared of an early crop, give it a liberal dressing of organic manure, and double dig it preparatory to sowing the crop in the near future.

Seakale.—In order to produce strong crowns for forcing, Seakale must be accorded liberal

treatment. Take advantage of showery weather to give it moderate dressings of some approved fertiliser. Another light dressing of agricultural salt will also prove beneficial. Stir the soil with the hoe periodically.

Asparagus.—Established plants will be completing their growth for the season within the next few weeks, so advantage should be taken of the least appearance of rain to give the crop another moderate dressing of salt plus a light dressing of sulphate of ammonia or other quick-acting fertiliser. First year's seedlings, if the ground was well enriched prior to sowing, should require no stimulant this season. Keep the whole crop clear of weeds by means of the Dutch hoe and hand-weeding.

General Work.—It is always a paying investment to give occasional light dressings of some fertiliser to growing crops. Of course, those who have on hand dry towl manure, soot or wood-ashes should utilise such in the first place. Keep the Dutch hoe going frequently among crops, as this attention serves the double purpose of aerating the soil and keeping down weeds. If a time of real drought sets in, attend to watering of crops, avoiding the dribble system, which often does more harm than good, luring the roots to the surface. One copious watering will generally tide over any period of drought in Scotland.

The Hardy Fruit Garden.

Apricots.—As the ripening period draws near it is essential that the fruits get the benefit of the fullest possible amount of light. Remove, therefore, any leaves or shoots that obstruct the sun's rays. Make sure that the trees have sufficient moisture at the root, and if found to be deficient, give sufficient water thoroughly to wet the entire mass of soil and, thereafter, stir the surface with the hoe, for if the trees are short of moisture at this stage the fruits will lack that juiciness which is essential to really good quality, and a portion of them are likely to crack.

Peaches can only be grown successfully in the more favoured localities in Scotland, and even in those only in fairly good seasons. Strict attention should therefore be given to the trees. Nail or tie in succession shoots and otherwise give them the attention recommended for apricots.

Strawberries.—Runners that were layered last month—especially those layered in small pots—should not be allowed to suffer for lack of water, as the least check to the plantlets will tell against their cropping powers next season. As early crops get cleared off, a quarter should be well manured and either trenched or double dug, so that the soil may have time to settle down before planting-time, which is now near at hand. Strawberries, in common with other fruits, should be picked when dry; this is even more imperative in the case of fruit that is to be used for preserving.

The Flower Garden.

Carnations.—No time should be lost now in getting sufficient stock layered. The *modus operandi* is comparatively simple. The operator, having furnished himself with some receptacle filled with a sandy compost, a handfork or trowel (the former for choice) and a sharp knife, should slacken and scoop out some soil underneath the shoot to be layered. The knife should then be inserted in the stem about a quarter of an inch below a joint, splitting the stem in an upward direction to a point half an inch above the joint. The lower portion of the half stem should then be cut away just at the base of the joint. The shoot should now be bent upwards, thus opening the incision. In this position it should be lowered into the cavity scooped out and some of the sandy compost filled in. This will, of course, keep the incision open. The soil should then be pressed firm. Some advocate pegging down the layer, but if a finish is made with some of the ordinary garden soil this attention is quite unnecessary. On soils highly suitable for Carnation culture, a good plan is to layer several shoots round a plant and allow them to develop *in situ*, thus forming an imposing clump of plants. It should be noted that although the foregoing is the orthodox method of layering, Carnations root quite freely if a shield-shaped portion of the stem is cut out with a thin bladed knife a little below a joint.

Tulips which were lifted to make way for summer borders and were heeled in to ripen off should now be lifted and overhauled. The stronger bulbs should be cleaned and stored in a cool, dry place for planting in the autumn, while the weaker ones should be discarded.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Nierembergia frutescens, *N. filicaulis* and *N. gracilis* are all beautiful plants suitable for the cool greenhouse. They are of a slender shrubby habit and produce their lilac or bluish white flowers in wonderful profusion. They are all more or less half-hardy in light, dry soils and easily raised from seed or by means of cuttings. If seed is sown at this time good plants will be obtained which will flower next year. Plants that have just finished flowering should be partly cut back and stood in a warm greenhouse, when plenty of cuttings will soon be produced. If cuttings are secured during August, they root readily in a close case. When rooted they should be potted off singly into small pots and during winter should be kept fairly dry at the root and well up to the roof glass in a cool greenhouse. In their younger stages they should be pinched frequently to induce a bushy habit.

Calceolarias.—Seed of the large-flowered herbaceous section should now be sown in pans containing light rich soil. The pans should be watered some hours before sowing. The fine seed should be sown on the surface without any covering, and the seed-pans stood in a cool greenhouse and covered with a pane of glass, keeping them shaded until germination takes place. When large enough to handle the seedlings should be pricked off into pans or boxes containing light rich soil. When large enough they should be potted off singly into small pots. Calceolarias like cool and moist atmospheric conditions at all times. They are very subject to attack by green fly, which should be prevented by frequent light fumigations.

Chironia linoides is a very beautiful greenhouse plant which may be propagated by means of cuttings at this time. Cuttings root readily in a close case in a cool greenhouse. Plants from cuttings rooted now will make nice specimens in 48-sized pots for flowering towards the end of next summer.

Chironia baccifera is also a very desirable species, which may be increased by means of either seeds or cuttings. This species, in addition to its flowers, produces its red berry-like fruits very freely, which remain on the plants for a long time. All the Chironias are very subject to attack by the so-called begonia mite, which, however, may easily be prevented by the use of the sulphur vaporiser. They all succeed in an ordinary greenhouse, and require a compost of medium loam with the addition of a little peat or well decayed leaf-soil.

Ochna serrulata.—This handsome plant has been in cultivation for many years under the name of *O. multiflora*, and it produces its small yellow flowers very freely. They are, however, short lived. The plant's chief attraction, is its bright red calyx and fleshy receptacles, on which its black fruits about the size of Peas are placed. This plant is easily raised from seed or cuttings of half-ripened wood during the summer. In its younger stages it enjoys an intermediate temperature, but when in flower and fruit stands quite well in an ordinary greenhouse. It also makes a nice bush when planted out in a bed or border in the conservatory.

Cyclamens raised from seed sown last year, if not already moved, should now be put into their flowering pots. The compost should consist of a good medium loam, with the addition of a little leaf-soil; while old mortar rubble may be used in place of sand to keep the whole open and porous. They should be grown in low pits or in cold frames. The latter are the best, as the lights may be taken off in the evening so that the plants get the benefit of dews during the night. Cyclamens enjoy cool, moist conditions at all times. Cyclamen seed should be sown next month. In the immediate neighbourhood of London I find it an advantage to sow during July, as owing to lack of light they make little or no progress during the winter months. It is very essential that Cyclamen seed be fresh, or else germination is slow and uncertain.

Calceolaria violacea.—Plants propagated during the spring are now making nice plants, and should be potted on as they require it. This distinct Calceolaria may be successfully propagated at this time, and will make nice plants for next year. If planted out in a cold conservatory it makes a fine large specimen, as it is more or less hardy against a wall in the South and West. It is a good plant for an unheated house. This Calceolaria belongs to a section of the genus with open helmet-shaped flowers, there being only four species in this section, two native of South America and two from New Zealand, the only other species in cultivation being *C. Sinclarii* from New Zealand.

Royal Botanic Gardens, Kew. J. COULTS.

EDITOR'S TABLE

From Mr. C. H. Herbert of Hazelwood Nurseries, Acock's Green, Birmingham, came a sheaf of his new seedling Oriental Poppy *Salmon Queen*. This is a very large and shapely variety of rich salmon rose colouring. It combines brilliant colour effect for the border with perfection of form. The expanded blossoms reach round, across,

Penistemon heterophyllus is one of the most brilliant of a genus very rich in species and varieties of striking colours. It is a sub-shrubby Californian plant, growing to about 18 ins. in height, with slender stems and narrow, grey-green leaves which often assume a bronzy tint. The flowers begin to appear in early July, and these are tubular, about 1 in. in length and of a most vivid metallic blue "shot" with subtle tones of rosy pink and purple. A group of *P. heterophyllus* thus produces an effect of most dazzling splendour, and young plants (raised from cuttings struck in a cold frame) will all flower during their first year. In mild localities this attractive plant will often survive the winter and prove quite permanent, but it needs a well drained soil and plenty of sun. In some gardens *P. heterophyllus* appears to be attacked by a disease, probably fungoid, which suddenly destroys the plants when in their full summer beauty, but thorough drainage, full exposure and some lime in the soil will often avert such disasters.

A Record?—What is perhaps a record single consignment of farm and garden seeds has recently been dispatched by Messrs. Webb and Sons, Limited, of Stourbridge to their New Zealand agents, Messrs. Murray, Roberts and Co. of Wellington. Fifty-four large galvanised iron tanks were required for the seeds, and the aggregate gross weight was over 50 tons.

The Netherland and Indian - Netherland Horticultural Exhibition.—Although the closing of the list of exhibitors for the coming Netherland and Netherland Indian Horticultural Exhibition (to be held from September 14 to 23) will not take place before August 1, we are informed already that all branches of horticulture will be thoroughly well represented. Not only Dutch, but also English, Belgian, French and German growers have already applied for space. The greatest attraction of this Show, however, will be formed by the exhibits of the many horticultural associations, whose members have combined to stage their flowers in one great collection. This Show bids fair to be one of the most noteworthy of the Jubilee exhibitions of the Netherlands Horticultural Society.

Edinburgh's New City Gardener.—The Town Council of Edinburgh has appointed Mr. John T. Jeffrey, head-gardener to Sir Robert W. Buchanan-Jardine, Bt., Castle Milk, Lockerbie, to be City Gardener, the title applied by the Council to its superintendent of parks. Mr. Jeffrey is to be congratulated on his appointment out of eighty-four applicants, and the city has every assurance that in him they have appointed one who is fully qualified to perform the responsible and steadily increasing duties which devolve upon him. Mr. Jeffrey, who is thirty-nine years of age, is a son of the late Mr. James Jeffrey, gardener at St. Mary's Isle, Kirkcudbright, for a number of years until his death and, for a considerable time previously, gardener to the Earl of Harewood at Harewood Hall. In the latter place the new City Gardener of Edinburgh began his horticultural career under his father, and in due course, after gaining other experience, went to Eaton Hall, the seat of the Duke of Westminster,

where he was foreman over some of the most important departments. About thirteen years ago Mr. Jeffrey was appointed head-gardener to Sir Robert W. Buchanan-Jardine, Bt., at Castle Milk, Lockerbie, and during his appointment many improvements have been effected in the gardens and grounds under his charge there. Castle Milk is one of the largest and best kept Scottish gardens, and the experience gained there and in previous places has fully qualified Mr. Jeffrey for the important post to which he has now been appointed. It will be remembered that Mr. Jeffrey wrote one of the sections of "Gardening of the Week" for THE GARDEN some time ago. His elder brother, Mr. James Jeffrey, is head-gardener to Lord Lonsdale at Lowther Castle.

The Horticultural Club.—We have received the following from the Club's Hon. Secretary, Mr. Geo. F. Tinley, 5, Tavistock Street, Covent Garden, W.C.2: "During the past few years the Committee has been able to meet the expenses of the Club without calling on the members for their usual subscriptions of one guinea. As, however, the balance in hand which enabled this to be done is now exhausted, it was decided at the last general meeting again to ask the members for subscriptions. The sum fixed for the present year is half a guinea only. This should be sent to the Hon. Treasurer, Mr. Peter R. Barr, 11, King Street, Covent Garden, W.C.2. Members are also asked to induce any of their friends interested in horticulture to become members, as the Committee is most anxious to restore the Club to its former strength and importance. Periodical meetings during the autumn and winter will continue to be held in some suitable building, where a dinner will be provided at a moderate price, followed by music and a lecture on some gardening subject. The usual annual outing has been fixed for Wednesday, July 25, when a visit will be made to Windsor Castle, permission having been granted the Club to inspect the gardens and the State Apartments. The journey will be made by road and river. The price of the tickets (21s.) is inclusive of fares, luncheon and tea. The party will assemble on the Embankment outside Charing Cross District Railway Station at 10 a.m., reach Staines Railway Bridge at 11.20 a.m., depart by launch at 11.30 a.m., arrive at Windsor at 1.20 p.m., lunch at 1.30 p.m., inspect the Castle and Gardens, return to White Hart Hotel for tea at 5.30 p.m., and depart by chars-à-bancs at 6.30 p.m., reaching Charing Cross at 8.15 p.m. Application for tickets for members and friends (ladies included) should be sent early to the Hon. Secretary at the above address."

Answers to Correspondents

FRUIT GARDEN.

APPLE TREES ATTACKED (Miss S. and E. F. B.).—The Apple is attacked by the apple scab fungus. Next winter prune out all the diseased shoots and spurs, especially those showing cracks or dead areas in the bark, and spray the tree with Bordeaux mixture just before the buds burst and again after the petals fall.

MISCELLANEOUS.

PRIMULA POISONING (R. McL.).—*Primula Eureka* is doubtless the cause of the trouble. It is—if not, as is probable, pure *Primula obconica*—a form with a great deal of *P. obconica* blood in it.

NAMES OF PLANTS.—R. E. F.—Roses: 3, *W. E. Lippatt*; 4, George Dickson; 6, *Perle d'Or*; 1, 2 and 5 had shed their petals on arrival.—F. W. R.—*Rosa spinosissima* var. *lutea plena*.—H. S., Bants.—1, *Euphorbia epithymoides*; 2, *Erigeron speciosus*; 3, *Tradescantia virginiana*; 4, *Verbascum*, garden hybrid of *V. phaeum*; 5, *Anthemis trineoria*; 6, *Salvia* sp., cannot identify without flowers; 7, *Erigeron macranthus*; 8, *Spiraea Filipendula*; 9, *Saxifraga cordifolia*; 10, *Cephalaria tatarica*; 11, *Potentilla argyrophylla* var. *atro-sanguinea*.—R. R.—1, *Iris versicolor*; 2, *Spiraea Aruncus*; 3, *Spiraea salicifolia*; *Tolmiea Menziesii*.

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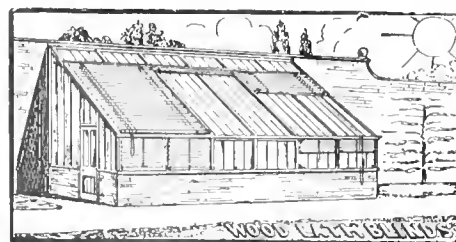
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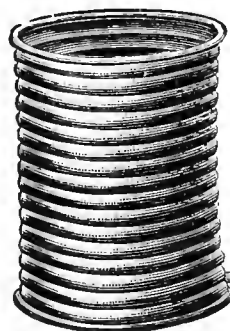
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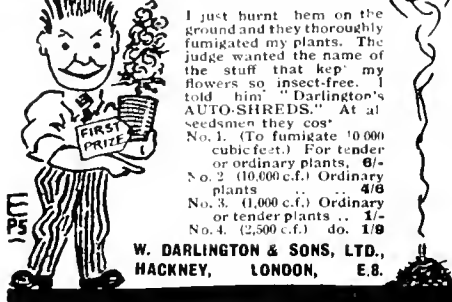
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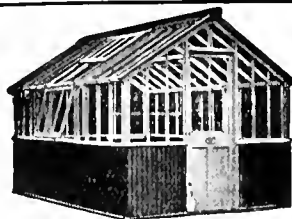
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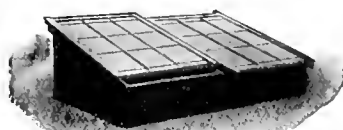
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THE EVOLUTION OF THE MODERN GLADIOLUS

CONSIDERING the marked limitations of the numerous species of Gladioli as regards colour and form, it is at once instructive and very wonderful to contemplate the exceptional strides made by man in producing the gorgeous flowers seen in the modern Gladiolus. The European wildings are mostly weedy and useless specimens, byzantinus alone being worth cultivation, and that solely because of its purple colour and near approach to hardness in British gardens. That wonderland of Irids, South Africa, has, naturally enough, contributed lavishly to the making of the Gladiolus of to-day, the principal species employed being psittacinus, cardinalis, Saundersii, oppositiflorus, cruentus, dracocephalus, purpureo-auratus, Quartinianus, cuspidatus and tristis. The first great step towards the evolution of a really valuable garden plant was made in 1837 by Bedinghans of Arenberg when he first bloomed the seedlings of *G. psittacinus* × *cardinalis* or *oppositiflorus*, the certainty of the second parent never having been clearly established. The famous florist Louis van Houtte of Ghent seeing these flowers and sensing their importance immediately purchased the stock and named them *Gladiolus gandavensis*. Later on, Souchet at Malmaison carried the work on these lines considerably further. The *gandavensis* race were probably taken up by Max Leichtlin in Germany and Lemoine in France, the former crossing them with *Saundersii* to form the *Childsii* group—named by John Lewis Childs, who had taken over the Baden-Baden seedlings of Leichtlin from an American, Halloch of Long Island, their original purchaser. Meanwhile Lemoine of Nancy was working on *gandavensis* × *purpureo-auratus*, the latter a greenish yellow small-flowered species having a conspicuous maroon blotch. This produced the now well known *Lemoinei* race, noted for their brilliantly blotched flowers, although there is some probability that the species *Papilio*, with small purple-red flowers, also entered into the genesis of this group. The *Lemoinei* hybrids, having proved their worth, the same

raiser worked these on to *Saundersii*, a scarlet species with prettily spotted throat. The resulting seedlings gave many large wide-petalled flowers retaining the vivid colours of *Lemoinei*, and this family was called *nanceianus* in honour of the home town of the raiser, and numerous Gladioli of very high quality are embraced in that group. Lemoine also employed the species *dracocephalus* and others of lesser note, but nothing much seems to have come from these efforts. Coming down

to more modern times, Dr. Van Fleet in America made quite a notable step forward by producing *Princeps*, the product of the species *cruentus* crossed with one of the *Childsii* seedlings. This was hailed as a great flower in its day, and is still grown in many gardens for its great size and fine colour, but only two or three flowers are open at once, and its habit is dwarf, so that it is now outclassed entirely by newer varieties. In recent years Messrs. Kelway of Langport, father and son, have worked untiringly to improve these large-flowered Gladioli, and have produced hundreds of hybrids of glorious colour and habit well known to habitués of Vincent Square.

A surprising and altogether revolutionary development occurred when the species *primulinus* was discovered during Sir Francis Fox's engineering work on the Zambesi bridge in the opening years of the present century. For the first time a bright clear yellow was available for hybridisers, and this, combined with a native grace of form, both in spike and flower, has already entirely altered our conceptions of value in the garden or decorative qualities of the Gladiolus. So important, indeed, did the hybrids of *G. primulinus* become that during the last few years the whole race of summer and autumn flowering Gladioli have been divided into two sections only, viz., large-flowered and *primulinus* hybrids. The individual characteristics of the *gandavensis*, *Childsii*, *nanceianus* and *Lemoinei* have become so amalgamated and blended by intercrossing that it is impossible, and quite unnecessary, to attempt to place the modern large-flowered hybrids in their generic sections. As was inevitable, the *primulinus* hybrids also are threatened with absorption unless strong measures are taken to keep them in a class by themselves, and it looks as if a fresh development is now pending along the lines of classification.

In our own gardens at Crawley Down we have many thousands of hybrids of the most glorious colours—imaginable, the flowers of which are too large to be classed with the true *primulinus* race, yet the bloom spikes retain much of the grace and



GLADIOLUS ODIN. A GANDAVENSIS VARIETY

With brilliant salmon-flushed flowers, and each lower segment has a definite crimson bar on scarlet ground. Award of Merit, 1921.

texture of its perianth are distinct points in its favour. Somehow though it has not that undefinable look of distinction which impressed me so much last year in Silver Plane. Perhaps above everything else its scent is its most distinguishing feature. Unless it has Jonquil blood in its veins, it surpasses all I have ever come across.

A real surprise packet came from Australia one March morning containing six ideal bulbs of a Jonquil hybrid Gertrude Nethercote. They were planted early in April and are now in flower (July 10), as I was able to demonstrate by having one in my buttonhole at the R.H.S. meeting in

London on that date. It is a very good variety and is distinguished by the way the long trumpet (?) widens out gradually towards the brim. Each stem has a single flower. Two flowers would be clumsy, as each one has a diameter of from 3 ins. to 3½ ins.

Roses in January and ice in June were once spoken of as utter impossibilities! Daffodils in July surely go one better. How guests would stare if on one of the evenings of the Oxford and Cambridge match they were to find the dinner-table "done" with Daffodils. It is quite possible. J. J.

ABOUT ENGLISH IRISES

ENGLISH Irises have been inhabitants of our gardens longer than any other members of the Iris family. I have read that the date of their arrival from Spain was 1571, and that before long they had become so numerous in the west part of England that they were to be found "in all Countrey folkes Gardens thereabouts." In fact, Lobel stated that they were to be found wild, but Parkinson (1629) doubted this very much, and in all likelihood it was but a stretch of the imagination. In those distant days Bristol was a port of the first magnitude, and would be the great distributing centre for commerce from Spain and Portugal. Repeated importations by travellers who were "delighted with the beauty of the flower," and their quick increase which resulted in their being "imparted to many" soon made the "Blew English bulbous Flower de luce" extremely common, so much so that they became known as English in contradistinction to the smaller-flowered and narrower-leaved Flower de luce which some quarter of a century later was also brought over from Spain, and which was called the "Narrow-leaved bulbous Flower de luce." These are what we now call "Spanish Irises," and it is of interest to note that as long ago as 1676 (2nd Edition, "Rea's Flora, Ceres and Pomona") between fifty and sixty named varieties were offered for sale by Morin, the famous flower dealer of Paris. Just as is the case to-day, the flower books of the seventeenth century record the fact that it was the same when they were written. English varieties are not as numerous as Spanish. Again, we are all of us painfully aware of the unfortunate tendency of all self English Irises to become spotted or striped. Is this as "old as the hills"? I ask the question because Parkinson on page 173 of the "Paradisus" describes (No. 3) a "purple stript bulbous Flower de luce." It looks very much as if it were so. The cause of this sudden conversion of self coloured into striped or spotted flowers is by no means confined to this family. The most famous and best known example is the Tulip. No theory that is entirely satisfactory has so far been evolved to account for it.

The latest out is that the change is caused by an infectious disease to which the name "mosaic disease" has been given, but what it is or how it works I fear I do not know. If my memory serves me, this striping among English Irises has become more common within the last dozen years. In the two collections of over fifty varieties which have flowered here (Whitewell) this summer, there is not one that has not all or some of its flowers striped. It was not always like this. I used to grow a deep purple and a dark blue which never were anything but selfs, and a beautiful pinky mauve seedling of my own named Attraction

never shewed the least spot or blotch until last year when, after a long interregnum, I bought once again a few varieties just to see "what was



ENGLISH IRISES (I. XIPHIOIDES).

doing" in English Irises. Attraction was planted in 1921 side by side with the others in one long bed. Up to that time for at least seven years it had been the only English Iris variety in the garden. Could the infection pass from one plant to another during their period of growth or while they were in bloom? Attraction had a few broken flowers in 1922. I have been told that if I had never got any new bulbs and if I had been content to stick to my one and only, all would have been well and my seedling would never have had a stain upon its character. Can anyone say if this might have been so? Has anyone at the present time pure self varieties with the exception perhaps of one or two whites?

I think the English Iris has a sort of grievance against our English bulb dealers. They are not encouraged. I have looked in vain through the lists of several of our best-known firms and only in two—those of Barr and Sons of Covent Garden and Wallace of Tunbridge Wells—have I found anything like a decent-sized collection. One might imagine from this that there are only two or three really distinct varieties. But this is not

the case. Last autumn I planted some bulbs of every variety in Messrs. Barr and Sons' collection and some of every variety in that of van Tubergen of Haarlem. The varieties I am about to name as being good according to my judgment and taste are taken from these. I mention this because the nomenclature of English Irises seems to be a pretty good mix up, so one must be cautious when buying.

Taking blue shades first, undoubtedly the finest of all is Princess Juliana (T.). It has enormous falls of a deep blue with a bold white blotch in the centre of each and large wide standards of the same shade. If only that second flower would not try to assert itself before the first is fully developed! It does throw things out of gear, and thereby the symmetry of the falls and standards is disarranged. This seems rather more conspicuous in Princess Juliana on account of its size than in any other, but every variety suffers to some extent in the same way. My head-gardener often says, "Ah, if only they had

but one flower!" He is right in one way, but as the second always opens whether the stem is growing or cut, I cannot quite bring myself to say "I agree." The richest shade of all was found in Prince of Wales (B.). A royal purple blue is how I describe it in my notes. My third favourite is King of the Blues (T.). It is a beautiful soft shade. The rosy or reddish purples are a great feature of the family and make a telling appeal to visitors. Some call the colour "petunia." A good many of them clamour for recognition, but after much consideration I have picked out these three: First, Rosalie (B.), so very clean-looking and bright; second, La Marquise (T.), rich and dark; and third, Dandy. In whites Mer de Glace (T.) is an improvement, I think, on the very old but still very good Mont Blanc.

What to say about the lavenders and pale pinky mauves I do not know. In these more than in any other shades the striping and streaking is often an eyesore, but when there is not much of it some are quite pretty. Perhaps a fair selection would be Lusinda (T.), Tantalus (T. and B.),

Perle des Indes (F.) and Cattleya (B.) but there is something about the counting for taste. One day a charming friend came along and spotted the carnation flower of Lamartine (L.) as the one he liked best out of all the varieties in the two collections. "Ugh!" was the general comment on it. Now we come to a type which is difficult to describe. It seems to have affinities to the veined Renchocylus and the Japanese type. Somehow

the coloring looks as if it had been printed on the tails from a transfer in the same way that certain kinds of old china used to be ornamented. Try these next year! Almona (B.), Miss Answorth (B.) and Tipador (F.). This last is fine in a mass when it has "got going." One word in conclusion: English lilies like stiff soil. Both Dutch and Spanish like it light. *Yerb. sap.*

JOSEPH JACOB.

THE LATER BROOMS

THE late-flowering form of the Common Broom (*Cytisus scoparius*) must not only be considered one of the most valuable members of its family by reason of the fact that, commencing after the type has gone off, it carries on the flowering season to August, but it has some other notable attributes. Here, at any rate, the Late Broom attains to nearly double the height of the wild species, and this extraordinary vigour is emphasised also in the unusual leafiness of the branches, in the size of the blossoms, their fine depth of colour and amazing prodigality. Some of our specimens (all grown from seed, usually selected annually from the last to flower) have made a bold, upright stem, thick as a man's arm at the base, and attained the height of 8 ft. and more. Not a few of the shrubs then assume a dense, mop-headed form from which the long, twiggly branches radiate and droop with their heavy burden of deep yellow flowers. There is little or none of that pale grey green hue in the foliage of the Late Brooms which one usually associates with the more whippy wild plants, and the comparatively heavy, dark green of the former doubtless helps to give both their flower and form that impression of

scented, come to permeate the silvery gloss of the bushes with a woof of gold. Though a Mediterranean species, *G. virgata* has never been injured by frost here. It may be readily grown from seed, and the young plants grow away with extraordinary rapidity.

Another July bloomer which is not less admirable for hot, dry soils than the foregoing is *G. atnensis*, a Sicilian, which is also quite hardy with us, as it is at Kew, where it may be seen growing some 14 ft. in height. But this Broom possesses to an exaggerated degree the habit (not uncommon in the genus) of growing leggy with age, so that young plants should be kept in reserve for replacing overgrown specimens, more especially in smaller gardens. Even these, however, will, in the case of *G. atnensis*, often assume somewhat gaunt and ungainly shapes, and for that reason we prefer to grow the species where the lanky lower portions of the plants will be partly hidden by some lowlier shrubs. The branches of *G. atnensis* are thin, cord-like and leafless, and they droop in a by no means inelegant shower of pea green from the top of the main stem. The blossoms, which are yellow and fragrant, appear on the tender young growths of the current year, and these latter

continues well into autumn. Here, again, young bushes (cut hard back in spring) are much superior to old ones, and the form known as *C. n. Carlieri* is even better than the type. *C. nigricans* and its varieties may be grouped in any sunny spot where the soil is poor, and there the bushes will not fail to yield a prolific crop of bright yellow flowers borne on tapering, upright spikes some 8 ins. or more in length.

Genista radiata is an interesting little shrub for associating with Heaths or planting in open woodland spaces, and then there is the tinctoria clan, of which the earliest and longest bloomer is *G. tinctoria* var. *mantica* (*Carniola mantica*). This has the hard, glossy green leafage which distinguishes the family, and the orange-yellow spikes of blossom are produced in lavish profusion throughout midsummer and again in autumn. The double-flowered, prostrate form of *G. tinctoria* is an excellent little plant, making a densely green mat of foliage which breaks into a blaze of yellow flowers at this season no matter how hot and dry the soil may be. Then there is the best tall form of the species known as *G. t. elatior*, for whose spires of bloom one is thankful when most things are passing over even though the yellow is a trifle tarnished.

G. capitatus is a July-autumn bloomer which might be more often grown, and the merits of *G. cinerea* also deserve wider popularity. Such remarks, indeed, might well be applied to many other worthy members of this great and fascinating family, and the reason why a race of such easy culture and possessing such superlative attributes is not more generally appreciated is a problem.

Even the splendid old *Spartium junceum*, which has been known to us for close on four hundred years, has not been accorded one-half the recognition it so fully deserves. A free and hearty grower in almost any soil, in sun or shade (even under deciduous trees), one that will maintain a prodigious crop of large, rich yellow, sweet-scented blossoms for six months of the year, and these on long, straight stems which make them admirable for cutting, is a shrub of no ordinary merit. One may add to these good qualities the fact that the Spanish Broom can be readily increased by seed sown in the open and that established plants never need any attention whatsoever.

It may be that the popular myth regarding the alleged difficulty of transplanting Brooms may be responsible for the shyness with which so many amateurs appear to regard these shrubs. If, however, Brooms are put out before they have commenced to flower, there is no more reason to expect losses than there is in planting Privet. Even older specimens of most kinds may be moved with every hope of success if one or two of the leading branches are cut back to half their length at planting-time.

Though the soil allocated to Brooms in this garden is a poor, sharply drained shale, often so stony that an iron bar has to be used to penetrate it, no preparation whatsoever is made for these shrubs. They are set out, usually in autumn, direct from the seed-bed (or the frames in the case of those which have to be raised from cuttings) and left alone. No pests, other than mice, which may nip them back while they are still young, ever attack them; they seem to be immune from disease, and never need such attentions as watering, mulching, staking and the rest, while very few ever need pruning. Yet with all these obliging and delightful qualities Brooms are only grown in a few gardens as they might be grown in many. Albeit, when they are seen in good form what shrubs are more generally admired?

NORTH WALLS.



AMONG THE MOST USEFUL OF LATE-FLOWERING BROOMS, GENISTA CINEREA.

sumptuousness and well being which is so distinctive a feature of these splendid plants.

In striking contrast to the above is the shy, grey-green of *Genista virgata*, whose fine-leaved foliage glimmers with a livery silkiness at each breath of wind. Whether grown singly or grouped, this is an attractive species at all seasons, but it is never so beautiful as it is in July, when the multitudes of little yellow flowers, deliciously

also bear a few delicate leaflets, which disappear with the ripening of the shoots. This species may also be raised from seed, though the latter does not germinate so freely as that of most. The white *G. monosperma* appears to be closely allied to the last mentioned, but it is a good deal more tender.

C. nigricans is an indispensable species, since it comes into flower towards the end of July and

HERBACEOUS PLANTS OF A WOODLAND GARDEN

FEW plants are more admirably suited for woodland planting than the Willow Gentians, *G. asclepiadea*. They will do quite happily under trees where the shade is not too dense and, though by no means fastidious, enjoy a deep, cool vegetable soil. There are many forms of this fine Gentian, these varying in height from 1ft. to 4ft. and bearing large, tubular flowers from a dull slaty blue to a beautiful sapphire, while others will range between a full azure and a rich violet blue. Some of these are, I believe, sent out under specific names, but they are all of the same clan, most of them make a bold sheaf of elegant, arching growths and along the upper half of each stem the flowers appear at the axils of the opposite pairs of leaves in July and August. Though not the tallest, *G. a. Perry's Blue*, a clear azure, is one of the best of this set, and the pure white variety is irresistibly lovely and distinct.

Distinguished by its broad and crisp bronzy leaves, which look as if they had come direct from a milliner's window, is *Deinanthe cœrulea*, a distant relation of the Saxifrages, which will also do well where the Willow Gentian prospers. This uncommon plant grows to about 6ins. in height and makes amends for the parched and crinkly appearance of its bristly leaves by producing in early August large waxen blossoms which suggest in their chaste and drooping loveliness those of some magnified *Pyrola*. These exquisite flowers, which are all that the dismal leafage is not, are of that most delicate and rare shade of palest violet-blue which one associates with sunlit mist among the hills of autumn. This weirdly beautiful creature appears to enjoy considerable but not heavy shade, and it revels in a naturally moist bed containing peat or leaf-mould.

Boykinia aconitifolia is yet another woodlander of similar wants, and it also is allied to Saxifraga. This is not such a striking plant as the last mentioned, but its bold and silky leaves with their neatly indented lobes and fresh, soft green are distinctly attractive. These will soon cover a considerable space, the plant running about like *Geranium grandiflorum*, and during the later summer this foliage is surmounted to the height of some 18ins. or more by stately flower-stems which bear ample heads of pretty milk white blossoms.

The much smaller *Tanackæa radicans*, though not strictly herbaceous, also delights in these sun-screened, moist, but well drained corners, and it is a cheerful little plant for the edge of a woodland path or to associate with other lowly things. It seems to enjoy the exploration of stony crevices with its wiry runners, and such places it will soon embroider with wreaths of leathery dark green leaves above which in summer rise the 6in. inflorescences which might be taken for the silvery panicles of some Tiny Tim of the great *Aruncus* breed.

From *Tanackæa* of Japan it is but a short step to *Astilbe simplicifolia* of the same flowery land, and no one who owns a garden of any sort which affords one of those cool corners I have referred to should omit this treasure. Nor is it so fastidious in regard to dampness as many of its race. We have it associated with the little *Spiræa decumbens*, now a most cheerful sight with its foaming inflorescences, with *Spiræa bullata*, whose gloomy green is breaking into an eruption of ruby buds, and with the no less delightful *Spiræa digitata nana*, a miniature *palmata*, and the most precious jewel of its distinguished family. *A. simplicifolia* is

growing among this select little company in very ordinary soil which is anything but moist, although it is never parched; and above its keenly notched and finely pointed leaves, which do not rise more than a few inches, ascend in full summer those airy plumes of tiny white or bluish flowers which are like fairy fountains of iridescent spray.

Nearer the waterside *S. Aruncus* led the way early in the month for the rest of its handsome tribe, among which latter *S. palmata* in both the raspberry pink and pure white must always be given a foremost place. *SS. lobata* and *venusta*, which appear to be one and the same thing, are American Meadow Sweets also of the highest merit, their foamy crests ranging in colour from creamy white and bluish to the full-toned raspberry pink of *palmata*. Then there is *Spiræa Kneiffi*, a dwarfed form of the Goat's-beard *Aruncus*, with its leaves shredded into mere skeletons of green, and the giant of the race, *S. kamschatica (gigantea)*, which is an admirable plant when it has lots of room, moisture and manure, plus a birth certificate testifying that it is of a really good form and not some degenerate seedling.

Astilbe Davidii is also here, shooting up among the later days long fuzzy spires of puce magenta blossoms which may without risk of offending anybody be associated with the taller (5ft.) and more elegant *A. grandis*, whose ropes of creamy white bend over a foliage of singular grace and beauty. Then there are some of the *S. japonica* hybrids, but as these are too much inclined to deteriorate with us without considerable attention, they are unsuitable for woodland planting in a garden where the plants have pretty much to fend for themselves in a natural manner. There is, however, yet one more plant that must claim admission to this company, and that is *Gillenia trifoliata*. This is not a showy plant, but there is something very arresting about its 2ft. sheaf of dark green foliage and gracefully drooping three-lobed leaves. Then it is a late flowerer, the bright little showers of white or rosy white stars appearing towards the end of the present month and continuing until the latest of the *Spiræas* have been stained with the rust of their passing. *G. trifoliata* does very nicely in any place where the above-mentioned plants thrive, but it should be set a little apart from such pushful fellows as the more stalwart *Aruncuses*.

In rather drier ground, but still in partial shade, *Lysimachia clethroides* is now an effective plant especially in the mass, its white spikes curiously bent at an obtuse angle over the tall, leafy stems. This, however, is inclined to trespass, and should be placed well away from choicer things and in company with such other handsome offenders as the stately *Epilobium hirsutum* (the variety with white flowers), *Lysimachia punctata*, *Centranthus*, *Rodgersias* and others. Of the common *Rodgersias*, *R. tabularis* is, I think, the most attractive,

and for a really moist place there are few more noble plants of moderate dimensions in this character than *Saxifrage peltata*.

All the Borages and Alkanets are useful for woodland and late bloomers, the little trailing *Borago laxiflora* with its dainty bells of rosy-tinted azure being especially charming when naturalised among native herbage, and one that will maintain a succession of bloom from May to December.



THE BUTTERFLIES' FAVOURITE—*BUPHTHALMUM SPECIOSUM*, IN WOODLAND.

The Welsh Poppy, seductively fascinating as it is, would be kept within bounds along with those other malefactors on parole mentioned above, if it were humanly possible to do so. But nothing can stay the "peaceful penetration" of its abounding legions. Yet, if *Meconopsis cambrica* were difficult to establish, if it were only biennial, how we should prize its soft lettuce green foliage and lovely flowers, of which the lively daffodil yellow blends so well with the prevailing green of woodland floor and waterside! Curiously enough, the orange form, which is a really delightful thing, is a comparatively feeble coloniser even in places where the type abounds like the wicked.

Most of the *Mulleins* are first-rate plants for fairly open woodland, but a good many of these (like the choicer of the *Meconopsis* tribe) are biennial, and so demand more attention than some of us can afford for plantings of this nature. The most permanent here, and one which we should not like ever to be without, is *Verbascum nigrum*, whose 3ft. spires of yellow or white, if not remarkably distinguished, seem to harmonise admirably with other sylvan plants. Then they hold themselves up—and a plant that cannot do that has no place in the wild or semi-wild garden. Some

the *F. of Martini*, such as *Mr. Willmott*, have also proved fairly permanent and independent enough for woodland culture, and no less can be added to the noble *V. philomoides*, which is certainly desirable.

The *Funarias* are invaluable for shady places, and some of them may be counted among the best of our later herbaceous plants for the purpose in view. Provided the root-hold is deep enough, these handsome plants do not insist upon a really moist position, but few things more thoroughly enjoy good living or more generously repay one for affording them a liberal hospitality. *F. Sieboldii* is a well tried species, and the somewhat smaller *F. Fortunei*, whose leaves are still more glaucous than the preceding, is also first rate. Both produce fine spikes of pretty tubular flowers

in colour lavender or pale violet during the later summer.

Polygonatum (Solomon's Seal) is an indispensable woodland plant, and one that will often thrive where few other things could exist. In addition to the common species there are one or two others of this genus that are well worth a trial. The great tribe of Knotweeds (*Polygonum*) also affords us one or two good herbaceous kinds for our purpose here. Of these *P. alpinum* makes a pleasing clump some 3 ft. high of fresh green foliage terminating in flossy panicles of white. This species does not appear to be such a rampant spreader as so many of the Knotweeds are, but the discreet will not handle any of them without due caution. The rosy pink *P. affine* is a charming orn. carpeter for a fairly moist place, and the

closely allied and taller *Brunonis* is equally pretty. As, however, I have not grown either of these *Hindlayans* I know not what evil may lurk behind their blushing smiles.

These rambling notes cannot be concluded without a good word for our old friend *Bupthalmum* (*Telekia*) *speciosum*, whose splendid heart-shaped, sappy leaves never flinch in the most droughty August weather, and whose noble orange yellow suns seem to glow with the very essence of autumn's merry hues. A few clumps of this proud old Ox-eye

to give "*Bupthalmum*" in presentable English—standing in some sun-filled corner with all the handsomest butterflies sipping its "drowsy swarms" and basking in its blazing rays is a goodly thing to behold and one that few of us need forgo.

A. F. J.

THE NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW

THIS Show was held at Robert's Park, Saltaire, on July 10 and 11 under ideal conditions. The heavy thunderstorm during the preceding day had cooled the air and, consequently, the flowers remained good throughout the two days. The Roses staged were of a very high standard and, although some of the classes were not well filled, the competition was very keen. The groups of Roses were well represented, and some fine examples of artistic arrangement were to be seen.

In the nurserymen's section, Messrs. Prior and Son of Colchester were first with lovely examples of *Lady Barham*, Mrs. George Marriott, Mrs. A. Carnegie, H. V. Machin, George Dickson and

L. Godfrey Brown. Messrs. F. Cant and Co. of Colchester were a close second; Mr. W. Singer of Newcastle, Co. Down, third; and Mr. Hugh Dickson of Belfast, fourth.

In the class for twenty-four blooms, distinct, Messrs. Prior and Son were first with a very even set of blooms; Mr. George Prince of Oxford second, with somewhat smaller blooms; and Mr. G. Burch, Peterborough, third.

In the class for twelve blooms, *Tea or Noisette*, Mr. George Prince was an easy first with magnificent examples of *Dr. Campbell Hall* (silver medal), Mrs. Mawley, *Golden Gate*, W. R. Smith and *Muriel Wilson*. Mr. Elisha J. Hicks of Hurst was second.

For twelve blooms of new Roses Mr. G. Prince was first with magnificent examples of *Mabel Morse*, *Diadem*, *Muriel Wilson* and Mrs. Lamplough. Messrs. D. Prior and Son were second, and included *Red Star*, *Lord Charlemont* and Mrs. Hy. Bowles. Mr. Elisha J. Hicks was third.

For a basket of cut Roses (Class 5) Mr. Hugh Dickson was first; Mr. Elisha J. Hicks, second; and Mr. G. Burch, third.

In the class for three baskets competition was very keen, and Messrs. Bees gained first honours with lovely examples of *Venus*, a magnificent Rose of their own raising. Mr. Elisha J. Hicks was second and Mr. Hugh Dickson third. A fourth prize was awarded in this class to Mr. George Prince.



ROSE FRID J. HARRISON, A NEW HYBRID TEA WHICH WAS AWARDED A GOLD MEDAL.



ROSE JOAN HOWARTH, A FLESH PINK HYBRID TEA. (CERTIFICATE OF MERIT.)

In the class for twenty-four distinct varieties Mr. G. Mattock of Oxford was first and Messrs. Frank Cant and Co., second.

In Class 8, twelve distinct varieties, Mr. Elisha J. Hicks was first with an even lot of clean fresh blooms; Messrs. Chaplin Brothers, second; and Mr. G. Burch, third.

In Class 9, one basket of cut Roses, Mr. Hugh Dickson was first; Messrs. Alex. Dickson and Son, second; and Messrs. Bees, Limited, third.

In Class 9, for a representative group of Roses, Messrs. Alex. Dickson and Son won first honours with a magnificent group which contained striking examples of Sunstar and Betty Uprichard. Messrs. Allen and Son, Norwich, were second.

Class 10 was for another representative group of Roses, and here the competition was very keen as the winner would hold the Saltaire Cup, valued at £50. Mr. George Priace of Oxford was first with a very fine group that contained some good examples of Souv. de Claudius Pernet, Mrs. Lamplough and Mrs. Foley Hobbs. The exhibit was perhaps a little crowded, but the quality of the blooms was faultless. Messrs. Chaplin Brothers of Waltham Cross were a very close second, and Mr. Elisha J. Hicks of Hurst was third.

The open artistic class for a bowl of Roses was won by Mr. G. Burch.

The amateur section was not as well represented as one would have wished, the exhibits being few and below the usual standard.

The Jubilee Trophy was won by Mrs. Balfour of Oxford. The same lady was first for the best twelve blooms open only to growers of less than 1,000 blooms.

In the classes for Roses in baskets Mrs. Balfour, Mr. Marriott and Mr. Bambridge were the successful exhibitors.

For a representative group of Roses Mr. Marriott of Carlton was an easy first with a fine group neatly arranged in bamboo stands. Mr. F. A. George of Worcester was second.

The table, bowl and vase classes were won by Mrs. Courtney Page of Enfield.

NEW ROSES.

No fewer than thirty-six new varieties of new Roses were staged, and two gold medals were awarded.

Allen Chandler (H.T.).—A strong-growing, semi-single Rose of distinctive merit. The blooms—scarlet in colour—large and sweetly scented and carried in clusters of three or four. A good pillar Rose and said to be perpetual flowering this should prove an acquisition. Gold medal. Shewn by Mr. George Prince.

Fred J. Harrison (H.T.).—A free and branching Rose suitable for garden purposes. Colour scarlet cerise sweetly scented. The blooms open rather thin. Shapely in the bud, not unlike Covent Garden. Gold medal. Shewn by Messrs. Alex. Dickson and Son.

Joan Howarth (H.T.).—A pretty flesh pink flower deepening at the base of the petals. Of fine upright growth, this variety is sweetly scented and very free—altogether a delightful garden Rose which keeps its colour and shape well. Certificate of merit. Shewn by Messrs. Bees, Limited.

Richard E. West (H.T.).—The pale lemon yellow petals are large and somewhat loose. The plant is free-flowering and the growth mildew proof. A fragrant garden variety. Certificate of merit. Shewn by Messrs. Alex. Dickson and Sons.

Betty Hulston (H.T.).—A vigorous, free-flowering, fragrant Rose, pale golden yellow in colour and somewhat after the style of Marquis de Siney. Purely a garden variety. Certificate of merit. Shewn by Messrs. Alex. Dickson and Sons.



MRS. COURTNEY PAGE'S PRIZE BOWL OF ROSES.

Annie Ireland (H.T.).—An enormous Druschki-like bloom of pale cream colouring. It has a high pointed centre and is faintly scented. An exhibition Rose. Certificate of merit. Shewn by Messrs. Alex. Dickson and Sons.

Fragrance (H.T.).—A scarlet crimson sweetly scented Rose with high pointed centre. Might be

described as an improved Laurent Carle. Certificate of merit. Shewn by Messrs. Chaplin Brothers.

Mrs. E. J. Hudson (H.T.).—A large Testout-like bloom with good depth of petal. The flowers are of good shape; indeed, it might easily be mistaken for Caroline Testout. It is faintly scented. Certificate of merit. Shewn by Mr. G. Lilly.

SEED SAVING

SEED-SAVING is to some people, myself, for instance, what money is to the miser, an end in itself, for I find myself saving seed which I not merely do not sow, but which I do not mean to sow. Sometimes it is the seed-capsule that is absorbingly curious. Sometimes the seed itself has the beauty of a jewel. Columbine seed, for instance; its jetty sheen and saltatory motion are a little suggestive, perhaps of the *Pulex irritans*, but, rightly considered, are none the less beautiful for that. Of the various seed apparatus known to me, for sheer fascination commend me to that of the Poppy. One never tires of wondering at the architecture of the capsule, with its clere-storey windows and its interior septa; and then, when you invert the ripe capsule on a sheet of foolscap, the patter of the seed-pearl on the paper is music. However, it is not with Poppy seed as an end in itself that I am concerned at present, but with the seed as a means to having finer Poppies next year than you have this.

Once secure a pinch of good seed and for a season or two you may allow your Shirley Poppies to sow themselves, with a fair assurance that, though among the seedlings there will be a fairly large proportion of mere weeds, there will also be for a year or two a considerable number of tolerably good blooms; with, possibly, here and there a flower that is better than good. But each year

will see the Poppies, as a whole, less choice than they were the year before. Reds and crude pinks will gradually supersede the more delicate shades, until at last the Shirley plot differs little from a patch of unregenerate Corn Poppy, which at its worst is of course still a pretty flower, though not a Shirley. Anyone who desires to keep his flowers up to the mark cannot hope to do this by any such happy-go-lucky method or lack of method. There are only two ways of securing seed that is really worth while: of which the papaverist must choose one, if he does not try both. Seed may be procured each year from a reliable dealer, an easy and pretty safe course to follow; and therefore, probably, most amateurs follow it. Or one may save one's own seed by a process of careful selection, which, from first to last, no doubt involves a good deal of labour, though we have excellent authority for the comforting assurance that "the labour we delight in physics pain." To my thinking flowers grown from seed of one's own selection are infinitely more interesting to the grower than those obtained from seed, however good, that comes from an outside source. In saving seed which it is of vital importance to have of the first quality—saving, for instance, for commercial purposes, or to fix a strain of exceptional value—one would no doubt proceed on the rigid lines which, I understand, the late Rev. W. Wilks set himself when he created the strain of Poppies

which subsequently took its name from his vicarage. In this drastic process of selection, which for my own purposes I do not think it necessary to follow, the main thing is to eliminate every undesirable specimen as soon as it shews its quality. To do this with such a flower as the Poppy, which opens at break of day, the grower would have to be up with the lark, or, to speak by the card, with the humble-bee, an earlier riser, I fancy, than the lark. (When I say "humble-bee" it is only because the hive-bee is, in my garden, as good as extinct.) Rise as early as you will in Poppy-time—before even the first flower has burst its sheath—and, as likely as not, you will find half a dozen young humble-bees there before you, hovering over the half-open cup, eager to pounce on among the floury anthers the moment the petals shake themselves apart. And a pretty dust the creatures raise when they tumble in this way into the flower, as if the fertilising of a Poppy capsule were a prime object of their existence; as possibly it is, in which case it is pleasant to think how thoroughly well they manage what they are there to do, for I defy any Poppy-head to remain sterile when once a hasty young humble-bee has floundered in among its stamens. Unless, therefore, one is up and at work before the sun, there is little use in attempting to eliminate the undesirables among one's Shirley Poppies, for, ten to one, the bees have been before you. Unfortunately (or fortunately, just as you regard it) on each flower it visits the bee leaves a touch of fertilising dust gathered from this or that flower it has previously rifled; so that it is hopeless to expect from any given flower progeny the exact counterpart of the parent without first having taken such precautions for the isolation of plants as it is not easily possible to take in the average garden. Nevertheless, there is such virtue in heredity that, in spite of the bees, you may mark your finest plants in the certain faith that from a good flower, though its offspring may not closely resemble it, you are more likely to get something really fine than from a capsule taken haphazard at harvesting-time.

Nothing that bears on gardening gives me, personally, more delight than to see my Shirleys comfortably "dished" in cool water after they have had their feet in hot; they hit it off so well one with another and make, combined, such a splendid spectrum of colour. This culling of the Poppies is a double gain, for not only have the flowers in the coolness of a jar thrice the lease of life they have on the plant (except in the sultriest of the dog days), but every flower so cut saves the plant an appreciable amount of energy which, to-morrow, will expend itself in furnishing further flowers. Therefore, on my own Poppy borders, I make a raid every morning, if possible before breakfast, to secure the blooms that have opened in the night. These are easily known by the crisp freshness of the petals and, beyond possibility of mistake, by the untarnished purity of the central circle of anthers, which by the evening, if they have not entirely disappeared, will have become discoloured and shabby. Here and there, however, will appear the super-flower (it has appeared this season with embarrassing frequency), which must not be cut, but gathered, together with all its bloom-buds, into a taggot and marked as a seed-bearer with a label setting forth such particulars as may recall to you, at the time of harvesting, the merits of the flower. That I shall have myself by following this plan a plentiful harvest of Poppy seed this year I infer from the fact that I have already (in the first fortnight of July) used up for labels a considerable part of a pack of cards, to the perplexity, I fear, of interested friends, who, seeing only the blarney of the suit, find it difficult to establish a logical

connexion between the harmless Poppy and the ace of spades or the queen of hearts.

To those who are fastidious about the quality of their Shirleys I would speak this word of warning:

"Beware of the 'Blue Poppy.' I do not deny that the Blue Poppy has its fascination. It has. Its colours are quaint to weirdness, and its central tassel of anthers is bewitchingly beautiful, with the beauty which the French so aptly name *la beauté du diable*; for nothing less than devilish

is the demoralising havoc it plays with the Shirleys. On the other hand, anyone who is not strait-laced in his Shirleyism may find a piquancy almost sensational in the vagaries of those dark-anthered Papavera among the fair-petalled Shirleys. I have had the Blue fever myself, and am therefore not unsympathetic; but I have since returned to a saner mind and now am adamant. In my borders an occasional Blue still lifts up its cup; but its shirt is short. SOMERS.

NITROGEN AS A PLANT FOOD

I WAS once called to inspect three houses of young Vines which had been planted six months. The houses were new and splendidly planned, the borders looked in perfect order, the staple being good turfy loam of the right texture, and the Vines were the best that could be procured. These started all right, but when the growths were about bins, in length they came to a standstill and, with the exception of some very dwindling attempts at growth, they were in this condition when I saw them. The man in charge put the failure down to wire-worm. On examination it was found they had started rooting in some old potting soil which had been placed about the roots, but when the roots touched the new soil they would not enter it and they died back. The soil had a very unpleasant smell, and then I was informed that a certain proprietary manure had been mixed with it. There was a talk of a lawsuit with the vendor, but I knew it was procured from a firm of good repute and, as far as could be judged from a sample, it was not the fault of the manure at all, but that an overdose had been given. Some Peach trees planted in the same kind of soil without the manure had done splendidly.

A good portion of the border was removed and replaced with fresh soil in which new Vines were planted. These did well for a year or two till the roots reached the obnoxious mixture, when there was a sudden stop. I visited the same establishment professionally a few years later, when it was in charge of another gardener, and the whole border had to be renewed and planted afresh. Since then excellent results have followed.

The example of the Peach trees shewed that the soil was rich enough without any addition of nitrogenous matter, and when such a soil can be procured I advise no stimulating material to be added during the first two or three years, though it is always advisable to add old mortar or lime in some form, as well as phosphates and potash. Unfortunately, most of us have to make shift with a much less perfect material.

On another occasion a house was planted without any added nitrogenous matter. The Vines grew very strong, but the growth was rather flabby, and at pruning-time the pith was found to be black in colour. Soon after the fruit had ripened the skin turned soft as the pulp and the fruit soon decayed. The cause of this was that turf with long grass growing on it had been used for the border, though not till some months after cutting. The grass heated, however, and caused rapid decomposition of the fibre, so that what should have lasted for two or three years was brought into action all at once. There was also found to be a deficiency of lime in the soil. This was quite unexpected, for the spot was situated between two hills less than three miles apart, which produced excellent lime in large quantities. After a time, when sufficient newly slaked lime had been added to sweeten the soil throughout, all went well.

Two lessons may be learnt from these mishaps. First, that when the sods are covered with long grass it is advisable to char them. It is not often that such a thing happens, but in this case the turf was cut from a large park where there was little grazing other than that done by the deer. The second lesson is that when dealing with a soil with which we are unacquainted it is well to add some old mortar for fruit borders.

With regard to nitrogen, do not imagine that I recommend starving plants. In attempting to produce great results I feed them up to danger point, but it is necessary to know when they will bear the fattening process with the least danger. When I had the privilege of helping myself to undiluted urine from a tank inside a cow shed, it was used freely both indoors and out without any added water during the early winter. When the soil is full of roots it is astonishing how much of such liquor fruit trees and Vines will bear during the dormant season. It must not, however, be applied undiluted later than six or eight weeks before growth starts afresh.

When it is no longer safe to use it on fruit-bearing plants the liquor can be poured in between the rows of Cabbages, supposing these are 2ft. apart and the plants earthed up. These and also Asparagus will bear a great deal of feeding. When no manure water was at hand, I have given well established beds of Asparagus, after growth had started, 1lb. of nitrate of soda to the perch at intervals of only a week, up to midsummer, with good results when there was no deficiency of the other requisites in the soil. To apply nitrogen alone, to a soil which is deficient in other elements of plant food, is to court disaster. But as artificial or concentrated nitrogen disappears more quickly than the other necessities, it is well to apply it in small and frequent doses and only during the growing season. WM. TAYLOR.

A DESIRABLE OXALIS

THOUGH a comparatively common member of its beautiful race, *Oxalis floribunda* is still one of the most attractive and generally useful. In the best forms the pale green, silky-haired leafage of this species is large and handsome making a bold tuft some oins. in height and 1ft. or more across. Well above this rise the ample heads of lovely blossoms, which are rather over half an inch in diameter individually and of a full-toned, satiny rose pink. These are borne in the greatest profusion, a succession being maintained from June to the end of summer. The variety *alba* of this *Oxalis*, though smaller in all its parts, is a most desirable little plant, its clear white, starred blossoms having a yellow eye. *O. floribunda* does not appear to be hardy everywhere, but it is provided with a free, warm soil it should prove long-lived in all but our bleakest climates. A notable feature of this plant is that old-established clumps never seem to shew any signs of deterioration.

CORRESPONDENCE

ROSES AND ROSE SHOWS.

THE heat and moisture of the first half of July have worked wonders in the Rose garden, and one looks back with pity on the starved and stunted blooms that were shewn at the great Rose Show held in London last month. Surely it would be wise for the National Rose Society to make, if possible, an alternate date in future years? The contrast between the glorious blooms now in beauty and those that struggled to expand in June makes it quite clear that the best Roses were not represented. A rose show is for the exhibition of beautiful Roses we all know, but it is the newer and the untried varieties that are the most interesting. A show of Caroline Testouts, Druschkis, General McArthurs and many other well known Roses would not excite the attention of the keen rosarian at a show, though he might welcome them in his own garden. To those who admired the splendid blooms, say, of Lady Ronald-way at last year's show the flowers exhibited this

suggestion to Rose exhibitors and growers.
E. H. WOODALL.

ROSA HUGONIS.

I AM afraid the Rev. Joseph Jacob (page 349) has asked me a question that I cannot answer regarding the flowers of this Rose not opening. But if the unusually cold weather of June was not responsible for the tiding alluded to, I can only suggest that the stiff soil in which the Rose is growing is not congenial to it. The best and freest specimens of R. Hugonis I have seen have all been in very light, warm and sometimes even rocky soil. That this species delights in heat there is no doubt.—NORTH WALES.

A FINE OLD WISTARIA.

I THINK that the enclosed picture of Wistaria chinensis growing on Museum No. 2 at Kew will be of interest to readers of THE GARDEN. Seldom, if ever, has it been seen with such a



A TORRENT OF WISTARIA.

year were a painful surprise, and yet *faute de mieux* they were awarded first prize. How very different it would be if they could be shewn now! The wonder of that show to me was the blooms of the new Rose called after Princess Victoria, which alone looked as if they had opened under favourable conditions. That Rose must either be of extraordinary hardiness or coaxed out by some clever meteorologist who knew how to bottle up the sun's rays for his own special benefit. One longs to see it again! while many others were so far below their usual standard that it was grievous to see them so held up to public shame. Apart from this accidental season, however, it seems to me that the number of good Roses is so vastly increased that it is urgent that a fresh classification should be made, and Roses of more than ten years standing should for show purposes give way to more modern raisings. In that way we should see what real progress has been made, and I suspect that many new varieties would fail to pass the standards of the old? "Old versus New" would make an attractive heading to many a show catalogue, and I put out this

profusion of flowers. This is probably one of the original plants introduced into the country some hundred years ago. Its branches extend along the wall some 40yds. or more, which will give an idea of its value as a climber for covering large spaces. Wistarias are not at all particular as to soil, but will flourish in any good mixture of a loamy nature and grow fast when established. They are most readily propagated by layering the young growing shoots during the summer months, to be detached the following year when they have made plenty of roots. Old plants require little attention beyond spurring in the long shoots soon after they have done flowering. This Wistaria is called the Chinese Kidney-bean Tree. The long racemes of mauve-coloured flowers are produced in May and June. Of this species there are three varieties in cultivation flore albo (white), flore pleno (double) and a form with variegated leaves. Another beautiful plant is Wistaria multijuga, which is of comparatively recent introduction. It has long racemes 2ft. or more in length, but the pale violet flowers are set further apart on the stems than in W. chinensis. It

flower some three weeks later than the older plant and flourishes under the same conditions. Of this also there is a pure white-flowered variety. W. multijuga is the Wistaria that is so popular in Japanese tea gardens with the long, elegant racemes hanging from the branches.—W. L.

PLANTS WITH LEGENDS.

I WONDER whether "An Old Subscriber" (page 363) has heard any of the legends connected with the wild apple blossom? Some of these were exquisitely told by the late Mr. Sharp, writing under the *nom de plume* of Fiona Macleod. There is the old Gaelic legend how "Ana the most ancient goddess, the Mother, made man out of rock and sand and water, and then made woman out of a wave of the sea, the foam of apple blossom and the wandering wind." And another tale of the same flower how "Ulad gathered the Apple blooms and held them to his heart, and at day-break they became a woman, Fand Fand, whose laughter the storm thrush caught long, long ago, and at the end she became once more a drift of white blossom on the deerskin, but some of the blossoms were stained by the wandering fires of a rainbow that drifted out of the rose-red thickets of the dawn." The same writer gives a Gaelic folk tale of the quaking grass in the Garden of Gethsemane, how "among the trees and grasses and birds there were those who doubted, saying 'It is but a man who lies here. His sorrow is not our sorrow,' and Christ looked at them and they were shaken with grief, and that is why the quaking grass and the aspen are forever a-tremble, and why the wagtail quivers along the earth like a dancing shadow." The Pimpernel was good to prevent witchcraft if gathered early in the morning in a churchyard, saying "Rise up pimpernelle and goe with me, and God shall bless me, and all that weare thee. Amen." Miss Teresa Hooley has told the legend of the Galium in graceful verse, "Our Lady's Bedstraw":

"Through the fields came Mary Mother
In the twilight dim and grey:
All the dew wet grasses quivered,
All the wild flowers bent one way.
Night drew down all cool and quiet,
Mary Mother sought to rest,
Slept upon a bank of blossoms—
Yellow spirals, fragrant, blest."

"An Old Subscriber" has a fascinating task in collecting the legends pertaining to plants and flowers.—J. P.

CAMPANULA MIRANDA.

UNDER the name of C. Bellardii Miranda this pretty little plant gained an award of merit when exhibited at the Cardiff Show in July, 1920, by Mr. Clarence Elliott. In a recent catalogue I find the plant given under the name of C. cæspitosa Miranda, while in general appearance it is very much like a form of C. pusilla. Whatever its botanical designation may be, it is undoubtedly a distinct and nice plant for the rock garden, and the late Reginald Farrer, the introducer, considers it one of his greatest finds. He says "it is going to be one of the greatest of our rock garden plants," and although I cannot agree with this remark to the full; nevertheless, it ought to find a place wherever choice alpine are grown. For two or three weeks it has been a mass of bloom, a patch of several feet being most effective. The plant is dwarf, and the pale blue flowers are only a few inches high, which are produced in quantity. It is easily grown and when established makes considerable headway, while it is readily increased by division. These dwarf Campanulas with their numerous bell-shaped

flowers are indispensable in the rock garden, and they are suitable for various positions. *C. Miranda* is growing between stones along the pathway, but perhaps it is best on a fairly broad ledge at a higher level, where its unique beauty is brought more in line with the eye. T. W. B.

A BEAUTIFUL "LILY."

FEW plants found by the late Mr. Reginald Farrer and other intrepid plant collectors within the last decade or so are more coveted by hardy plantsmen fired with a desire to know and grow the finest hardy flowers or appeal to them more than *Nomocharis pardanthina* Farreri. Possibly Mr. Farrer's glowing account of its discovery has had something to do with this, and there is also the inherent seeking after novelties provided they are good. It appears probable that *Nomocharis pardanthina* may prove hardy with us, and now that it has been put on the market we shall soon learn more about its beauty and its requirements. It has found its way into Scotland, and I saw an apparently exceedingly healthy plant in a bed of peat and loam in the south of that country the other day, and was glad to observe it looking so well after a rather cold spring. It is quite a good-looking plant, even when not in flower, and Mr. Farrer's account of it as he saw it nodding down the slopes of a high alpine pass with its shell pink flowers, which he likened to those which might be produced by a cross between a minor Lily and *Odontoglossum Rossi*, can enable us to imagine what it must be like when seen in generous groups in the rock garden. It is not, however, yet cheap enough to be a plant for the many in such quantities, and the investment in even a single plant will be as much as most hardy plantsmen will venture for a time.—S. ARNOTT.

ROSE REV. F. PAGE-ROBERTS.

IN adding to my modest collection of Roses it has been my invariable practice to know something of a fresh variety before ordering, but last year I was drawn to Rev. F. Page-Roberts by a note which appeared in *THE GARDEN* concerning it, and the order was placed for delivery in autumn. May I say that it has proved all that has been claimed for it, notwithstanding an unusually trying spring. It is a Hybrid Tea that, when in the bud stage, shews a suffusion of yellow and buff veined with pink, but when developed it is a really glorious Rose, full, well formed and is the nearest approach to *Maréchal Niel* in colour and shape that is possible. When one adds to this that it has a fairly vigorous constitution, its designation as an "outdoor *Maréchal Niel*" is not exaggerated. Besides this it is deliciously perfumed. I venture to predict that Rev. F. Page-Roberts has come to stay, and among yellow Roses will take the premier place.—W. LINDERS LEA.

PRIVATE GARDENS AND THE PUBLIC.

IT is a kind thought that prompts the owners of nice gardens adjacent to large towns to open them on Sunday evenings for the public to walk around and enjoy the beauties of the flowers. Such a thought prompted Mr. Louis J. Tillett, J.P., Old Catton, whose pretty garden is situated about two miles out of the north side of Norwich. Hundreds of persons availed themselves of the opportunity to see the glorious Roses that Mr. Tillett grows. The clumps of Sweet Peas were also looking fine in spite of the heat and, together with the herbaceous borders, were a grand sight. A feature that adds much interest is the clear names on the labels attached to all the Rose trees and Sweet Peas. Practically

no damage is done; everyone is a policeman. Let us hope the idea will continue and expand. It brightens the lives of the less fortunate and promotes a love for the beautiful.—AYTCH PEA.

FUCHSIA ENFANT PRODIGE.

WITH reference to the enquiry of your correspondent for *Fuchsia Enfant Prodigue* (page 349), this can be supplied by Mr. Thomas Smith, Daisy Hill Nurseries, Newry. I should also like to advise your correspondent W. Linders Lea, who wrote about *Rose Hiawatha*, to try the *Witch Rose*, *Caprice Rouge*. In regard to *Lilium philippinense*, the form your correspondent "Northern" saw in Wigtownshire is undoubtedly the alpine form named *formosanum*. This has proved quite hardy at the Royal Botanic Garden here and also with the writer in East Lothian.—GEORGE M. TAYLOR, Edinburgh.

THE FOAM FLOWER.

I AM sending you a picture of *Tiarella cordifolia*, so aptly called in English the "Foam Flower." It is a pity that this beautiful little plant is not more generally grown. It is an excellent plant for the wood garden, shady banks or, better still, in a cool, shady part of the rock garden. In June it sends up pinky bare stems on which are borne creamy white flowers not unlike a *Spiræa*. The Foam Flower sends out innumerable runners. Propagation is carried out by taking rooted runners, and this may be done now. This plant prefers a rich, moist soil, but will thrive in almost any soil or position.—C. H.

AQUILEGIA ECALCARATA.

IT seems to me that there might be several species of *Aquilegia* without spurs, as mentioned by "East Molesey," page 349. All of them could bear the name *ecalcarata* without objection and without any technical fault if writers would observe the rule to give the name of the species in which the default occurs. The lack of spurs occurs most frequently in *A. vulgaris*, and this should be written *A. vulgaris ecalcarata*, and so with other species in which it may occur by what we call accidental variation. Only one *A. ecalcarata* is mentioned in the "Index Kewensis," and this I have seen. It was a garden name, recorded in "Stendel's Nomenclature," Ed. II, i, 115, and this was referred to *A. vulgaris*. Even if a wild *Aquilegia* were found without spurs it would, no doubt, be possible by observation to discover the species near by in a normal condition. The lack of spurs should not constitute a new species.—HORTICULANUS.

CLOVER AS A LAWN PLANT.

FOR more than forty years I have been familiar with White Clover (*Trifolium repens*) as a constituent of lawns, and my impressions at the early date was that it was desirable. After the

mowing machine had gone over the grass the Clover was the first to become green afterwards. This was in the flower garden of a private establishment, where tennis and other games were out of the question. Even on a single lawn of some size the soil may vary so greatly that grasses which may grow at one end may not grow at the other. The presence of water and the shade of trees also alter the conditions so much that one must allow different Grasses and even other plants to grow in order to maintain a close green sward. Clover does not wear well where there is a great amount of treading, as might have been seen at the recent Show of the National Rose Society in Regent's Park. The Clover turned black on account of the treading by many hundreds of



THE FOAM FLOWER, *TIARELLA CORDIFOLIA*.

people, but I have no doubt it will be green again sooner than the mown grass. I have noticed Clover remain green by the side of a gravel path in 1921 and this year long after the adjoining grass had turned a grey white. One of my correspondents complained of the seeds sent by the seedsman, not because of the fine grasses that died, but because of the Ryegrass that lived. This puzzled me greatly, because if the Ryegrass had not lived the lawn would have been absolutely bare. Some gardeners and others in charge of grass areas even sow Yarrow with the grass seeds in poor sandy soils in order to get something green. The use of basic slag, mentioned by "S. P." on page 348, would help greatly to prevent patchy lawns of Clover.—J. F.

FORTHCOMING EVENTS.

August 1.—Leves Horticultural Society's Meeting.

August 2.—Royal Lancashire Agricultural and Horticultural Exhibition (four days).

August 3.—Bradford Hospital Fund Exhibition (two days).

August 4.—Illogan Gardening Society's Exhibition.

THE NATIONAL SWEET PEA SOCIETY'S SHOW AT BATH

IN order to be in London next year, when it is expected that the British Empire Exhibition at Wembley Park will bring a large number of interested persons from all over the world, the executive of the National Sweet Pea Society departed from its usual custom of holding its annual shows alternately in London and in the provinces, and again this year had a provincial show. An invitation from the Bath Horticultural Society was accepted, and the show was held in the western city on July 11 and 12. As usual, the great trade exhibits were a very important feature of the show, and it is safe to say that such magnificent groups, made up of thousands of splendid spikes of Sweet Peas, had never before been seen in the West of England. Although Bath escaped the devastating storm which swept over a large portion of the South a couple of days previous to the opening date of the show, the weather was oppressively hot, and soon after noon on the second day of the show the Sweet Peas were flagging badly.

There were ten entries for the City of Bath Challenge Cup—this section required an exhibit of Sweet Peas grown out of doors without any protection or shading, arranged in a space 12ft. by 4ft. 6ins.—but on account of the weather conditions just one-half were withdrawn on the day before the show. The Challenge Cup was won by Mr. J. S. Stevenson of Wimborne with a superb collection, containing many of his own novelties, which were arranged very tastefully. This fine group was also awarded a large gold medal. Messrs. R. Bolton and Sons, Baythornd, Halstead, Essex, had a very artistic display. They used goodly sized gilt baskets which, raised a different height, had a most pleasing effect, and they were awarded a gold medal. A similar award was made to Messrs. E. W. King and Co. of Coggeshall for an imposing group of first-rate Sweet Peas. Messrs. Sutton and Sons, Reading, also arranged a first-rate collection and received a gold medal; while a silver medal was awarded to Messrs. S. Bide and Son, Farnham, for a pretty display.

For the Eastbourne Challenge Cup there were originally eight entries, but by force of weather conditions two of them found themselves unable to fill the 15ft. by 4ft. 6in. space which is required. The cup and large gold medal were awarded to Messrs. Ireland and Hitchcock, Mark's Tey, for what was probably the most imposing display of Sweet Peas that has ever been shewn. It was made up of generous masses of distinct varieties—often nearly a yard across—and their magnificence captivated a great many of the visitors. Messrs. Dobbie and Co., Edinburgh, had an exceedingly graceful group of well grown Sweet Peas, but as the judges found that, unfortunately, the allotted space had been exceeded, this did not enter into the cup competition, but was awarded a large gold medal for its attractiveness and quality. Messrs. Carter and Co., Raynes Park, received a silver-gilt medal for an elegant arrangement. Mr. G. Morbey, Aylesford, and Mrs. P. Warner Abbott, Hailsham, were awarded silver medals for their exhibits.

There were five sets of twelve vases in not fewer than six varieties, raised or introduced by the exhibitor, in competition for the Monro Challenge Trophy. The best were set up by Mr. J. Stevenson. Messrs. Thomas Cullen and Sons, Witham, Essex, were second; and Mr. H. J. Dameruni, Hayling Island, third.

The Burpee Cup was again won by Messrs. E. W. King and Co. with a very graceful stand

of Waved Sweet Peas in such varieties as George Shawyer, Valentine, Orchid, Royal Scot and Picture.

The raisers' class, which requires six vases of distinct varieties raised by the exhibitor, created a little mild excitement when it was found that the judges, unable to decide between the three competitors, had placed them equal first. Mr. J. Stevenson included Grandeur, very attractive rose purple shades; Cynthia, pale lavender blue; and Wild Rose, rose pink shaded with salmon orange on the standards. Messrs. Thomas Cullen and Sons shewed Champagne, Lucifer and Purple Perfection; while the best shewn by Messrs. E. W. King and Co. were Rosy Morn and The Sultan. The latter was such a dark maroon as to suggest that a black Sweet Pea will be evolved in the near future.

Mr. J. Stevenson had the best three vases of new seedlings. He shewed Grandeur, Felicity (blush pink on white ground) and Charming (deep rose pink). With the last-named variety he was also first in the class for one vase of a new seedling.

The Carter Challenge Cup class was disappointing, as the judges did not find a blue Sweet Pea worthy of the award, so this handsome cup has yet to be won for the first time.

AMATEURS' EXHIBITS.

The quality of the blooms in most of the amateurs' exhibits was exceedingly high, so much so that the judges found the "best vase in the show" among them. This was a magnificent vase of Matchless in the Stevenson Cup collection of novelty Sweet Peas by Sir R. Baker, Bt., who has long been an exhibitor of first-rate Sweet Peas. In this class he also shewed Dignity, Wild Rose, Burpee's Giant White, Powercourt, Edith and The Sultan.

The *Daily Mail* Cup class, which requires twelve vases of Sweet Peas already in commerce, is always keenly contested, and this year it was won by Sir R. Baker, Bt., with a magnificent collection of such sorts as Fair Lady, Valentine, Unwin's Crimson, Constance Hinton, Royal Scot and Hercules. The Sutton Cup was also won by Sir R. Baker, and here, among his eighteen vases, Tangerine Improved, Mrs. T. Jones, Matchless, Conquest and Le Mahdi were superb.

The Cory Cup was won by Mrs. Shirley Woolner with six beautiful vases of Sweet Peas; while the President's Cup, which is in open competition, was won by Mr. A. O. Cosham with an excellent collection, and in the same section Miss Russell won the E. W. King Cup with twelve splendid vases.

Generally the district classes were well filled, though Ireland only had one entry, and for, at least, the second year in succession there was no entry in the Scottish class. But this year, in view of the great distance and the fact that the date is full early for northern growers, Sweet Peas from over the Tweed could scarcely be expected. The first prize in the Southern class was won by Sir R. Baker, Bt., with one of his superb exhibits.

The colour classes, which require one vase of any variety of the stipulated colours, formed a very attractive feature of the show and nearly all the vases were of considerable merit.

The decorative classes did not bring forward any novel method of arrangement, but there were nine very attractively decorated dinner-tables. The first prize was awarded to Mrs. A. R. Bide, who is consistently successful in such classes, on matter what flower she uses. Mrs. A. D. Ruff,

another well known successful exhibitor, won the first prize in the class for a decorated basket of Sweet Peas, and Miss Gladys Burt won the first prize with a delightful bowl of Sweet Peas which was considered by many to be the most attractive exhibit in the decorative classes.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—The early crop may be lifted, and if the skins are tender the work should be done carefully to prevent any injury. When this work is finished clear the space of weeds, level it with a fork in readiness for Spinach, Turnips and other crops.

Seakale.—The thongs planted out last spring are making progress, and shoots should be reduced to one to each thong. A light dressing of salt will be beneficial.

Winter Onions.—This crop will be approaching maturity, and when the tops have ripened off the bulbs should be lifted. Before transferring them to the store shed they should be thoroughly dried and ripened, which may be done by placing them on a gravel walk or in similar position. If stored dry they will remain in good condition for several months.

Spinach.—For standing the winter, sowing of the prickly-seeded variety should now be made, selecting a piece of ground that has not been manured recently and is not likely to become very wet during the winter months. The seeds should be sown thinly in rows 15ins. apart, and when the seedlings are well advanced thinning must be resorted to. Keep the soil well hoed and the crop free from weeds.

Asparagus.—An occasional examination of the growths will be necessary to prevent injury from rough winds. Remove all weeds, and when rain occurs a sprinkling of artificial manure may be afforded.

Globe Artichokes.—When this crop is finished the stems should be cut out and the soil between the plants forked over. This is a plant that gives very little trouble.

Mint and Parsley.—A few rows of the latter and a portion of the bed of the former may be cut down to the ground-level with the object of securing young growths some weeks hence. The Parsley will then keep better through the winter months.

The Flower Garden.

Shrubs.—Many shrubs can be increased by layering, and they include Rhododendrons, Azaleas and Crinodendrons. Select growths that are near the soil, and when the branch has been partially severed it should be split with a knife in an upward direction for 2ins. or 3ins. Make a slight depression in the soil. Peg the cut portion down firmly and cover with earth. As a rule they take a long time to form roots, and the layers ought not to be severed from the parent plant until they are well rooted.

Climbers.—Ornamental Vines, etc., growing on arches, poles or pergolas will need a little attention to keep the shoots in order, while any that may be overhanging walks should be removed. Creepers growing on the walls of the dwelling-house should be tied up where needed, and shoots of Wistarias, if not required for extension purposes, may be shortened to within 6ins. of the stem. The new growths of Rambler Roses situated near lawns or grass walks should be tied loosely to the poles to prevent injury from the mowing machine.

The Rock Garden.

Propagation.—At this season a few cold frames are set apart for propagating plants for the rock garden. The frame should be stood on a hard base and then about 6ins. or 8ins. of sandy soil placed in the frame, when it is ready to receive the cuttings, which should be set out in lines 2ins. or 3ins. apart. Keep the cuttings sprayed occasionally, and if the weather is bright a little shade will be necessary during the middle of the day. When they have rooted admit plenty of air and light. Such plants as *Helianthemum*, *Saxifrage*, *Pinks*, *Androsaces*, *Verbenas*, *Daphne Cneorum*, *Phloxes* and almost any other plant may be tried if the growth is available for the cuttings.

The Hardy Fruit Garden.

Peaches and Nectarines.—In many gardens the crop of both Peaches and Nectarines is practically nil, but where fruit is present it should be fully exposed to the sun. Young growths should be tied in as the necessity arises, and any strong gross shoots removed, for they are of little value; and, moreover, they often take the lead to the detriment of the smaller growths which form the fruiting wood next year. Any trees that are producing a quantity of extra strong shoots should be examined in the autumn with a view to root-pruning. If the weather is dry, the roots should be afforded a thorough soaking of water, especially those trees producing a crop of fruit. In hot weather the foliage may be well syringed in the afternoon, which will also hold in check red spider. When the fruit is gathered the trees should be thoroughly washed, using the syringe or garden engine.

Fruits Under Glass.

Vines.—Unless Muscat Vines are started very early and the season is exceptionally good a little pre-heat will be necessary to ensure perfect ripening of the bunches. A night temperature of 55° to 70° should be maintained, with a rise of 10° or so during the day. A rather dry atmosphere is needed, but if the weather is fine an occasional damping down of the floors will be necessary. Free ventilation is advisable, but this ought not to be overdone. A little from the top ventilators will be found more beneficial if left on both day and night rather than allowing the house to become excessively hot and then opening them to their fullest extent. Prevent, as far as possible, any moisture on the berries which will cause them to "spot." Keep the border well supplied with water, and where this is properly constructed with plenty of drainage there is little danger of overwatering when the Vines are in a state of activity.

Cucumbers.—If a house or frames are available, a few Cucumber plants may be set out with a view to securing a supply from September till late autumn. A hot-bed should be made up for the frames, and later on it will be necessary to add a thick lining of fermenting material to keep up the temperature.

T. W. BRISCOL
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Potatoes.—When selecting tubers of the early varieties for seed, retain those of second size and expose them to full light until they become slightly green before storing them. Make sure that the tubers are perfectly dry before storing. Put them in a cool, dry place where there is a free current of air.

Peas.—If the weather proves dry, give the later sowings a liberal supply of water, after which run the Dutch hoe through the soil to slacken it and apply a moderate mulching of whatever materials are available. Grass mowings, old hot-bed manure or pure half-decayed leaves are suitable for the purpose. The mulch serves to conserve moisture and to keep the roots cool.

Brassicas.—The various members of the Brassica tribe which were planted last month will now be benefited by drawing a little earth up to the stems with the draw hoe.

Jerusalem Artichokes.—These tall-growing plants if allowed to develop at will on heavy, rich soils are apt to be damaged by the September gales, so where they are growing under the conditions indicated it is advisable to top the plants when they have attained a height of 5ft. or thereabouts. Another precaution which may be taken against damage is to drive in a few stout stakes round the quarter and run a stretch of binder twine round the crop at a height of about 4ft.

Globe Artichokes.—If all the produce cannot be utilised, cut away the heads before they show flower, but if cut while in a fit state for using and stood in a shallow vessel containing water, plus a little salt and placed in a cool, shaded position, they will keep in good condition for a considerable time.

Fruits Under Glass.

Strawberries.—If the work of layering was taken in hand early in June, the young plants, whether in pots or turf squares, should now be ready for potting up. The potting material should consist chiefly of sound fibrous loam, to which may be added a little bone-meal. Avoid quick-acting fertilisers, the object being to build

up a vigorous yet compact plant with a strong crown and leathery foliage. Ram the soil fairly firmly, and leave sufficient room for water, and those who practise top-dressing in spring should make further allowance for this. Stand the plants on a layer of coal ashes where they will receive the maximum of sunshine, and attend to the watering regularly, as the least check will militate against their ultimate success.

Early Vines.—If the entire crop of fruit has been gathered, the Vines should be thoroughly cleansed with the garden engine or syringe. Afterwards they should be given a liberal supply of water at the root to enable them duly to perform their various functions until the wood is perfectly ripened, a process which is essential to the production of a good crop of fruit next season. Ventilate the house freely day and night consistently maintaining a temperature of from 60° to 70° meanwhile.

The Flower Garden.

Crocus speciosus.—In the wealth of variety of the common spring Crocus, *C. vernus*, the distinct species have been pretty well crowded out of the modern garden. *C. speciosus* should, however, be accorded room of a greater or lesser extent in every garden, it having three features to recommend it: First, its beauty—it has bright lilac petals lined inside with dark purple and prominent rich orange anthers; secondly, it is easy of cultivation, increasing rapidly if the conditions are at all favourable; and thirdly, it is an autumn bloomer, when it strikes a distinct note in the mixed flower border. Plant as soon as possible.

Colchicums, often erroneously called Autumn Crocuses, should find a place in every garden, as they are highly attractive during September and early October. The two best are *C. speciosum* with large reddish purple flowers and *C. Bornmulleri* with large lilac flowers and white centres. The common Meadow Saffron, *C. autumnale*, is suitable for the front of the shrubbery or for naturalising, but some of its varieties, such as the double purple and double white, are worthy of a place in the garden. The corms should be planted about 3ins. deep during the first half of August and will then flower in a few weeks time. Once planted they may be left undisturbed for a number of years.

Dahlias will now be making rapid growth, and attention should be given to thinning out surplus shoots and tying up those retained. This latter operation is best done by looping them up rather loosely, as all appearance of stiffness should be avoided. The earwig traps, of whatsoever kind, should be regularly examined, and any prisoners caught should be destroyed. Unless the soil is in very good heart an occasional dressing of some stimulant should be given, choosing showery weather for the operation.

The Rock Garden.

General Work.—If planting was judiciously carried out, there will still be a fair amount of colour here, and where it is lacking a resolution should be made to improve matters before another season. A judicious selection of annuals helps greatly to prolong the beauty of the rock garden. Save seed of any plants which it is intended to propagate. Certain plants, although perennial, should frequently be renewed from seed, otherwise they become leggy and unsightly; *Dianthus* and *Primulas*, for example. Cut away all decayed flower-stems, and bare patches of soil should be pricked with the handfork. If the weather is dry, watering should be resorted to, choosing the afternoon for this work.

Seed-Sowing.—The sooner after ripening the seed of rock plants is sown the better, as many of them lose their vitality partly or entirely in a comparatively short time. The seed should be sown in shallow, well drained pans or boxes. The soil used should vary with the character of the plant. *Primulas* may have moderately rich soil; others, again, require peat; while not a few prefer poor, gritty soil. The pans or boxes should be placed in a cold frame, and the latter kept close and lightly shaded until germination takes place.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Aotus gracillimia.—This beautiful Australian shrub may easily be propagated at this time by means of the more slender twiggy shoots inserted in pots containing light sandy soil. The cuttings soon root if stood under a bell-glass in a cool

house. Owing to its slender drooping habit this plant is seen to best advantage when grown as a standard. For this purpose the young plants should be stopped once, then two or three shoots from the first break should be selected to form the stem of the standard, which should be some 2½ft. to 3ft. in height. All laterals should be kept rubbed out until the desired height is attained. The leading shoots should then be stopped and the laterals allowed to develop. After flowering is finished each spring, the long, slender shoots should be pruned hard back and the fresh shoots allowed to grow without any stopping. This plant only requires cool greenhouse conditions during all the stages of its cultivation. It is not by any means a long-lived plant, therefore it is advisable to root a few plants each year.

Prostanthera rotundifolia is another Australian plant that is very useful for the cool greenhouse. In the South and West it is more or less hardy against a warm wall, and thus makes an excellent plant for an unheated house. Unlike many of the hard-wooded plants, it is not difficult to propagate, cuttings rooting readily under a bell-glass in a cool greenhouse or cold frame. This plant should be stopped several times to induce a good bushy habit. Excellent examples for the stages can be grown in 6in. pots, and this plant also makes a fine specimen if planted out in a bed or border in a cool house. Under such conditions it produces its rosy purple flowers in wonderful profusion. After it has finished flowering in the spring the strongest shoots should be partially pruned back. Although a strong, free-growing plant, I find that it resents the use of the knife, especially so in the case of pot-grown plants, and after a few years refuses to break freely. This, however, is not a very serious matter, as it is easily propagated and grows quickly.

Primula malacoides.—If not already done, seed of this elegant and useful *Primula* should now be sown. Excellent specimens can be produced by growing several plants in shallow pans. On the other hand, perfect little specimens are obtainable in sixty-sized pots, and such small plants are very useful for table decoration and decorative work generally. This *Primula* is nearly hardy, and can be grown perfectly well in cold frames until winter, when it is advisable to transfer to a cool, airy greenhouse, as it is somewhat liable to suffer from damp, especially in this neighbourhood, where we get so little winter light.

Primula Forbesii is a very dainty plant, and is well suited for a small unheated greenhouse. Seed of this *Primula* is best sown towards the end of August or during September. The best results are obtained by growing four or five plants in forty-eight-sized pots.

Primula Cockburniana may also be grown in the same way, and with its brilliant orange yellow flowers is a charming plant for a small unheated house. The same applies to *Primula Veitchii*. This is a larger-growing plant and is well suited for the ordinary greenhouse.

Primula cortusoides, of which there are many fine varieties, is also a fine *Primula* for the unheated greenhouse. All the named varieties are increased by division, and this operation may very well be done at this time. Forty-eight-sized pots are quite large enough, and a frame with a north exposure will suit the plants best during the summer.

Other Primulas.—Although quite hardy, *Primula japonica*, *P. pulverulenta*, *P. Bulleyana* and *P. Beesiana* and their many beautiful hybrids or varieties all make excellent pot plants, and are worthy of more attention for the unheated greenhouse. They are all large-growing plants and enjoy generous treatment, including plenty of water at the root. They are best grown outdoors in a cool, moist position during the summer, when they should make fine large plants, which during the autumn, may be lifted and put into suitable-sized pots. Afterwards they should be kept in cold frames during the winter.

Liliums in Pots should be kept plunged in a position where they will receive some shade for at least a portion of the day. They require strict attention as regards watering, while the stem-rooting species and varieties should be top-dressed with some light rich soil. A portion of them, according to requirements, should be introduced to a greenhouse. *L.L. auratum* and *speciosum* and their varieties are usually grown for this purpose, and may be had in flower over a long period. *L. Henryi* should be more generally grown for conservatory decoration, as it is specially useful in large houses. *L. regale* is a splendid pot Lily, and is sure to be grown in large quantities when the price is more reasonable.

Royal Botanic Gardens, Kew. J. COUTTS.

SOME NOTABLE PLANTS OF THE LATER SUMMER

THE Mertensias are a select race, none of them being common in gardens, but because we cannot give them the root coolness which they seem to demand the majority of the later-flowering species are not happy with us. The lovely *M. virginica* can be coaxed along with patient care, but slugs are allied with drought in the persecution of this charming thing. *M. sibirica* (ciliata), however, is tolerably content in a comparatively cool border, and its pale emerald foliage and tassels of opaline bugles together make an object that is pleasing to look upon on a hot July day. This plant, moreover, sows its own seed, so that if the parent perishes, as it frequently does, the young are there to carry on.

How striking the contrast between this rather frigid-looking plant and the blazing colour of that sun worshipper *Pentstemon barbatus coccineus*, for which no soil is too poor, no place too dry! The pale green flower-stems of this striking perennial sweep upward from a spreading tuft of narrow, fleshy leaves to the height of a yard, and are hung with vivid coral-scarlet tubes throughout the later days of summer. *P. barbatus* is also known as *Chelone barbata*, and there are several varieties, all of them extremely showy. One or two *Pentstemons* of the glaber class and some hybrids with a sisterly resemblance to *P. alpinus* can boast of the extraordinary metallic blue which distinguishes the better-known *P. heterophyllus*, and any or all of them are well worth a trial in free soil and a warm, open situation.

Most of the *Oenotheras* must be numbered among the chosen when speaking of late-blooming plants, for they are not only very beautiful individually but invaluable at a season when so many things are passing off. Admirable in every way as its compatriots are, I think the award for highest merit in this group must go to *O. caespitosa* (marginata). This species is much after the style of *taraxacifolia* and *macrocarpa*, but it does not trail and its fleshy leaves, with the reddish midrib, are waved or bluntly toothed rather than deeply indented as in the *Dandelion* pattern. *O. caespitosa* does, however, move about by underground runners and sends up at intervals an 8in. tuft of foliage. The blossoms borne by this splendid species are often gins. across, a spotless white and richly fragrant. Like most of the white *Oenotheras*, these superb blooms become gradually suffused with fresh rosy flush soon after maturity is reached and die off in a deep flesh pink. Though *O. caespitosa* is a true perennial and hardy enough for most places where the drainage is good, it is susceptible to excessive winter wet. But even though the main plant may succumb to this cause, the young off-sets generally manage to survive.

Lavendula dentata is a comparatively new Lavender of robust growth with broad, fresh green leaves, deeply veined and serrated. This foliage is very fragrant at all seasons, and the stout flower-spikes, which attain a height of some 2ft., terminate in bold heads of blossom. These often appear quite early in spring and remain until late summer. Although the individual flowers are small, the plant makes amends for this failing by enveloping them in large triangular bracts of a rich lavender hue, the brightest and largest standing up at the tip of the spike as in the old-time *Clary*.

For a light soil and a sunny position *Lavatera Olbia* is a sub-shrubby plant of remarkable beauty, making a fine and hearty bush some 4ft. to 5ft. in height and as much across. The large, mallow

like leaves are roundly lobed and a grey-green owing to the nap of fine hairs which covers them. Few of the later summer perennials will maintain such a long succession of flowers, and these in such extraordinary numbers, as *L. Olbia*, and a well grown specimen with every tapering branch bearing quantities of the large cup-shaped blooms, clear rose, with deeper veinings and as large as those of a *Hollyhock*, is a most arresting object. Though *L. Olbia* never sets seed with us, it has proved perfectly hardy and long-lived under some trying conditions. By cutting the plant back to the base in spring the flowering season is thrown rather later than it might otherwise be, but such treatment tends to a more shapely growth, finer foliage, larger flowers and more of them.

These last remarks are applicable also to the great *Romneya Coulteri*, which is without a peer in the garden from July to autumn. This magnificent plant, though growing in the most impoverished of rocky soils, will throw up a forest of stately canes to 8ft. or 9ft. after the cutting back in spring. And though it rarely gets any attention beyond this severe decapitation and the pulling out of superfluous suckers, it will yield its enormous blossoms in the greatest profusion over the period named.

Growing in similar soil and in some instances on the arid and stony ledges on the top of low retaining walls is another Californian, *Diplacus glutinosus*. This is a trifle tender inasmuch as it is liable to get its tips pinched by frost if it is indiscreet enough to continue flowering right on to the brink of winter, as it is apt to do. But this does little harm, since *D. glutinosus* also enjoys being pruned back in April. At the time of writing we have several groups of this splendid shrub glowing with their burden of beautiful golden buff flowers, and this amazing show of blossom will continue, as I have suggested, until late autumn. In addition to this typical form there are several kinds of *Diplacus*, some being paler in the flowers, approaching creamy ivory, others deepening to burnt orange, one or two of them being accorded specific distinction. All are good, and since cuttings strike so readily and grow so fast, it is an easy matter to keep a stock in reserve when there is any doubt as to the established plants standing the winter.

Among the dwarfier members of the house of *Lathyrus* the annual, *L. azureus*, is choice and uncommon. We generally sow the seed in the spring where the plants are to bloom and provide a few short sticks for support. The seedlings grow freely, and from July onwards produce a succession of pretty turquoise blossoms about 1in. across right on to September. The seed-pods are curiously winged and their wedge-shaped

contents usually ripen satisfactorily. Another little *Pea*, which is too good a thing to ostracise even if it can be a pestilential thing in the wrong place, is *L. tuberosus*. Given a spot where it can spread and ramble at will, this engaging wanton will climb to 4ft. or make tendril-bound masses of its pale green and elegant foliage, which throughout the later months of the season will yield a profusion of fragrant flowers in clusters of six or seven and of a full-toned rose pink. Once established *L. tuberosus* will outlive Methuselah and every recurring year win over again your admiration of its cheerful flowers and commendable good temper.

The *Flame Nasturtium* (*Tropaeolum speciosum*) might be bracketed with the above, not that it is very often a pest, but because, once it has made itself at home, it will take care of itself for ever and continue to increase in vigour and beauty. Though we started it against a north wall, which it now partly shares with *Berberidopsis corallina*, it has gradually worked its way into an adjacent thicket of *Azaleas*. The topmost branches of these it festoons with its brilliant scarlet wreaths throughout the later summer and autumn. It runs up the stately stems of *Lilium Henryi*, weaves ropes of bright colour about the gloomy green of *Pieris formosa*, and one of these days it promises to enliven with its happy garlands the sombre verdure of an ivied wall. *T. speciosum* is a jewel beyond price, a plant worth any amount of patience in establishing. Its seeds, which often go unobserved though as large as small peas, are a clear china blue, and those who have propagated by this means contend that they should be sown as soon as they are ripe, i.e., in autumn.

Erodium as familiarly known, and which the learned proclaim as a garden variety (*luxurians*) of the Pyrenean species of that name, is one of the most trustworthy of late bloomers. Faults it may have in plenty, being only mortal, but its cardinal sin is no more than the rather strident tint of its crimson-magenta flowers, none but the *dilettante* need grieve. To the average gardener *E. Manescavi* is a fine and hearty plant which with the best of good temper, will make a mass of most elegant, dark green, ferny leafage under summer conditions that cause the majority of plants to fold their wings. The striking heads of flowers, which resemble a *Pelargonium*, are borne at the ends of 18in. stems, and these are yielded in extraordinary abundance throughout the "back-end."

Put into a border of well drained but not too dry a soil as an experiment a few years ago *Lobelia Cavanillesii* has done wonderfully and proved a deal more reliable than *L. cardinalis* or *L. syphilitica*, both of which have a way of disappearing in winter under the same conditions. *L. Cavanillesii* (which I am assured is really a form of *L. laxiflora* and ought to be labelled *L. l. angustifolia*) is a 1ft. slender plant with long and narrow, willow-like leaves very slightly toothed.

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The flowers, which appear at the axils of the uppermost leaves, are in the bud a brilliant orange-scarlet and about 1 in. long. But when they have elongated to about twice that length and opened into the semblance of the yawning bill of some strange and gorgeous bird the predominant colour is a gleaming yellow. The flowering season extends from July to autumn, and as the plant runs freely increase is a simple matter.

Though it is not the prettiest of the minor Fuchsias, there is a fascination about the curious little *F. procumbens* which never fails to attract notice. A perfectly prostrate species, with heart-shaped leaves in a soft apple green and long trailing branches which delight in threading their way unobtrusively about other plants, *F. procumbens* is a gentle and pleasing occupant for any fairly cool rock garden ledge. But its most interesting features are the blossoms which it produces so liberally. These can be likened to nothing that ever was on land or sea, but they might be described as tin tubes of glistening, honey-coloured wax. The tiny triangular petals of chocolate brown are sharply reflexed and quite out of proportion to the size of the tube, and each has at its base a daub of arsenical green. When these weird creations have fulfilled their destiny they give place to fruits which, from the size and likeness of green peas, swell to the dimensions of a small, fat gooseberry and ripen a deep plum red. *F. procumbens* is a deciduous species not only as regards the leaves, but its trailing summer growths also die back to the base in winter. In regard to its hardiness I can only say that it is rather more reliable than most of the dwarf Fuchsias usually listed as hardy. A. J.

LATE SUMMER SEDUMS

WHEN the enormous golden flower-heads of *Sedum compressum* are at last beginning to tarnish, having maintained their unrivalled splendour for some ten weeks, many of the later species are coming into bloom. Conspicuous among them is *S. pulchellum*, a hardy American whose pretty glaucous leafage, often flushed with crimson, is to the eye of the average observer after the pattern of that of the familiar *S. reflexum* of our old walls and hedge banks. But the leaves are finer and paler in colour, rounded at the tips and forked where they meet the stem. *S. pulchellum* is, moreover, a species which enjoys considerable moisture and a cool root-hold, even delighting in the proximity of water. The flowering stems ascend to some 4 ins. in July or August, when they break into a branched head of clear rosy purple blossoms. This excellent plant is to the late summer garden what *S. ternatum* is to spring.

Much after the same style as the last mentioned is *S. Nevii*, another hardy American species whose little grey-green rosettes put up 3 in. stems which terminate in a branching cyme of silvery white in July. This is a first-rate dwarf *Sedum* for associating with other little things, and a still smaller species which flowers at the same time is *S. brevifolium*. This is a delightful plantling with rather blunt little stems closely clustered with nearly globular leaves arranged in rows of four. This foliage, if so it may be termed, is very mealy at most seasons, but deeply tinged with red at the time the loose sprays of sparkling white flowers appear. Even more diminutive, being only about 1 in. in height, is a form of the above known as *S. b. Pottsi*. This is one of the choicest of all the smaller *Sedums*, its mealy leaves and stems

becoming almost an electric blue during winter and spring. It is, moreover, quite hardy in the really dry chunks of a sun baked rock, to which it will cling with the tenacity of a lichen.

Allied to the above is the well known *S. dasyphyllum*, whose glaucous, rose-tinted, pebbly-looking clusters are now being hidden beneath its starry blossoms, and another even more prostrate and spreading species is *S. compactum*. The closely packed, very small rosettes of this latter are a greyish green, often turning to a deep crimson in full summer, at which season the short flower-stems produce their flat crowns of blossom which, though not particularly attractive, have one unusual feature, which is a fragrance like that of Elder blossom. The only other *Sedum* known to me which has scented flowers is a new Tibetan species, still unnamed, and which also blooms in July. In its blue-grey leafage this plant bears no little resemblance to the reflexum type, but the foliage is produced in short, flat rosettes rather than in long, cylindrical branches, and the golden yellow blossoms, with their sweet, honey-like odour, are bunched in a rounded cluster at the tips of 8 in. stems.

S. amplexicaule is interesting at this season, for having completed its year's work and disposed of the last of its large, yellow, starry flowers it enwraps its lovely foliage of cool emerald in an envelope of hay-coloured sheathes and, thus protected against sun and drought, comfortably extinguishes itself until the autumn rains reawaken it to life. Though it is said to grow larger with some, *S. amplexicaule* is very small and quite prostrate with us, and does not cover more than a few square inches, its wee branches rooting at intervals as they proceed.

Just when the various forms of *S. spatulifolium* are yielding up their summer beauty *S. multiceps* opens its lemon yellow stars, which are borne in a three-parted head supported by a stem that is shaggy with withered leaflets. The sparse foliage of this species is of the linear-leaved type, slightly glaucous and, though a native of Algeria, the plant appears to be quite hardy. Soon after this rather unkempt individual has ceased flowering the ruddy foliage of *S. oreganum* (*obtusatum*) begins to assume the rich crimson which affords so striking a combination with the brilliant golden flowers, and the increasing leafage of *SS. Ewersii* and *Sieboldii*, both very late bloomers, is developing that soft dove colour which is such an attractive feature of these plants.

If *S. spurium* (*stoloniferum*) were not so common and easy it would be deemed one of the choicest of the late summer species, for its large and abundant flower clusters are singularly beautiful, whether these are a pure silvery white, bluish pink or brilliant blood crimson, as in the variety called *splendens*. A.

OBITUARY

THE PASSING OF A COLLEAGUE.

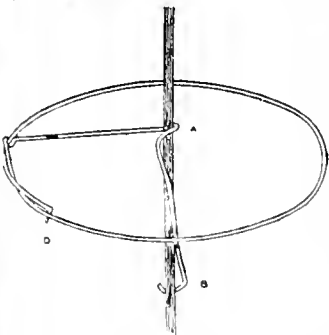
IT is with deepest regret we record the death of Mr. W. A. Butterworth, who was for many years head of the Composing Department at this office. Mr. Butterworth was taken suddenly ill in the early hours of Saturday morning, July 14, and died almost immediately. He may thus almost literally be said to have died in harness, for until the evening before he was taken ill he went about his duties in connexion with THE GARDEN in the cheery and energetic manner which endeared him to all who came into contact with him. He was carried to his resting place at Forest Hill Cemetery by the Managing Directors of *Country Life*, Limited, and four of his colleagues, the whole staff being present.

Syringa Julianæ is a twentieth century introduction of Wilson from Western China. Although it has not the splendour of the common *Lilac* group, nor rivals even the Persian *Lilac* in beauty, it flowers freely in May and June and it has also the characteristic and delightful fragrance of its race. The flowers are nearly white on the upper side, but beneath they are deep lilac, while the calyx is violet-coloured—a striking contrast. The leaves are velvety with down beneath. It commences to flower at 1 foot 6 inches to 2 feet high, and will not, we should say, grow more than 4 feet, or at any rate 6 feet, high. It is a pretty and distinct *Lilac* and is related to *S. pubescens* and *S. Velutina*.

A Beautiful Scabious.—The Caucasian *Scabious* is not only one of our choicest border plants, regarded from the point of view of colour and form, but it is a perennial, tolerably permanent in any medium to light, well drained soil, and its flowering season often extends from May to November. Quite the most beautiful of the taller species, *S. caucasica* makes bold tufts of elegant foliage above which ascend to some 2 ft. the erect, yet graceful flower-stems, each terminating in a blossom of singular charm. These wonderful flowers, which escape the prim and buttony compactness of older types of this genus, are often 3 ins. in diameter and range in colour from pure white through cool lavender to a clear flaxen blue. Though not a difficult plant under the above-mentioned conditions and given full exposure, *S. caucasica* dislikes excessive wet and should not be overhung or crowded up with other things, especially in winter. Some old mortar may be put in with the roots when planting, and an occasional top-dressing of lime is appreciated. Propagation is carried out by seed, which ripens and germinates freely. In districts where *S. caucasica* is unreliable it may be treated as a biennial.

Chionanthus retusus (the Chinese Fringe Tree) was first introduced by Fortune from China in 1845, but it did not, apparently, then survive, and it was not until Messrs. Veitch's collector Maries sent it home nearly forty years later that it became established in gardens. Even now it is very uncommon. Of the "Fringe Trees," only two species are known, the other being the well-known *C. virginica* of the United States. They afford one of several instances of the remarkable isolation of one species in North-Eastern Asia, while its only fellow is in Eastern North America; other examples may be cited in the two *Tulip* Trees, the two *Yellow-woods*, and the two species of *Sassafras*. Alike in their snowy white, narrow-petalled blossoms, the Fringe Trees are distinct in their manner of bearing them. It will be found that *C. retusa* carries them in clusters at the end of short, leafy twigs of the current year; but in *C. virginica* they are borne in a dense mop-like mass at the end of the previous year's growth, and below the young shoots of the current year. *C. retusa* needs, above all, abundant sunshine; if the planter gives it his sunniest spot and a sound loamy soil to grow in, he has done the best he can for it. The finest plants we have seen are in one of the city parks of Rochester, N.Y.

Roses and Carnations at Harrogate.—Under the auspices of the North of England Horticultural Society and the British Carnation Society, a joint exhibition will be held in the Winter Gardens, Harrogate, on August 22, 23 and 24. Schedules may be obtained from either of the Secretaries, Rev. J. Bernard Hall, Farnham Vicarage, Knaresborough, or Mr. P. L. Bunyard, 57, Kidderminster Road, Croydon.

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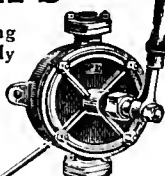
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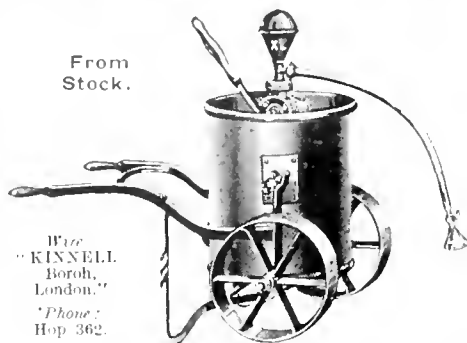


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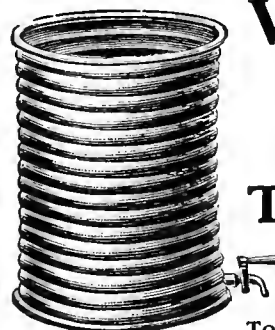
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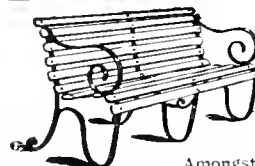
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No. 2698.—VOL. LXXXVII.]

[AUGUST 4, 1923.]

LILIES IN THE GARDEN

BEFORE proceeding any farther it may be as well to issue a warning that the following notes are intended primarily for garden-lovers who have hitherto not had experience in the cultivation of Lilies in the garden. Much of the information is as old as the genus Lily is to cultivation, but it is a noticeable fact that during recent years very little practical information has appeared in the gardening Press on the elements of success in the culture of Lilies generally. Novelties have been described, new introductions from China and elsewhere, and varieties—meritorious and otherwise—produced by hybridists, have been discussed; but regarding the practical necessities of the culture of the genus little has been published. Since the period when *THE GARDEN* and most other periodicals were publishing frequent notes on the best methods of growing the various species a new generation of garden-lovers has grown up. This must be my excuse for going over very old ground and for saying things that are common knowledge among those who have been growing Lilies for many years.

I think this is what the Editor had in mind when he wrote me asking for a "practical" article on Lilies. He was just off for his holiday and, with a sublimely brutal indifference to the fact that I was trying to snatch one myself, despatched a request couched in irresistible terms that reached me (after being readdressed several times) a day after he wanted the copy in the office. The moment of its arrival was inopportune. How can one be practical lying on a couch of wild Thyme mingled with dainty grasses and surrounded by myriad blooms of wild Centaury? Below me stretched acres of Sea Pinks, now mostly brown, but still bright with thousands of belated blossoms, and all around them masses of Teasels, Sea Holly, Mallows aglow with silvery pink, and here and there patches of Sea Lavender many yards square in full flower. Beyond, a stretch of foreshore

green with new seaweed stirred at its farthest edge by the lazy ripple of the surf. I thought there was not another human being within a mile, when suddenly there descended on me this request to be "practical."

In any case it is difficult to be altogether practical when writing of Lilies. If chiselled marble is, as it has been called, "frozen poetry," then Lilies are among other flowers of the garden living poems. They have inspired more poetry and provided more poetic symbols than any other flower, and in them the extravagance of language

of all the poets, both Eastern and Western, has found its culmination. But I think "practical" was the word the Editor used.

Some years ago I was visiting a garden in which nearly everything that art, science and wealth can achieve had been attempted. There were many notable successes therein, but one just as notable a failure. This was in what was called a Lily garden. It consisted of a broad level area, solidly paved, into which a geometrical design of beds had been worked, and planted with Lilies of every variety obtainable, and Lilies only.

How anyone with any knowledge of the genus and its cultural requirements could have expected success under such conditions it is impossible to conceive. Out in the blazing sunshine there were several thousands of the best known Lilies, all being given exactly the same treatment, unprotected, and unsupported by any other vegetation. This in itself was wrong and sufficient to ensure failure. The various species require different treatment and conditions of cultivation, and Nature has forbidden them to respond satisfactorily to such arbitrary and communistic cultural regulations. What is more, there are few of them that enjoy full sunshine or dry heat, and even that few demand the protection of shade to the roots. Another objection to planting Lilies under such conditions lies in the fact that the broad stone paths not only act as heat reflectors, and so make the exposure worse, but are quite incongruous in association with 90 per cent. of the genus, and unnecessary for the remainder.

Possibly, half the recorded failures in the growing of Lilies are due to the fact that insufficient attention is paid to the cultural requirements of the particular species. Yet they are in all cases simple enough and, given the facilities of any ordinary garden, properly applied, the achievement of success presents no difficulty greater than that of most other garden plants. In every department of garden activity it is found



THE NANKEEN LILY, *LILIUM TESTACUM*.

AN EXCELLENT LILY FOR A SHADY BORDER, *L. MARTAGON* ALBUM.

that certain varieties succeed better under certain conditions than others. Even Potatoes have their preferences in this respect, and nearly every gardener knows of one or more varieties of Roses that succeeds well in other gardens but which he has never been able to grow. It would probably be difficult to change the soil conditions of the kitchen garden to such an extent that the unsuccessful Potato can be grown. It is a simple matter to apply corrective treatment to the small area required to grow any particular Lily. As a matter of fact, the soil variations in any garden or, indeed, in all the gardens in Great Britain can be summarised under a very few descriptions :

1. Damp, cool soils that are permanently moist, such as are found on low-lying land, by the sides of natural streams, ponds and other waterways.
2. Cool, rich loam that in agriculture is described as good corn land.
3. Light, dry soils mingled with sand or gravel that drain freely.
4. Peaty soils that may be moist and cool, and which offer a free open root-run, or may be mingled with sand and therefore drain quickly and are, consequently, drier.
5. Heavy clay soils that stick like glue when wet and bake like bricks when dry.

*LILIUM SARGENTII* AMONG AZALEAS.

With regard to the first four, there are Lilies that will succeed admirably with the most ordinary amount of cultivation ; but with the last, nothing but the most liberal treatment will produce satisfactory results with Lilies or anything else. It must not be assumed, however, that any one of these soils is suitable for all Lilies. It would be folly, for instance, to plant *Thunbergianum* Orange Queen or the beautiful forms of *L. speciosum* in the permanently damp soils described in No. 1 above. This is the place for *Lilium pardalinum* and its varieties, for *L. canadense*, *L. superbum* and, indeed, all the North American Bog Lilies. Here they will revel and increase and, even if planted by the waterside, thoroughly enjoy themselves, because they like the moisture. There is, perhaps, no waterside planting more enchanting than a group of *Lilium pardalinum* towering above the cool green foliage of *Epinedium*, or some of the moisture-loving Ferns, or, perchance, one of the dwarfier *Spiraeas* or *Astilbes*. Its richly coloured orange and crimson flowers give one of the most vivid colour notes obtainable in such a position, and when the rippled surface of the water reflects the glow in a mingled wash of crimson, gold and orange it has all the glory of a sunset in miniature. Nevertheless, although it loves the moisture, it is a very accommodating variety, and is not so insistent upon it that it will not flourish in the garden where the soil more nearly resembles that described under Nos. 2 and 4 above ; in fact, where the soil is good and not too dry it makes an excellent border plant.

For the cool rich loam described under No. 2 some of the most suitable species are the *Tigrinum*s—of which *Fortunei giganteum* is by far the best—the *Auratum*s and all the *Martagon*s. The latter are, perhaps, the least particular of all as regards the soil in which they will do well. In planting in such soils care must be taken to dig deeply, ensure thorough drainage, and assist root action by rendering the soil as open and free as may be, by the addition of a little peat if possible, but, certainly, a quantity of decayed leaf-soil and sharp sand.

In the light soil described under No. 4 the largest group that will succeed, and the one that offers the most attractive varieties for garden culture, is the *speciosum* group and its kindred, most of which are late summer flowering ; but for earlier effects the *umbellatum* and *elegans* (or *Thunbergianum*) varieties are equally happy. *Lilium elegans* Orange Queen is deservedly the most popular of these, but the colour is better described as rich apricot rather than orange. *Lilium longiflorum*, the magnificent white Trumpet Lily, and its relations *L.L. candidum*, the old white Madonna Lily, and *crocinum*, the Orange Lily, will do equally well in such soil, and also, with a little encouragement in the way of lightening and opening, in No. 2.

The peaty soils described under No. 4 can be made to grow practically every Lily suitable for out-of-doors cultivation. For such as require a stiffer, richer medium it is easy to add a quantity of chopped fibrous loam, such as the top spit of an old meadow thoroughly decayed and free from wireworm. For those that prefer lighter conditions the addition of manure not too fresh, leaf-mould and, if sand is deficient, some light gritty material (but not of a limy nature) is all that is required. In the heavy clay soils described under No. 5 nothing can be done except digging out the area it is desired to plant a couple of feet or so deep and filling it up with a compost suitable for the particular section of Lilies chosen to grow, first taking care well to break up the bottom of the hole and work in any rough material that will ensure good drainage.

So much for the soils that will of their own accord or can be made to grow Lilies. The next

point is the sort of position that is suitable for them and which they will enjoy. This, again, is entirely dependent upon the variety, or perhaps

(To be continued.)

it would be wiser to say that the variety should be chosen according to the position to be planted.

GEO. DILLISTONE.

THE BULB ORDER

I.—Bulbs for Pots.

HOUSE only, or greenhouse? It makes a difference if one has to do all one's growing in a dwelling-house without perhaps even the help of a cold frame, and if one has a greenhouse and the usual appurtenances thereof. I divide my remarks accordingly.

Where all has to be done in the house and where the windows are the only "greenhouses" available, the wisdom of the wise consists in growing just the bulbs that are most likely to do well and no others. Much will depend upon the care and attention which the grower gives them. Week in, week out, it must never be relaxed if such potfuls of flowers are to be produced as those which I once saw in the window of a neighbouring vicarage or as the Freesias which Mr. John Bain enjoyed in his cottage home in North Scotland after his retirement from active service.

Although this is not an article on culture, I feel I must give one little bit of advice which it is well to follow, especially if the much advertised drainless bowls are used instead of ordinary flower-pots. It is, not to be in too great a hurry in potting. Towards the end of October is about the right time for the operation. Roots are then sooner formed than if the bulbs had been planted earlier, and the foliage when it appears has not so long to grow and get leggy before the flowers come. The order I would give if I had only a house to do my winter gardening in would be something like this: Roman Hyacinths; Paper-White Narcissus, Henry Irving and Golden Spur Daffodils; Scarlet Duc Van Thol Tulips; Vermilion Brilliant and Prince of Austria Tulips, Murillo double white and blush Tulips, and the following Hyacinths: L'Innocence (white), Garibaldi (red), Schotel (pale blue) and Lady Derby (pink). After many years' observation I have come to the conclusion that no bulbs are so easy to grow indoors from the start to the finish as Dutch Hyacinths. It has been remarked that any fool can grow them. Quite true, but it is the wise man who chooses them!

Of late years a novelty, in what are called Prepared Hyacinths, has come on the market. Advertisements announce that they may be had in bloom at Christmas. So they may if they can be given a little bottom-heat and carefully shaded during a part of their period of growth, but as bottom-heat is out of the question in rooms, no one under the conditions about which I am writing should attempt this. All the same they are worth buying, for I have found that under exactly the same conditions as ordinary Hyacinths they flower from a week to ten days in advance.

The last part of this article is intended for those who have greenhouse accommodation, and if they also have cold frames from which frost can be kept out, all the better. First let me give a word of caution before suggesting a purchase of Prepared Hyacinths. They may be "flowered" at Christmas-time as the photograph of a bulb show at Haarlem last Christmas shews us (THE GARDEN, February 10, 1923, p. 71), but it is a ticklish job to accomplish successfully; all the same, it is worth trying, for the bait is very tempting. I have never managed it myself, as I have not enough heat and no convenience at all for

bottom-heat, which I am told they require. Bulbs should be got as soon as possible and *at once* potted and plunged so as to get plenty of roots before November, when the forcing process must be started. It would be very kind if someone who has done it would tell us all the details of their management. The four to which I would pin my faith would be L'Innocence (white), Lady Derby (rosy pink), Schotel (light blue) and Garibaldi (carmine). These are my stand-bys. Among the

orange sport from that splendid fellow Prince of Austria. These are both single varieties. To them I would add Safrano or Tea Rose. I am surprised to find typical lists like those of Dobbie and Sutton without it. Among Darwin Tulips a good half-dozen for pots are Pride of Haarlem, William Pitt, William Copland, Bartigou, Baronne de la Tonnaye and Suzon. Cottage varieties as a rule do not lend themselves to pot culture. For late flowering I can recommend Inglescombe Pink and John Ruskin, also the following, which in some lists are classified as Breeders and in others as Cottage: Golden Bronze, Bronze Queen, Dom Pedro and Goudvink. As with Tulips so with Daffodils, there are a great many which may be used for growing in pots. It is very much a question of taste. With the exception of the deep coffee-coloured Dom Pedro I have not put down any very dark variety, not because I do not like them, but because in the early months of the year we want brightening up.

Among Daffodils nothing is so effective as King Alfred or, if a paler yellow is preferred, Olympia, but many must be content with the lower-priced Golden Spur and Emperor. Just so in the so-called white trumpets one would like Mrs. Ernst H. Krelage, but our pocket forbids anything more expensive than Mme. de Graaff, or in the bicolors we wish to have Weardale Perfection or Duke of Bedford, but only Victoria and Mme. Plomp are practical politics. For small pots W. P. Milner is excellent. In a little heat it comes almost white. No one should omit two or three red-cupped or red-rimmed varieties. The colour does not burn so soon as it does out of doors, and we can enjoy their beauty for a longer space. Blackwell, Lucifer, Firebrand, Albattross, Acme, Homer, Red Beacon and, above all, Lady Moore are examples of what I mean. If bunch-flowered Daffodils are wanted, few excel Admiration, Orange Cup and Orange Blossom.



LARGE-FLOWERED PAPER-WHITE NARCISSUS.

others that I like best are De Wet (deep blush), Jacques (immense spike, pink), Captain Boyton (blue), Johan (lavender), Oranje Boven (ruddy apricot, spike like a Roman Hyacinth) and Chestnut Flower (deep blush, semi-double, very beautiful). Laura I grew for the first time last season. It is a rather pale rosy mauve with a medium-sized spike. Honestly, I do not know whether I like it or not. It is certainly something out of the ordinary run. Unless I were about to exhibit I would never buy first or top-sized bulbs. Second-sized and Cyntellas are quite good enough for ordinary people. These last are full of grace and charm as, indeed, all young things are. Cyntellas are but three year old bulbs of what we know as first-size Dutch Hyacinths.

Passing on to Tulips. Why not try Jenny, a pretty rose and one of the sweetest scented of all Tulips; and General de Wet, or, as it is now usually called, de Wet? This is a glorious

Nature has marked out Daffodils, Tulips and Hyacinths as the "big three" among spring-flowering bulbs in pots, but there are other families of lesser importance which must not be overlooked. Freesias, white and coloured, make a pleasant change. Among these last Apogee and Yellow Queen for yellows, and Dainty, Conquest, Apotheose and Mouette among the other shades are those to which I would give a trial. If a Crocus be wanted, why not the little rosy mauve Sieberi? or if a dwarf Iris, why not reticulata? Why not try one or two pots of Lachenalia Nelsoni, or the white Fritillaria Meleagris, or the effective Babiana stricta rubro-cyanea—the Babiana *par excellence* with its striking flowers of soft blue with a glorious bright carmine centre? and lastly, what about Ixias if you have sufficient space to give them in a cool frost-proof frame or greenhouse before they bloom in June? What must they be like when they can be grown in the open? JOSEPH JACOB.

THE MOCK ORANGES

A group of hardy flowering shrubs which blossom during June and July the genus *Philadelphus* is one of the best known and most valued. No exception need be taken to the fact that nearly all have white flowers, for these are produced in profusion, and many are deliciously fragrant. Flowering in company with the Spanish Broom (*Spartium junceum*) and the Mount Etna Broom (*Genista tinensis*) we get a delightful contrast and feast of colour about mid-summer in the pleasure grounds and shrubbery borders.

The Mock Oranges are natives of three continents, being found in South-Eastern Europe, North America, the Himalayas, China and Japan, with *P. mexicanus*, as the name suggests, a native of Mexico.

The collection of *Philadelphuses* at Kew contains about thirty species, a number of distinct varieties, and a fairly wide selection of hybrids. While a

P. is about the year 1881 that *M. Lemoine* produced *P. Lemoinei*, which is the result of crossing the Rocky Mountain *P. microphyllus* with pollen of the European *P. coronarius*. Since that date almost if not quite yearly additions have been made to our gardens. Some are dwarf and bushy in habit, others rather taller and open in growth, all notable for the freedom with which the single, semi-double or double blossoms are produced. In recommending a selection of varieties it is difficult to limit the number to a dozen when it is remembered that at least six of *Lemoine's* hybrids have received awards of merit and one the first-class certificate of the Royal Horticultural Society. *Argentine*, double, lasts well in flower; *Boule d'Argent*, very free, double; *Bonquet Blanc*, dense clusters of semi-double flowers; *Dame Blanche*, creamy white, semi-double, very fragrant and erect in habit; *Fantaisie*, large single blossoms with a rose-tinted

calyx and branches carrying quantities of blossoms during the second half of June. *P. Gordonianus*, from the Western United States, is more upright in growth and has slightly larger flowers. Other American species include *P. grandiflorus*, which is notable for its large pure white flowers 2ins. across, borne on vigorous bushes up to 12ft. or 15ft. high, and *P. latifolius*, which makes an even taller bush with slightly smaller individual blossoms but more in a cluster than the last named.

The Common Mock Orange, *P. coronarius*, is one of the earliest to flower and a popular shrub in very many gardens. It is a native of South-East Europe and Asia Minor. Cultivated in Britain in the sixteenth century.

Among the Chinese species *P. Magdalene* is a fine bush with arching stems, darkish green leaves and panicles of pure white flowers about 1in. across. *P. purpurascens* is one of Mr. E. H. Wilson's introductions. The name refers to the calyx clasping the cupped pure white flowers, which are pleasingly fragrant. Though not such



VOIE LACTEE.

PURPUREO-MACULATUS.
THREE BEAUTIFUL MOCK ORANGES.

VIRGINAL.

few of the species are very distinct, others are not easy to distinguish, the more so because natural hybrids occur to still further complicate matters. It is not surprising to find the hybridist taking full advantage of the ease with which the species cross-pollinate.

The first hybrid of which there appears to be any definite record is *P. insignis*, raised in France over fifty years ago by M. Billiard, of which *P. grandiflorus* is said to be one of the parents. Other names by which it is known are *P. Billiardii* and *Souvenir de Billiard*. This hybrid should be in every collection, for it is not only one of the best to flower, but it is one of the most beautiful of the tall-growing section with snow white cupped flowers freely borne in lengthy clusters.

The present-day race of Mock Oranges is almost, if not entirely, due to the efforts of one man, M. Lemoine of Nancy, and the fact that his first hybrid bears the raiser's name will ensure its association for many years with the beautiful race of summer-flowering shrubs he created

centre; *Gerbe de Neige*, large fragrant single blossoms; *Mont Blanc*, free flowering, pure white. *Norma*, the long, slender branches, gracefully arching, are clothed with large flowers; *Purpureo-maculatus*, the white flowers have large purplish rose centres; *Ruge-rose*, another pretty bush with purplish centred blossoms; *Virginal*, the best double white sort, the large flowers are pleasingly fragrant; *Voie Lactée*, a large single sort with snow white blossoms.

Among the species best deserving a place in every garden is the Rocky Mountain *P. microphyllus*, to me the most powerfully fragrant of all the Mock Oranges. It is a close-growing bush up to 2ft. to 3ft. high and more in diameter, the long, slender branches full of small white blossoms interspersed among the small foliage.

P. Lewisii, a native of Western North America, has been cultivated in our gardens for a hundred years. It is among the most valuable of the tall species, forming large masses 10ft. or 12ft. high and as much or more in diameter, the

attractive garden shrubs, *P. brachbotrys* and *P. pekinensis*, both from China, are noteworthy because of their pale yellow blossoms. *P. Falconeri* is presumed to be a native of Japan. It is one of the tallest-growing bushes and readily distinguished when in flower because of its long narrow petals.

The best known of all M. Lemoine's hybrids is *P. Lemoinei erectus*. For lawn beds it is one of the most valued hardy shrubs, producing in June masses of small fragrant white blossoms.

There are very many places for the *Philadelphuses* in our gardens and pleasure grounds. To ensure the ripening of the wood, without which flowering will be sparse, plant mostly in sunny positions. The tall-growing bushes should find a place at the back of shrubbery borders and in the pleasure grounds group planting is very effective. For a large lawn bed *P. Lewisii* is particularly attractive. The newer *Lemoine* hybrids, such as *Virginal* and *Voie Lactée*, are wonderfully showy for lawn beds, massed in the foreground of shrubberies, and on sloping banks, it may be on the borderland

between the pleasure grounds proper, and the woodland.

Another use for the Lemoine hybrid Mock Oranges is to lift and flower in pots, gently forcing the plants into bloom for the conservatory or cold greenhouse. For this purpose they are quite as easy to manage as *Deutzia gracilis*, its varieties and hybrids.

CULTURE.—The Mock Oranges thrive in most cultivated garden soils. Trenching and manuring of the ground are desirable, for in this way the plants make vigorous young growths, which are the prelude to an abundance of blossoms the following year. After flowering each year a certain amount of pruning and thinning of the growths is desirable, otherwise the bushes eventually become a tangled mass of twigs giving only small flowers. By removing the branches or twigs

which have flowered, the energy of the plants is thus centred in the development of new growth.

In some varieties, notably *Lemoinei erectus*, it is worth while cutting out all the old flowering wood which can be spared to the ground. After the second or third year stools are formed and an abundance of vigorous shoots push up annually from the base. A liberal mulching of decayed manure to coincide with the pruning is very beneficial.

The *Philadelphuses* are readily and rapidly increased by cuttings made of the young shoots from July to September. The earlier growths root best in a close frame with slight bottom-heat. From the middle of August onwards a cold frame kept close or a hand-light on a west border will suffice. A. O.

FLOWERING SHRUBS IN A WEST COUNTRY GARDEN

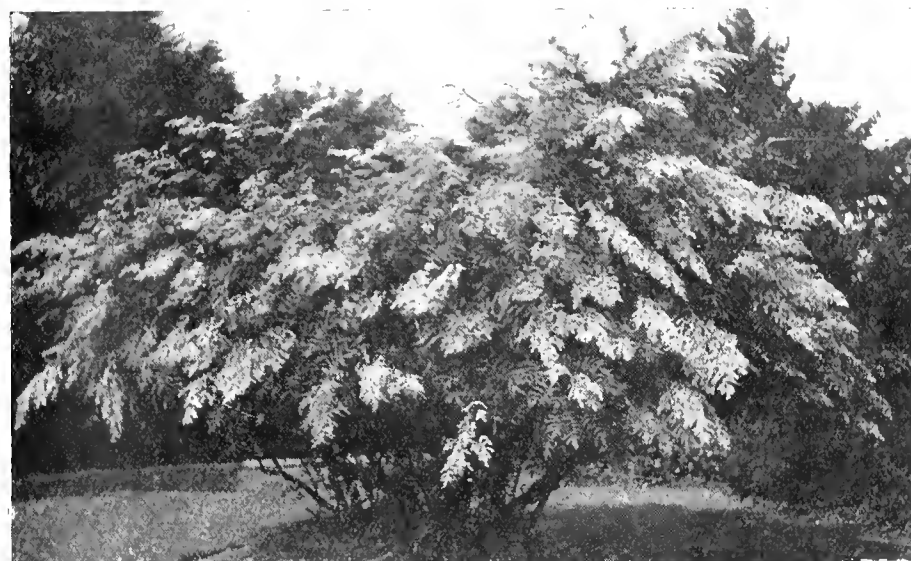
IF we set aside the *Cistuses* and *Brooms*, a considerable share of the remaining responsibility for the "furnishing" of one's July-August garden falls to the later members of the genus *Spiræa* and *Philadelphus*. In regard to the former the lower levels of a partially shaded glade which is blest by the kindly ministrations of a brook provides the coolness which so many of the *Spiræas* enjoy, while the higher, more sunny slopes are what the others like best.

One of the prettiest and most distinct of the shrubby *Spiræas* is *S. (Neillia) opulifolia aurea*. Though the type species of this variety attains almost the dimensions of a tree, the above form is a medium-sized shrub whose primary charm is the golden colour of the broad-lobed, hop-like leaves. The blossoms, which appear in little fuzzy clusters of white on the upper sides of the spreading branches, are of secondary importance.

Then we have several species which may be considered collectively owing to the general similarity of their more or less ruddy stems, long and handsome pinnate leaves and terminal panicles of flossy inflorescence. *S. Lindleyana* is one of these, an extremely elegant shrub of 6ft. to 10ft. in height, which should not be omitted from the smallest collection, and near to this comes the rather more stiffly branched *S. Aitchisoni*, with redder bark, long ash-like leaves and the same drooping, creamy white flower clusters. The former being a native of the Himalayas and the latter of Afghanistan, a fairly warm, yet tolerably moist soil appears to be the most desirable, *Lindleyana* having a reputation for being the more fastidious of the two. *S. sorbifolia*, a European species which flowers rather earlier is also of the above description, but of it we have had no personal experience. *S. discolor (ariæfolia)*, a shrub of singular beauty and reliability, may also be included in this group.

The finest *Spiræa* of the ash-leaved set, however, and one that is destined to prove itself to be one of the most magnificent shrubs of recent introduction, is *Spiræa (Sorbaria) arborea*. We are indebted to Mr. E. H. Wilson for this noble species. He brought it from China a few years ago, and all reports which have thus far come to hand regarding it testify to its splendid vigour and incomparable beauty. Since *S. arborea* will go up to 20ft. and send out its great arching wands on all sides with a fern-like grace, it needs ample space. Here, we have only a few young specimens no more than a yard or so in height; but already the beautiful pinnate leaves, like those of *Ailanthus*

glandulosa, with their fresh apple green and wine red stems, are very large and singularly graceful. The plants promise to fulfil all that



THE BEST OF THE SHRUBBY SPIRÆAS, *S. LINDLEYANA*.

the few who know this shrub have to say of its excellent qualities, and even such youngsters as these are making preparations for embellishing the extremities of their elegant growths with those enormous plumes of creamy white inflorescence with which *S. arborea* is adorned throughout August and September.

And so to *Philadelphus*, the highest award of merit among which must still be bestowed upon *P. Virginal*. That, at any rate, is my own feeling about it, for there is a quality, a flavour of good breeding about the very large white (really white) blossoms of *P. Virginal* which, against the dull, cucumber green of the ample foliage, affords this variety a distinction not shared by any other of the group. *P. Virginal* is, moreover, a robust grower, going up to 6ft. and more, and if its immaculate blossoms, borne in July, have no more than an extremely delicate fragrance, this will not be counted as a failing by those who know *P. coronarius* and a few other kinds too well.

P. Vire Lactée, rather earlier than the above, is perhaps the best of the single whites of medium stature (3ft.). The foliage of this variety is also

a good dark green, and the large, milk white blossoms are of extraordinary texture and very lovely with their central tufts of golden stamens. *P. grandiflorus* is probably the best of the taller species, and one that bears no little resemblance to *coronarius*. But its much larger, almost scentless flowers are whiter than those of the latter, they come later, and the bush is generally taller and more vigorous. There are, however, several forms of this American Mock Orange, some of them being named (*floribundus*, *laxus* and *inodorus*), and it is probably on that account that one experiences some difficulty in securing a fairly representative specimen.

Many of the Lemoine hybrid *Philadelphuses* are first-rate varieties, dwarf and tall, which will often carry bloom from June to August, and several growing here are very content in our light woodland loan wherever they can get some share of the sun. Most of these hybrids have their origin in *PP. microphyllus* and *coronarius*, the former being a delightful shrublet with a tangle of thin, wiry stems which gives us in July a starry galaxy of little milk white blossoms whose delicious scent has not the sickly sweetness of the more familiar Mock Orange.

Though *P. mexicanus* is too tender for all but very favoured districts, it has handed on to one

of its offspring (*P. Coulteri* being the other parent), the purple-blotched *P. purpureo-maculatus*, its spicy aroma curiously suggestive of some scented soap. This is an extremely prolific bloomer in warm, poor soil, and since its introduction we have had several others with the base of the petals blotched or shaded with various tones of purple and pinky red.

Grey-leaved shrubs are generally attractive, but never more so than in the dog days and when growing on those shallow slopes whose reserves of moisture are as precious as they are poor. One of the handsomest of these now in flower is *Senecio laxifolia*, whose large, many-branched heads each bearing a crop of boldly rayed flowers, like golden yellow *Cinerarias*, make a more satisfying display than one usually gets in the Groundsel breed. The neatly rounded leaves are, moreover, extremely woolly and white, and the shrub is generally more attractive than *S. Grayii*. The old *Santolina incana* is not to be despised for banks and slopes that are arid enough to try the courage of Catmint and *Artemisia*, *Marrubium* and Sage and other fragrant heat lovers of the

kind. The innumerable *Helichrysum lithospermum* is, however, whiter than any of these, perhaps the whitest thing in the garden to-day, and it is certainly no less drought proof. It makes a loose-habited little bush of 15 ins. or so in height, with tough and narrow leaves without a trace of green, and above these rise to a foot or more a number of equally white flower-stems which terminate during the later summer in bunchy heads of clear yellow.

A refreshing object to look upon when our little valley is a sun-trap and the Broom pools are snapping like the crackling of a bush fire is *Feurium fruticosum*, delightfully cool in the silvery freshness of leaf and stem no less than in the pale sheeny azure of its large and pretty blossoms. This is a thin-habited, somewhat straggling shrub which varies considerably in stature in accordance with situation and climate. It grows to about 4 ft. in the open here, where it is hardy enough to stand without protection. On occasions when it has been injured by frost it has broken freely

from the base in spring. Though it has not yet stood a real test for hardiness, *Sutherlandia frutescens* promises favourably. This is a shrub of outstanding beauty, its stems and delicate mimosa-like leaves being a silver grey, while the lobster-claw flowers are a vivid orange-scarlet which glows into vermillion at the tip.

The *Oleas*, which are closely allied to the *Senecios*, also come into one's grey list, and one of the best of the hardier kinds is *O. macrodonta*, which adorns its holly-like branches with copious clusters of fragrant, daisy-like flowers during this month and next. This is not quite as hardy as *O. Haastii*, yet much more reliable than *O. semidentata*, which is the pick of the bunch with flowers like rosy lavender *Marguerites*. The said *Haastii*, though widely planted by some, is one of the few shrubs one could almost despise. So it was expunged years ago from this garden to make way for choicer and less dismal things and flaming swords do sentry-go over the garden gate.

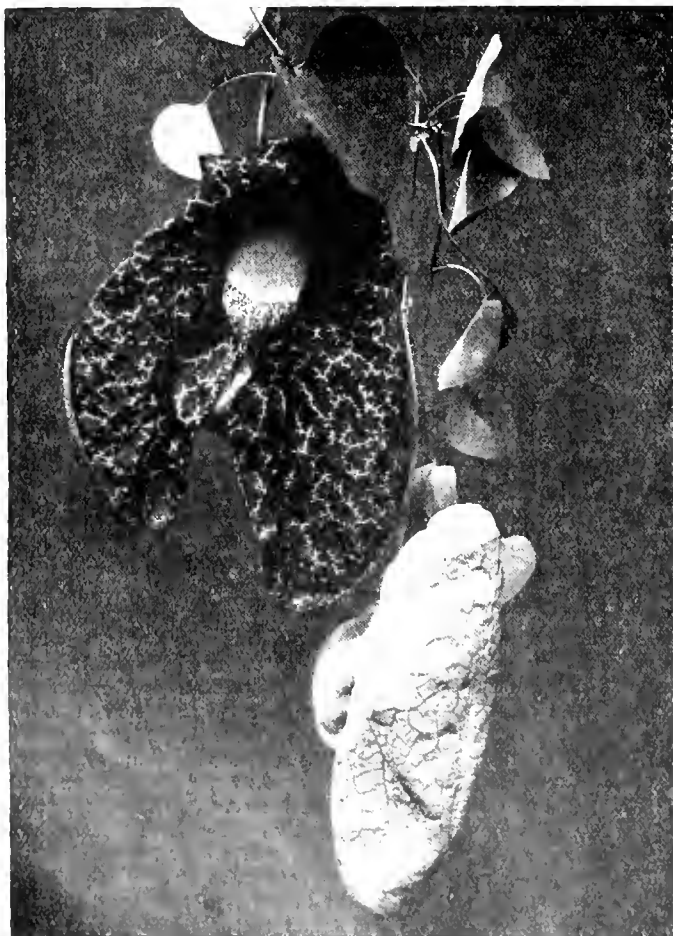
Jasminum humile revolutum is a hearty, beautiful shrub that would doubtless be more generally grown were it not for its reputed tenderness. Here, it is as hardy as a *Laurustinus*, and it can be relied upon to flower with unfailing regularity every July. Though the blossoms, borne in ample clusters, are scentless, or nearly so, their rich yellow is very attractive against the dark bay green foliage. The pink twining *Jasmine*, *Jasminum Beesianum*, introduced by Messrs. Bees, Limited, a few years ago, has grown with commendable vigour, covering a stump some 10 ft. high, but as its stature has increased so have the flowers grown smaller. In a year or two at most they will have shrunk to vanishing point, and one wonders whether this Chinaman demands frequent uplitting and renewal. The familiar *Jasminum officinale*, unfortunately, seems to grow scarcer year by year. Does anyone ever plant it in these days or the large-flowered form known as *J. o. affine*? The fine old double-flowered variety is still more rare. NORTH WALES.

SUMMER FLOWERS AT VINCENT SQUARE

THERE was a pleasant variety of flowers at the Royal Horticultural Society's Hall, Westminster, on July 24, and the exhibits were decidedly more numerous than might have been expected at the time of the year, especially considering the unfavourable weather. Just inside the entrance the Donard Nursery Company set up a very uncommon exhibit of *Dierana* (*Sparaxis*) *pulcher-*

rimum and its varieties. The tall, arching plumes of flowers, which retain their spathes, presented quite a foreign appearance and intrigued many visitors. Besides the new variety *Heron*, which is described under "New and Rare Plants," they shewed *Osprey* and *alba*. The former is very attractive, but the latter would not fascinate alone, yet is valuable in association with the others.

Along the back wall by the gallery stairs there was an exhibit which, in the opinion of ourselves and also of many visitors, was well worthy of a gold medal. There was, perhaps, a slight formality in the arrangement of the water lily pool—even this would be a matter of personal taste—but there could be no two opinions as to the immense value of the many *Nymphæas* which were so successfully disposed in the water. As we know full well



THE CURIOUS ARISTOLOCHIA GIGANTEA.



DIANTHUS HERBERTII MRS. GIFFARD WOOLLEY.

from experience, it is no easy matter to exhibit Water Lilies in anything approaching naturalness, but in Major Albert Pam's pool his gardener (Mr. F. Streeter) was particularly successful. Among the many varieties there were Conqueror, Newton, Galatee, Wm. Doogue, Escarboucle and James Brydon. The pool was framed with tall, graceful Bamboos and elegant Grasses.

In the centre of the hall Messrs. L. R. Russell, Limited, arranged what must have been a "near-gold" medal group of splendidly grown *Nepenthes*, *Caladiums*, *Alocacias*, *Marantas*, *Thunbergia grandiflora*, *Ixoras* and other tropical plants. On behalf of Mr. T. A. Bull of Hill Top, Norwood, Mr. W. R. Portall staged a highly creditable collection of *Gloxinias*.

The great variety of "Scented Geraniums" which may be grown was well illustrated by a large collection from the gardens of the Hon. Vicary Gibbs at Aldenham, and among them was *Pelargonium tetragonum*, which in its erect, fleshy stems had more the appearance of a succulent plant. As a rule one does not associate flowers with these aromatic species and varieties, but quite a goodly number are worth growing for their blooms. Among such are *Clorinda*, *Zermattii*, *Miss Godolphin*, *Osborne*, *Prince of Orange*, *Crimson Unique* and *Scarlet Unique*.

Herbaceous *Phloxes* were in such quantity as to shew that it is quite midsummer in the garden, and this was more than borne out by the numbers of *Gladioli* spikes on view. The largest exhibitor of the *Phlox* was Mr. H. J. Jones, who made an imposing display. Although it was a hot day, yet it seemed to be the brightest colours that received most attention, and these included *Jessie Waters*, *Homeland*, *Coquelicot* and Dr. Koningshofer.

Many *Gladioli* were displayed by Messrs. Kelway and Son, and besides the elegant *Primulinus* hybrids they had many of the larger-flowered sorts. Messrs. Lowe and Gibson shewed some good forms of the *Primulinus* hybrids and also some excellent border *Carnations*.

Among the general border flowers there were large masses of the showy *Lavatera Olbia rosea*, the smaller flowers of *Sidalcea Rose Queen*, several *Kniphofias*, *Salvia turkestanica*, Japanese *Iris*es from the Orpington Nurseries Company and from the Donard Nurseries, the lovely blue *Belladonna Delphinium* in Mr. Carlile's corner group, and a nice variety of dwarf *Campanulas* in the collection of Messrs. R. Tucker and Sons.

A large exhibit of annual *Scabious* was set up by Messrs. Sutton and Sons, and these were in named colour varieties. Mr. C. H. Herbert had an assortment of his garden *Pinks*, chief among them being a vase of the deliciously fragrant Mrs. Giffard Woolley. This is quite as large as a *Carnation*, of bluish colour with a pale crimson lake zone. *Prince of Wales*, *Bridesmaid* and *Model* were also excellent. Messrs. Carter and Co. had a group of the old *Trachelium coeruleum* bearing large heads of the cloudy blue flowers.

There were several collections of *Roses*, but it certainly has not been a *Rose* year. Under the clock Mr. Elisha J. Hicks shewed several vases of *Dorothy Dix*, a dwarf *Polyantha* much of the type of *Ellen Poulsen*, though a trifle looser and of a bright rose pink colour. Messrs. D. Prior and Son, Limited, shewed many varieties of *Roses*, including *Vera Prior*.

The second show of the National *Carnation* Society was, like that of a fortnight earlier, quite a small affair, and it was a difficult matter to discover the requirements of the classes.

The first prize collection was by Messrs. Lowe and Gibson, and this included their new *Ivan Lowe* and, in *Eclipse*, the premier light-edged white-ground *Picotee*. The firm's new variety

Mrs. E. Charrington was the premier white-ground *Fancy Carnation*.

Miss Shiffner won many first prizes and, in what we imagine was the colour classes, she had beautiful blooms of *Opalesce* (deep old rose), Mrs. R. P. Smith (blush), Mrs. G. Marshall (crimson), Jean Douglas (scarlet), *Border Yellow* and *Purity*. Her really magnificent flower of

medal was awarded to Mr. Stoop and the bronze to Mr. Pateman for *Gooseberries*.

NEW AND RARE PLANTS.

Aristolochia gigantea.—This was quite the most uncommon flower in the Show. The distended tube is of pea green colour, and it expands into a pair of large lobes which gives the flower



THE CHINESE YELLOW WOOD, CLADRASTIS SINENSIS.

Mrs. A. Brotherston was the premier *Clove*. In one class Miss Shiffner had excellent vases of *Gordon Douglas*, *Lord Kitchener* and *Rose Clove*.

Among the few classes set out in the annexe Mr. E. Charrington was a successful exhibitor, shewing good blooms of *Eclipse* (*Picotee*), *Grey Douglas*, *Glamour* and *Veldt Fire*. The *Edmund Charrington Cup* was awarded to Mr. H. A. Knapton.

Hidden away in the *Orchid* annexe, where very few of the visitors discovered them, were the finest trained bushes of *Gooseberries* we have yet seen at any show. Mr. J. C. Allgrove is a past-master in the art of growing and training fruit trees, but with these many *Gooseberries* he has excelled himself. There were little pyramids, fan shaped and espaliers, and not only were they models of training, but all bore heavy crops of luscious-looking fruit. Besides, Mr. Allgrove staged eighty dishes of gathered fruits. The big *Gooseberries* were not quite the "Big *Gooseberries*" so beloved of the fancier in the North of England, but they were still quite big ones, and were of such sorts as *Leveller*, *Coiner*, *Matchless*, *Keepsake* and *Brooming* of the green and yellow varieties; and *Warrington*, *Whinham's Industry*, *Highlander* and *Dan's Mistake* of the red-skinned sorts. As though to draw comparison there were, in this gold medal exhibit, dishes of the smaller *Early Green Hairy*, *Ironmonger* and the superb-flavoured *Langley Gage*.

The R.H.S. sent from the Wisley Gardens a large collection of gathered *Gooseberries* in many varieties, and Messrs. Laxton Brothers shewed several baskets of a new *Strawberry* named *Omega* which the Fruit Committee did not consider superior to older sorts. They were shapely fruits with some of the dark colouring of *Waterloo*, and had travelled well. The *Bunyard silver-gilt*

a somewhat bat-like appearance. These segments are of brownish maroon colour, freely and irregularly veined with sulphur yellow. The woolly throat is pale yellow colour. The smallish, ovate leaves are a shining pale green. Unlike so many of the genus, this species is pleasantly scented. It is a native of Brazil, so requires hot-house treatment. Award of merit. Shewn by the Director, Royal Gardens, Kew.

Carnation Ivan Lowe.—A very uncommon *Fancy Border Carnation* of medium size and perfect form. The orange buff ground colour is heavily marked with crimson maroon. First-class certificate (National *Carnation Society*). Shewn by Messrs. Lowe and Gibson.

C. Mrs. Edmund Charrington.—This is a superb white-ground *Fancy Border* variety which might well be described as being a paler *Jessie Murray*. The milk white ground is freely marked with thin lines of pale lilac. First-class certificate (N.C.S.). Shewn by Messrs. Lowe and Gibson.

Cladrastis sinensis.—This, the Chinese Yellow Wood, is a rare tree in our gardens. It was discovered in Szechuen and Hupeh in 1890 by Mr. E. A. Pratt. In a native state it is described as being a tree soft, or more in height, but in this country it is, as yet, little more than a large shrub. The branches on view were well flowered, and although individually small, the panicles of whitish, fragrant, pea-shaped flowers were quite attractive. The compound leaves are made up of a variable number of bright green leaflets 3ins. or 4ins. long. Award of merit. Shewn by the Director, Royal Gardens, Kew.

Dierama pulcherrima Heron.—In many respects this might be termed a giant *Sparaxis*; indeed, for a long time the species was included by botanists in *Sparaxis*. It is a native of South Africa and, unfortunately, not generally hardy.

but the erect, toothed spike of pendulous flowers is common and fascinating that it could be worth while risking failure in the hope of being able to grow them. The *Dieramas* from under similar conditions afforded 12s. The new variety was nearly, if not quite, 5ft. high, and had plenty of purplish flowers which

were heavily shaded with maroon on the outside, giving them a fascinating dusky appearance. The common name for the plant is the Wand Flower, a name which is highly suitable. It is a pity that these graceful plants are not more commonly grown. Award of merit. Shown by the Donald Nursery Company.

DWARF CAMPANULAS FOR THE ROCK GARDEN

THE genus *Campanula* is a very popular one, and it contains somewhere about 250 species, including many tall-growing kinds suitable for the border or wild garden and others of low-growing habit only fit for the rock garden planted under special conditions. Many of the latter are charming dwarf rock plants well worth the little care and attention necessary for their welfare. They are also useful and valuable, as they generally flower at a time when early alpine plants are past and flowering plants on the rockwork are anything but plentiful. Their time of flowering extends over most of the late spring and early summer months, and with a number of selected kinds a succession of *Campanulas* may be had in flower for a long period. With the exception of a few of the high alpine species, which demand special treatment, all grow in a good loamy soil mixed with coarse gritty sand. The best situation for most is a half-shady one either on the north-west or west side of the rock garden where they do not get dried up during the warm summer months. There are, however, exceptions which delight in full sunshine and others will grow well under either conditions. As they do not usually root very deeply, it is advisable to mulch occasionally with a mixture of loam and sand and leaf-soil to encourage growth. As a rule they all may be easily raised from seed sown in pots in gritty soil in the early spring; others may be increased by means of division in the autumn or spring; while cuttings may be rooted during the summer months in a close frame.

It is not intended to give a full and extensive list of all the alpine species of *Campanula*, but to limit our attention to some of the best for this purpose. Many of the smaller kinds, charming enough in their way, are more for the collection rather than for providing a display in the rock garden.

C. ALLIIONI (syn. *C. alpestris*).—An early-flowering kind from the Alps of Dauphiny and Piedmont, where it is found between 6,000ft. and 7,000ft. elevation. From rosettes of somewhat glossy green leaves rise on short stalks beautiful purple, trumpet-shaped flowers of large size in proportion to the plant. It is somewhat variable in size and colour and length of stems. Some flowers are very dark purple in colour, borne on stalks 2ins. or 3ins. high, while others have little or no stems. It is a plant for the moraine garden, where the mixture consists mostly of stone chip-pings, and where it must have plenty of moisture during the growing period. It spreads by means of underground growths, which again produce rosettes of leaves away from the old plant.

C. ALPINA, one of the smallest members of the genus, is known as the "Alpine Bellflower." Although it frequently behaves in this country as a biennial, it is a perennial in its native habitat. It is closely allied to *C. barbata*, but, unlike that plant, *C. alpina* prefers soil of a calcareous nature. The plant possesses a fleshy rootstock and forms a tuft of narrow leaves from which the stem, only 3ins. or so in height, is produced. The flowers are bell-shaped and produced in May and June, and vary in colour from pale to deep violet.

It is a native of the Alps of Austria, Lombardy and Transylvania at elevations ranging from 6,000ft. to 7,000ft. Seeds are produced fairly freely, and it is not a difficult plant to grow in well drained gritty soil.

C. ARVATICA (syn. *C. acutangula*).—The stems of this plant are trailing and bear large star-like flowers of purplish blue colour; while the leaves are small, round and toothed. It is essentially a moraine plant, spreading by means of underground stems in the way of *C. Allioni*, and has proved quite hardy under this treatment. *C. arvetica* is found in the high alpine regions of Northern Spain, growing in open stony places. When grown in pans for the alpine house the soil should consist largely of coarse sand and shingle with a little loam.

C. BARBATA is a well known plant with rosettes of hairy leaves and stems up to 1ft. high bearing several large, drooping, pale blue flowers that are bearded within with long hairs. There is also a white-flowered variety. Although preferring a soil free from lime, it is said sometimes to be found growing in calcareous soil. It is found all over the Alps of Europe, but not in the Pyrenees, and flowers in May and June. One of the easiest plants to grow, it seeds freely and grows well in half-shady situations.

C. CÆSPIOSA.—A dwarf creeping plant closely allied to *C. pusilla*, but having nearly sessile basal leaves, ovate or obovate in shape. The leaves of the flower-stalk are stiff, smooth and shiny. The flowers are bell-shaped, somewhat contracted, and produced in May and June. It comes from the Eastern Alps, and likes a loose, calcareous soil in full sun.

C. CENISIA.—A pretty creeping plant with a main central root and numerous stolons proceeding from it, eventually forming a tuft. The stalks are one-flowered and only 1in. or 2ins. high. It is a moraine plant, found on the masses of stony debris of the Alps of Switzerland and adjoining ranges. A somewhat difficult plant to manage in this country, it will grow in limestone or granite, but must have plenty of stones and grit in the soil.

C. ELAÏNIS.—A very attractive species growing in the crevices of the granite rocks of the Cottian Alps, among other places. It forms rosettes of stalked, grey leaves from which are produced branched stems thickly set along their whole length with large, flat flowers of a sapphire blue colour. It is easy to grow in a sunny crevice or on a rocky ledge either in full sun or partly shaded.

C. EXCISA. With underground spreading stems, this rare plant produces wiry stalks 2ins. or 3ins. high, bearing graceful, drooping, bell-shaped, blue lilac flowers. These are remarkable in having a hole at the base of each lobe of the corolla. This species does not flourish in calcareous soils, but requires a mixture of sand, peat and granite chips, but water must be supplied freely. In stony soil it will spread freely, and is a good crevice plant in non-calcareous stone. It is a local plant, only found on the Alps of Saas and the Simplon.

C. GARGANICA.—A very variable but beautiful plant, forming close tufts of light green foliage with numerous stems clothed with small, rounded, rentorn, dentate leaves. These bear light blue flowers of various shades, medium size, bell shaped and almost erect. It requires a place in full sun in rockwork in very gritty well drained loam. It comes from Eastern Italy and Dalmatia, where it grows in the fissures of rocks. There is a distinct form known as *C. garganica* var. *hirsuta* with very hairy leaves, and also a white-flowered variety. *C. garganica* W. H. Paine has larger flowers of a pleasing shade of blue, while the centre



EXCELLENT FOR THE MORAINÉ, *CAMPANULA ALLIONI*.

of the flower is white. It is one of the best free-flowering kinds.

P. HAYLOGGENSIS is a hybrid between *C. pulla* and *C. pusilla*. It is very free growing and flowering, flourishing in half-shady rocky crevices. The flowers are pale blue and bell shaped. *C. Profusion* is a form of this with larger and deeper-coloured flowers. Both are easy to grow.

P. KEWENSIS.—This charming little hybrid *Campanula* originated in the rock garden at Kew in close proximity to its parents *C. exilis* and *C. arvensis*. The plant is intermediate in character, having the habit of the former and bearing the open flowers of the latter parent. The wiry branching stems are about 4 ins. high, bear narrow, sparsely toothed leaves, and produce single flowers on terminal branches. The blooms are rather deeper in colour than those of *C. arvensis*, and are produced in June and July. It spreads freely when planted in stony soil.

C. LANATA.—This striking Bellflower is an ideal plant for a hot, sunny crevice in the wall garden or in some fissure between stones in the rock garden. It is a biennial, but reproduces itself freely from self-sown seed, establishing itself in the chinks and corners where little else will grow. The first year it forms a rosette of grey velvety foliage, the next year it sends up a branching pyramid of large, white to pink, bell-shaped flowers in July. Also known as *C. velutina*, it is a native of the Balkans.

C. LINIFOLIA.—Closely allied to our native *C. rotundifolia* and probably only the mountain form of it. It is distinguished by the narrow, lanceolate, nearly entire radical leaves, and the larger and more numerous flowers. It is a native of the Alps of Europe and flowers in June and July. *C. linifolia* var. *Berkeleyana* is a fine white form of this, while the var. *valdensis* has woolly grey foliage.

C. MACRORRHIZA is found in the crevices of walls and fissures of rocks in Liguria and parts of Spain. It has a thick woody rootstock and sends up numerous twiggy stems with narrow leaves and clusters of pretty blue flowers. A useful plant for the wall garden or sunny ledges, flowering from May to October.

C. MIRABILIS is a handsome biennial from the Caucasus, where only a single plant was found by Alboff in the year 1894. It was growing in a very rocky place, and has a thick fleshy root with a large rosette of spatulate dark green leaves. It flowered in a south border freely at Kew, producing a pyramidal branching stem bearing its pale lilac flowers in July. These are bell-shaped and over an inch long. It should be planted in a rocky crevice in full sun, preferably in calcareous soil. W. I.

(To be continued.)

A Good Yellow Foxglove

If it is not as showy as many garden varieties, *Digitalis grandiflora*, one of the oldest exotics in cultivation, has many meritorious qualities. It usually comes into bloom when the common mauve purple species and its varieties are going off, and from a handsome tuft of deep green, narrow leaves sends up a cluster of flower-spikes to a height of 1 ft. to 3 ft., which bear large, drooping blossoms in a soft ivory yellow. This Foxglove is gifted with a perennial nature, and it will, moreover, reproduce itself from seed. Thus naturalised, *D. grandiflora* can be very effective in the half-shade of the woodland garden or shrubbery. It is an ideal plant for associating with Heathers and native Ferns, and seldom, if ever, becomes a nuisance. It is by no means fastidious as regards soil.

A HEATH GARDEN IN SUMMER

ALTHOUGH the heath garden need never be devoid of blossom from January to December, the season of the true summer-blooming varieties may be said to open with the flowering of *Erica cinerea* in July. This is one of the easiest and best for dry banks or rocky places, in full sun or

The clean rosy pink form of *E. Tetralix*, which is practically identical with the wild form, is a pretty Heath of rather less than medium size, and then there is a variety of a fuller colour, sometimes listed as *E. T. rosea*, which is equally good. Both of these should be included in any collection, and space should be reserved for the



DABOECIA POLIFOLIA, WITH ERICA TETRALIX IN FRONT AND E. MAWEANA BETWEEN.

partial shade, and most of the selected or cultivated forms are much superior to the wild one most commonly seen. This improvement is not so notable in the matter of size as in colour, the garden sorts being of a more definite and pleasing hue, and few of them shew that tendency to bluishness which often creeps into the crimson-purple of the moorland plant.

Erica cinerea rosea is the largest and most effective of its set, and it is also the earliest to bloom with us. This is a magnificent variety for massing, and the big, bushy plants, which keep their shape wonderfully for years, produce a most gorgeous show of colour when covered with their bright rosy crimson bells. The white form of this (in two sizes, minor and major) is not so satisfying, being less prolific in blossoming and the blooms are smaller. But the dwarf-growing *E. c. atropurpurea* is a very brilliant little counterpart of *rosea*, and the still smaller *coccinea*, with bronzy foliage and flowers in an intense crimson-lake, is very choice. This latter appears to be identical with the *atrosanguinea* of some lists.

Erica Tetralix, the Cross-leaved Heath, is another summer bloomer, some of its varieties, notably the white, *præcox*, coming into flower early in July, after which the others soon follow. Though sometimes confused with *E. ciliaris*, there are several clear points of distinction between these two. *E. Tetralix*, for example, is more upright, the growths being stiffer and more bristly than those of the Dorset Heath, which has a soft, more pubescent foliage and more prostrate habit. Then the flowers of *E. Tetralix* are borne in terminal umbels, while those of *ciliaris* are in long racemes and at least a month later.

very pretty white-flowered form with downy foliage known as *E. T. mollis*. There is also a large-flowered silver-pink variety with grey-green foliage which is particularly attractive.

Erica Watsoni is a very distinct Heather and one of singular beauty. It was discovered in Cornwall by Mr. H. C. Watson, and the original plant was supposed to be a natural hybrid between *EE. ciliaris* and *Tetralix*. This combination is certainly suggested by the soft green foliage, somewhat resembling that of a congested *ciliaris*, and the large rose-purple bells which are produced in terminal clusters, these being a sort of compromise between the flat umbels of *Tetralix* and the long sprays of *ciliaris*. *E. Watsoni* is, however, a most desirable Heath, an August-September bloomer, and one that, like all the others mentioned here, is quite content with ordinary light loam.

Yet another variety closely allied to the Cross-leaved Heath is *E. Mackaii*. There is evidently more than one form of this plant, as one may suppose seeing that *E. Mackaii* has been found not only in Galway but in Spain. But the difference, in so far as my knowledge goes, does not appear to extend beyond a variation in habit of growth, some plants being rather more inclined to a straggling, semi-prostrate form, while others are more upright after the style of *Tetralix*. The leaf arrangement, however, follows that of the latter in all cases, but the blossoms, which appear in August and which are a full-toned rose, are shorter and fatter than those of our true Cross-leaved Heath. There is also a double form of *E. Mackaii*, said to have been discovered in Connemara.

E. Maweana brings us back once again to *ciliaris*, of which it appears to be a Portuguese form, though some authorities give it specific rank

and other class it as a hybrid. This undoubtedly true Heath is quite as hardy as clowns, which means that it will do in warm, free soil or sandy peat in all but our bleakest localities. In habit and growth *E. Mawsonia* is free and robust, and the large bells in terminal racemes are a bold crimson.

Of the new *Erica Williamsonii* it is too soon to speak from one's own experience, but plants giving promise of bloom this season are extremely vigorous and evidently mean to do well. This is a hybrid between *EE. vagans* and *Tetralix*, with a leaning towards the former in foliage and, it one may rely upon the memory of a specimen seen at Kew last autumn, with conspicuous heads of flowers in a rich crimson.

In any garden of summer-flowering Heaths the many varieties of *Calluna vulgaris* will give an abundance of colour from mid July onwards. The first of them to flower is the common, or I might write the true White Scotch Heather, of which there are various forms listed by the trade. Another good and larger white is *C. v. Hammondii* and those who wish a still bigger and more branching variety also in white will find their desires fulfilled in a good form (there are some pretty poor ones) of the splendid *alba Serlei*. The variety *gracilis* is also distinct and well worth a place among the choicest.

The crimson-scarlet *C. v. tenuis* is a very distinct early Heath of this group with a strictly medium-sized growth and good habit, and another very desirable form is *C. v. flore pleno*, the double form of our Common Ling. Not all the double-flowered Heaths are by any means an improvement on the single, but this one is really a most charming variety. The habit is tall, branching and vigorous, and when every twig is padded with the perfectly double little flowers in a gentle shade of rosy lilac one feels that the maintenance of a good group of *C. vulgaris* fl. pl. is essential to any plantation of Heathers.

A good many Heaths of the *Calluna* species can hardly be included here, since they do not flower until much later, but *C. v. Alportii* with very deep green foliage and rich crimson flowers, is usually in bloom during August, and the dwarf and mossy *hypnoides* will give colour at the same time. The close-set *Foxii* is also among the earlier ones. This is a useful variety for carpeting any bare spot with its dense foliage, some 3 ins. in height, but it is a shy flowerer here. Indeed, *Foxii* looks as if it had been so persistently nibbled by rabbits or other beasts of the field and troubled by biting winds for so many weary generations that it had yielded up the joy of blossoming for a life of passive resistance towards an unkindly fate.

There is one more group of the *Erica* family which cannot be omitted from among the summer bloomers, and that is *Daboecia polifolia*, which used to be classed under *Menziesia*. The best of the *Daboecias* is the large-flowered white, which is a really choice shrub with foliage of a peculiarly rich green and long, upright spikes of almost globular pure white flowers of great size and substance. These blossoms, indeed, are bigger than those of any other Heather, and they are borne in profusion from June to November. The type species of *Daboecia* has rather smaller, less spherical bells of a rosy purple, but there is a better form of this known as *D. p. atropurpurea* whose blossoms are a more pleasing colour, approaching a full-blooded crimson in a favourable light. *D. p. bicolor* has both white and purple flowers on the same plant, but this is more of a curiosity than anything else. All of these are fast and robust growers in our light, dry loam, making bushes up to nearly 2 ft. high and three or four times as wide, the white form, oddly enough, being much the strongest.

Beautiful as all these Heaths undoubtedly are, and grateful as one may feel towards them for affording so beautiful a display of colour at a season when the garden generally is at its dulllest period, to them alone must not be accorded all the credit for making our Heath slope what it is. For to my mind not the least of the charm that dwells in this part of the garden is due to those wild flowers without which the Heathers would never be quite so pleasing. For "the heath" could hardly "be framed as much as may be to a natural wildness" without some of those native plants one has learned always to associate with the summer moors. Therefore we encourage rather than extirpate all such as blend happily with the predominant occupiers of the place.

The wildings which usually accompany Heaths will, naturally, vary somewhat according to the district, but with us full summer brings numbers of Harebells, than which there is nothing more admirably suited for associating with Heather. There are pale blue tufted cushions of *Jasione montana* (Sheep's Scabious) and colonies of Foxgloves, while coming up in odd places from self-sown seed is *Digitalis ambigua* with its handsome leaves and elegant spikes of ivory yellow flowers. Yellow Cinquefoils and lobelia-blue Milkwort creep among the finer grasses, whose beautiful plumes add their grace to the general effect. To the taller of these grasses, indeed, we owe much at this season, their waving panicles with their soft tones of purple and silvery dun

affording the charm of movement and giving height and character to places which might otherwise appear too uniform and flat. The Air Grasses are particularly lovely, and none of them is aggressive here. As a matter of fact, we have had some difficulty in establishing *A. caespitosa*, one of the tallest and most elegant of British species, this being tender of moister ground than that of our Heather garden. But the silvery *A. caryophylla* grows naturally, and *A. flexuosa*, with its curiously crimped stems, is the Heath's companion over many a wide moor.

Though a pestilence in other places, it is difficult to deny the Sheep Sorrel a place on the more arid slopes, which it will flush with crimson throughout the later summer and far into autumn, and it has a worthy companion in the tall *Hypericum perforatum*, a plant that is included in some trade lists. Another *Hypericum* which is very delightful on the narrow tracks is the little prostrate *H. humifusum*, and the great Tut-an (*H. Androsæmum*) crops up at intervals, its broad-egg-shaped leaves in bold contrast to the finer foliage of the Heaths. All these, together with a few Hawkweeds (*Hieracium*), Oxeye Daisies in moderation, a pretty local form of Golden-rod (*Solidago canbica*) with a short stem and large flowers, and a few more strays give to this part of one's summer garden a flavour of the wild moor which is always refreshing and never detrimental in a dominating sense to the main issue. A.

DWARF AND SLOW GROWING CONIFERS

It is evident to anyone who visits many gardens in this country that there is a growing interest at the present time in dwarf conifers. The daintiness of these plants is in itself a sufficient attraction for many persons. Moreover, they enable people with only small gardens or limited areas available to have represented there types of vegetation which otherwise could not be accommodated. They are particularly suited to rock gardens, for, being almost always evergreen, they provide attractive greenery which not only relieves the winter nakedness and subdues the prominence of stone in such places, but even in spring and summer, when the flower displays are at their highest, adds much to the general effect. The thanks, therefore, of all those interested in alpine gardening, in conifers, and in dwarf trees and shrubs generally are due to Mr. Murray Hornibrook for his admirable little treatise.* The subject is a difficult one, and even a superficial acquaintance with it enables one to appreciate the industry, research and critical acumen which the author has brought to bear in its compilation. He has written a work which few would care to have undertaken and which must for a very long time remain the standard one on the class of plants with which it deals.

There are two types of dwarf conifers, viz., those dwarfed artificially by root restriction, pruning and disbudding—methods of which the Japanese gardeners are the chief exponents; and dwarfs that have originated naturally either as seedlings or, less frequently, as branch sports from normal trees. It is to the latter type alone that Mr. Hornibrook almost wholly confines his attention. They are genuine dwarfs and remain so indefinitely. The others are dwarfed only so long as they are cribbed and confined; released from their bonds and given unrestricted root space they soon tend to regain their normal habit.

It seems as if nearly all trees, if cultivated for long enough a time, will produce certain aberrant forms, such as fastigate, pendulous, dwarf and

variegated. It is remarkable that the common Spruce, one of the tallest, if not quite the tallest, of European trees has produced more dwarf forms than any other. Mr. Hornibrook describes, more or less fully, about fifty of them, the oldest recorded one of which is the well known *Clanbrasiliana*, which the author tells us was discovered on the Moira estate, near Belfast, in the latter half of the eighteenth century. Another well known polymorphic tree is the Lawson Cypress, of which about thirty dwarf or slow-growing sorts are here described. The common Juniper (*Juniperus communis*) has not produced many distinct dwarf forms, but among them is perhaps the daintiest of them all—the var. *compressa*—a tiny, slender, very slow-growing shrub, shaped like the flame of a candle.

What adds so much to the interest of the book is that, besides the descriptive matter, the author gives a full account of the origin and history of each variety so far as it can be ascertained. A reference also to the original description of each variety is given. One can but admire the patient research which has given this work its comprehensive quality. Valuable advice as to cultivation, soil, selection of sites and propagation will be found in it. Very wisely, the cultivator is warned against grafted plants which, worked on strong-growing stocks of their respective types, are forced into more vigorous growth and altered in their habit and characteristics, thereby losing their peculiar interest and value. One encouraging fact the author records is that the only dwarf conifers he has failed to strike from cuttings and thus get on their own roots are the Pines and Cedars. The book is illustrated by twenty-five excellent reproductions of photographs (several of them taken in the Arnold Arboretum), is light to handle, admirably printed and, not least, is provided with an excellent index.—W. J. B.

* "Dwarf and Slow-Growing Conifers," by Murray Hornibrook. Published by Country Life, Limited, 20, Tavistock Street, Covent Garden, London, W.C.2; price 10s. 6d.

CORRESPONDENCE

NOTES ON FREESIAS.

I WOULD like to correct Mr. Jacob in his interesting notes on *Freesias* (page 367) in the paragraph on breaking. I realised the problem of breaking some time ago, but the "rude awakening" when I found one spike of *Wistaria* "broken" made me exclaim, "You brute!" (the rest of the language was not fit for his reverence's ears). By the way, I found a pane of glass close by was cracked shortly afterwards. Was it my language? Anyhow, *Wistaria* is still the apple of my eye, and I have no wish to exchange it for any other variety that I have yet seen. My experience is the same as Mr. Jacob's regarding Mr. Hoog's varieties.—G. H. DALRYMPLE.

AN EXCELLENT PLANT FOR A COOL HOUSE.

MORÆA IRIDIODES is undoubtedly the most handsome of the genus. It makes an excellent pot plant, but it is perhaps more suitable for planting out in a border in the cool greenhouse, where its handsome flowers make it an object of beauty during the early summer. The almost white flowers have broad, obovate, obtuse perianth segments which are clawed at the base, the three outer ones with an orange yellow keel, densely pilose at the base, the three inner segments narrower, with dark markings just above the claw, while the two lobed lanceolate purple stigmas give the flowers a very dainty and effective appearance, as they are borne on the long, slender scape above the dark green rigid leaves, which are from 1ft. to 2ft. long and $\frac{1}{2}$ in. to $\frac{3}{4}$ in. wide, and arranged in crowded fan-shaped basal rosettes. It should be planted in good ordinary soil in a sunny position, and is best left undisturbed all the time it is doing well, giving it plenty of water when growing and in flower, gradually reducing the amount afterwards to

assist in the ripening which is essential to obtain plenty of flower the following season. It can be readily raised from seed, which should be sown as soon as ripe, or may be increased by division, which should be done as soon as the flowers are over. It is said to have been first collected by Thunberg, who gathered his specimen near the Zeekoe River in Humansdorp Division in 1772, but according to the *Botanical Magazine*, Vol. XIX, tab. 693, it was cultivated by Miller in this country in 1758, who received the seeds from the Cape under the title of "White Water Lily," while in Miller's Garden Dictionary, 8th edition, 1768, it is included under the name of *Moræa* vegeta. It belongs to the subgenus *Dietes*, which include all the *Moræas* that have a short creeping rhizome. It might be termed the African representative of the *Iris*, being very closely allied to that genus, and it appears to be very difficult to separate them.

Moræas have no perianth tube, while *Iris* usually have one, also in *Iris* the filaments are usually free, while in *Moræa* they are usually monodelphous.—F. G. PRESTON, *Botanic Garden, Cambridge*.

A DESIRABLE SHRUB.

IT may, perhaps, be of interest to some of your readers to learn that *Desfontainea spinosa* flowers freely in a sheltered though sunny rockery in my garden here, only some fifty miles from London. It is a little bush about 3ft. high and carries fifty blooms besides several buds, and is a most attractive plant.—HENRY G. SKETCHLEY, *Petersfield*.

THOUGH usually listed with the more tender

South American shrubs, *Desfontainea spinosa* is a good deal harder than is generally supposed. It undoubtedly enjoys a warm, loamy soil with free drainage, but in many districts within the sea influence it prospers equally well in a much cooler, stiffer medium. Under favourable conditions *D. spinosa* will grow into a shrub 8ft. in



THE IRIS-LIKE MORÆA IRIDIODES.

height and as much in width, and the foliage, which so closely resembles that of our common Holly, affords a curiously effective setting for the brilliant blossoms. These latter are waxy and tubular, about 3ins. in length and of a dazzling scarlet-vermilion with a clear yellow tip and throat. They are usually borne in the greatest profusion from July to late autumn, and quite small bushes of a foot or so in height will frequently be as floriferous as older specimens. Cuttings struck in a close frame in August should be ready to move the following spring.—A. T. J.

THE BOG PIMPERNEL.

OUR summer moors yield many charming little flowers, but few of them, unless it be the Ivy-leaved Campanula, can rival the Bog Pimpernel (*Anagallis tenella*) in daintiness. This delightful treasure is now blooming freely on many heaths

and commons, its tiny branches with their pairs of round, glossy leaves creeping about almost unseen among the finer grasses and other dwarf herbage which the innumerable blossoms on their upright stems do their best to cover with a sheen of silver pink. Individually, these blooms are larger than those of the common Red Pimpernel, but in colour, form and delicacy of texture they are the last word in refinement and meet companions for the smallest and choicest of our native Campanulas mentioned. *A. tenella* has a reputation for taking kindly to garden treatment where moist ground or bog can be afforded, and it has also been used in a pot whose sides it will drape with its pretty foliage and cheerful flowers. Though in a state of nature it will often be found growing in the dry turf of sandy peat overlying rock to no more than a few inches, it must be borne in mind that even here it always has the saving grace of that close-set mat of fine herbage which is so potent a factor in the conservation of moisture.—CAMBRIA.

DIPLACUS GLUTINOSUS AS A CUT FLOWER.

THE singular merit of *D. glutinosus* as a cut flower is worthy of note, for not only do the branches of this pretty shrub possess to the full that elegance of form combined with a sufficient rigidity which is so valuable a quality in table decoration, but both flower and foliage are eminently beautiful and remarkably durable. How long *D. glutinosus* will remain fresh in water I do not know, but a vase of 18in. sprays before me as I write has been on the table for nearly four weeks, and the last flowers to open, as well as the foliage, are as fresh as when the branches were cut. The blossoms open in succession from the base, and even the smallest terminal buds will develop in their turn into full-sized flowers, the only noticeable difference between them and the earlier ones being a slight failing in depth of colour. Further, as the spent blooms pass off they shrivel up and become almost invisible instead of falling. The shrub referred to here is the orange buff typical form, and this we have found to be as hardy outdoors as a Scotch Fuchsia.—NORTH WALES.

SCENTED-LEAVED GERANIUMS.

A MOST interesting exhibit of scented-leaved Geraniums, which are known mostly as Rose Geraniums, was shewn at the Royal Horticultural Society's meeting on Tuesday, July 24, by the Hon. Vicary Gibbs. The collection, which was admirably arranged by his gardener, Mr. Edwin Beckett, comprised 100 different species and varieties, and was one of the most interesting exhibits of old-fashioned flowering plants that has been seen for a very long time. These Geraniums or, as they are often termed, Cape Pelargoniums are natives, for the most part, of the Cape of Good Hope. Many of the species were imported through the medium of the English Fleet about the year 1795, when it was operating with the Dutch, helping to uphold their supremacy at the Cape. Towards the close of the eighteenth century and early in the nineteenth these plants were most fashionable, and at that time as many as 200 varieties were to be found in this country. Our ancestors were wiser than the present generation in many respects, and in choosing to grow these scented-leaved Geraniums they shewed great foresight, as the plants were easy of cultivation and scented foliage is always a point of value. The Hon. Vicary Gibbs' collection has taken him over thirty years to get together, and I imagine that it would be quite impossible to buy

many of these varieties from nurserymen at the present time.

To an amateur with only a limited amount of spare time and to whom expense is a serious consideration the growing of these *Geraniums* should surely be of more than ordinary interest. The species are very numerous and varied, and although the plants are often impossible to buy, an immense number of species and hybrids are in existence and may be found in all sorts of odd, out of the way corners. Think of the pleasure that may be obtained and the added interest in looking out for these plants in gardens belonging to your friends as well as in the many cottage gardens throughout all parts of the country! Many growers who have just an odd plant or two would be only too pleased to exchange plants or cuttings for other varieties, and in a short time it should be possible to gather together a very choice and interesting collection. During the last year or so these plants have been coming back into favour again and, like the *Streptocarpus*, which came from the same quarter of the globe (South Africa), they do not require great heat, and succeed well in a summer temperature of about 55° to 65°, where plenty of ventilation can be given. In winter, a minimum temperature of 45° down to as low as 40° for the fragrant varieties should be maintained, taking care only just to exclude frost and to allow all the ventilation possible whenever the weather permits. The plants are easily increased by means of cuttings of well ripened wood, which should be struck during August for preference. Some of the varieties are tuberous-rooted and may be propagated from root cuttings, which should be about 1 in. or 1½ ins. long and inserted in sand.

The earliest of these *Pelargoniums* to be introduced into this country would appear to have been *P. triste*, the date of the arrival of this plant being given as 1632. Some of the most interesting include the following: *P. capitatum*, which is largely grown in certain Mediterranean districts by local growers, who distil from the leaves an essential oil which is subsequently used in the manufacture of rose scents; *P. limonium*, lemon *Geranium*, is a garden hybrid with a scent resembling that of balm. There is little doubt that in this case one of its parents was *P. crispum*. *P. crispum* and *P. c. variegatum* have also leaves scented with lemon, while *P. citriodorum* Prince of Orange has small leaves which smell strongly of oranges. *P. rapaceum* Mrs. Kingsley smells of peppermint, and so does *P. tomentosum*, which is rather coarse in foliage with very large leaves. Many scents are included, and among them we have the cinnamon-scented *P. gratum*, the nutmeg-scented variety *P. graveolens*, the filbert-scented *P. Shottesham* Pet, and the delicious almond-scented leaves of *P. Pretty Polly*. A curious species, very seldom met with, is *Geranium gibbosum*, the gouty stalked Crane's-bill. This plant is very distinct in character and has leaves of a shade of sea green, the flowers also being green. The stems are knotty, and will, perhaps, call up unpleasant thoughts among those who are afflicted with either gout or rheumatism, but even they will forgive the plant this failing when they realise that the flowers and leaves possess a delicate fragrance towards the evening. A few other varieties which were shown by the Hon. Vicar of Gibbs included *P. artemisifolium*, *P. ardens*, *P. tetragonum*, *P. Purple Unique*, *P. Westonbirt*, *P. Zermattii*, *P. van Desselii*, *P. Veitchianum* fl. pl. and *P. Moore's Victory*.

If this letter is the means of arousing any interest among other amateurs, the writer will be exceedingly glad, as it seems exceedingly unfortunate that many of the most

interesting and choicest old-fashioned flowers have been so neglected during recent years. —ROBERT W. ASKROFT.

THE HERB LILIES.

THE illustration on this page gives a good idea of the effective use to which these beautiful tuberous-rooted plants (*Alstroemerias*) may be put. In colour the flowers of the different species are almost without rival, with gorgeous tints of orange and pale yellow, red, pink and purple to white. The *Alstroemerias* are among the easiest of plants to grow, and it is surprising that they are not more frequently seen in gardens. Planted at the foot of a sunny wall in a light loamy soil, which may be enriched with well decomposed manure—although this is not essential—they will flourish and increase readily. Here they may be left alone when established, and each June and July they will produce their beautiful flowers in abundance. In cold situations deep planting of the crowns is essential, and it is always advisable to put them from 9 ins. to 1 ft. below the ground-level. Here they are able to withstand

frosts about the same height, but the stems are not so well covered with foliage. The flowers of this species are very beautiful and vary much in colour, and are produced in very large clusters or branching umbels. The four divisions of the flower in some kinds are of a brilliant scarlet red colour marked with purple lines; others are bright rosy pink; in fact, there seems no limit to the various shades produced in seedlings. A charming little plant is *A. pelegria*, which is rather more tender than the other two. It should be protected with litter in the winter, but is well worth the trouble. It grows about 1 ft. to 1½ ins. high and bears clusters of flowers that are white or pale lilac, streaked and suffused with deep rose. The two inner segments are yellow at the base and thickly covered with purple or dark rosy spots. There is also a variety with white flowers.—W. L.

VERONICA RUPESTRIS.

ON page 374 "North Wales" note on "Two Pretty Edge Plants" includes the golden-leaved form of *Veronica rupestris*. I quite agree



A BORDER OF ALSTROEMERIAS.

The Herb Lilies are among the brightest of summer flowers.

frost to a great extent, but in severe winters it is necessary to give a covering of litter for protection. All *Alstroemerias* are readily propagated from seed or division. Self-sown seedlings appear abundantly round about old-established plants, and may be taken up and transplanted to other quarters when necessary. Lifting should be done carefully as soon as the stems have withered. The roots are very brittle and liable to injury and should not be allowed to get dry before replanting. Seed may be sown in the usual way in pots as soon as it is ripe, when it will come up readily, or it may be left till the following spring. Seedlings will flower in the second season after germinating. There are many species, mostly natives of Chili, but the best for general use should include *A. aurantiaca*, which has stems up to 3 ft. high, well clothed with green leaves, and bears clusters of orange yellow flowers in which the two upper flower segments are streaked with red. It is the least variable species. *A. hamantha*

with what he says regarding its merits, but the varietal name is not "Treherne," it should be "Trehane." It came here many years ago from the very interesting gardens of the late Captain Pinwill at Probus in Cornwall, and was named Trehane after his place.—T. SMITH, *Newry*.

ROSE OF SHARON OR ROSE OF JERICHO?

IS it possible your correspondent, "J. B.," Reading, has been confused in the names mentioned above? Rose of Jericho (*Anastatica hieracuntica*) will certainly revive on being placed in water after being kept in a dry state for a considerable time, and it is this peculiarity, no doubt, which your correspondent had in mind and which prompted the enquiry. One can scarcely conceive a member of the *Hypericum* family surviving similar treatment!—H. E. MILLER, *Dewsbury*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—Where bulbs are required for next summer, the question of sowing seeds should be entertained. Draw shallow and rather wide drills 15 ins. apart and sow the seeds thinly, selecting one of the winter varieties, such as Tripoli or Giant Rocca. The plants should remain in the seed-bed until next spring, when they should be transplanted. Winter Onions are showing signs of maturity, and they will require watching should wet weather set in, or they will probably restart into growth. The main crop or spring-sown Onions will continue to grow for some weeks.

Cabbages.—Another sowing of seed should be made, and as a rule it is from this batch that the best beds of Cabbages are obtained. Thin sowing will produce short-jointed sturdy plants, which will be less likely to run to seed in the spring.

Lettuce.—A further sowings of All the Year Round, Continuity and Hardy White should be carried out, and earlier sowings may be thinned, the young plants being set out in lines 1 ft. apart to keep up a supply.

The Flower Garden.

Annuals and Biennials.—During the next few weeks a number of hardy annuals should be sown in the open ground to produce a display of bloom after the spring bedding is over. They may be sown in lines or broadcasted where they are intended to flower, but later on it will be necessary to thin the seedlings so that the remaining plants become strong before the winter sets in. A plant that is becoming very popular is the *Eschscholtzia*, of which there are some quite distinct colours. These if sown as suggested will give an earlier and much finer display than those sown in the spring, likewise the Shirley Poppy, also *Coreopsis*, *Larkspur* and the charming blue *Phacelia campanularia*.

Pinks.—The old-fashioned sweet-scented kinds are always appreciated, and now is a good time to lift and divide them. Each piece should have a few roots attached, and they may be planted in their permanent quarters or in the reserve garden for cutting.

Hedges.—Both Yew and Thorn hedges should be trimmed immediately. Specimen trees, especially Yews and other conifers, should have any undesirable growths removed.

Roses.—Those of the rambler type that have finished flowering may have some of the old wood cut out, and the strong basal shoots of the current season should be made secure to the poles. The shoots should be so arranged that they get plenty of light.

Violets.—Remove all runners as they appear, hoe frequently between the plants, and afford a light dusting of soot. If the weather is dry syringe the foliage each evening to keep down red spider.

The Hardy Fruit Garden.

Summer Pruning.—There is quite a difference of opinion concerning the date at which this operation should be carried out, but much will depend on the season. If it is done too early a lot of new growth is produced, the object being to encourage the basal buds to develop without starting into new growth. Apples and Pears are the chief trees to receive attention, and where they have filled their allotted space the shoots should be cut back to within five leaves of their base. Young specimens should be allowed to develop their main growths, and the pruning should be in accordance with the future welfare of the tree. Pergolas, arches, trees on walls and pyramids need pruning at this season, but standard or orchard trees will not require any attention till the winter. Cherries, Plums and Apricots will not need much pruning, such work being done at intervals during their period of growth. We usually do the summer pruning the second week in August, and so far as one can see it will be about the same time this year. All the prunings should be collected and burnt. If woolly aphid is present, apply methylated spirit or petrol with a small sash tool.

Fruits Under Glass.

Melons.—Plants growing in cold frames are producing a useful crop, and at this time every encouragement should be given to help the fruits to finish. Where the fruits are still swelling a little weak liquid manure will be beneficial or, failing this, a light sprinkling of a reliable fertiliser

may be given and then watered in. All lateral growths should be pinched at an early stage, and some of them may be removed if overcrowding is likely to occur. Syringe the plants about three or four o'clock and close the lights for the night. When the fruits approach maturity set them upon inverted flower-pots, discontinue the spraying and admit more air.

Figs.—If any of the pot trees need repotting, now is a suitable time to carry it out. The chief ingredient in the compost should be good quality fibrous loam to which should be added a sprinkling of old mortar rubble and bone-meal. Make the soil firm and do not overwater.

F. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—Sowing Spinach during the early summer is a hopeless task, as it bolts almost as soon as it appears above ground. However, if sown during the first half of August it will stand, and will prove very serviceable throughout the autumn. A sowing should therefore be made forthwith and another a week hence to furnish autumn supplies.

Saladings.—Transplant or thin recent sowings of Lettuce and make a final sowing for autumn use. It is inadvisable to sow *Cos* varieties at this late date, but one of the larger Cabbage varieties, such as Neapolitan or Tennis Ball, should be sown, also one of the smaller varieties, such as Tom Thumb or Early Ohio. Continue to make small sowings of Radishes and Mustard and Cress, the former every ten days and the latter every week, choosing a cool position in partial shade for this purpose.

The Hardy Fruit Garden.

Summer Pruning.—Those who practise summer pinching will find little cause for summer pruning, but where the former system has not been adopted the latter should now be carried out on Apples, Pears, Sweet Cherries and Apricots, the two former generally claiming most attention. If the operation is carried through much earlier, the basal buds retained are apt to start into growth. Leave spurs about 2 ins. in length, these being again shortened at the winter pruning. It is better to break over the shoots with the aid of the pruning knife than to make a clean cut, as bleeding sometimes ensues when the latter method is adopted. The chief object of this summer pruning is to admit full light to ripen the wood and to enable the leaves to perform their proper functions, upon both of which conditions the fruitfulness of the trees next season largely depends.

Raspberries.—The high winds which prevailed during June played considerable havoc among Raspberries, especially those trained to wires. See that the quarter is cleared of weeds before netting the crop.

Loganberries and their near relatives should have all loose shoots tied in prior to netting them. The wisdom of training this class of plants on trellises will become more apparent when the work of netting the crop has to be taken in hand.

The Flower Garden.

Herbaceous Plants.—See that the tall late-flowering plants, such as *Asters* and *Helianthus*, are sufficiently supported to withstand the September gales, cut away all decayed flowers, and keep the Dutch hoe going among the plants. Do not allow the plants to suffer from lack of water, giving special attention to *Phloxes*, which are very shallow rooters and gross feeders.

Gladioli.—Take care to support these plants as they develop their flower-spikes. Where the plants are in straight lines drive in a few stout stakes and run a line of binder twine along the stretch, to which tie the stems in due course.

Hollyhocks.—Give a final tying to the plants and readjust the ties as necessary. These plants so stretch out that they always drag the ties upwards, making it necessary for the cultivator to slip them up the stake until level or damage will ensue. Both Dahlias and Hollyhocks, being gross feeders, are grateful for occasional weak doses of liquid manure.

Climbers.—Nail or tie in any young growths that are likely to get damaged by winds. Clematises of the Jackmanni type require extra close attention

in this respect. Remove spent blooms as plants go out of flower.

Violas.—Unless the spent blooms are removed at frequent intervals the flowering period is likely to be much curtailed; this is especially the case on light soils. As *Violas* have a preference for cool, moist conditions, attention should be given to watering in droughty seasons.

Lawns should be regularly mown and rolled, and unless the weather proves wet it is best to dispense with the grass box; this, of course, does not apply to tennis courts or where clock golf is played, but the drain that is made upon the grass on those areas will, of course, be made up by top-dressing in due season. Clip all edgings regularly and from time to time "knife" round trees, buildings, vases, etc., surrounded by grass.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Hydrangeas.—Good strong cuttings should be secured during this month. These plants root readily from nodal or internodal cuttings in a close propagating case with slight bottom-heat at command. The cuttings are best inserted singly in small pots, and when well rooted and growing should be shifted into 48-sized pots. At this stage they may still be grown in the cool greenhouse or in cold frames. In any case they should be placed in cold frames for the autumn and winter, keeping the lights off on every possible occasion. Early in the New Year a batch should be introduced to a warm greenhouse, where they should soon start into growth. By propagating at different periods and by growing them in successional batches *Hydrangeas* may be had in flower for quite a long time. Where it is desired to grow large specimens young plants that have finished flowering should be potted on into suitable-sized pots or tubs, and these may be stood outdoors at the bottom of a sheltered wall.

Mesembryanthemums are interesting plants, but many of them are only of interest to the specialist. There are, however, quite a number of tree-growing species that are well worth growing for any cool greenhouse. The most showy are *MM. falciforme*, *coccineum*, *violaceum*, *Brownii*, *auranticum*, *blandum*, *spectabile* and *roseum*. All those mentioned grow and flower very freely. If cuttings are put in at this time, they will make good plants for next year. As they are all of a fleshy, succulent nature, they do not require to be put in a case, but root quite readily if stood on the stage in a cool greenhouse, in which they may be grown all the year round. They may, however, be stood outdoors in a sunny position after they have finished flowering towards the end of July.

Polygala myrtifolia grandiflora is a South African shrubby plant which is to be common in gardens, but is not often seen at the present day. It is easily grown and makes a fine large specimen, although it has the merit of flowering quite freely in its smaller stages. It is easily propagated at this or any time during the summer by means of half-ripened twiggy shoots. They should be firmly potted and will grow well in any good medium loam with the addition of a little fibrous peat and sand. This plant suffers very much from attacks by white fly, which should be kept in check by the use of an approved insecticide.

Punica Granatum var. nana.—In the South at least the ordinary Pomegranate is hardy on warm walls, as also is the variety *nana*. However, this is very seldom seen, which is surprising when one considers how and with what wonderful profusion it produces its brilliant flowers each year. This variety makes an excellent pot plant, and stock may be raised at this time by means of cuttings of half-ripened wood. Place the cutting pots under a bell-glass in a cool house. If the wood is allowed to become too hard, cuttings from outdoors are by no means easy to root successfully. The best results are obtained by having a stock plant indoors. This plant is naturally of a neat bushy habit, and requires little or no stopping. When the plants attain flowering size they should be stood outdoors in a sunny position during the summer.

Lagerstromia indica, sometimes known as the Crepe Plant, is a very handsome flowering shrub, which is seen at its best when it is planted out in a bed or border. It is usually grown in a warm house, although this is not necessary, as it succeeds outdoors in Cornwall when planted against a warm wall. Thus there is no reason why it should not succeed in an ordinary conservatory. During winter this plant should be kept fairly dry at the root. Early in this year

the previous season's wood should be pruned hard back, as flowers are produced at the end of the current year's wood. Cuttings root readily in a propagating case with slight bottom-heat at command.

Eucomis bicolor and *E. punctata* are both hardy in the South in warm, dry borders in front of plant houses. They are, however, excellent plants for the conservatory and greenhouse, as they flower during August and September, when it is by no means easy to get a variety of interesting plants under glass. As they are rather strong-growing bulbs, they require rather large pots. Good specimens may be obtained by growing four or five in a rein. pot. During winter they should be dried off and stored in a cool, dry shed away from frost. In the spring as they start into growth they may be removed to a cool greenhouse, or even stood outdoors at the bottom of a sheltered wall, where they may remain until they come into flower.

Royal Botanic Gardens, Kew. J. COURTS.

ENDIVE AND LETTUCE FOR WINTER AND SPRING

IN nearly every garden there are borders and plots wherein nice batches of these useful salad plants may be grown successfully during the winter months. In the few gardens where these plants prove troublesome in the open border there should not be much difficulty in rearing them in temporary or permanent frames. A judicious selection of varieties will help matters, too.

Two sowings of seeds are advisable. In northern counties about this time and again in the third week in August. In southern the second week in August and the first week in September. The resultant plants will become well established before really adverse weather comes.

The first sowing in the South may be made in shallow drills where the resultant plants are to remain till gathered for use. The second sowing in the South and both the first and the second in the North should be made in boxes or cold frames, and the young plants resulting transplanted once prior to their permanent planting. The Endive should be planted 1ft. apart in drills 14ins. asunder. The Lettuce 10ins. apart in rows 1ft. asunder. These distances permit of the hoe being freely used between the rows and also ensure a free passage of air between them—two essentials to success.

Cultivators favour certain varieties, and succeed well with them in the majority of cases. For the benefit of the inexperienced I will name those I like best—Broad-leaved Batavian Endive, and All the Year Round and Stansted Park Cabbage Lettuce.

Through every stage of growth there should not be any overcrowding, or failure will result. The best way to avoid this is to transplant when the seedlings are tiny and get the permanent planting done directly the plants are fit for it. Where natural adverse conditions obtain, some protection is advisable in the depth of winter, and if ordinary frames are not available some deep boards fixed on edge and covered with old pea-sticks will form a very good shelter. Rough trifany may be used by itself or be placed on the pea-sticks. At the end of several days or a week's frost all covering material should be left on the plants for at least a day and a night after the thaw comes. This course will prove specially beneficial if bright sunshine follows the thaw. But whenever it is possible fully to expose the plants, do so; and avoid placing empty inverted flower-pots on the plants to blanch the leaves, as in the winter-time they would soon rot.

G. G.

FUCHSIAS IN THE FLOWER GARDEN

STANDARD, half-standard and bush-shaped Fuchsias look charming in the flower garden. They are so useful, too, as the plants are suitable for tubs, vases, and, as standards, for the back of long borders and in beds. Old specimens, not required in the greenhouse, may be utilised to good purpose in the flower garden. When well treated they are quite a success in the warmest corner and are, certainly, very well adapted to cool and even partly shaded positions.

Old plants, growing in pots in the greenhouse, may require a little pruning or cutting back of the branches, but nothing should be done to destroy their naturally graceful habit. A gradual hardening will fit the plants for full exposure by the middle of June, and this can be ensured by placing the plants on the north-west side of a wall or fence when the wind blows from the east and on the south-east side when there is a strong south-west wind blowing. In exposed positions it may be advisable to fix a few stakes in the ground and taster wires to them for the due support of the Fuchsias, and, in the case of half-standards and standards, new stakes must be put to the plants themselves before they are finally planted out. In all cases it is advisable to retain specimens in their pots, plunging the latter to their rims in the soil, or in the grass, as the case may be. Well balanced plants look remarkably fine, growing to all appearance in the grass, their pots being neatly plunged.

Both standards and half-standards may be associated judiciously in a large bed, the soil being covered with such plants as *Violas*, *Pansies*, *Heliotrope*, *Begonias* (fibrous and tuberous). In smaller beds half-standards only should be placed and a single specimen, standard or half-standard, in the centre of a small bed.

A border of plants, varying from 1ft. to 2ft. in height, mixed, look charming, wholly filling it, if overcrowding be avoided. Cultivators who wish to purchase plants will find the following sorts quite suitable, namely, *Avalanche*, carmine and violet, double; *Beauty of Cleveland*, double white; *Champion*, red and purple; *Earl of Beaconsfield*, orange; *Lena*, white and mauve, semi-double; *Mariuka*, magenta; *Molesworth*, double white; *Mrs. Ida Noack*, President, red and violet; *President Felix Faure*, violet, double; *Improved Rose of Castile*, and *Swanley Yellow*, fine habit.

HANTS.

BOOKS

*Delphiniums and How to Excel with Them.**

"A Practical Booklet on the Propagation, Cultivation and Exhibition of these Popular and Beautiful Flowers." The above words appear on the front cover of this very handy and useful booklet, and they are a true index to the contents. Mr. A. J. Macselt, the author, is evidently fond of the flower he writes about in so charming a manner. It is a timely work on a flower that is increasingly finding favour with the public every year, and should command a ready sale. When a particular kind of plant is "taken up" by amateur cultivators generally, the latter never miss a chance of profiting by the experience of expert growers. The author first deals with the evolution and development of the modern *Delphinium*, the varying types and groups, and then helps his readers to some purpose by giving

* "*Delphiniums and How to Excel with Them*," by A. J. Macselt. Published at the Offices of *Country Life*, Limited, 20, Tavistock Street, Covent Garden, W.C.2; 9d. net, by post 11d.

them information about the plant in the garden and for exhibition. These two chapters, together with the one on propagation, will probably be read and re-read with interest and profit by all who become possessed of the booklet. There are also chapters on the "Ills and Enemies of *Delphiniums*" and a brief one at the end of the book on the *Delphinium* as a pot plant, as a cut flower, and some notes on "annual *Delphiniums*." Writers usually deal with the propagation of a plant in one of the first chapters of a book. In this one, however, propagation is the subject of the fifth chapter. It is only a matter of position, as the instructions under this head are to the point and will prove most helpful to the cultivator. The booklet is well written and the information conveyed in a concise manner.—GEORGE GARNER.

Answers to Correspondents FLOWER GARDEN.

LILIES UNSATISFACTORY (F. W. H., Lydney-on-Severn).—Probably the Lilies have not rooted well and the foliage is suffering accordingly. *Brugmansia* may well be planted in May (assuming it is to be grown outdoors) in our correspondent's district.

TREES AND SHRUBS.

VARIOUS QUESTIONS (X. Y. Z., Prittlewell).—*Camphorosma* is a genus of *Chenopodiaceae*, consisting of small shrubs or herbs, chiefly natives of the saline steppes of Central Asia, though the one that our correspondent has (*C. monspeliaca*) is a native of the shores of the Mediterranean. It is not a very hardy plant, and should be grown at the foot of a hot south wall in very well drained sandy soil where protection can be given in winter when required. Seeds of trees and shrubs are obtainable from Messrs. Vilmorin, Andrieux and Co., 4, Quai de la Mégisserie, Paris. *Pseudolarix Fortunei* is a native of China, and should be quite hardy in our correspondent's district. It thrives under similar conditions to that suitable for *Larches*, and may be expected to do quite well in his soil. It is very well known that certain shrubs are hardier near the coast than further inland. All those named by our correspondent (*Styrax*, *Eucallonia lanceolata*, *Akokia quinata*, *Viburnum Carlesii* and *Eucryphia pinnatifolia*) are hardy in the London district and are thriving in the open at Kew. When the cultivation of shrubs on the borderline of hardiness is proposed, positions sheltered from the north and east are usually selected, shelter belts of quick-growing trees and shrubs being planted if required. On large estates suitable clearings are often made in the woodland, while walls and fences facing south and west are made full use of.

FRUIT GARDEN.

INSECTS ON CURRANTS (H. P., Leicester).—The creatures on the Currants are not attacking them, but having fed upon green flies are now in their chrysalis state and will soon become ladybirds. On no account kill them.

MISCELLANEOUS.

CATERPILLARS FOR IDENTIFICATION ("Pash")—The caterpillars are those of the Poplar Hawk moth. If they are in such abundance as to prove detrimental to the Poplar tree (which is unusual), the tree may be sprayed with lead arsenate.

NAMES OF PLANTS.—R. B. B. of E.—*Salvia officinalis* variegata.—G. W. W., W. Wimbledon.—*Campanula carpatica*, native of Eastern Europe.

CATALOGUES RECEIVED.

Messrs. Laxton Brothers, Bedford: Strawberries and Small Fruits.
Messrs. Dobbie and Co., Limited, Edinburgh: Roses, Carnations, Pansies, *Violas*, etc.
Messrs. Stewart and Co., 13, So. St. Andrew Street, Edinburgh: Bulbs.

FOREIGN.

J. B. Van der Schoot, Hillegom, Holland: Bulbs.
Messrs. Ant. Roozen and Son, Overveen, near Haarlem, Holland: Bulbs, Herbaceous Plants, Shrubs, etc.

FORTHCOMING EVENTS.

August 6.—Warwick Horticultural Society's Exhibition. —Heathfield and District Horticultural Society's Exhibition. —Chippenham Horticultural Society's Exhibition.

August 7.—Northampton Municipal Horticultural Society's Exhibition (two days). —Leicester Abbey Park Flower Show (two days).

August 8.—Royal Horticultural Society's Meeting.

W. WELLS, Jun., Hardy Plant Nurseries, MERSTHAM, SURREY.

Now is the time to plant *Pyrethrum* and *Iris*. Below we are offering some remarkably fine sets which should be of great advantage to all garden lovers.

PYRETHRUM.—Single.

A. M. Kelway, rose
Alden, crimson
Beatrice Kelway, rosy red
Beauty of Stapleford, pink
Comet, crimson scarlet
Decoy, rosy scarlet
Gen. French, dark red
Hamlet, rose
Jubilee, crimson
Mrs. B. Brown, brilliant red
Pink Pearl, pink
Standard, bright rose

One of each,

8/-

Double.

Captain Nares, reddish crimson
J. N. Twerdy, crimson
La Belle Blanche, white
La Vestale, flesh
Mdm. Patti, carmine rose
Mdm. Munier, flesh pink
Madeleine, intense pink
Melton, crimson
Ne Plus Ultra, pink
Queen Mary, apple blossom pink
Virgo, sulphur
White Aster, white

One of each,

9/-

IRIS (Germanica).

Emilia, dark purple
Florentina, dark purple
Gracchus, yellow and mahogany
Her Majesty, soft rose
Gen. de Witte, violet and orange
Lorely, light yellow
Mdm. Chereau, white veined violet
Mrs. Allan Grey, silvery mauve
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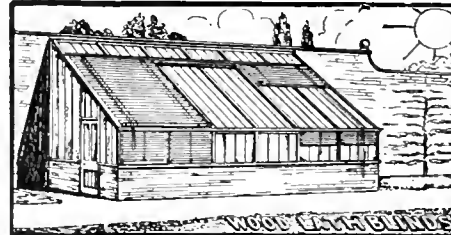
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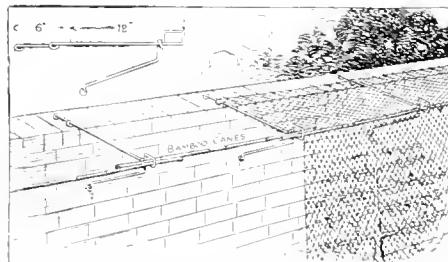
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No. 2699.—VOL. LXXXVII.]

[AUGUST 11, 1923.]

THE GENUS ESCALLONIA

DURING the last few years the Escallonias have increased considerably in popularity. This may be traced to two reasons, the first being that the bushes have done very much better in the open during the mild weather of recent winters, and what is more important for permanent culture, the hardiest species, *E. Philippiana*, has been freely used as a seed parent, giving us a number of hardy hybrids, the best known of which include *langleyensis*, *exoniensis*, Donard Seedling and *edinensis*. We may have to visit the gardens of the south and west to see the beautiful species *EE. macrantha*, *rubra*, *floribunda*, *montevidensis*, *punctata* and others thriving in the open. There are, however, many positions, in all but the most exposed gardens, where Escallonias can be usefully and successfully planted.

Coming from a land of sunshine, as South America is, one important consideration is to select sunny positions for planting. This ensures the better ripening of the wood to stand the frosts of winter. From short-jointed, well ripened wood we also look for more and better flowers. It is also neither necessary nor desirable for the soil to be liberally manured. This would give luxuriant growth, but it is of little use unless well ripened.

In favoured gardens of the South and West, including seaside districts, Escallonias are among the most attractive and beautiful evergreen shrubs for hedges. For localities where the more tender species require protection, the shelter of a south or west wall or fence occurs as the first choice. For such positions they are very suitable. Though when planted in the open Escallonias are free-growing bushes, they may be freely pruned and readily trained as wall climbers. Another position where they may be happily associated with other plants is the shrubby border which is sheltered from the north and east. Here again some pruning each year will be necessary, for the Escallonias make more growth annually than many shrubs, even in poor soils.

So far little has been said about the hardier species and hybrids for lawn beds and massing in pleasure grounds in open positions. With the solitary

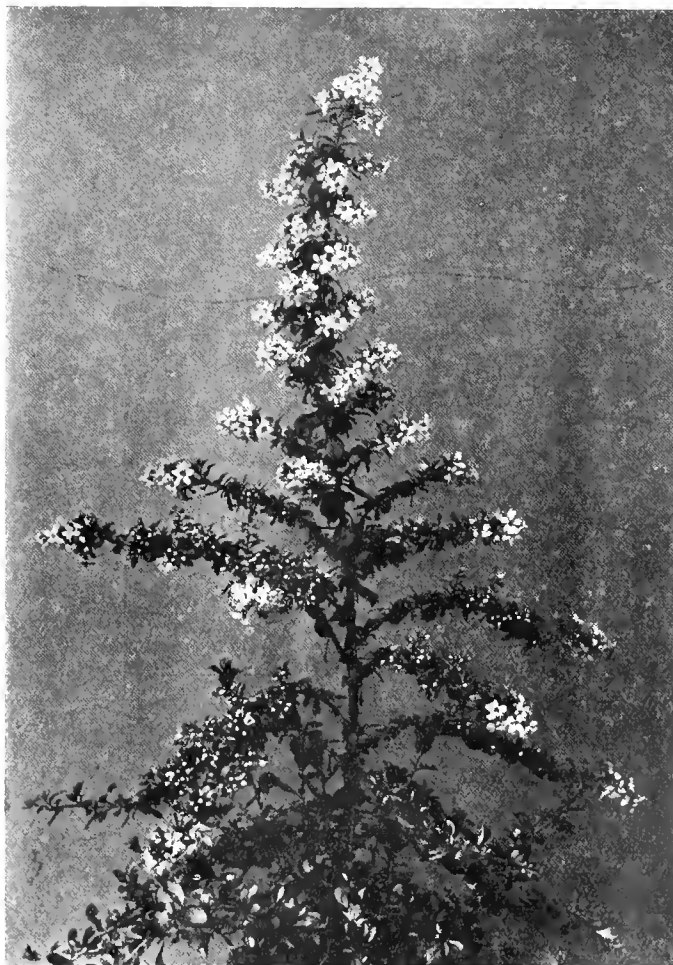
exception of the deciduous *E. Philippiana* all are of a free-branching evergreen habit, forming attractive single specimens or groups of plants. Another important consideration is the long period of flowering of several species and hybrids. In mild winters it is usual to see flowers on *EE. macrantha*, *exoniensis* and others in mid-winter.

Escallonias are readily increased by cuttings made of the half-ripened wood of the young shoots in August and September. These root in sandy soil in a frame or under a handlight. If circumstances permit it is quite worth while

cultivating the young plants in pots for two years, when they should be large enough to plant in their permanent positions. The first winter, accommodate the newly potted young plants in a cold frame or unheated greenhouse, following which the pots may be plunged in the ground in a sheltered position until the plants are required for planting in the flowering positions.

Seeds also provide a ready means of increase, but as Escallonias cross freely the seedlings sometimes vary considerably, though there is always the possibility of raising something which is an improvement on the parent plant.

Enough has already been said of the character of *E. Philippiana*, a native of Valdivia, to convey some idea of its value as a hardy deciduous shrub for borders and lawn beds. The flowering season is June and July, when the bushes up to 5ft. to 6ft. or more in height are clothed with small, dark green leaves and an abundance of small starry white blossoms. *E. langleyensis* has for its parents *E. Philippiana* and *E. punctata*, and is, perhaps, the most beautiful of all Escallonias for general planting in gardens. As the name suggests it was raised in the Langley Nursery of Messrs. Veitch about 1893. *E. edinensis* is a hybrid of the same parents raised at the Edinburgh Botanic Gardens, and is not quite so spreading in habit as the former. The habit of the bushes is graceful, being light and semi-pendent. The small, dark green leaves are a pleasing contrast to the rich deep rose blossoms which are freely borne from June until autumn. In addition to its value as a bush in the open, where it grows 8ft. or more in height, *E. langleyensis* makes a pleasing plant for clothing porches and arbours. *E. exoniensis* is reputed to be a chance hybrid which occurred in the Exeter Nursery of Messrs. Robert Veitch. The suggested parents are *EE. pterocladon* and *rubra*. In the garden it is one of the tallest growing Escallonias, a height of 10ft. to 20ft., being by no means uncommon. The rose-tinted blossoms are produced often throughout the summer and autumn. A very promising recent hybrid is Donard Seedling, which with *EE. Philippiana* and *langleyensis* as the



ESCALLONIA DONARD SEEDLING.
A very promising new hybrid.

parents should be among the hardiest of the family. The pink and white flowers are borne during the cooler part of the summer and autumn.

A series of hybrids emanating from Edinburgh between *E. pterocladon* and *rubra*, have been named *E. Balfourii*. They vary in colour from pink to rosy red. We have them growing in the open at Kew and as evergreen wall-coverings with pleasing results. The name of *E. Ingrami* suggests that this old hybrid *Escallonia* may have been raised at Belvoir Castle some years ago. Both flowers and foliage are smaller than *E. macrantha*, from which it is presumed to be a seedling, possibly crossed with *E. punctata*.

A selection of the most attractive species should

include *E. pterocladon*, which some growers class among the hardiest of the family. It was first introduced from Patagonia by William Lobb in 1817. The white flowers are produced from June to early September. A year earlier (1846) William Lobb also introduced *E. macrantha* from the Island of Chiloe. This plant is, perhaps, the most valued of all evergreen flowering shrubs in gardens with a mild climate and by the sea coast, where it is seldom out of flower. Few evergreens rival this shrub as an effective wall or fence covering. Another beautiful wall shrub is *E. punctata*, which produces its rich crimson blossoms from summer to autumn.

This species and its near ally, *E. rubra*, are both natives of Chile. *E. rubra* is generally found to be

a better plant for shrub borders, being rather harder. The flowers are a shade or two lighter in colour.

For walls *E. floribunda* and its near ally *E. montevidensis* are useful late-summer and autumn-flowering evergreens. Both have showy white blossoms. Another white-flowered species which does well in the open woodland at Kew is *E. illinita*. Bushes of this species and *E. viscosa*, also with white flowers, are growing in close proximity. It is interesting sometimes to hear the remarks of visitors with a strong sense of smell. The odour from the leaves of these two *Escallonias* is not offensive, though suggestive of a pesty in the vicinity.

A. O.

TRANSPLANT EVERGREENS EARLY!

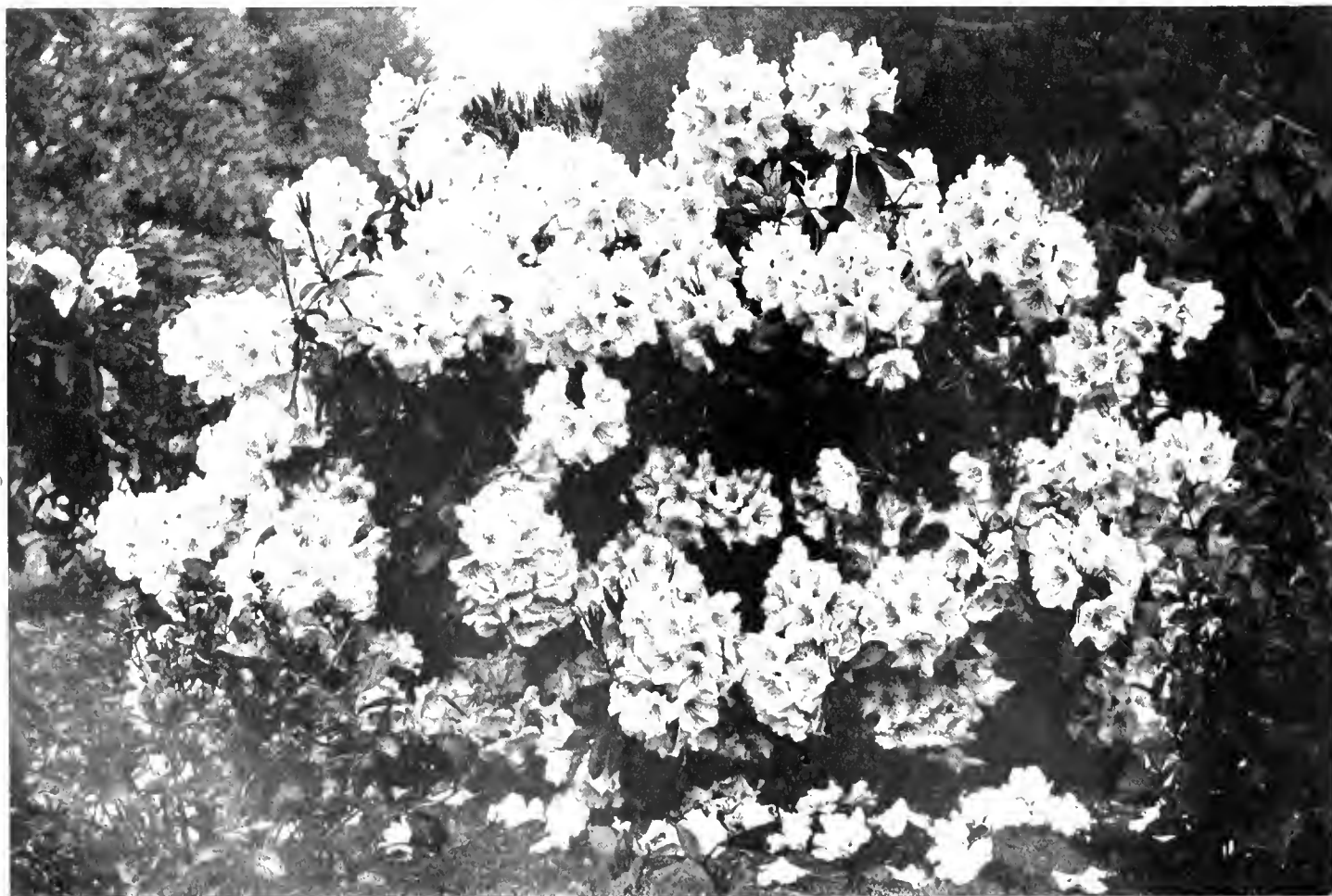
THE advent of September should be marked unless exceptionally torrid conditions prevail by the transplantation of every kind of evergreen tree or shrub in need of removal or required in a new position. The writer is strongly of opinion that September is a much better month for such removal than May, though, with care, very successful transplantation can admittedly be carried out in late spring. It is only fair, however, to state that many competent authorities still have a preference for spring planting—at any rate for certain classes of evergreens.

There is just this to be said about the planting of evergreen species and varieties on the border-line

of hardiness that by putting them out they will almost certainly have been in pots—in spring, one practically insures their life until another winter, when they will be a little larger and, on that account, it may be a little fitter to withstand an English winter. This can only apply, however, to a limited number of species. The ordinary range of hybrid *Rhododendron* is hardy enough, so are Yew and Box, for example, while if the Hollies are by no means so hardy as many people seem to think, they are certainly hardy enough to transplant most satisfactorily in early autumn.

The rapidity with which transplanted evergreens emit new roots in very early autumn may easily be tested; that these new roots will continue to

elongate for some time goes without saying and, of course, the plants take up root-growth again as soon as the ground begins to warm up in spring. Given a warm spring and a rather "drippy" summer, little difference will be noticeable as regards growth between shrubs planted in early autumn and those got in in late spring. Given adverse weather conditions, however, the difference is most marked, so that if part of a batch of plants be moved in early autumn and the remainder in spring, one would imagine the following summer that they had been obtained from quite different sources. Every effort, then, should now be made to get the ground ready for early autumn planting.



THE SPLENDID RHODODENDRON PINK PEARL.
Specimen Rhododendrons transplant readily in early autumn.

For young plants of Holly, Laurel, Box and Yew, Rhododendron, Kalmia and what not, it is desirable to arrange removal while the ground is warm; for specimen trees which have not been recently transplanted it is essential. It may be said without extravagance that it is safer to transplant such at midsummer than in mid-winter. Even large specimen Azaleas—deciduous be-

noted—have been successfully transplanted in June. So essential is ground warmth that, given large pieces to transplant and every prospect of, at any rate, a short spell of wet weather, it is often wise to take time by the forelock and carry out the removal during the summer months. We have seen Common Spruce 20ft. tall successfully transplanted at the end of June.

THE BULB ORDER

II.—Daffodils

IF, as I fear, I have left out all mention of either the ancient Polyanthus-Narcissus or the modern Poetaz varieties in my list of what I suggested as useful bulbs to buy for growing in pots, I have made a stupid error for which I can only say, *peccavi*, and proceed at once to make good. Why! if only one can get over the very strong aroma of the old bunch-flowered Daffodils, no one who is uncertain about their being competent to manage bulbs in pots or bowls should omit just a few, at any rate, from their order. One cannot treat them, perhaps, in quite such a cavalierly manner as we may treat that curious tuber—*Sauromatum guttatum*—which needs no soil, but only to be placed on the mantelpiece and it will flower; but they are very easy to manage and anyone who can grow anything in a pot can thing grow these.

Maestro and Mont Cenis with white perianths, and Newton and Bathurst (late), with yellow perianths, are all good. For those who do not care for the strong scent of the old Polyanthus varieties, there are the modern Poetaz. These have taller stems and fewer flowers in their bunches. My favourites are Orange Blossom (white, with large orange cup), Admiration (yellow), and Aspasia (white, with yellow eye.) If for the sake of symmetry I mention a second variety with a yellow perianth, it will be Orange Cup which has a nicely frilled orange cup or eye. As I am on the subject of Daffodils for pots, I may as well continue it. My particular slogan I must repeat once more. "Make use of red cups and red edges for growing under glass." The beautiful red of the eye of Firetail and the delightful orange red of the cup of Bernardino are very transitory delights out of doors unless their blooms are shaded; under glass we have a much longer time in which to enjoy them and under these conditions they need no shade unless in those exceptional years when our friend the sun gives us more of his company than is his wont. Before any other I press the claims of Lady Moore. There is a freshness about the wide yellow cup, with its well defined red edge that sets it apart as something quite out of the ordinary. Blackwell, with its orange red cup is excellent. So is Lucifer, with its still redder cup; although you might never think it, if you judged the flower from the outward appearance of its white perianth. "Things are not always what they seem." It is the opportunity for indulging in red eyes. Ruby, Messina, Ormolu and Acme are four great favourites but I would have to bargain hard to get the four for 10s. 6d. There would be only one of each, I know, but who really wants more if it is the individual flower you wish to enjoy? Why not try a small collection of real beauties, just one of each, and grow them in either 4in. or 5in. pots? But what about the man in the street who wants a few pots for decoration at almost something-for-nothing prices? This is how I would fit him out. Golden Spur, Madame de Graaff, Victoria, Lucifer, Fairy Queen and Aspasia.

I now pass to varieties to buy for out of doors. Let me suppose I had no Daffodils of any sort in my garden and that to make a start my choice had

to be limited to three. I would go to old and well tried varieties and select Emperor, Barrii conspicuus and Poeticus recurvus. This does not mean that I would brush aside all the beautiful



DELIGHTFUL FOR POTS, THE ORANGE CUPPED BERNARDINO.

creations of the last quarter of a century did I wish to add some good varieties to those that I already had. I would then think about Lord Roberts as a yellow trumpet and Duke of Bedford as a bicolor trumpet and Philippe de Vilmorin as a white trumpet. This last named won its spurs in the bank on the way to the Rock Garden at Wisley, where my good friend Mr. Wright used to tell me it attracted an immense amount of attention from visitors. Among the larger cups (*Incomparabilis*) it would be Lady Margaret Boscawen and Steadfast; and if the soil were light, Lucifer and White-well. In the Barrii, with their smaller cups, certainly Seagull, possibly Sunrise, Miss Willmott, Incognita and Firebrand. The giant Leedsii are a splendid type to go in for, as now we have them with longer stems. The pick of the bunch is with

many The Lawn, but it is expensive as yet. The series raised by Mr. Duncan Pearson are now fairly low in price and a trial of Norah Pearson, Lowdham Beauty or Mrs. J. L. Franklin might be useful. My mind is soon made up about the small cupped Leedsii, White Lady, Evangeline, and if it can be obtained, Countess of Southesk. Two Triandrus hybrids are cheap enough to buy by the dozen, e.g., Queen of Spain and J. T. Bennett-Pöe. The Poetaz section gives us many good garden plants. Those who have never tried them might well include one or two in their 1923 order. They are quite hardy—at least all those raised by Van der Schoot—and I would suggest Elvira, Jaune à Merveille and Klondyke. He is a bold man who ventures to pick out Poets. So many are on the market. Different firms have their particular specialities. No one should be without the true

old "Sweet Nancy" (*Poeticus recurvus*). If it were the "latest out" of our raisers, everyone would be mad to have it. After this I would order Sonata, Matthew Arnold and Virgil, as they are different in build and do not all bloom at quite the same time. Now for a few odds and ends. How about the diminutive *juncifolius*? I have heard of a practical joke which was played upon the judges at a famous Cornish show, when some dark *Viola gracilis* flowers were bunched up and scented so as to pass for single Violets. If the blooms of *Narcissus juncifolius* were put at the ends of the beheaded stalks of the single Bachelor's Buttons it is possible that they might pass for Buttercups. So far, however, from their stems being tall they seldom exceed 4ins. The places for these little fellows is either a cosy nook in the rock garden or in small pans in an alpine house. As an extreme contrast in their flowers, some cyclamineus might be bought at the same time. It likes semi-shade, so a shady place ought to be found for it. The finest

colony I ever saw was in semi-woodland in the late Mr. Andrew Kingsmill's garden at Harrow-on-the-Weald. It is excellent in small 4in. pots in an alpine house.

Doubles rather leave me cold. I except the pretty creamy Argent on account of the loose mixed-up arrangements of its perianth and corona. I would couple Volcano (a jazz mixture of red and yellow) with it, but half a guinea or thereabouts is a bit stiff for a double variety. Campenelle Jonquils (*odorus rugulosus*) bring my suggestions to an end. Not long since I was asked if the variety was hardy. As far as I know, it is hardy here at White-well, but never having taken any particular notice of it as it used to grow where it liked, I should not like to say that it is in very severe winters. It is a gem for cutting.

JOSEPH JACOB.

RANDOM NOTES FROM AN AUGUST GARDEN

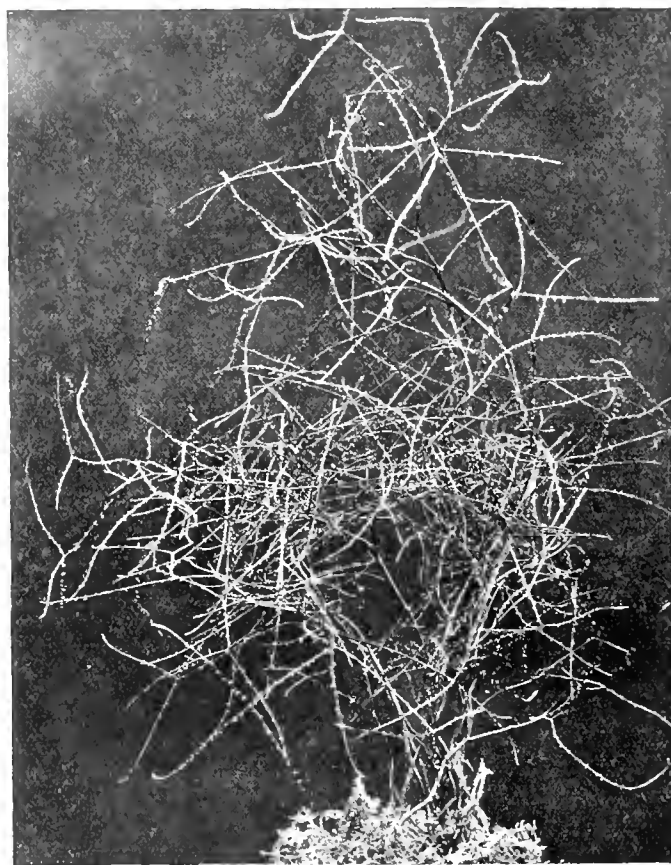
ONE of the pleasantest objects to dwell upon during the hot and droughty days of the last few weeks has been a colony of *Linaria pallida* var. *alba*. This has all the beauty of foliage and size of bloom that distinguishes the lavender type, but its lovely white flowers, with their yellow noses and delicate fragrance, give a cool and refreshing touch to the elegant and sappy leafage. Like the typical plant, this white form is not quite so aggressive as most of its kind, but even if it were more so its merits are sufficiently alluring to claim for it some shady, safe and stony corner over and through which it may range at its own sweet will. *L. requitriloba*, the tiniest of all, should also be found a congenial home and even suffered if need be, and another good and later bloomer of this family is *L. origanifolia*. So far this last has shown no signs of that ungovernable lust for trespass so characteristic of the creeping *Toadflaxes*. On the contrary, it forms a humble, semi-prostrate little mass of slender stems and rounded, rather hairy leaves, and bears in August a profusion of clear lilac flowers which are very nearly blue in evening light.

Very delightful about the drier slopes and ledges of the rock garden just now are those *Harebells*, which, though they all bear unmistakable traces of *Campanula rotundifolia* in their habits, forms and colours, owe much of their variety to the influence of some of the cultivated species. These pretty, nameless straws are not only very lovely in themselves, but they crop up and lend their colour and grace to many spots that would otherwise be rather dismal and never intrude. Some *Campanulas* of this class have, of course, been named, and they deserve it, one or two of the whites being singularly beautiful. A *carpatia* × *rotundifolia* hybrid, whose name I have for the moment forgotten, is a really choice variety, and among other dwarf *Campanulas* to which one owes much these later days are *C. haylodgensis*, *Profusion*, *Norman Grove*, and the alpine species, *arvatica*.

In a warm, dark corner there is a little bushing, *Felicia abyssinica*, with narrow, dark green foliage a few inches above which stands on slender, erect stems an array of composite flowers, yellow-centred and with very fine, hair-like rays in a clear lavender. *Felicia* has not yet proved her staying power during a real wintery test, and it is possible that the time may come when *Dolores* will be engraved on her label instead. However, she is one of the happiest plants to-day, and I

wonder it she is the same individual which one remembers having cosseted years ago under the still prettier and appropriate name of *Felicia tenella*.

Hereabouts, where even the "bone-drys" are beginning to suffer the virtuous discomforts of total abstinence, one regret has to be chronicled. *Sedum corulescens*, which used to arrive every summer with a haze of azure, has failed us this time, and there is nothing more in annuals beyond a few dwarf *Eschscholtzias* (*caespitosa* and *tennifolia*) and some stray roots of *Leptosiphons* to take its accustomed place about the spring plants which are "resting." One perennial *Sedum*, however, among others in this sun-baked desert insists on notice, and that is *S. murale*. This is not an uncommon plant, but its crimson purple foliage and true heads of starry flowers in dazzling



THE PRACTICALLY LEAFLESS "WAIT-A-BIT," *RUBUS AUSTRALIS* PAUPERATUS.

rose madder and white, held erect on 8 in. stems, make a cheerful mass of colour. *S. murale* is said to be a form of *S. album* which is ramping in a carpet of pinky white foam elsewhere a useful old plant that will resist like a lichen the hottest sun and most deadly drought.

Though most of the *Erodiums* have had their day, *E. chamaedryoides* (Reichardt), perhaps the most precious of all its charming race, still carries on with extraordinary persistence, and the new rose coloured form, not to be outdone, is hardly less brightly adorned with its larger, prettily veined blossoms. *Geraniums cinereum* and *argentum*, which have been in bloom all summer, rejoice in the hottest and driest places of the rock garden, and will continue to give us their choice

little bluish white flowers for a long while yet. Much more cautious is their relation, *Pelargonium Endlicherianum*, which hesitates to open its rosy crimson blooms until August is here. Though not difficult in any free, warm soil or limestone crevice, this alpine seems to be still uncommon in gardens, but it is well worthy of a fuller recognition for its own sake and also because it is the only *Pelargonium* known to me which appears to be tolerably hardy. The leafage is much like that of the common or garden *Geranium*, but of course rather smaller (the plant being about 1 ft. high) and fragrant.

Another uncommon little thing on this part of the rock garden is *Rosa Roulettii*, said to be the midget of its noble tribe, and one can hardly conceive any Rose being much smaller. Though *R. Roulettii*, which I am told comes from the Pyrenees, is reputed to attain the stature of 6 ins., the specimen referred to has not yet reached 3 ins., and if the howls of the air will never roost in the branches thereof *R. Roulettii* insists on emphasising the fact that it is not a deception by producing a long succession of little double pink Roses, each about the size of a sixpence.

Very different is the case of *Rubus australis pauperatus*, which might be anything from a bundle of rusty wire to the jiggumbob of some elfin gardener. This plant has given up growing foliage, contenting itself with the stems and ribs of leaves only, and these it has armed with rows of fierce little teeth, the result being a confusion of naked, springy, prickly, rectangular branches which seem to exist for no definite object beyond that of looking spidery and exciting the interest of the curious.

By way of contrast there is a peculiar attraction about the soft and squat rosettes of *Teucrium pyrenaica*, a gentle, mouse-like appeal for recognition, if not pity, and this impression is never so irresistible as it is in these later days when the downy cushions swell in the August sunshine, and out of their scalloped leaves peep the rows of chubby little flowers in cream and lavender. It would be hard to deal other than tenderly with this pathetically humble creature. A more showy affair is the silvery-leaved, golden-flowered *T. aureum*. This is really a choice plant, but it is not blest with a hardiness sufficient always to carry it through a wet winter. More reliable than this latter is *T. ackermerus*, also a white-leaved shrublet whose foliage serves so well as a foil for the terminal whorls of bright rosy-crimson flowers which appear in July and later.

Allied to the *Teucriums* are the *Betonias*, but I do not know that any of these possess commendable virtues outside the herb garden, save the variety *superba* of *B. grandiflora*, which is a showy woodland or mixed border plant for late summer in sun or shade. *Stachys corsica*, another of these multitudinous labiates, is cheerful as a carpet for a very dry place during these droughty days, and *S. coccinea* is a handsome Mexican species which will be a blaze of red throughout the later months. Then there are several *Scutellarias* and *Micromeris* (*Satureia*), which can also be put to good use in warm, sunny spots.

To *Saponaria* and *Silene* we owe not a little at this season, for the former gives us *S. ocyroides* in white and various shades between pink and a full-blooded crimson, all good and hearty doers under most trying conditions. Then there is much to be said for the double *S. officinalis*, one of the very few hedgerow plants that indulge in double flowers and show no signs of reversion to type. This can be a rampant spreader and is not a plant choice enough for the border, but in the open woodland or margin of shrubbery its bold heads of clear, rose-pink flowers can be very effective throughout the "back-end."

N. WALES.

DWARF CAMPANULAS FOR THE ROCK GARDEN

(Continued from page 401.)

C. MORLITANA is somewhat difficult to grow in this country, but under conditions which suit some of the *Androsaces* of the *Aretia* group it will thrive with a little trouble. It should be planted in a crevice with a southern exposure in soil of a calcareous nature. It is a pretty little plant from the Southern Tyrol, where it is found at elevations between 2,000ft. and 4,000ft., in the fissures of rocks. The leaves of the base are orbicular-cordate and stalked, while those of the stems are smaller and ovate. It is hairy all over, with stems bearing single, large, violet-coloured flowers in June and July.

C. MOLLIS is a white, woolly-leaved little perennial from Spain, forming tufts of small obovate

leaves, with trailing stems, terminating with three or four large, pale purple, bell-shaped flowers in July. It is a plant for a hot, sunny ledge or crevice. Like many other *Campanulas* this is a favourite food for slugs, so a zinc collar should be used for its protection.

C. PIREA.—This is one of the rarer species, the true plant is seldom seen in gardens. It is a native of the Maritime Alps and Northern Italy where it grows in calcareous rocks. It has a thick fleshy rootstock, soft woolly leaves and leafy stems bearing heads of pale yellow flowers. More interesting than attractive, it requires to be grown in a sunny crevice, coming into flower in August and lasting for a considerable time.



THE DAINTY LITTLE CAMPANULA PUSILLA.



LIKE MINIATURE GATLING GUNS, CAMPANULA ZOYSII.

C. PORTENSCHLAGIANA (syn. *C. unralis*).—A most useful rock plant from Dalmatia, closely allied to *C. garganica*, but differing in its stoloniferous habit. It is of tufted growth, with small, cordate, dentate leaves, and flourishes either in sun or shade, soon covering a good space. The drooping violet flowers are bell-shaped and produced on trailing branching stems in great protusion during the summer months. There are two distinct varieties in cultivation, the large-flowered one from Bavaria being known as *C. Portenschlagiana* var. *major*. It is one of the most easily grown species and readily increased by division.

C. PULLA.—A beautiful little species of stoloniferous habit, forming quite a tuft of small rounded leaves. The stems are one-flowered, the flowers being bell-shaped, drooping and of a rich violet colour. It is a native of the Alps of Austria, usually found growing in mountain debris, and requires a soil rich in humus, but with plenty of broken stones to give perfect drainage. It flowers in July. There is a variety with lilac-coloured flowers known as *C. pulla* var. *lilacina* of the same habit and quite as free.

C. PULLOIDES is a larger-growing plant, with much larger, deep violet flowers, probably a cross with *carpatica*, as is *C. "G. F. Wilson."* The latter is a tree-growing plant one form of which has dark green leaves and deep violet flowers, while the other has yellowish foliage.

C. PUSILLA.—A pretty and most variable species found throughout the Alps in calcareous regions, growing in the mountain debris. Very near *C. caespitosa* in habit, it is often confused with that species. It is one of the easiest to grow, as well as one of the prettiest of the dwarf *Campanulas*, flowering from June to September, flourishing in sun or shade. The flowers are bell-shaped, borne on stems 2ins. to 4ins. high, and varying in colour from blue to lilac and pure white. A sandy loam, with plenty of broken stones intermixed, is suitable for this plant, in which it will spread quickly and increase by means of stolons and self-sown seeds. *C. pusilla* "Miss Willmott" is a pale blue or lilac form and there are numerous other named varieties of different shades of colour.

C. RAINERI.—From the Eastern Alps this is a charming little plant, with flowers varying in colour from deep blue to pale lilac. It grows only a few inches in height, with sturdy stems, thick tomentose leaves and large, erect flowers in July. It is a plant for moraine conditions with plenty of grit in the soil and thorough drainage, in full sun if there is plenty of moisture, but in half shade if conditions are drier. There is also a form in gardens with less erect flowers and greener foliage, probably a hybrid with *C. carpatica*. Although inferior to the type it is well worth growing.

C. ROTUNDFOLIA.—A well known native plant, that is also distributed throughout Europe and Siberia. It forms tufts of leaves of which only those at the base are rounded, from which arise the branching stems, bearing a profusion of bell-shaped flowers in various shades of colour, from violet-blue to white during the whole of the spring and summer. There are numerous named varieties grown in gardens, of which the most distinct is var. *soldanelliflora*, with double flowers. It reproduces itself from self-sown seed (not the double form) and is very useful for the larger rock garden.

C. SAXIFRAGA.—A handsome rock plant from the Caucasus and Armenia, with a thick fleshy rootstock, a rosette of lanceolate leaves that are pubescent on the margins, and short, one-flowered stems about 3ins. high. The flowers are large open funnel-shaped and rich violet in colour, usually produced in July. It is one of the kinds which dislike lime, but thrives in well drained gritty soil and is readily increased by means of seeds or cuttings.

Slugs are very fond of the leaves and are generally the cause of failure with this plant.

C. SCHNEUCHZERI.—Very near *linifolia*, distinguished chiefly by its one-flowered stems and larger flowers; a higher alpine form.

C. SPECIOSA.—A beautiful plant from the Pyrenees, usually found in limestone debris at the foot of rocky clefts. It has the root system of *C. Allionii*, spreading by means of underground stolons, with tufts of narrow undulated leaves that are covered with hairs. It grows about 1 ft. high, with branching stems, and large, drooping, bell-shaped flowers, varying in colour from violet blue to pure white. It requires moraine-like conditions in full sun, with plenty of moisture. The flowers are produced in July.

C. SPICATA.—A biennial from the Southern Alps and Carpathians, with downy and roughly haired leaves and stems 1 ft. or more high. The purplish flowers are borne on long, erect spikes in summer. It is easily raised from seed and grows well on sunny ledges.

C. STANSFIELDI.—A charming low-growing perennial in the way of *C. Waldsteiniana*, but with larger and darker violet-purple coloured flowers. It is of garden origin, growing about 4 ins. high, with numerous leafy stems, and open, bell-shaped, drooping flowers in July.

C. STEVENI.—From the Caucasus, this is more of a pasture-loving plant, with mats of dark green foliage, the leaves of which are broader at the apex. The blue flowers are produced on stems up to 1 ft. in height. It is easily grown in half-shady positions in rich soil.

C. THYRSOIDES.—A plant of the limestone Alps up to 6,000 ft. elevation, growing in rocky fissures and heaps of debris. Of biennial habit, with narrow, downy leaves in the form of a rosette, from which arise the stout stems up to 1 ft. high. The pale yellow flowers are borne in dense spikes on the upper half of the stems in June and July. It produces plenty of seeds and is easily raised in spring. The seedlings should be planted out in autumn in a well-drained sunny position.

C. TOMENTOSA.—A biennial species from Greece, where it is found growing in rocky crevices and fissures in full sun. The silvery, downy leaves of the first year's growth are produced in rosettes, from which arise in the second year the trailing stems, bearing the pale lavender flowers. It is subject to damp and should be planted in vertical positions where absolute drainage is secured.

C. TOMMASINIANA.—A pretty species from the Dolomites, growing about 9 ins. to 1 ft. in height, with branched, erect, wiry stems, narrow leaves and long, narrow, bell-shaped, lilac-blue flowers in July. It is sometimes given as a synonym or variety of *C. Waldsteiniana*, but it quite distinct from that plant.

C. TRIDENTATA.—Closely allied to *C. Saxifraga*, from which it is distinguished by its wider, oblong, spatulate leaves, that are ciliated and tipped with three or more crenulate teeth. The flowers are blue and borne on stems 3 ins. or 4 ins. long in July. A native of the Caucasus.

C. WALDSTEINIANA (syn. *C. flexuosa*).—A choice little plant from the Alps of Dalmatia and Croatia, where it is found in the fissures of rocks. It is of erect growth, making compact little bushes 3 ins. to 4 ins. high, with narrow leaves on wiry stems, terminating in erect, open, bell-shaped flowers of a blue-violet colour. Grows well on a sunny ledge in sandy loam and is easily propagated by means of division, or raised from seeds sown in spring. *C. Wockii* is evidently a hybrid between this species and *C. Tommasiniana*, being quite intermediate in character.

C. ZOYSII.—A rare and beautiful little plant, only growing 2 ins. high, making neat little "bushes," with ovate green leaves. The flowers are small,

usually in threes, fringed or hairy inside, light blue in colour, with the corolla somewhat contracted. It requires moraine treatment, and flowers in

June and July. A native of the Eastern Alps, generally growing in the debris of calcareous rocks at about 7,000 ft. elevation. W. I.

LILIES IN THE GARDEN

(Continued from page 395.)

THERE are many places in the herbaceous border where groups can be introduced with wonderful effect, and in this position Lilies have the advantage that most of them prefer to grow mingled with other plants that will afford shade to their roots. Pæonies and Lilies make a fine combination, especially if the later-flowering Lilies are chosen. Pæonies flower early, and when they are over their foliage gradually deepens in colour to warm ruddy browns, bronzes and rich greens flooded with varying tints. Any of the orange-coloured Lilies rising from such foliage gain much in effect from the combination and more from the shade that the overhanging Pæony foliage casts upon the Lily roots. One remarkably successful planting comes to my mind of a broad pergola-covered walk over which trailed Vines, Honeysuckles, Roses, Clematises and Passion Flowers flanked by borders of Pæonies. Early in the year the front edges of these borders were bright with Crocuses, *Iris reticulata* and Anemones. Later, the Pæonies formed banks of rich colour and, later still, there rose masses of *Lilium croceum*, *candidum* and *tigrinum splendens*. There were other Lilies also, in smaller groups, but these three varieties formed the main plantings. The value of the Madonna Lily planted against the columns of a pergola has been illustrated so often that it is well known.

It is, however, in the half-shade of thin woodland where leafy deposits have enriched the soil, in

the open spaces between Rhododendrons and Azaleas, Heather plantings and kindred shrubs, and in other similar positions that most of the Lilies love to dwell. In borders on the shady side of a wall, among Ferns, Epimediums and such dwarf foliage plants, many of them thrive admirably, and there is something in the very thought of Lilies and Ferns that strikes a note of delicious harmony.

To the would-be grower of Lilies who has had little experience of them there is a very simple rule that can be followed with advantage. Stem-rooting Lilies require shade at the base. Many species produce two sets of roots, one at the bottom of the bulb, the other at the base of the stem just where it emerges from the bulb. These are known as stem-rooting varieties. Without sticking too closely to scientific accuracy, it can be broadly asserted that these two sets of roots perform different functions. Those at the base of the bulb feed and keep it in good, healthy growing condition, and start into growth long before the stem appears. The roots that appear at the base of the stem are primarily responsible for the development of the stem and flowers. There is evidence of this in the fact that a slug may eat off the stem in its young condition, and the bulb to all appearance will lie dormant for a season and yet all the time it is going on growing underground unperceived, and at the end of the season will turn up as good or a better bulb than those in the same position that have flowered. But, if for any



THE WELL BELOVED MADONNA LILY, *LILIUM CANDIDUM*.

reason, one of this class is unable to produce stem roots, or if they are injured in any way by being dried up through lack of shade, for instance, the stem and flower suffers. Hence both sets of roots are equally important, and if the bottom ones are provided for at the time of planting by suitable selection or preparation of the soil and the upper ones by arranging shade for them during the growing season, success is ensured.

If, however, the stem roots are watched and when they appear above the ground a light mulching of soil, leaf-mould and sand, and in some cases a little old manure, is applied so that they can take hold of it, the result will be a great gain to the strength of the *whole plant*; because, obviously, if the stem roots fail to function, the plant will extract all its nutriment through those at the bottom of the bulb, which will thus have a double burden placed upon them and be unable to maintain both bulb and flower-stem in full vigour. The probabilities are that the bulb will be the sufferer and will become so weakened that the whole plant will succumb to the first attack on its constitution it receives.

More than half the failures to grow Lilies in the garden can be attributed without hesitation to the failure of these stem roots to perform their natural function, and this is, almost without exception, due to neglect to provide for their simple requirements.

Another point upon which the grower of Lilies for the first time will, naturally, seek information is the depth at which they should be planted. This, again, is to some extent a matter of the variety, but as a general rule it will be safe to adopt the principle of planting them about three times the depth of the bulb. Very few of the stem-rooting Lilies should be planted less than 4 ins. or 6 ins. deep, and certainly none of the stronger-growing sorts should be nearer the surface than this, especially if they are autumn planted, as it gives them a better protection against frost. Another advantage in deep planting lies in the fact that the stem roots will be produced, in all probability, below the surface of the ground, and therefore be in a position to undertake their duties as soon as they commence to grow. Some growers advocate leaving the hole in which the bulb is planted partially filled in until the stem has commenced to grow and the upper roots have appeared. The theory is, I believe, that the stem is not likely to be crippled in its young state when emerging from the bulb, and also that it compels the bulb to make its bottom roots first. There may be something in this, although I do not think it is worth much consideration. There can, however, be no objection to such a course providing the necessary attention is given *immediately* it is required.

Having planted your bulbs, remember one cardinal point: No Lily ever likes to be dry at the root. Some, like the Bog Lilies I have mentioned, love to be permanently damp. The others, although they may prefer varying degrees of moisture, will none of them succeed under drought conditions. Stagnant, wet soil they do not like, but even during the winter, their resting season, they would rather be damp than dry. See therefore that during the growing season they have sufficient moisture to maintain healthy, vigorous growth, and do not forget that if you neglect this the growth may appear to be quite healthy above ground, but it is probably being maintained at the expense of the bulb below. *Lilium auratum* has been known to flower well and strongly, and virtually eat its own bulb in doing so.

In the article last week I indicated the broad principles that must be adopted by the would-be Lily grower, but purposely omitted one

important point in writing of the various soil conditions likely to be met with in the English garden. It is, however, one that is bound to arise and, before going on to the various sections of the genus in detail, must be dealt with. The statement has frequently been made that Lilies do not like lime. In the main this is true, but lest it should deter those who accept it, as literally applied to the whole genus, from trying to grow *any* Lilies in a limy soil, it needs a considerable amount of qualification. The fact is that some of the most popular and also the most beautiful species thrive in soil containing a considerable proportion of lime, and a very large number of the remainder can be quite successfully cultivated by a little careful attention being paid to the actual areas in which they are to be grown.

The expenditure of time and cash involved in such preparations is, compared with that necessary for doing the same thing for some of the lime-hating shrubs, very small indeed. If you plant shrubs, such as the *Rhododendrons*, that object to lime, you know that to whatever extent you prepare the position for them, if they succeed as they should, they will eventually outgrow it, and that the time will come when, unless further drastic operations are undertaken, the shrubs will suffer. The root action of Lilies is, however, much more local and the areas it is required to plant always very much smaller than in the case of shrubs. A square yard will accommodate a very fine group of Lilies, and the original preparation will avail longer than it would be wise to leave the bulbs undisturbed. But this special preparation is only necessary in the case of some of them. In the case of others lime may even be introduced into and around the space for the purpose of protection against slugs, and is recommended in some instances for the purpose of preventing the soil turning sour. It must, however, not be forgotten that there are some species that must be protected from contact with lime in any form. To avoid repetition I shall indicate later those that do not object to lime.

Before leaving this question of cultivation there is just one more remark regarding the preparation of soil that I should like to make. No harm will ever be done, and often much good will accrue from the introduction of charcoal, or wood ashes, or both, into the soil.

Now there is another question that will invariably occur to the garden lover who is contemplating the introduction of Lilies into the garden. Are they hardy? The answer must depend entirely on what the enquirer understands by the word hardy. They are more hardy than a Potato. They are much more hardy than most of the

Gladoli. With a few exceptions they will succeed under the same conditions that you would give to a Darwin Tulip or a Hyacinth. Protected with a moderate covering of earth most Potatoes will



STRONG SPIKES OF THE YELLOW AND CLARET LILIAM
MONADELPHUM SZOVITZIANUM.

survive an ordinary English winter and make new growth with the advent of spring, but a considerable number of them would rot if the earth around them were frozen. Well, with few exceptions, that is of those varieties that come from warm climates, Lilies are hardier than that. Actual frost does not affect them severely if they are planted properly, and have a sufficient covering of earth over them, and the required covering is no more than will be beneficial to them in other ways. Stagnant moisture around the bulbs, particularly in winter-time, will injure them. So important is this that it is worth reiterating that the very first essential for successful culture is thorough drainage. There are a few sorts that should never be planted out of doors.

It is risky to enumerate those that, on account of their delicacy of constitution or for other reasons, are unsuitable for outdoor culture, because conditions vary so much in Britain that what are considered hardy in one county are hopeless in another a hundred miles distant. *Lilium sulphureum* is an example. This, one of the finest of all the trumpet Lilies, flowers so late that in none but the most favoured districts can it develop its flowers to their full beauty before the early autumn chill ruins the buds. And yet I have known it, with moderate shelter, in an exposed, bleak position near the East Coast develop some marvellous flowers when the autumn was favourable. I have also seen it spotted with brown, bruised,

and jockeying in the cold autumn rains, with a feeling of sadness that so much beauty should be wasted because of the absurd fascination the growing of tender plants out of doors has for some people. Success one year in five may be enough to repay some people for failure during the other four, but it is sinning against bountiful nature to withhold just the slight protection of a cold greenhouse, which is all that is required to ensure success.

When we consider the widely distributed districts from which the Lilies now in cultivation have been collected, it is surprising that so many of them can be grown with comparative ease in English gardens. From the Pacific slopes of California westwards to Japan, throughout the southern half of the temperate zone, the majority have been found, some few hailing from hill districts south of this line, and one or two have existed north of it, beyond the reach of records. Most varieties have come from districts that experience greater extremes of heat and cold than is common here. Hence the conditions obtaining with us are generally suitable for successful culture, saving only the excessive wet, combined with low temperature we sometimes experience. On the whole, most of them enjoy a moist climate, but they do not like cold moisture; they will however stand this better than intense, dry heat. It is not often in our "island story" we have had to bemoan this latter condition.

Now, with regard to the varieties that should form a nucleus of a collection that can be extended as experience and the desire grow. Of course, no English garden is complete without the oldest of all known species, *Lilium candidum*, or as it is popularly known, the Madonna Lily. Its stately purity has shed its fragrance in the gardens of peasant, poet and peer ever since the garden in England became that quiet retired place, shut off from the intrusion of the busy world without, and closed to the inquisitive gaze of the restless multitude that makes "the world." Just a green hedge, the fragrance of Madonna Lilies and Lavender, and the world beyond recedes to infinity, and we are carried back in thought to the stately days of the distant past, to monastery enclosures, and the pleasures of the fair. I do not think there is a flower in any garden, be it old or new that exercises quite the potent influence on the senses that the Madonna Lily does. To-day, just as it did several hundred years ago, according to a gardener writing in a time when all the S's were F's in printing, "A vast cluster of pure snowy white flowers, that wheresoever situated it distinguishes itself singularly ornamental, and diffuses a fragrant odour all around." It grows almost anywhere. In the old book referred to above it is recommended, together with the Martagon Lily, for "shady and close places the most eligible, for they will thrive under trees, and often in small gardens in the midst of buildings, in towns and cities." In light, starved soils, mungled with the roots of old hedges, on strong rich soil in the full sun, in soils impregnated with lime, and in places where time has removed the upper surface of the earth and worn it down to lime-tree soils, even in places where lime has to be added for the cultivation of most things, you will find the Madonna Lily thriving.

Like most things, however, the better the conditions the better the results. When the term Madonna was first applied to this Lily I do not know, but in most old gardening books it is simply called the "White Lily." There are several varieties in cultivation, and some in books that may or may not exist. One with purple stripes, another with variegated leaves, a sickly looking thing at the best, but which was evidently very popular at one time, as it was recommended to be "disposed alternately with the common white

Lily whose leaves are entirely green, that they will exhibit a more striking variety." There is also a double form that has lost its fragrance, and of the single there are two or more forms, only one of which is worth growing because it is in every way the best, and is known as the broad-petalled variety. The narrow petalled or star-shaped variety is quite common, and I think it must be of this that an ancestor of mine wrote some two hundred years ago as the "dependent white Constantinople Lily" and even then he did not think more of it than we do to-day.

Lilium candidum is best planted soon after it has finished flowering. August is not too early, but the planting can be extended well into the spring, if necessary, providing the bulbs have been kept sound, firm and fresh. The soundest policy is, however, to adopt the principle, "If 'twere done, then 'twere well 'twere done quickly."

The next two popular Lilies to be introduced to the garden should be *Lilium croceum* (Orange Lily) and *Martagon* (Turk's Cap Lily). The latter embraces various species and varieties, but of *croceum*, so far as the modern garden is concerned, there appears to be only one. With a bulb that seeds so freely we might have expected all sorts

of variations, through hybridising or natural phenomena—and, indeed, there do appear to be inferior or superior forms in cultivation—but no one has taken the trouble to perpetuate even the best of them as a selected form that I have heard of. It is also a curious fact that whereas Parkinson described *Lilium croceum* (anreum) as the "Golden Lily," Abercrombie in "The Universal Botanist," who wrote nearly 200 years later, omits it altogether, describing the "Orange Lily" as *bulbiterum*, of which he mentions four varieties.

To Abercrombie the Orange Lily was certainly *bulbiterum*, a different, and to the gardener, inferior plant to the true *croceum*, but then he describes a *Lilium superbum* that bears no resemblance to the *superbum* of to-day, although his *canadense* is correct enough.

Lilium croceum does not mind lime, will grow, like *candidum*, almost anywhere, and is often seen to better advantage in an old cottage garden than anywhere else. It should be planted as soon as the bulbs are ripe in the early autumn, but with this also the planting can be delayed if circumstances demand it. Once established it is best left alone for a few years.

GEO. DILLISTONE.

(To be continued.)

THE RAMONDIAS

THE genus *Ramondia* is a small one, but nevertheless it contains one of the most charming plants for the rock garden, being well adapted for planting in vertical fissures. The species referred

to is *R. pyrenaica*, which forms large flat rosettes of dark green leaves and produces in June a wealth of violet-purple flowers with a rich orange centre borne on stems 3 ins. or 4 ins. high. There is a white form known as *alba* and a rose-coloured variety named *rosea*. *R. serbica* has brighter-coloured leaves, and the flowers are a pleasing shade of purplish mauve.

Just now the seed on the *Ramondias* is ripe, and if collected and sown at once it germinates readily. It is, however, a slow method, as the plants make little progress during the early stages; but if the grower can wait two or three years, then seed sowing should be adopted. The seed is very minute, and it may be sown on pots or pans containing a mixture of peat and sandy loam. No covering is needed, just give the pot a sharp tap when sowing

is completed. The pots should then be placed in a shady cold frame and never allowed to become dry. When water is required the pots should be placed in a vessel containing enough water to reach the rims, the method



AMONG THE MOST STRIKING OF ALPINE PLANTS, RAMONDIA PYRENAICA.

of watering least likely to disturb the seeds. When the seedlings are large enough they should be pricked off in boxes or planted singly in small pots and kept going in cold frames until they are large enough to take their place in the rock garden.

Another mode of propagation is by leaf-cuttings. The leaves are broken off close to the plant and then inserted in moist, sandy soil and kept in a close hand-light until rooted. The *Ranondias* can also be increased by division. A number of young growths are often found around the base of an old plant, and these should be carefully removed. They will soon form nice plants if potted off singly and grown in a frame protected from strong sunlight.

When planted in the rock garden, a shady situation where the surroundings are cool and moist should be chosen. Vertical fissures or crevices between the rocks are ideal for them where they are planted on their sides in such a way that no moisture remains for any length of time around the close rosettes. If they are planted so that water accumulates in the crowns the foliage will decay, and often the plant will die. A peaty soil with a little sharp sand will suit them, and, when planting, care must be taken to ram the compost to prevent any vacant spaces or holes between the plants and rock. During the summer months the *Ranondias* enjoy plenty of water at the roots and, if we experience a dry spell of weather watering will be necessary. By making a few holes some distance behind the plants it will be an easy matter to get moisture to the roots. A north or east aspect should be selected for *Ranondias*. T. W. B.

THE OLYMPIC MULLEIN

THOUGH I have known and grown this biennial off and on for more years than I care to count, it is only this year that I have fully realised the stateliness and beauty of the plant; and I note with something like gratitude the distinction a few plants of it lend to a garden which is at present, in too many respects, a drought-afflicted desert. The plants in question are self-sown and have arranged themselves, relatively to each other, at various levels, as if they had some vegetable instinct for picturesque effect. Some of them have appropriated points of vantage among Thymes and Sedums on a set of rough steps leading from one level to another, not an ideal location for 4ft. Mulleins, but I had not the heart to dislodge them, and so there they stay. Under suitable conditions *Verbascum olympicum* grows to a height of 6ft. or 7ft., and some of mine are of that height, or near it. The stem in well grown plants is concealed for some 3ft. or 4ft. from the ground by handsome dock-shaped leaves, rough in texture, dark green, and intricately veined, which clasp the stem and fall one over another in successive tiers, not so close as the tiles on a roof, but after that fashion, the leaves of one tier alternating with those above and below. So copiously, indeed, is the plant furnished with foliage that it is difficult to see the stem even when you part the leaves to look for it. Regarded therefore merely as a foliage plant, this Mullein is strikingly bold and handsome, but what makes it a thing by itself is the branched candlestick of bloom which rises up in due time from the leaf-stock to give the plant its finish. From the thick cluster of leaves where the inflorescence begins, a central column shoots up to a height varying from 18ins. in small specimens, to 40ins. in the highest measured, along the length of which central rod, from bottom to top, are set,

so thickly as almost to touch, clusters of bloom-buds, the number of buds in the several clusters varying, with the strength of the plant, from five to perhaps a dozen. On any given day, in any

nothing in common with the dull yellow of gold, and that any candlestick which had its branches set at the Mullein angle of divergence would be bound to spill a deal of wax. Further, the



THE CANDELABRA-LIKE VERBASCUM OLYMPICUM.

given cluster, only one bud, or at most two, will expand into the full flower, a shallow platter of clear cennothera yellow, with orange anthers, measuring an inch and a half or so across. Thus you have a column of some 30ins. or 40ins. set with pretty buttercup saucers from bottom to top, the blooms, however, being sufficiently spaced to prevent that too solid appearance which seems a defect in the inflorescence of some Mulleins. If, however, the height of the central column were all, *V. olympicum* would have to yield place to *V. pannosum*; for near by the Olympics I find a flowering column of *pannosum* which measures a little over 50ins. But then the flower stem of *V. pannosum* is a solitary and somewhat too solid column, whereas in the Olympic Mullein there spring from the base of the centre shaft, at a somewhat acute angle, a forest of subsidiary rods (five, six, sometimes as many as eleven) each of more than respectable height, but always shorter by a head than the central rod and, like it, clothed loosely and gracefully throughout their length with soft-petalled buttercups. In this noble Mullein, therefore, at its best, you have a flower-head of exceptional size, of beautifully symmetrical design, and of a pure and rich colour—a many branched golden candlestick I was going to call it, but remember in time that the clear colour of the Mullein has

comparison would be a doubtful compliment to the flower, for it the branched candlestick of the Temple is faithfully represented in the Arch of Titus, as no doubt it is, the Mullein, in point of artistry at least, leaves that masterpiece of goldsmith work far behind.

In spite of July heats, possibly because of them, these Mulleins keep on, day after day, putting forth fresh flowers, while other biennials, such as Canterbury Bells, which give infinitely more trouble, flower themselves dead almost before you have had time to note their colours. My Mulleins began to shew colour a month ago, and, though now somewhat past their best, are still gay, their reserve of unexpanded buds giving every hope of yet another month of bloom. In gardening you must not be too ready to trust appearance. With *Verbascums*, at least, things are not always what they seem. You go out of an evening and regard your Mullein sadly, thinking that now at length, for sure, its glory is as good as gone, to experience, however, next morning all the relief of a respite, when you find the flower shafts are gay as ever, a flutter of fresh blossom along their whole length. Of course, the time comes when the clusters of bloom buds do begin to "peter out," and the distances between the flowers to lengthen; but the waning process takes many days, the plants

meanwhile retaining much of their beauty, until at last you have merely columns of closely set seed capsules, each containing an infinity of small seeds packed as carefully and with as watchful an eye to economy of space as if the welfare of the universe depended on Mullein seed. How many million millions of seeds my own dozen or so of plants may produce, should the harvest be good, is a question, of course, beyond my arithmetical, but sufficient, at least, I should think, if judiciously spaced, to plant the waste places of the two

Americas, if not of the two worlds—which contingency, were it only possible, how much more beautiful than it is now would the world then be. Futile speculation apart, however, it is a comfort to think that the automatic arrangements of this notable Mullein for securing its own well-being and the continuance of its race ensure at least for the garden where they grow, and that without any trouble to the owner, biennial generations of the plant for as many years as he is likely to require them.

SOMERS.

CORRESPONDENCE

PLANTING BEARDED IRISES.

THERE have been discussions in *THE GARDEN* as to the best time for planting Bearded Flag Irises, and some have advocated spring planting—in March or early April—while others maintain that the best time is in July and August after the flowering is over and before the autumn root

However, I do not want to reopen this discussion as to the best time of replanting, for no one with any experience of Irises would recommend planting them in the winter months. Yet in a Dutch bulb catalogue just received, under the heading of Rhizomatous (large Bearded Flag) Irises, it is announced that "the whole of these Irises can only be sent

their own propagation and transplanting—and though they must execute an order as desired, they should urge their customers to order early, so that the plants can be delivered in July or August, instead of encouraging the bad practice of late planting by refusing to send out Irises except from "October to April." My advice, therefore, is to order from firms who will deliver in August, and refuse to buy at all unless the plants will be delivered by mid-September at the latest. If for any special reason one wishes to plant in the spring, one must be prepared for the risk of some losses should the season be wet, and blame neither the grower nor the constitution of the Iris.—A. J. BLISS.

ROSA HUGONIS.

I HAVE a fine tree of this which was given to me by Sir Harry Veitch soon after its introduction. It is some 10 ft. high and as much through, and has been a thing of beauty since the second year after planting. Last year there must have been thousands of blooms upon it and it was quite as full of buds this year, but when the blooms were half developed in May, we had frosts which checked them and the greater part never opened. The land where this tree is planted is strong clay so that it is evident that this fine Rose will succeed on practically all soils, as your correspondent "North Wales" vouches for its well-doing on very light and even rocky soils. The pity is that some people plant this and *R. Moyesii* in ordinary rose beds, for which they are entirely unsuitable.—A. H. PEARSON, *Lowdham*.

TRITELEIAS.

I THINK the enclosed excellent picture of *Triteleia uniflora violacea* in the rock garden at Hallingbury, taken by that admirable garden photographer, Mr. R. A. Malby, may be of interest to many readers who only know the *Triteleia* as a rather inconspicuous and decidedly uninteresting little bulbous plant. The form illustrated is the rather more deeply coloured violacea, but even the typical *T. uniflora*, given a sunny corner and left undisturbed, will provide generous masses of milky white blossoms, which are very pleasantly scented.—N. H. P.

FOXGLOVE SUTTON'S PRIMROSE GIANT.

WE are interested in your correspondent "Somers" remarks on Foxgloves, published in our issue of July 21, especially with reference to our strain, Sutton's Primrose Giant. This was originally sent us by a customer in India a good many years ago now, and it certainly is not *Digitalis lutea* or *D. grandiflora*, but seems to be identical with *D. purpurea*, except in its colour. It comes perfectly true from seed and is a very attractive plant for border or wild garden. It is very difficult to get fertile hybrids of *Digitalis*. We raised a fine strawberry-red self-coloured one some time ago, but it would not give seed.—SUTTON AND SONS.

ON HANDLING CUT GLADIOLI.

OPENING Gladiolus spikes in the shade modifies the colouring. Bright shades and tints become delicate flushings and shadings, while delicate tints are "thinned" to the faintest tinges of colour or even become white. This is well known to experienced growers. In the case of hybrids producing intense shades of violet, purple, crimson and scarlet, as well as yellow and other bright colours, it is desirable that the brilliant colouring be preserved when the spikes are cut for decorative purposes. To ensure this result, place the vases in the early morning sun for an hour or two daily, preferably after renovation and renewal



TRITELEIA UNIFLORA VIOLACEA IN THE ROCK GARDEN AT HALLINGBURY.

growth begins. My own experience is that when they can be replanted at once, or within a short time of lifting, Irises may, in a good season, be planted in the spring without harm, but, if the weather is bad in April and May, are always more liable to be attacked by rot than August plantings. When, however, the plants have to be out of the ground for some time (as must be the case when bought from the grower), which may be from a week to three weeks, then the right time and the only safe time for planting is in July and early August, when the old roots have nearly finished their work and the new roots are not yet starting. The actual best time depends on the weather and soil conditions. The rhizomes are also at this time fully ripe and can be dried off for packing, not only without harm, but probably with some benefit, since in our climate Irises seldom, if ever, get the drying off that they do in their natural habitat. If an Iris has to travel for any length of time in a closed box, it must be packed dry or it will surely rot more or less.

out from October until April." And this is, I believe, the usual practice, not only of the Dutch, but of some English firms also. It is this practice that I wish to protest against, as it is calculated to do great harm. Though some of the plants sent out at such a time (October or later) may pull through and eventually recover (in about a year), from this unnatural treatment, it is very likely that many will succumb, or, any way, in their enfeebled condition, be liable to get crippled with rot, and be any thing but a satisfaction to the buyers.

Many correspondents, chiefly from America, have written to me regarding the bad condition in which their plants have arrived and sometimes complaining of the total loss of many plants through rot. In practically all cases the plants were sent in late autumn or in the spring. Such experiences are likely seriously to affect the popularity of the Iris. No doubt many, though inexperienced, send their orders late, or specially desire to have them sent in the spring. But the growers at least do know better—they do not wait till October to do

of water. As it takes about three days after cutting to bring the spikes into blooming condition, this should be allowed for in advance of the date of intended use.

One of the causes of the popularity of the *Gladiolus* as a decorative flower is the fact (Mr. Gibson notwithstanding), that it has no perfume. There are few flowers used for decorative purposes that are not distasteful to someone—particularly in closed rooms—either on account of personal preference or painful associations. When the pollen proves irritating to the tissues of the respiratory organs, as in the case of hay fever subjects, the anthers may easily be pinched out during the daily renovation, when the faded florets are also removed. This removal of the anthers is desirable in the highly coloured types referred to, where the shed pollen dulls the brilliancy of the petals on which it falls.—H.

PLANTS WITH LEGENDS.

I SHOULD like to thank J. P. (page 387) for helping me with some legends, and wonder if he knows two delightful little books, "Flower Legends," by M. C. Carey, published by Pearson, Limited; the other by Bertha P. Standen, published by Gay and Hancock. I am now busy getting the garden ready and where there are several varieties of a plant I intend getting two or three varieties so as to have a longer flowering season. Then there will be the labelling, with story printed on each label, so that the garden will be a greater pleasure to children.—AN OLD SUBSCRIBER.

THREE TREES IN ONE.

I ENCLOSE a photograph of a remarkable tree, or rather collection of trees. A fine specimen of the Common English Oak has two other trees growing upon it. In the centre is a Mountain Ash or Rowan (*Pyrus Aucuparia*), with several stems 20ft. high, the strongest of which is 6ins. thick. On the right of the picture is to be seen a Common



THE STRAIGHT SMOOTH GROWTH OF ROWAN AT CENTRE TOP; THE BIRCH TO THE RIGHT.

Birch which, owing to its slender habit of growth, is in a rather recumbent position; the photograph was taken on May 24 and the foliage of the Oak was not so much developed as the leaves of the other two trees. The seeds of the two subsidiary trees had no doubt been deposited on the Oak by birds and germinated among the decayed matter in the forks of the limbs of the Oak and most likely they derive their support from the sap of the Oak. The Oak is probably over 100 years old, having a bole 5ft. through; the other two trees growing thereon are of something like twenty-five years growth. The tree is growing at Fencote, Hatfield, near Leominster.—J. T. F.

LILIUM TESTACEUM.

THE note by "Claremont" in your issue of July 7, page 349, regarding *L. testaceum* proved interesting to me, for around the town of Camden, Maine, on the shores of Penobscot Bay, where I happen to be staying for a few days this latter end of July, several colonies of this beautiful Lily have been observed in bloom. In front of my bedroom window, in a border facing east and quite close to the sea are several spikes of flower about 5ft. tall, bearing from three to five flowers. If any misapprehension as to its hardiness exists this can be dispelled by the fact that here the glass frequently falls to 18° or 24° below zero, Fahr., during the winter. The protection afforded by snow cannot be relied upon, varying in some winters from only a few inches to about 3ft. in others. The plant appears to produce better flowers and foliage here during dry summers than if the summer happens to be a wet one. The fragrance is delightful and there seems to be no reason why this charming Lily should not find a place in every collection.—WM. H. JUDD, *Arnold Arboretum, Jamaica Plain, Mass.*

LILIUM GIGANTEUM IN THE EAST OF SCOTLAND.

NICHOLSON says of this King of Lilies, "hardy only in favoured spots in the South of England." It is long since I proved this statement to be fallacious, having met with single specimens of it in flower in various localities in Scotland. It was only the other day, however, that I got the treat of my life, when I came upon well flowered groups of it in the Wild Garden of the Edinburgh Royal Botanic Garden. Here, it is luxuriating under the partial shade of trees, where there is apparently abundance of moisture. It is the fact of these two conditions in combination that is evidently the secret of success with this noble flower. Lovers of Lilies, please take note.—CALEDONIA.

BAD LABELLING.

IN your issue dated July 21, page 372, under the heading "New and Rare Plants," you say "Carnation (Border) Mrs. Groom" was given an award presumably on account of its uncommon colouring. Being interested in Border Carnations, I nearly got trapped in the same manner, but noticing that the award was not by the Carnation Society made me look closer and I found a small, faint P in front of the word Border. My suspicions were confirmed on seeing Messrs. Groom's exhibit that this was a specimen of the Cross-bred Perpetual Border type, which up to the present has not been recognised by the N.C.S., for what reason, I suppose, they alone can say. Had "Mrs. Groom" been a Border variety I should certainly have purchased plants, not on account, as you suggest, of its uncommon colour, but for the perfect scent of the blooms, not a very usual addition to the type

exhibited. I have frequently heard remarks being passed as to the way the new plant cards are written and this evidently misled such experts as yourselves.—G. STANBRIDGE.

ROSE ALBERIC BARBIER.

IN one of the issues of THE GARDEN [last year you mentioned Albéric Barbier as a good Rose, but that it did not flower a second time. I enclose



A FINE WEeping STANDARD OF ROSE ALBERIC BARBIER.

a photograph of that Rose taken recently. It flowered fully as well last year at this time, and again in the autumn and has been admired by many gardeners. This year it is *not* blighted and smothered with aphids, as is the case with red Roses, such as American Pillar, Excelsa, etc. Is that because it has such glossy and healthy foliage?—EDWARD BLUNDELL, *Cirencester.*

[The more robust the constitution of a plant the better it resists disease and insect pests; Albéric Barbier has a magnificent constitution. Though William Allen Richardson has beautiful glossy foliage, aphides seem very partial to it.—ED.]

THE MARSH GENTIAN AND A RELATIVE.

A PILGRIMAGE made a few days ago to a certain Welsh moor in a remote corner of which the Marsh Gentian (*G. Pneumonanthe*) flourishes, resulted in discovering that this much-discussed plant was not yet visible among the stubby heather in which it grows. I was, however, fully recompensed by coming across a great quantity of a very dwarf, large-flowered form of *Erythraea*—probably *E. littoralis*. This, at any rate, is what I took it to be. The short, peaty turf was dappled with the bunchy heads of pretty waxen flowers in a most beautiful rose-pink with yellow anthers. The individual blooms were about ½ in. across and they were crowded together on single or branched stems in dense pads of colour which were most striking in contrast with the tawny, sun-burned grass. These flowers, moreover, were most deliciously fragrant, and the fleshy, triangular leaves, more than ½ in. across, were not less green and succulent on the thin, sun-baked crusts of soil that covered the rocks than they were in moister places. I wonder if this exquisite little plant is in cultivation, whether it is perennial, and what success has attended its culture.—A. T. JOHNSON.

THE GOOSEBERRY SAWFLY

Of our garden fruits the Gooseberry has perhaps the fewest insect enemies, for there are only about five which are known to attack it seriously. They are: Gooseberry sawfly, *Nematus ribesii*, Scop.; Magpie moth, *Abraxas grossulariata*, Steph.; Capsid bug, *Plesioecoris rugicollis*, Fall.; the Winter moth, *Chematobia brumata*, L.; and the Spider mite, *Bryobia ribis*, Pagst.; and of these the first two and the last one are probably the most widespread. Where Gooseberries are grown beneath fruit trees, as in the orchards of Lincolnshire and Norfolk, capsid bug and winter moth sometimes attack them, though generally they prefer the Apple.

Since the writer has had several enquiries this season regarding attacks on Gooseberries by defoliating caterpillars, and on inspection these have proved to be the larvæ of the gooseberry sawfly, it is thought a general account of the pest and a discussion of control measures may be useful.

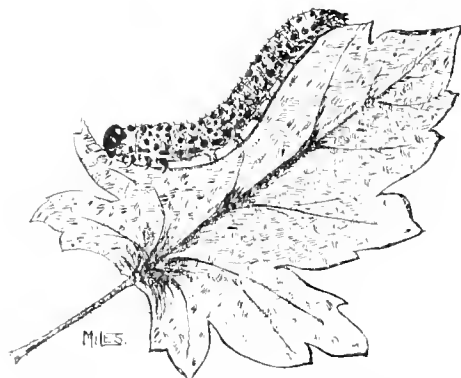
The adult sawfly, which appears about April, has four indescent, membranous wings with a distinct dark patch on the frontal margin of each fore-wing. The thorax is black and yellow and the abdomen is orange. In size the insects vary from about $\frac{1}{2}$ in. to 1 in. across the wings, the female being the larger of the sexes. The female is rather sluggish and does not take long flights, hence one area may be seriously infested with larvæ while a neighbouring one is absolutely free from the pest. The female possesses on the underside of her abdomen a pair of sawlike appendages, from which this group of insects derives its name. These minute saws are employed in making incisions in the leaf tissue of both Gooseberry and Currant and into these incisions eggs are fastened. The method adopted is as follows: The insect takes up her position on the leaf and, pressing her abdomen downwards, draws it forward under her, the saws coming into action and cutting the tissue. As the abdomen is drawn forward the egg is protruded and thrust along the incision, which is apparently held open by the saws; the saws are gradually withdrawn as the abdomen continues its forward movement and the egg is gripped by the outer membrane of the tissue, which closes together on the removal of the saws. The yellow elliptical eggs are laid on the underside of the leaves, generally along the veins, as many as thirty being laid on one leaf. The first illustration shews the eggs *in situ*.

The eggs hatch in from six to eight days and the young larvæ, which are apt to be rather restless, bite shallow holes in the surface tissue. As they grow they spread over the bushes and, feeding along the edges of the leaves, soon defoliate them. The larva has a black head and the body is greyish green with yellow bands behind the head and just before the tail. The upper surface of the body, except for a narrow dorsal line, is covered with black globular spots, from each of which a stout bristle arises. The "false caterpillar," as it is called, has three pairs of true legs, six pairs of prolegs and a large caudal proleg which, with the tail, is generally slightly curled. The larvæ are voracious feeders, and as John Curtis (*Gardeners' Chronicle*, Vol. I, page 548), says: "They go on feeding and changing their successive skins as they increase in size, until they are three-quarters of an inch long, when they are seen scattered round the edges of a partly demolished leaf, holding by the forelegs with their tails turned up or lying on one side." The feeding larvæ, if disturbed, readily fall to the ground and curling up in the herbage at the base of the bushes secure

some protection. When fully grown they moult for the last time and after a brief resting period the larvæ crawl down the stems and drop off the bushes and burrow into the soil, there to construct a light brown, tough, leathery cocoon in which to pupate. The depth at which the insects pupate



The back of a Gooseberry leaf, shewing eggs of the Gooseberry Sawfly.



Larva about its business of destruction (enlarged).



The adult insect (about four times natural size).

varies with the texture of the soil, but rarely exceeds 2½ ins.

The sawflies emerge from these cocoons in about three weeks in the case of the summer broods, but in the case of the autumn brood they remain as larvæ in the cocoons until spring, when they pupate, and the mature insects emerge in time to

oviposit on the young leaves of Gooseberry and Currant. There are often three broods per annum.

PREVENTION AND REMEDIES.

Miss Ormerod, in her "Manual of Injurious Insects," 1890, recommends the removal of surface soil from under the bushes in autumn or winter, and states, "For prevention of all attacks excepting what may be borne on the wing by stray sawflies blown from elsewhere, I believe the above plan to be most certain." She goes on to state, "This complete removal of the soil with the cocoons is quite worth while wherever Gooseberry caterpillar is prevalent; but, in case of the surface soil not being removed, a layer of unslaked lime well mixed with the soil as deep as the cocoons are, would be highly beneficial." Moreover, Miss Ormerod quotes letters from horticulturists who tried this means of control with a good measure of success. Recent work shows that good results follow the thorough forking over of the soil around the bushes in the autumn and in the spring and the burning of all prunings and rubbish. This can be done in small gardens; and in fruit plantations thorough working with cultivators between the rows in both directions in autumn and spring should be carried out, and in this case it is impossible to put too much emphasis on the destruction by burning of all plantation refuse. G. C. Gough, A.R.C.S., in the *Journal of the Ministry of Agriculture*, November, 1920, states, "A long list might be made of pests of garden crops which could be found in most heaps of unburnt refuse and which will ultimately find their way to the new crop unless destroyed. Regarding spray treatments, as the larvæ, when feeding, devour the surface tissue of the leaf and that is the portion to which sprays adhere, they can be destroyed by the use of a poison spray. This usually takes the form of lead arsenate paste at the rate of 1 lb. to 25 gallons of water, with a little soap or calcium caseinate as a spreader, or $\frac{1}{2}$ lb. per 25 gallons of water of the new "Super Arsenate," now being prepared by the progressive spray manufacturers. Spraying should be done at the first sign of attack and if necessary repeated later, though one spraying usually gives complete control not only of the sawfly, but of other leaf-eating caterpillars which attack Gooseberries and Currants.

HERBERT W. MILES.

Pterostyrax hispidum

The best examples of this tree we know of are in the neighbourhood of Cork and Queens-town, but mild climatic conditions such as they exist under there are not essential to their well-being. Near London it is entirely hardy, and flowers freely both at Kew and with Miss Willmott at Warley in Essex, although it is not likely to grow so large there as it does in the West, where it makes a wide-spreading tree 30 feet to 40 feet high. The pure white, fragrant flowers open in June and July on pendulous panicles 6 inches to 9 inches long, that hang in a row beneath the branches, one from each joint. The tassel-like appearance of the flower is due to the deep cutting of the corolla and to the protruded stamens. We know of no more interesting and striking object in the July garden than a specimen of this tree carrying its hundreds of graceful panicles. The curious fruits are spindle-shaped and covered with pale brown hairs. This tree, a native of Japan and China, is sometimes called *Halesia hispida*, but it is very distinct from the North American *Halesia*, of which the Snow-drop Tree is so well known a representative. It may be well to mention that *P. hispidum* is frequently offered in the trade with the specific name of "corymbosum."

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Spinach.—A good breadth should be sown, selecting the prickly or winter variety. Sow thinly in lines 15ins. to 18ins. apart. When the young plants are large enough they should be lightly thinned. Slugs are usually troublesome and these should be held in check by an occasional dusting of lime and soot.

Leeks.—The main crop will be ready for a little soil to be placed around the stems. If the roots are dry, a thorough soaking of water should be afforded a day or so before the operation begins. A light sprinkling of a reliable fertilizer will prove beneficial.

Potatoes.—Continue to lift this crop as the haulm begins to turn yellow and wither and, to save further labour, they should be graded at the time of lifting.

Peas.—The late Peas are growing freely and care should be taken to prevent the haulm being infested with thrips, especially during a spell of dry weather. If necessary give the roots a good watering and syringe the foliage with a reliable insecticide.

Brussels Sprouts.—Where early buttons are required, a sowing of Exhibition or Strymger's Giant should be made on a sheltered border. The plants may remain in the seed bed throughout the winter and then be transferred to their final quarters early in the spring. If time and space permit, however, a few seedlings should be pricked out in nursery beds directly they are large enough to handle. Brussels Sprouts enjoy a long season of growth.

Cauliflowers.—Where a supply of vegetables is essential and, moreover, as much variety as possible is needed, the Cauliflowers should be included, and seed sown about this date will produce fine heads next June and July when they are in demand. Two sowings are recommended, one about this date and another in September; probably the latter will give the best results. First Crop and Magnum Bonum are both excellent varieties. Select a sheltered open border and sow in lines 1ft. apart and, if the soil is dry, give the drills a thorough watering a few hours before sowing the seeds. When the seedlings are large enough, prick them out in nursery beds or a cold frame, but it should be borne in mind that they should be fully exposed to the air at every opportunity. They will need transplanting next February or March.

The Flower Garden.

Violas.—Some of the plants should be cut back in order to encourage basal growths suitable for cuttings, which may be inserted in sandy soil two or three weeks hence. A cold frame should be employed, where they will remain until next spring. Grow the plants hard by admitting plenty of air. In this district they do well in the open ground, no frames being required.

Hollyhocks.—It is often recommended to sow Hollyhock seed in February, but now is also a suitable time to perform this operation. A good strain should be secured and the seed may either be sown in the open ground or in a cold frame. If the latter is chosen, plenty of air should be admitted at all times. Thin sowing is essential, and if the plants are too thick a number should be removed and pricked out in the reserve garden.

Coleheiums.—During the autumn months C. autumnale produces a fine effect in the grass close by the rock garden, and from now onwards is a suitable time to plant the bulbs. Informal groups are recommended. A batch or two in the rock garden is also advised, and the plant is not particular as to soil.

Bulbs in Grass.—Daffodils, Tulips, Scillas, Snowdrops, Crocuses, etc., are so beautiful when naturalised in grass that a thought should be given to this phase of gardening and the bulbs planted directly they can be secured. They produce a wealth of bloom when established, and increase in numbers; moreover, they are no further trouble when once planted.

Lobelias.—The single varieties are easily raised from seed, but the double-flowered forms are increased by means of cuttings taken in the spring. It is necessary, however, to keep a few stock plants during the winter for propagating purposes, and to this end a few specimens should be cut back now, and then lifted a few weeks hence. Pull them to pieces and either pot them off or set out in boxes containing light sandy soil.

The Hardy Fruit Garden.

The Fruit Room.—It is always advisable to give the fruit store a thorough cleansing at this period, in readiness for the crop to be gathered later on. Stages should be scrubbed and walls lime-washed, afterwards admitting all the air possible for several days. I am afraid the Apple and Pear crop is a poor one, so it will be necessary to take extra care of any fruit that may be available. Some of the early varieties of Apples will need picking, and they ought to be disposed of before they lose their flavour. For dessert purposes many are best when freshly gathered from the tree.

Black Currants.—These should be pruned directly an opportunity occurs, but young bushes will not need much attention beyond cutting out a few of the weakest shoots to prevent them from being overcrowded. Other examples that have been planted for several years are producing a number of basal growths; these should be encouraged, and where necessary the older wood should be removed to allow the new shoots to develop. Where the bushes present a worn-out appearance, it is a good plan to cut them down to the ground level, as they often furnish plenty of new wood in consequence.

Fruits Under Glass.

Strawberries.—The plants to be used for forcing should be placed in pots 6ins. in diameter. Arrange three or four potsherds in the bottom over which lay a little loam fibre. The rooting medium should consist of the best fibrous loam three parts and one part manure from an old mushroom bed. A sprinkling of bonemeal and old mortar rubble may be added. Careful watering should be the rule and, for the time being, the plants should be stood on a bed of ashes outside.

T. W. BRISCOE.
(Gardener to W. R. Lysaght, Esq.)
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—The preparation of the ground for autumn sowing should be completed as soon as possible, because it is advisable to sow the seed about the middle of this month. Liberal manuring and deep cultivation are essential to the production of a good crop of Onions. Tread the ground with the feet and smooth it with the rake, after which draw shallow drills 12ins. or 15ins. apart; sow rather thinly. Trebons and Strasburg are two excellent varieties for this sowing.

Cabbage.—A sowing of Cabbage should now be made and the resultant plants allowed to remain in position over winter and be planted out in spring. If an early variety such as Early York is sown, and also some Winningstadt, a succession will be secured.

Cauliflowers.—A sowing should also be made of these and the resultant plants transferred to a cold frame in due course. Here again, in order to secure a succession, two varieties should be sown; an early variety such as Snowball or Early Erfurt and Veitch's Autumn Giant or Walcheren.

Parsley.—If a light of a cold frame can be spared and a sowing of Parsley is made in it, it will furnish a supply throughout the winter, independent of climatic conditions.

Vegetables Under Glass.

Cucumbers.—If the heat is declining in the Cucumber frame it should be maintained by means of linings; these may either be composed of fermenting materials similar to those of which the hot-bed was originally formed, or grass mowings may be employed. In the latter case it will be sufficient to arrange them on the top of the hot-bed close up against the woodwork, which for the short period it will not materially affect. Continue to regulate the shoots and pinch laterals, leaving one joint beyond the fruit. Do not allow surplus fruits to ripen unless it is intended to save seed, in which case one fruit will furnish sufficient seed.

Tomatoes.—Continue to feed plants that are swelling their fruits. Weak applications twice a week are better than strong doses at less frequent intervals. Pinch out all lateral shoots as soon as they appear. If it is intended to save seed, select full-sized, shapely, ripened fruits. Skin the fruits and carefully crush them in a fine strainer and there wash the seeds clean, after which place them on a tray and thoroughly dry them before sorting in a cool, dry place.

The Hardy Fruit Garden.

Strawberries.—Runners which were layered either in small pots or in turf squares should now be planted without delay. The ground having been duly manured and trenched or double dug (bastard trenched), the plants should be carefully lifted and planted with the aid of the trowel, the balls of soil knocked out of pots being left intact. Allow from 2ins. to 2½ins. between the lines, according to the vigour of the variety, and allow 15ins. between the plants in the lines. As soon as the fruit has been all picked off established plants the nets should be removed and stored, care being taken that they are perfectly dry before doing so. Plants that are to be trenched down in the near future will require no attention beyond the removal of any coarse weeds. Except those from which runners are to be taken, all the plants should be entirely denuded of runners and the soil thoroughly stirred and cleared of weeds by means of the Dutch hoe.

The Flower Garden.

Roses have hardly come up to the standard this year, and they have been about three weeks late; this means that the autumn crop of bloom will also be late, so all available means should be employed to assist the plants. Check greenfly with tobacco powder or a solution of soft soap; if mildew appears, spray with sulphide of potassium. Promptly remove all suckers and give the beds or borders a light dressing with sulphate of ammonia or superphosphate, after which stir the soil to a depth of from 3ins. to 4ins. either with the fork or the Buco cultivator.

Sweet Peas will now require rather more stimulants to maintain them in vigour; it is also very important that all spent blooms promptly be removed. Give additional supports if the plants have outgrown the original ones. Now is the time, while the flowers are still true to character, to make a note of any varieties that are to be discarded, and of any novelties seen which it is decided to include in next season's collection.

Sweet Violets.—These should be kept clear of weeds and all runners trimmed off as soon as they appear. The plants should on no account be allowed to suffer from lack of water and if thrip or red spider attacks the plants, suitable antidotes should be applied. Spraying the plants with pure water through a fine spray each evening for a time will generally clear them of red spider, and tobacco, either in the dry form through a puff ball or in a weak solution through a spray, is generally an effectual remedy.

Hedges.—Evergreen hedges should now be pruned without delay to enable the plants to form young foliage before the advent of winter. Holly and Portugal Laurel hedges should receive attention first. Evergreen Privet, if pruned too early, makes too much growth before the end of the season, the aim should be just to restore the evergreen character of the plants and no more. Bay Laurel hedges are best pruned with the pruning knife in spring.

CHARLES COMFORT.
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Cyclamens.—Seed should be sown some time this month to provide plants for next year. The seeds are best dibbled in singly about half an inch apart, as they generally germinate somewhat irregularly. This method allows the more advanced seedlings to be removed without disturbing the others. The seed pans should be stood in an intermediate temperature and kept shaded until germination takes place. When large enough to handle the more forward seedlings should be pricked off into pans containing light, rich soil, and, later, may be potted off singly into small pots, or they may be left in the pans over the winter, potting them off early in the New Year.

Fuchsias.—A few stock plants of the desirable varieties should now be partly pruned back and placed in a house where they can be kept fairly warm and moist; under such conditions they soon start into growth. The young growths, when about 3ins. in length, should be secured as cuttings. It is very essential that this young fresh growth be obtained, as the resulting plants grow much more freely. Cuttings inserted towards the end of the month or during September should, when rooted, be grown steadily on, and in nine months should make plants some 8ft. in height. Such plants if kept well fed last in flower for a long time and are very useful for furnishing the conservatory beds towards the end of summer. Such plants should be allowed to grow straight on without stopping the leading shoot. If standards are

required, all lateral shoots should be rubbed out as they appear, and the leading shoot pinched when the desired height is attained. It usually takes several years to get large, well furnished heads for standards.

Aristea corymbosa. This beautiful blue-flowered plant is a native of South Africa and belongs to the Iris family, and is probably unique in having a hard, woody rootstock or stem. It has always been regarded as being a difficult plant to propagate successfully. Cuttings should be inserted some time during this month and are best secured from the base of the plant, detaching them carefully with a portion of the woody stock attached. The cuttings should be dibbled into pots containing sandy peat and stood under bell glasses in a cool greenhouse; in short, they should be given the same treatment as that afforded greenhouse Heaths. The cuttings usually take about six months to root, after which they should be potted off singly into small pots, using a compost of fine sandy peat. In their subsequent shifts a rougher compost should be used, adding a little light loam to it, and enough coarse, clean sand to keep the whole open and porous.

Hæmanthus Katherinæ and the hybrid *H. Andromeda*, as they pass out of flower, should not be neglected as is too often the case. The former, although a native of tropical Africa, succeeds quite well in an ordinary greenhouse, except when making its growth. After flowering, water should be gradually withheld as the foliage dies down, keeping the plants dry during winter in a warm greenhouse. This species is very fine if it can be planted out in a bed or border in a warm greenhouse.

Veltheimia viridifolia, which has been kept dry during the summer in a cold frame, should now be well watered and started into growth. If the plants are in good condition at the root it is not necessary to repot them each year. If repotting is necessary it should be done at this time, shaking all the old soil away and cleaning the base of the bulb of all dead and decaying roots. After potting, water should be very sparingly given until the plants have started into growth and have made a quantity of new roots. This plant only requires cool greenhouse treatment at all times, and can be increased by means of the offsets made by the parent bulbs. Stock can also be raised from seed and the young seedlings should be grown on without drying off until they attain flowering size.

Bravoa geminiflora.—This beautiful bulbous plant is a native of Mexico and, in the south, is hardy in sheltered borders if planted at the foot of a warm wall. In such a position it has been in flower for some weeks now. It is easily increased by means of offsets or seeds. The latter should be sown as soon as they are ripe. It is a charming plant for the unheated greenhouse, growing freely in any good potting compost. Dry roots can be purchased during the winter.

Canarina campanulata is a very quaint and pretty greenhouse plant which is worthy of more general cultivation. This plant is easily raised from seed, while the tuberous root stocks can be purchased dry during the winter. They should be potted up and started into growth early in the New Year. J. COULTS.

Royal Botanic Gardens, Kew.

A Charming Campanula.—One of the most delightful of the mid-season Campanulas of the rock garden is *C. arvensis*, once known as *C. acutangula*. This is a frail, semi-prostrate little plant whose slender branches, radiating from a modest central tuft of rounded leaves, terminate in a succession of purple stars to the width of nearly an inch. Though it is said to be a moraine plant, *C. arvensis* will prosper on a cool, well drained ledge, where it will not suffer from excessive wet in winter, and it appears to have a decided liking for limestone. The flowering season, which opens about the middle of July, extends to the approach of autumn.

Buddleia nivea.—The discovery and introduction from China of the many new forms of *Buddleia variabilis* have given a new importance to this group of shrubs, and a notable addition to the attractions of the garden in late summer. But not with them will *B. nivea* come into competition. The flowers themselves have little or no beauty; they are purple, but only the tips of the petals show, the rest of the flower, the calyx and the

flower-stalk, being embedded in a thick, soft, snowy white wool that also covers the young branchlets and the lower surface of the leaves and gives to the plant its chief interest. Like other *Buddleias*, this needs a good loamy soil.

Northern Trees in Southern Lands, by E. H. Wilson. Reprinted from the Journal of the Arnold Arboretum, 1923.—A year or so back Mr. Wilson made a long tour of investigation in Australia, New Zealand and South Africa on behalf of the Arnold Arboretum. One of the subjects which most interested him was the growth of exotic trees in the southern hemisphere, and this invaluable pamphlet is the result. It is amazing how much the Antipodes have to depend upon imported timber for their supplies of soft wood. In Australia there are no indigenous soft woods of any commercial value, while in New Zealand their native conifers are of slow growth and it has been found better to rely upon northern trees for reforestation purposes. Mr. Wilson found that *Pinus insignis* or *P. radiata*, whichever name you give it, is probably the best all round timber tree for the Antipodes. Yet this is odd, for in its native country (California) it is of little merit, its growth slow and the quality of the timber poor. This is what Mr. Wilson says of its performance south of the line: "In short it yields cheaply and quickly a class of timber necessary and in great demand in all these lands. The rapid growth and usefulness of this tree is now an established fact in the Antipodes." In New Zealand the Larch seems to be one of the best trees for growing in quantity. In the valleys and plains it is severely handled by frost, but on the mountain slopes it grows splendidly. In a land so mountainous as New Zealand there must be countless acres available for Larch plantations. Another good timber family which apparently has so far been rather neglected is the *Cupressus*, and of it Mr. Wilson remarks: "For forest planting the *Cupressus* as yet have been scarcely employed but the fact that their wood is very lasting and therefore most suitable for fencing makes them valuable." Northern hardwoods are not so satisfactory, or indeed necessary in the Antipodes, for in Australia the gums supply all ordinary hardwood needs, and in New Zealand they grow better than northern hardwoods. In certain places individual trees do well, as for instance *Salix babylonica* in South-Eastern Australia. But for those who are interested in this subject my advice is to get this pamphlet and read it for themselves, for it is full of meat.

Royal Horticultural Society's Gardens Club.—The annual meeting and outing of the R.H.S. Gardens Club took place on Saturday, July 21, when, at the kind invitation of Messrs. Sutton and Sons, the extensive seed grounds of that firm at Langley were visited. The trials could hardly have been seen at a better time, for most of the great breadths of annuals which are so well cultivated here were at their best and presented a magnificent spectacle of colour. Many new and improved varieties not yet in commerce were pointed out and much admired. The great advantage of autumn sowing for some kinds was very effectively demonstrated. The members of the Club, numbering about fifty, were conducted round by Mr. Noel Sutton and Mr. A. P. Balfour, who is in charge of the work at Langley. After lunch, at which Mr. Noel Sutton heartily welcomed the Club on behalf of his firm, a pleasant journey was made by road to Reading. The members were then conducted through the large range of glasshouses and the very comprehensive trials of flowers and vegetables in the open by Messrs. W. F. Giles, E. R. Jones, F. C. Eady and other members of the staff. Mr. Leonard Sutton presided at tea and again welcomed the party

Dr. F. V. Darbishire, the president of the Club, suitably expressed the Club's great appreciation of Messrs. Sutton's kindness and hospitality whereby the members were able thoroughly to enjoy a most pleasant and interesting day. At the meeting after tea Mr. C. R. Fielder, V.M.H., was elected president of the Club for the coming year.

FORTHCOMING EVENTS.

August 13.—United Horticultural Benefit and Provident Society's Meeting.

August 14.—Clay Cross Horticultural Society's Exhibition.

August 15.—Shropshire Horticultural Society's Exhibition (2 days).

August 18.—Highfields and District Gardening Society's Annual Show.

Answers to Correspondents

FLOWER GARDEN.

SWEET PEAS UNSATISFACTORY (T. G. F.).—The Sweet Peas are suffering from streak. This disease is due to a bacterial attack and is carried in the seed in many cases. The kind of cultivation given by our correspondent, i.e., the making of trenches and heavy manuring, while it helps the growth of the peas, appears also to lay them more open to the attacks of the bacteria. The use of potash manure may assist in keeping the disease in check. This should be applied in the form of sulphate of potash at the rate of 3lb. to the square rod.

MISCELLANEOUS.

PLANT FOR EXAMINATION ("Rex").—The specimen sent for examination is an abnormal fasciated stem of *Meconopsis Wallichii*. The fasciation is due to local conditions and frequently occurs in many plants. *M. racemosa* is quite a different plant.

PLANTS WITH LEGENDS (C. M. W.).—Trailing or climbing shrubs with legends are *Clematis Vitalba* (Traveler's Joy), *C. Viticella* and the White Jasmine (*Jasminum officinale*). Upright bushy shrubs with legends are the common Myrtle (*Myrtus communis*), Sweet Briar (*Rosa rubiginosa*), and Broom (*Cytisus scoparius*). A beautiful variety of the latter is *C. s. Andreanus*. Other good varieties of it are *C. s. Daisy Hill*, *C. s. Firefly*, and *Moonlight*. Broom (*C. s. sulphureus*). The Roses round which the old legends have been woven are *Rosa centifolia*, *R. damascena*, *R. alba*, Musk Rose (*R. moschata*), Moss Rose (*R. muscosa*). All of these are varieties of *R. gallica*, except the Musk Rose and *R. alba*. York and Lancaster is another variety. If our correspondent wishes for pretty representatives of Roses in the colours mentioned, red varieties are Hugh Dickson, Crimson Chateaux, Richmond and Gen. McArthur. White varieties are British Queen, F. K. Druschki, Mrs. H. Stevens and Candeur Lyonnaise. Yellow Roses are Golden Emblem, Souv. de Claudius Pernet, Christine and Golden Ophelia. The best Moss Roses are Common Moss (rose), Henry Martin (deep red), Blanche Moreau (pure white), and White Bath. The species of *Clematis* have already been mentioned. Modern and more showy varieties are Nelly Moser (mauve with red bar), Ville de Lyon (carmine red), Jackmanni superba (violet purple), and Lasurster (deep purple blue). The best forms of Honeysuckle (*Lonicera*) are Early Red and Late Red. The principal Veronica of the legends is *V. Chamædrys* or Germanander Speedwell. Beautiful garden representatives are *V. spicata* and *V. rupestris*. The Brooms represent *Cytisus*. Iris can be well represented by *I. germanica*, *I. g. Kharput*, *I. Cengialti*, *I. pallida* Queen of May, and *I. trojana*.

TENNIS LAWN UNSATISFACTORY (W. J. C.).—Our correspondent will not be able to do much in the way of improving the lawn till rain comes. Rolling before, and even after, would not be satisfactory. The grass always becomes coarse when it is neglected for a time. Cut it as closely as possible; uproot all coarse roots and weeds, especially the latter with taproots. Use an iron-toothed rake, vigorously scratching up the surface freely. Put on sifted soil to fill up hollow places and roll thoroughly when the ground is moist. When the first spell of dull, rainy weather comes sow grass seeds, in which mixture there should be 10 per cent. of Hard Fescue. Do timely rolling and not too much cutting, very low down, of the young grasses this autumn. With careful treatment in spring the lawn will, probably, be a very nice one.

NAMES OF PLANTS—C. A. W.—1, *Cynoglossum Wallichii*; 2, *Anchusa myosotidiflora*; 3, *Delphinium* seedling of little value.—A. H. H.—1, *Inula Heleum*.—R. M.—1, *Erigeron macranthus*; 2, *Cephalaria* sp. (cannot tell which without leaves); 3, *Gaura coccinea*.—E. C. B.—1, *Desfontainia spinosa*.—H. N.—1, *Escallonia chinensis*; 2, *E. laurifolia*; 3, *Potentilla fruticosa*; 4, *Alnus glutinosa*; 5, *Erigeron micranthus*.—G. B.—2, *Geranium pratense flore pleno*; 3, *Spiraea salicifolia*; 4, *Calceolaria integrifolia*. The Roses (Nos. 1 and 4) had fallen on arrival, thus making identification impossible.

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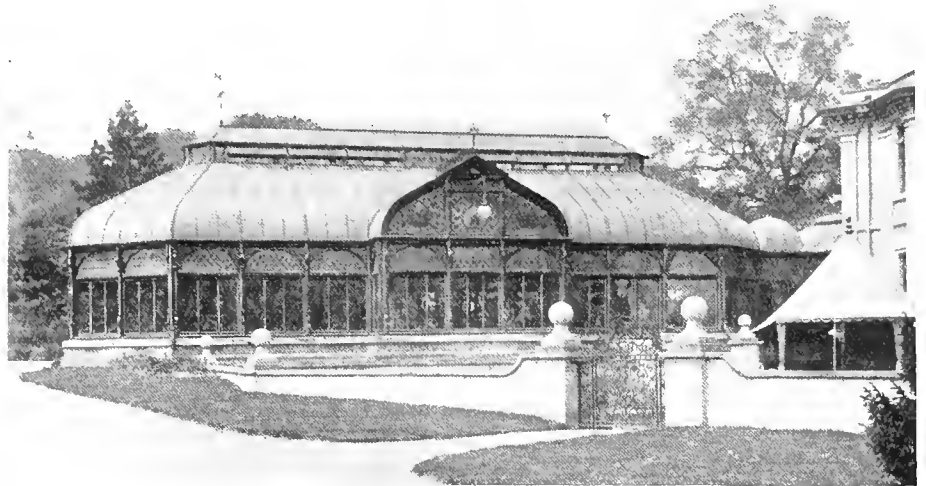
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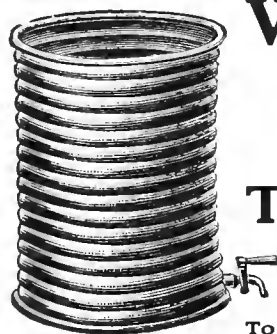
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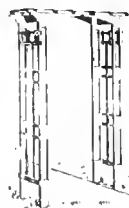
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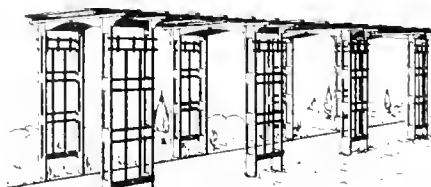
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simple yet effective means of checking
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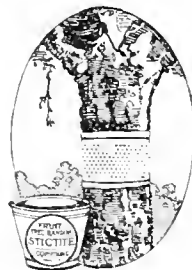
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Comet, crimson scarlet
Decey, rosy scarlet
Gen. French, dark red
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Jubilee, crimson
Mrs. B. Brown, brilliant red
Pink Pearl, pink
Standard, bright rose

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J. N. Twerdy, crimson
La Belle Blanche, white
La Vestale, flesh
Mdm. Patti, carmine rose
Mdm. Munier, flesh pink
Madeleine, intense pink
Melton, crimson
Ne Plus Ultra, pink
Queen Mary, apple blossom pink
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No. 2700.—VOL. LXXXVII.]

[AUGUST 18, 1923.]

THE SEED HARVEST AND AFTER

THOSE who harvest their own seeds will, by the time these lines are in print, be exceedingly busy. There are some plants which practically no experienced gardener troubles to raise from seed, though in all probability they seed freely. Spearmint, or as many cottagers aptly call it, "Peasemint" (*Mentha viridis*), belongs to this class. Speaking generally, plants which increase rapidly by stolons or underground "wires" offer little temptation to raise them from seeds, though seed-raising is, of course, the way to obtain new and better forms.

There are many biennial or monocarpic species of which, unless we save and sow the seeds—or, in certain cases, allow them to sow themselves—we shall inevitably lose the stock. Apart from these, there are many plants which are, in our climate, short-lived perennials. The existence of some of them may be prolonged by regular propagation, but it is to seeds that we must look to revitalise the stock.

Practically all the gorgeous Asiatic *Meconopsis* species are monocarpic, and the same applies to several *Enotheras*, including the common but very effective Evening Primrose of cottage gardens, (*Enothera biennis grandiflora*). Then we have the Queen of Saxifrages *S. longifolia*, and the quaint yellow-flowered *S. mutata*—both of which die after flowering—the Foxglove of our hedgerows (*Digitalis purpurea*), quite a number of the *Myosotis* clan, several *Silenes* and so forth.

Short lived perennials seem to be regarded from two aspects by the average gardener. Some of them he rightly treats as biennials and replaces regularly from seeds and these are not by any means always those of the shortest duration. The Wall-flower, for instance, on a wall or rocky ledge

is quite a long-lived plant and the same may be said of the Snapdragon (now fashionable as the *Antirrhinum*). Yet plants like *Lychnis alpina*, *Linaria alpina* and many *Primulas*, he is apt to treat as truly perennial and so to lose the stock. Some plants there are, like *Scabiosa caucasica*, which, perennial enough in some soils and situations, are of little more than biennial duration in other places.

Again, there is quite a number of plants which in Britain we advisedly treat as hardy annuals or hardy biennials, which in their native country are good perennials. Two plants of the great Poppy kindred come to mind in this connexion—the *Eschscholtzia* and the Horned Poppy (*Glaucium*).

Now, it is quite obvious that with these biennial, monocarpic and short-lived perennial species—to say nothing of the great family of annuals—a good deal of seed-sowing is essential to provide necessary replacements. Small wonder, then, that the average gardener finds little time for raising really perennial plants from seed. Nevertheless, the raising of

perennials in this way is one of the most interesting phases of gardening experience. A book might well be written on the best means of raising various plants from seed, but we scarcely know who would write it. As regards alpine seedling raising no doubt M. Henri Correvon of Floirac, Geneva, is the greatest authority, but his climate differs greatly from ours and climate makes a considerable difference to results.

The first question which arises is "What to do with our seeds when collected?" Shall we sow them forthwith or save them until early spring, or, at any rate, the turn of days? If we decide to postpone sowing until the New Year, shall we clean and packet them forthwith or preserve them in the pods until towards sowing time?

To these questions, it seems almost needless to point out, there can be no general answer, yet in the case of a rare plant, where experience seems to offer no guide, it is wise, if there is a fair quantity of seed, to sow it at twice—one portion as soon as it is ripe (or almost before), and the remainder in

early January. If there is but little seed available in such circumstances, sow it forthwith, even though doing so may entail great care in the dull days of winter to bring the seedlings through safely. If one has the misfortune to garden near a great and smoky city, of course, it is particularly difficult to winter tiny seedlings, and postponement of sowing is generally advisable.

There are certain genera of which the seeds lose vitality very rapidly if kept—*Meconopsis* and *Primula*, for example—and many others which, once the epidermis gets hard and dry, are slow to germinate even under the most favourable conditions. One would place *Gentiana* as a genus in this class. Beyond these of course there are seeds, such



THE RARE PINKISH MAUVE PRIMULA SINO-LISTERI.
Practically all Hardy Primulas should be raised from seed.

as the seeds are in a vacuum, protected by an oily wrapper which prevents them from germinating in any case.

With regard to the cleaning of seeds, we are strongly of opinion that where the seeds adhere in any way to their casing, cleaning is better left until towards the time for sowing, but, of course, many seeds free themselves from the seed vessels immediately they are mature. Seeds of alpine and hardy plants generally rapidly deteriorate if kept in a hot, dry place. A cool corridor or other place where a current of fresh air serves to prevent the growth of mould is an excellent place to keep home-saved seeds. They should be placed in bags amply large enough to contain the seeds and (if necessary) seed vessels and stalks and be looked over several times during autumn and winter.

Seeds normally slow to germinate will often sprout quickly and regularly if saved before becoming quite mature and *sown at once*. Never store immature seeds.

It is of the first importance that the seed-compost should be such as to suit the tiny seedlings when they germinate. The requirements of the adult plant known, it should not be difficult to provide a suitable seed-compost. Speaking generally, the following kinds of compost should suffice.

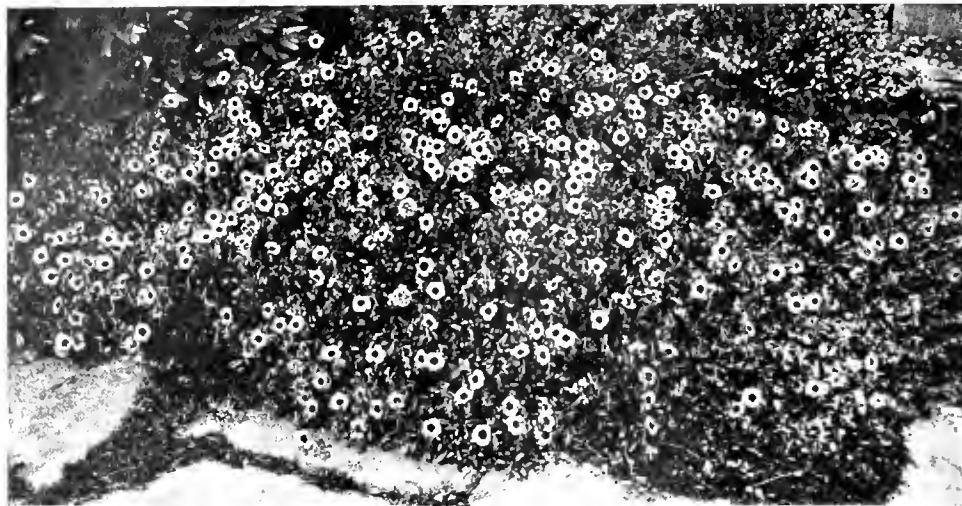
No. 1 will be suitable for the general run of herbaceous plants and will consist of good turfy loam, thoroughly rotted horse or cow dung and leaf-mould and, if the loam is at all close-grained, a little sharp sand. The texture of the loam will influence quantities—the idea is to get a porous, clean handling, but not “fluffy” medium, but six parts loam, two parts dung, two parts leaf-mould and one part (or less) of sand might be tried as a beginning, the whole to be rubbed through a $\frac{1}{2}$ in. riddle. Especially if the seedlings are likely to be any time germinating, a little broken charcoal or coke will be a useful ingredient. A proportion of old mortar rubble will be desirable for all but the very few herbaceous plants which object to lime. Pans, boxes or even pots may be used, but boxes are only suitable for seeds which germinate fairly quickly.

No. 2 may be called the stock alpine compost. It consists of two parts, approximately, porous ballast—small coke, broken potsherds or even brick—one part sweet turfy loam and one part vegetable matter—thoroughly decayed leaf-mould, or such mixed with an equal quantity of peat. This stock compost will suit most alpine found wild on granite or sandstone formations. For raising the very numerous chalk-loving species, limestone chips may be largely substituted for the ballast described above or, perhaps better still, a generous dressing of old mortar rubble may be incorporated in the compost.

The stock compost for American plants and Heaths we will call No. 3. This should consist of two parts decayed leaf-mould, one part peat and two parts turfy loam. All these composts will, of course, be passed through a riddle. Opinions differ as to the degree of fineness which is desirable and as to whether a layer of coarser material should be placed at the bottom of the pans. Our own view is that a $\frac{1}{2}$ in. riddle is sufficiently fine for ordinary purposes, but that $\frac{1}{4}$ in. sieve is useful for surfacing up pots for such fine seeds as those of *Erica* and also for covering purposes. Coarse compost beneath often means damaged roots at transplanting time. For specially saxatile plants, such as *Aethionema*, *Androsace*, *Encarnated* and *Kabschia Saxifragas*, the pans should be more than half filled with small coke or broken potsherds before the compost is put in.

Pans containing very fine seeds will, as usual, be watered from below. Larger seeds can be rosed overhead with the raining rose on a Haw's pattern can.

Perhaps it will be well here to mention a special compost (No. 4) for such moisture-loving plants as



THE HELIANTHEMUM COME READILY FROM SEED.



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The Schizocodons need care in their early stages.



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At this season cold frames or pits with a northerly aspect will be the best place for our boxes and pans of seeds. The sun-loving kinds should, of course, be moved to a lighter place as soon as germination takes place.

The following table shews what the writer has found the best treatment for various of the more important families of perennials.

WHEN AND HOW TO SOW.

	When.	Compost.	Remarks.
Abies	A.	1.	
Acæna	A.	2.	
Achillea	A. S. . . .	2.	(Alpine species.)
Aconitum	A.	1.	Usually slow to germinate. Use sterilised soil.
Adenophora	S.	1.	
Æthionema	S.	2 & lime	
Althæa	S.	1.	
Alyssum	S.	2 & lime	
Anchusa	A. S. . . .	1.	
Androsace	A. S. . . .	2.	
Androsace (remainder)	A. S. . . .	2 & lime	
Andromeda	A. S. . . .	3.	
Anemone	A.	2.	Slow to germinate. A. Pulsatilla and some others like lime.
Antirrhinum (alpine)	A. S. . . .	2 & lime	
Aquilegia	A. S. . . .	1 or 2 . .	Germinate best if sown quickly.
Arabis	S.	2.	
Arenaria	A. S. . . .	2.	
Arbutus	A. S. . . .	1.	
Arctostaphylos	A. S. . . .	3.	
Arnica	A. S. . . .	3.	
Asperula	S.	2 & lime	
Asphodelus	A.	1.	Often slow.
Aster	A. S. . . .	1.	Perhaps unworthy the amateur's trouble.
A. (Alpine species)	A. S. . . .	2.	
Astilbe	S.	1.	Keep seed pans always on wet side.
Aubrietia	S.	2.	Very easy.
Azalea	A. S. . . .	3.	Not difficult.
Berberis	A. S. . . .	3.	
Bocconia	S.	1.	
Borago	S.	1.	
Buphthalmum	A. S. . . .	1.	
Calandrinia	S.	2.	Plenty of sun when germination takes place.
Campanula	S.	2 & lime	Generally easy.
Cardamine	A. S. . . .	4.	
Cerastostigma	A.	1.	Hard seeded and often slow.
Cheiranthus	A.	2 & lime	
Chrysanthemum	S.	1.	
Cistus	S.	1.	Do not sodden.
Clematis	A. S. . . .	1 & lime	
Convolvulus	A.	2.	Less easy than might be expected.
Coreopsis	S.	1.	
Cortaderia	A. S. . . .	1.	Easy.
Corydalis	A. S. . . .	2.	
Cotoneaster	A. S. . . .	1.	
Cratægus	X.	1.	
Crocus	A.	2.	
Cupressus	A. S. . . .	1.	
Cyclamen	A.	2.	Sow thinly.
Cynoglossum	A. S. . . .	1.	Water freely until germination.
Cytisus	A. S. . . .	1.	
Daboecia	A. S. . . .	3.	
Delphinium	S.	1.	
Dianthus (Alpine species)	A. S. . . .	2 & lime	
Dianthus (Carnations, etc.)	A. S. . . .	1 & lime	Transplant quickly.
Digitalis	A.	1.	
Draccephalum	A. S. . . .	1.	
Dryas	A.	2 & lime	
Echinops	A. S. . . .	1.	
Eremurus	A. S. . . .	1 & extra drainage	Sow thinly. Use deep pans or pots. Must not be transplanted for two or three years.
Erica	A. S. . . .	3.	
Eriogonum	A. S. . . .	2.	
Erodium	A. S. . . .	2.	
Eryngium	A.	2.	Seed often bad.
Erysimum	A. S. . . .	2 & lime	
Erythraea	A. S. . . .	2.	Easy.
Erythronium	A.	3.	
Euphorbia	A. S. . . .	2.	
Feula	A.	1.	Very slow.
Fritillaria	A. S. . . .	1.	Easy, but not quick.
Gaillardia	A. S. . . .	1.	Easy.
Galega	A. S. . . .	1.	Easy.

	When.	Compost.	Remarks.
Genista	A. S. . . .	1.	
Gentiana	A. S. . . .	2.	Slow to germinate, especially if not sown immediately it is ripe.
Geranium	A. S. . . .	2.	
Geum	A. S. . . .	2.	
Gillenia	A. S. . . .	1.	
Gladiolus	S.	1.	Good soil and a little heat.
Gunnera	A. S. . . .	1.	
Gypsophila	A. S. . . .	1 or 2 & lime	All Gypsophilas are lime-loving.
Haberlea	A.	3.	Very fine seeds.
Helianthemum	A. S. . . .	2.	Slight heat helpful.
Helleborus	A.	2.	Rather slow. Keep moist.
Hepatica	A.	2.	Rather slow.
Heracleum	A.	1.	Very slow.
Hesperis	A. S. . . .	1.	
Heuchera	S.	1.	
Hypericum	A. S. . . .	3.	
Iberis	S.	2.	
Ilex	X.	1.	
Incarvillea	A. S. . . .	1.	
Impatiens	A. S. . . .	1.	
Iris (Bearded)	A. S. . . .	1 & lime	
Iris (herbaceous)	A. S. . . .	1.	
Juniperus	A.	1.	
Kniphofia	S.	1.	
Lathyrus	S.	1.	
Lavatera	A. S. . . .	1.	
Leontopodium	A. S. . . .	2.	
Lilium	A.	1 extra gritty	Beds in shaded pits preferable to pots. Do not transplant for three or four years.
Linaria	A. S. . . .	2.	
Linum	A. S. . . .	2.	
Lithospermum	A. S. . . .	2.	Lime for all except L. prostratum.
Lobelia	S.	1.	A little heat beneficial.
Lupinus	A. S. . . .	1.	Heat not harmful.
Lychnis	(Alpine) A. S. . . .	2.	
Lythrum	A. S. . . .	1.	
Malva	S.	1.	
Meconopsis	(Asiatic) A.	3.	Water from below.
M. cambrica	A. S. . . .	2.	Easy.
Minulus	A. S. . . .	1.	Stand pan in saucer of water.
Morisia	A. S. . . .	2.	Easy.
Myosotis	A. S. . . .	2.	Soak well.
Narcissus	S.	1.	A slow business.
Oenothera	A. S. . . .	1 or 2 . .	
Omphalodes	A. S. . . .	2.	Usually slow.
Onosma	A. S. . . .	2.	Soak well until germination.
Paeonia	A.	1.	Slow to germinate, slower in growth.
Papaver	A.	1.	

	When.	Compost.	Remarks.
Pentstemon (herbaceous)	A. S. . . .	1.	
Pentstemon (alpine)	A. S. . . .	2.	Seed seldom reliable.
Phlox	A.	1 or 2 . .	Apt to be slow.
Picea	A.	1.	
Pinus	A.	1.	
Potentilla (alpine)	A. S. . . .	2 & lime	
Primula	A.	1 or 2 (some with lime.)	On the whole easily raised from freshly gathered seed. Otherwise slow.
Pulmonaria	A.	1.	
Ranunculus	A. S. . . .	3.	Slow in growth.
Ranunculus	A. S. . . .	2.	Slow to germinate. Soak well.
Rheum	A. S. . . .	1.	Slow to germinate.
Rhododendron	A. S. . . .	3.	Not difficult.
Rosa	X.	1.	
Rubus	A. S. . . .	1.	
Salvia	A. S. . . .	1.	Easy.
Saponaria	S.	2.	
Saxifraga (Encrusted)	A. S. . . .	2 & lime	
Saxifraga (Kabschia)	A. S. . . .	2 & lime	Easy and interesting.
Saxifraga (Mossy)	A. S. . . .	2.	
Saxifraga (granulata, etc.)	A. S. . . .	4.	
Sedum	A. S. . . .	1 & lime	
Schizocodon	A. S. . . .	3.	Needs great care.
Senecio (Giant species)	A. S. . . .	1.	Quick growing.
Sidalcea	S.	1.	
Silene	A. S. . . .	2.	Some not easy
Sisyrinchium	A. S. . . .	1.	
Soldanella	A. S. . . .	2.	Often slow.
Spiraea	A. S. . . .	1.	
Statice	S.	1.	
Tenacium	A. S. . . .	2.	
Thalictrum	A. S. . . .	2.	Handle carefully.
Thalictrum (other species)	A. S. . . .	1.	
Thymus	A. S. . . .	2.	
Trillium	A.	3.	Keep well wet.
Trollius	A. S. . . .	1 or 4 . .	Keep well wet.
Tropæolum speciosum	A. or X. . .	3.	Sow at once and never let get dry till germinates. (Slow).
Tulipa	A.	1.	Use deep pots and do not attempt to transplant for 3 years.
Tunica	A. S. . . .	2.	
Verbascum	A. S. . . .	1.	
Veronica	A. S. . . .	2.	
Viola	A. S. . . .	1.	Soak well till germination.
Wahlenbergia	A. S. . . .	2.	

A.=As soon as ripe. S.=In early spring. (S.)=In spring, if not practicable sooner. X.=Store in damp and for twelve months before sowing.

THE BULB ORDER

III.—Miscellaneous.

CERTAIN qualifications seem desirable in those who are going to get the best possible out of their bulb catalogues. To begin with, it is necessary to be a bit of a Jack Horner. Then one must do one's best to avoid being a "moon-raker." It's not all gold that glitters. I have heard of fulsome descriptions that have deceived the very elect. Lastly, every one to some extent must be a garden Quackerwodger, ready to take hints, for every true member of our Fraternity is never too big to learn from the humblest brother or sister. This is my excuse for penning this series of "tips," about which may I say that I hope they will be found to be more reliable than those laboured selections of winners which are to be found in the columns of many of our daily papers. Daffodils have been dealt with. Tulips will form the subject of the fifth and last article for the simple reason that there is no particular hurry to plant them. I had to build my present rectory house. One day I happened to be talking to a bricklayer, Jesse Suff by name, on the subject of our favourite tippie. He summed up his views by saying, "I don't like any of your intermediates; give me beer or champagne." This article and the next will deal with some intermediates, only let me remark that Jesse's dictum on drink does not apply to bulbs. Hyacinths from their ancient standing naturally

come first, but I fancy the sales of varieties for bedding and planting out of doors are small to what they were in the hey-day of formal spring bedding. At any rate, I do know that the Hyacinth growers of Holland in the days immediately before the Great War were lamenting the decline in the demand for their wares. The following may be relied upon as being good for planting out of doors: White, L'Innocence and Mimi; Pink, Jacques and Lady Derby; Red, King of the Belgians and La Victoire; Pale Blue, Perle Brillante and Blondin; Deeper Blue, Grand Maître and King of the Blues; Yellow, City of Haarlem. I do not recommend any of the purples or mauves, but I have an idea that if the rich claret-purple Distinction were to be associated with a silvery-leaved ground plant or a variegated grass like the variegated Arrhenatherum bulbosum, one would have a combination at once pleasing and uncommon. Hyacinthus amethystinus, or as I once heard it called, "Amy-trust-us"—quite à la "Glory be to thee, John" (Gloire de Dijon), and "Alphonso, whiskey and soda" (Alonsoa Warscewiczii)—suffers from being such a near relation of the Dutch Hyacinths. It is frequently tucked away in a very inconspicuous manner at the bottom of a page or elsewhere, after the pages that have been given up to these ancient lords of the garden, but let me ask readers who know it not to hazard a dozen or two. Long after

the giant- are over, slender graceful little anemones gives us its pale blue flowers. They are a real blue and, as everyone knows, we are not overdone with this colour in our gardens. It is charming in tiny vases as a cut flower. It is not everyone who has a bit of thin woodland in their garden patch, but a fair number of people have a shady border where the occupants may live undisturbed for a number of years and of which the soil is light. This is the sort of place for two or three of the best *Erythroniums*—America beats Europe in her Dog's-tooth Violets. The handsome marbling of the foliage is a great asset to all the *Dens-canis* varieties, but the splendid *grandiflorum*, with its two or three gracefully poised Turk's-cap-looking, Guernsey-butter yellow blooms on stems rising to 22 ins. high surpasses them in importance and beauty. So, too, does a most lovely white of similar habit and size, of which I seem to have lost the name, unless it is a seedling. A third beauty is the deep cream or primrose *Hartwegii*. Lastly, we have that prince of the revolutums, *Johannsonii*, which provides large flowers of a deep rose-pink. Get these as soon as you can and plant at once. I attempted the above one year in pots, but they were a dismal failure, although I thought I had treated them in every way "according to Cocker." Should it have been "according to Gunter?" I have read that in some of the isolated parts of North America they still swear by the older authority. I was now going to suggest *Fritillaria aurea*, of which I have pleasant memories as being a very beautiful member of the *Fritillaria* family whether grown in pots in a cool-house or in the garden—but I am sorry to say I cannot find it in any catalogue. It comes from Asia Minor, so no doubt that accounts for its disappearance. From a garden point of view the disturbance there is "a regular nuisance."

Does everyone know *Allium sphaerocephalum*? It is a quaint looking plant—a more or less round, tightly packed head of claret-coloured flowers placed on the top of a rather thin wiry stem which is but scantily clothed with long narrow leaves—is my description from life. A clump in a border of perennials is striking. Last year, if I remember rightly, there was quite a run on it in Covent Garden for cut flowers. It is something quite out of the ordinary for vases. A flower which has no history behind it can never be quite as interesting as one that has. I have long wished to see the real saffron Crocuses—*Crocus sativus*—and I thought, when my good friend the Crocus king gave me some bulbs, selected the spot, prepared the ground, and planted them with his own hands, that my desire would be gratified; but, no! they have had two chances of flowering, and each autumn they have been a disappointment. Mine, too, came from Spain—the original western home of this plant of the East—but this availed nothing. Do the saffron bulbs that one can get from say, Messrs. Barr and Sons and elsewhere turn out any better? It is worth trying for the sake of learning all that one can about it. *C. speciosus*—also an autumn bloomer—is another recommendation. Good clumps look well anywhere, but perhaps it looks best in large masses in the grass. After *speciosus*, but after a long interval, come *Imperati*, *Sustanus*, *Sieberi* and *Tommasinianus*. Have you, my reader, all the four in your garden? One of our Treasury notes with the Daffodil water-mark will bring you at least a dozen of each to try. Having tried them the odds are you will want more, unless you share the prejudices of the Early Victorians and dismiss them as having "insignificant, but interesting flowers." If the larger Dutch hybrids appeal to you more than these, might I suggest as purples, *purpureus grandiflorus* and *Herald*? as whites, *Mary and White Lady*? as a silvery-mauve, *Dorothea* (syn. *Maximilian* and I think, *Blue Celeste*)? as a

striped variety *Pallas* or *Lucretia*? as one of uncommon rosy-lilac colouring, the rather small-flowered *Distinction*? but above all, the famous Dutch yellow? With plenty of this last, left

undisturbed from year to year, our gardens become to some extent living representations of the rich saffron robes of mythological gods and goddesses.
JOSEPH JACOB.

PENTSTEMONS FOR BORDER AND ROCK GARDEN

THESE are some seventy *Pentstemon* species, all natives of North America and Mexico. These include many beautiful and interesting kinds, all more or less valuable for the border or rock garden, besides the florists varieties, which are the product of such species as *P. Cobæa* and *P. Hartwegii*. As a whole *Pentstemons* are of easy culture, delighting in a good, deep, rich loamy soil, with ample drainage. With a good depth of soil, fairly moist and well enriched, excellent results may be obtained. Many of the smaller growing kinds, like *cæruleus*, *confertus*, *glaber* and *heterophyllus*, among others, are more appropriate for the rock garden on account of their neat habit. Although mostly hardy in selected positions, many kinds are severely tried in winter, so that it is always advisable to have a reserve stock in frames, especially of the rarer and more tender ones.

For the purpose of propagation, seeds of many of the species are easily obtained and, if good and fresh, will germinate quite freely. Young plants are also easily raised from cuttings inserted in sandy soil in a close frame or handlight about July or August, when cuttings of the half-ripened shoots root readily. In this way quite nice little bushes of such as *PP. heterophyllus* and *Menziesii* may be raised, and if kept in a cold frame for the winter will flower well the next season. The following is a selection of the most desirable and ornamental kinds, suitable, some for the rock garden, others for herbaceous borders or beds.

P. AZUREUS is a pretty species from California, free-flowering and dwarf in habit, growing about a foot high. The flowers are of a pleasing azure blue, with reddish purple at the base of the tube, while the leaves are of a glaucous hue. It flowers

continuously for some time during the summer months, and is best suited for the rock garden.

P. BARBATUS.—This is sometimes known as *Chelone barbata*, and is one of the best border plants. It is an elegant perennial, specially well adapted for grouping in beds or borders. From a procumbent tuft of shining leaves arises a graceful stem, often 4 ft. high, bearing rich scarlet blossoms that come in profusion for a long time. As well as being one of the most beautiful, it is also one of the easiest to manage. It may be freely increased by division, as well as raised from seeds, which it bears freely. There are several varieties of this species grown in gardens, one of the best of which is *P. b. Torreyi*. The best time for dividing the old plants is in early spring.

P. CÆRULEUS.—One of the earliest of the genus to bloom, this species is also distinct by reason of the charming light blue of its flowers, which are produced in dense panicles. In habit the plant is about 9 ins. high and the narrow leaves are glaucous. Treated as a biennial, it forms a pretty pot plant, besides being useful for planting out in a warm sheltered part of the rock garden. It comes from the plains of the Western United States.

P. CAMPANULATUS.—A variable border species from Mexico, with flowers of purple, pink and violet in varying shades of colour. These are produced in branching inflorescences on stems 1½ ft. to 2 ft. high, during summer.

P. COBÆA (the Cobæa-flowered *Pentstemon*).—In conjunction with *P. Hartwegii* and others, this species has played an important part in the production of a most beautiful and valuable race of border varieties of great decorative value and is well known. When well grown, *P. Cobæa* is a handsome plant, growing about 1½ ft. high, with large flowers



THAT SPLENDID FORM OF PENTSTEMON MENZIESII, KNOWN AS *P. SCULERI*.

varying in colour from pale and reddish purple to white. This plant is a native of Texas and is not quite hardy. Seeds should be sown in June, and the seedlings grown on quickly, receiving frame protection for the winter. They will be ready for planting out in a warm sunny spot in April.

P. CONFERTUS.—A low-growing plant, forming a mat of deep green leaves. This species produces in early summer numerous branching racemes of purplish flowers on stems 6 ins. high. It is an easily grown, hardy perennial, suitable for the rock garden. Of a better colour is the variety *cœruleo-purpureus*. Native of the Rocky Mountains.

P. CORDIFOLIUS.—A half hardy, sub-shrubby species of climbing habit, suitable for a warm, sunny wall. The stems are clothed with small ovate leaves and bear terminal inflorescences of bright scarlet flowers in June. It is a native of California and easily increased by means of cuttings.

P. DIFFUSUS.—A strong-growing border plant about 2 ft. high, with purple flowers in rather dense heads during the summer months. It may be raised from seeds or cuttings.

P. GENTIANOIDES.—Under this name are included all the florists varieties which form an important race of late summer and autumn flowering plants. Taken as a group they are as varied as they are valuable, and few plants can compare with them in the profusion of their branches of scarlet, violet or purple flowers of many shades of colour. For beds on the lawn or bold groups in the border they are most attractive. Their culture is quite simple, the most essential detail being a good loamy soil, enriched with cow manure. While they are not shade-loving plants in a strict sense, they most certainly have a preference for a cool spot. They may be propagated by means of cuttings in September when they will root freely in a little heat. If potted on as soon as rooted and kept in frames, they will make nice bushy plants, especially if stopped two or three times before the following spring. Varieties are very numerous as may be seen by the number offered by nurserymen who specialise in the plants.

P. GLABER.—This is a beautiful, dwarf and free-flowering plant, about 1 ft. high. The leaves are smooth and undulated at the margin, while the flowers vary from azure blue to light purple. It is best treated as a biennial and raised from seeds every spring. A good plant for the rock garden, it is found growing in poor arid soils and its native habitat in North America. There is a good rose-coloured form of this in cultivation.

P. HARTWEGII.—Frequently met with in gardens under the name of Newbury Gem, this is a very attractive plant with scarlet flowers of good size. It is a native of Mexico, growing at an elevation of over 11,000 ft. on the Tolmes Mountain, and is one of the easiest to grow either from cuttings or seeds. There is a good white variety of this.

P. HETEROPHYLLUS.—This is perhaps one of the most charming of all the dwarf kinds, forming a neat bush about 1 ft. in height, with narrow, entire leaves and twiggly racemes of clear blue or rose-flushed flowers. It is a good plant for the rock garden where it will prove quite hardy in a sheltered, sunny and well drained position. Plants vary very much in colour, and when a good blue variety is obtained it should be increased by means of cuttings. After flowering cut the plants back and secure the little shoots that follow. Strip these off with a heel and insert in sandy soil, when they will soon root. It is a native of California and flowers during the greater part of summer.

P. HUMILIS.—A pretty species from the Rocky Mountains, forming tufts of low foliage and bearing stems 4 ins. to 6 ins. high, topped with large flowers of a good blue shade. It is a valuable alpine plant, grows well in gritty loam and is quite hardy on a sunny ledge.



THE VERY DISTINCT *PENTSTEMON CONFERTUS CŒRULEO-PURPUREUS*.



ONE OF THE BEST AND EASIEST, *PENTSTEMON HUMILIS*.

P. ISOPHYLLUS.—A handsome, sub-shrubby species from Mexico, forming a bush 2 ft. to 3 ft. high and bearing throughout the summer months panicles of rosy-scarlet tubular flowers. It is worth a place in every garden and is easily propagated by means of cuttings and also produces plenty of seeds. It is known also as *P. triflorus*.

P. JAFFRAYANUS.—Also known in gardens under the name of *P. Roezlii*, this is closely allied to *P. azureus*. It is of shrubby habit, 6 ins. to 9 ins. high, with flowers of a reddish purple colour in June. A native of California.

P. LEVIGATUS is a strong-growing plant about 2 ft. high, with large foxglove-like flowers of pale lilac to white. It hails from the United States.

P. MENZIESII is a very variable species, some of the forms of which are ideal rock plants of dwarf,

shrubby habit, small foliage, and rose or lilac-coloured flowers. The plant known in gardens as *P. cristatus* (the true *P. cristatus* being a coarse-growing plant), is *P. Menziesii*, and this form is a good plant for the choice rock garden, being only a few inches high. This is a native of California.

P. OVATUS.—A strong-growing border plant 3 ft. high, from North-Western America, this has stout stems and azure blue to rosy-purple flowers.

P. RUPICOLA.—A charming little plant of shrubby habit only 2 ins. or 3 ins. high, with glaucous grey foliage and very large ruby-red flowers in early summer—a good plant for the moraine garden or rocky ledge. This plant is often sold and grown under the name of *P. Davidsonii*, a totally distinct plant, also of dwarf habit, with small lilac flowers. Both are natives of Western North America.

P. SCOTTII.—Sometimes regarded as a form of *P. Menziesii*, this is quite a distinct plant. It is of shrubby habit, forming bushes 2ft. to 3ft. across, and 1½ft. to 2ft. in height. The twiggy branches are well clothed with narrow leaves about 2ins. long and the whole plant bears a profusion of large, violet-purple flowers in May. It is an excellent border plant, quite hardy in light soils. In its

native habitat on the Rocky Mountains of Oregon it is usually found growing in rocky crevices. It is an easy plant to grow and propagate.

P. SECUNDIFLORUS.—Somewhat similar in habit to *P. glaber*, but the violet purple or blue flowers are produced in one-sided panicles.

There are several red-flowered species which are not included above. As a rule they are somewhat

difficult to manage. Among the best are: *P. Bridgesii*, 2ft. to 3ft. high, with bright scarlet flowers; *P. centranthifolius*, bright carmine flowers; *P. Eatonii*, rich carmine scarlet; *P. Murravani*, bright scarlet; and *P. puniceus*, with large funnel-shaped flowers of a rich rose red or vermilion colour, which grows to a height of 6ft. in its native country, Arizona. W. L.

AN AUGUST SHOW AT VINCENT SQUARE

IN view of the hot, dry weather and its being the holiday season, a large show was not to be expected at the Royal Horticultural Society's Fortnightly Meeting on August 8, but although it was indeed rather on the small side, there were plenty of good flowers in seasonable variety. New plants were much fewer than at recent meetings and in addition to those mentioned at the end of these notes there was an orange coloured *Calceolaria* from Lord Lambourne, in which the colour was good, but the blossoms small for the size of the plant, and Mr. W. F. Horne sent well flowered plants of the white *Nerium Oleander*.

Orchids were represented by a very small collection of *Cattleyas* and hybrids from Messrs. Cowan and Co. There were no novelties nor was there any fruit exhibit. It seems a pity that the Bunyard medals, which are offered at each meeting for different fruits, have met with such a poor reception.

Roses were of exceptionally good quality. Glorious stands of Betty Upchurch, Lady Inchiquin,

Sunstar, Isobel and Francis Gaunt were set up by Messrs. Alex. Dickson and Sons, who also staged Richard West, a new Hybrid Tea of butter yellow colouring and an apricot centre. It has a slight but pleasing fragrance. The Rev. J. H. Pemberton had a pleasant collection of Roses in which such free-flowering single sorts as Pax, Isobel, Mermaid and Vanity were most prominent.

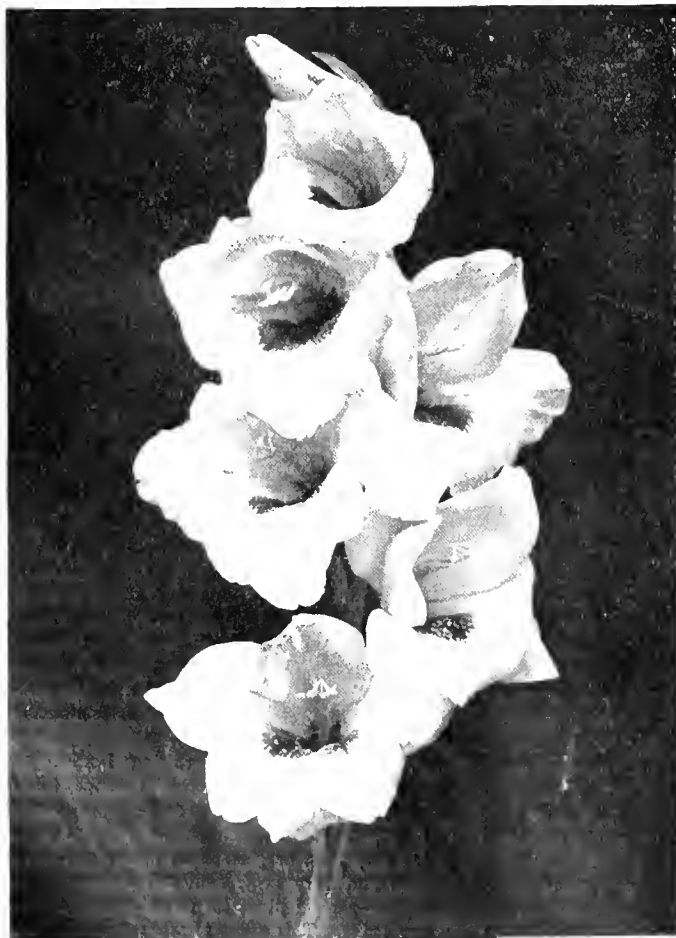
Herbaceous *Phloxes* gave beautiful colours and refreshing fragrance. A large oval group on the floor in the middle of the hall, arranged by Mr. H. J. Jones, was the best exhibit, and was awarded a gold medal. His best sorts were Le Mahdi, Evelyn, Rosine, Etna, Miss A. Ellis and Frau Ant. Buchner.

Various other exhibits included good herbaceous *Phloxes* in their collections. Mr. M. Prichard also had the relatively uncommon white variety of *Agapanthus umbellatus* and some interesting *Montbretias*. Mr. W. Wells, Junr., shewed a good variety of *Scabiosa caucasica*. Mr. H. Marcham, a newcomer, had a quantity of a graceful *Scabiosa*

named Azure Fairy, a misnomer, but quite a desirable mauve-coloured variety.

In the middle of a group of border flowers Mr. Amos Perry had a number of fine spikes of *Lilium tigrinum plenum* of showy colouring. He also staged spikes of *Yucca filamentosa*, White Lavender and *Lythrum daleana*, a showy rose-coloured *Loosestrife*. That beautiful double pink *Hollyhock* Palling Belle was shewn in delightful quantity by Mr. F. G. Wood, who also had a couple of vases of *Dahlia Coltness Gem*, a dwarf bedding variety of brilliant colouring.

Quite a large collection of *Dahlias* was set up by Messrs. J. Cheal and Sons and their quality augurs well for the success of the National Dahlia Society's show next month. Their useful, decorative Star *Dahlias* included Surrey Star, Southern Star and Horley Star. The dainty little *Pompons*, *Collarettes* and *Cactus* varieties were also of merit. Among a collection of border flowers Messrs. Cheal placed happily a large vase of tall spikes of *Galtonia (Hyacinthus) candicans* bearing plenty of white bell flowers. Mr. J. Klinkert had a



THE STRIKING WHITE AND MAROON GLADIOLUS INCONTESTABLE IN MESSRS. LOW AND GIBSON'S EXHIBIT.



AN APTLY NAMED CARNATION—CHINTZ, ON MESSRS. ALLWOOD'S STAND.



CAMPANULA HALLI SHOULD BE A USEFUL ADDITION TO DWARF CAMPANULAS.



THE FRAGRANT NERIUM OLEANDER.

collection of topiary specimens, mostly in Box, which were well clipped.

There were several interesting collections of Gladioli. Messrs. Kelway and Son confined themselves chiefly to the large-flowered hybrids, but generally it was the daintier Primulinus varieties that found most favour. Major Churcher had two splendid seedlings. Nydia, of good typical form and delightful rose flushed shading, and Otranto, maize yellow with crimson lake markings in the throat and flushed with pale rose outside, were very delightful. In a large collection arranged by Messrs. R. H. Bath, Limited, there were Niobe, of brilliant orange shading; Hesperia, soft salmon;

and Arden, red tints. Messrs. Lowe and Gibson shewed many of their seedlings, including Salmon Beauty, Pansy, of quite uncommon colouring on the lower segments, and Altair, salmon-saffron, of the Primulinus section; and Montezuma, Red Fire and Incontestable, pure white with red blotch, of the large flowered hybrids. In the corner by the tea annexe Mr. Alfred Edwards had a well arranged group of Primulinus hybrids.

Carnations, as usual, were shewn in quantity and of good quality by Messrs. Allwood Bros. and Mr. C. Engelmann. Among the Fancy sorts, Chintz, Coquette and Circe were especially beautiful

NEW AND RARE PLANTS.

Anomatheca cruenta.—Though by no means new, this pretty little Cape Lily is much rarer than its merits warrant. It belongs to that numerous class of plants that are nearly, but not quite, hardy, so, although the bulbs will safely winter out of doors in an average season, in many gardens it is safer to lift them after the foliage has ripened and store until the following March. This species bears elegant scapes, about 9 ins. high, and carrying five or six flatish rich carmine crimson flowers, which have a dark blotch on the lower segments. It is eminently suitable for cultivation as a pot plant in the cool greenhouse, when it should be treated in the same manner as Ixias. Shewn by Miss F. Homfrey.

Buddleia nanhoensis.—If judged by the sprays on view this is practically a poor imitation of *B. variabilis*, but as a growing bush it is quite distinct and has much to recommend it. *B. nanhoensis* becomes a graceful spreading bush from 3 ft. to 4 ft. high and bears plenty of arched sprays of very fragrant flowers. The neat, broadly lanceolate leaves are pale green above and silvery underneath. Shewn by Mr. Clarence Elliott.

Campanula Halli.—A very free-flowering and quite dwarf little plant. It is a cross between *C. pusilla alba* and *C. Portenschlagiana*. From neat, rounded tufts spring, almost erect, widely expanded white, bell-shaped flowers of relatively large size. Award of merit. Shewn by Mr. A. J. Hall.

NEW LATE-FLOWERING WHITE TULIPS

FOR many years we had no A 1 late-flowering tall white Tulips. To be Irish, the best of them was White Swan, which is not late flowering at all, but a true mid-season variety of which once upon a time there would seem to have been so many. In old flower books of the seventeenth century, such, for example, as John Rea's "Flora, Ceres and Pomona" (1665), the mid-season or, as they were then called, the medias, were the largest section by far, while the serotinas or late-flowering ones were few in number. The exact reverse is the case with our present-day Tulips. We have, however, some mid-season varieties like *Coleur Cardinal*, *Le Réve*, the exquisite new primrose and lemon Canary Queen and the ancient stand-by White Swan. I wish it were the fashion of our modern lists to make a third section by restoring the "media" group to their dethroned place of honour. Themis, which is one of the three new whites, would, I think, be included in it. It is much earlier than either Carrara or Zwaneburg. As yet they are all three expensive, from about five shillings to seven-and-six a bulb, hence I would give Themis a miss until it comes down in price. It is not so very much better than a tip-top White Swan, and there is little to choose between them in their times of flowering. Carrara is usually classed as a Cottage variety, and is a pure white rather round-shaped flower with white anthers and pollen and a strong stem of about 2 ft. high. Zwaneburg is taller and its flower has the characteristic square base and build of a Darwin with black pollen. Is this black pollen an improvement or a detriment? The answer anyone will give is largely a matter of taste. If only the pollen would never shed when the anthers open, no powder patches could have been more becoming! But when wind or insect visits scatter the dark grains over the pure interior, the big camel-hair brush of the old Tulip enthusiast I feel ought to be requisitioned to give it a good spring cleaning. JOSEPH JACOB.

LOW-GROWING HEATHS

OF several hundreds of species of *Erica* the comparatively few species hardy in Britain are all European and many of them are indigenous to Britain. The dwarf species, about which these brief notes are written, comprise *carnea* (herbacea), *ciliaris*, *cinerea*, *Mackayi*, *multiflora*, *Tetralix* and *vagans*. To these we shall do well to add the Ling, *Calluna vulgaris*, so noticeable a feature of many English and Scottish moors and St. Dabeoc's Heath, *Daboecia polifolia*, the large-belled Heather of Ireland.

The earliest Heath to flower, *E. darleyensis*, is not a species but a hybrid between *E. carnea* and the tall-growing, but very valuable *E. mediterranea*. The plant is also sometimes known as *E. mediterranea hybrida*, and a plant with somewhat similar characteristics, but of a more erect habit of growth and probably representing the same cross as *E. carnea hybrida*.

Erica darleyensis is exceedingly free to flower and stray spikes may often be found with the bells fully expanded before Christmas, but its rather bluish mauve blossoms are generally at their best towards the end of February or in early March. The flowers usually go off a pinkish-lilac, very similar in tone to the newly-expanded blossoms of *E. carnea*, which itself dies a deep purplish-rose, that, though not specially objectionable, is perilously near to that of rotting flesh. A paler form of this plant called *E. carnea rosea* has no particular charms. In the pure white form, however, the snowy bells contrast well with the chocolate anthers, but this is less bold in habit than the typical plant and comparatively shy to flower.

The Scotch Heath, *Erica cinerea*, is typically a species with bright purple flowers which, at its best in June, continues to make something of a show until early autumn. The most noteworthy form of this is the practically scarlet *coccinea*, which is unrivalled in colouring by any other Heath. Rosy-pink forms are occasionally to be seen also, as well as deep purple and pure white ones.

Erica ciliaris is a species beautiful in flower and foliage, but it does not produce the mass of colour that some do. The relatively large flowers are rosy-red, the foliage greyish and the young growths hairy. The variety *Mawcana* is much superior to the type, the plant being sturdier, the flower larger and the foliage rich green. A very interesting hybrid is *E. Watsoni* (*ciliaris* x *Tetralix*), which partakes of the character of both species, but inclines upon the whole towards *ciliaris*.

The Cross-leaved Heath, *E. Tetralix*, is the commonest species of the genus *Erica* in Britain. This it is which provides such sheets of summer colour on the Welsh mountains. Despite the hint of magenta, the purple colouring of the typical plant is very fine in appropriate situations. There are two pure white forms, called respectively *alba* and *molis*. The latter has beautiful grey foliage, due to the presence on the foliage of a whitish down.

It is rather doubtful whether *E. Mackayi* is more than a form of the last named species, but it may be a hybrid between this and *E. ciliaris*. The blossoms are deep rosy-red. There is now a double-flowered form which has the advantage of lasting long in flower. *E. Stuartii* is another plant of the group which some think to have *mediterranea* "blood."

E. multiflora is to the eye of the gardener, rather than the botanist, much like *E. vagans*—next to be described. It is, however, more compact of habit. It is distinguished botanically by the anthers being merely notched at the top, whereas in *E. vagans* they are split to the base.

E. vagans is a very variable shrub, generally of lax spreading habit, but there are forms which approximate in growth to *E. multiflora*. To this more compact type belong the variety *Keyernensis* (St. Keyerne), with bright salmony rose blossoms. *E. vagans* remains long in bloom, though the progressive rows of seed pods militate against the beauty of the later flowers. There are pure white and more deeply rosy forms (*rubra*), all chocolate anthered, like the type and one called *grandiflora*, larger flowered, but even laxer in habit than the typical form (if there be such).

The unobservant will wander across the moors for many a day when the Ling is abloom and never notice any variety. It will come, therefore, as a shock to such to realise the great number of varieties actually in commerce, though these can actually form but an insignificant percentage of the forms in existence. The following should be in every collection of Heaths. *Alportii*, with blackish-grey foliage and rich crimson blossoms; *flore pleno*, with multitudes of fully double rosy flowers; *alba Serlei*, best of the white Lings, because so well furnished with vivid green foliage; and *aurea* and *cuprea*, both of small blossom beauty, but invaluable for the bronze and golden tintings of their

foliage. These two last are rather prostrate in habit; *flore pleno* is semi-erect and *Alportii* and *Serlei* are upright growers.

St. Dabeoc's Heath in its typical form has blossoms of some reddish purple hue, though some seedlings are very much richer in colouring than others. There is a pure white form and one called *bicolor*, which is, perhaps, more curious than beautiful. Here some of the bells are purple, others white, yet others striped and often a few sprays may be found in which red and white have combined to produce a delicate blush colouring, which form the gardener would gladly fix, were it possible, which, alas! it is not.

There is a form of this St. Dabeoc's Heath, white in blossom colour, which is, from the gardener's point of view, so distinct as to be worthy of specific rank. The bells are as large again as in the type, quite globular in shape and the habit of the plant is rather lax and spreading. This form is called *globosa alba*.

By crossing this with the typical reddish-purple *polifolia*, a series of globose forms may be obtained in many beautiful shades of pinkish lilac. There seems every probability that careful work on this plant might produce new and improved varieties which would place the *Daboecia* in the very forefront of Ericaceous plants. It is quite one of the showiest as it is.

THE JERUSALEM SAGE

PHILOMIS FRUTICOSA, usually known as Jerusalem Sage, is quite an attractive evergreen shrub and, being xerophytic, is a very suitable plant for dry or sandy soil or a warm sunny bank. Most gardens have such places and many other plants usually fail to thrive there. The *Phlomis* is a vigorous growing plant from 2ft. to 4ft. high, divaricately branched with stout square branchlets covered with grey branched hairs and large obovate to oblong rugose leaves arranged in pairs, also covered with hairs sparsely above, but thickly beneath, and giving the under surface a grey

appearance. The whole plant has the appearance of a giant Sage, so that even when out of flower it is quite ornamental as a foliage plant. During June and July it bears its bright yellow flowers, which are stalkless and arranged usually in two dense whorls from 2ins. to 3ins. across, each containing from twenty to thirty flowers. The corolla is two lipped, the upper one hood-shaped and pilose both inside and outside; the lower lip consisting of two large lobes at the front, with two small lateral lobes at the base and a few hairs on the underside. Like the majority of the genus it has a woolly ring inside the tube at the base of the stamens, the entire



THE BRIGHT YELLOW JERUSALEM SAGE, *PHLOMIS FRUTICOSA*.

flower being about twice as long as the five-angled, hairy, green, tunnel-shaped calyx. Surrounding the head of flowers are broadly ovate-lanceolate, hairy bracts with two pendulous floret leaves beneath.

It is a native of Southern Europe, chiefly Spain, Portugal and Sicily. Perhaps not hardy in all parts of the country, better results will be obtained, both as regards the length of life of the plant and the production of a profusion of blossom,

if it is planted in a position where the soil is distinctly on the poor side. Here at Cambridge it is perfectly hardy. This, no doubt, is owing to the dry climate. Every year it is covered with its bright yellow heads of flower and is quite as easy to grow as the common Sage, being easily propagated by cuttings. It is quite an old plant, having been cultivated by Gerard as long ago as 1500.

Botanic Gardens, Cambridge. F. G. PRESTON.

GLADIOLI IN VICTORIA

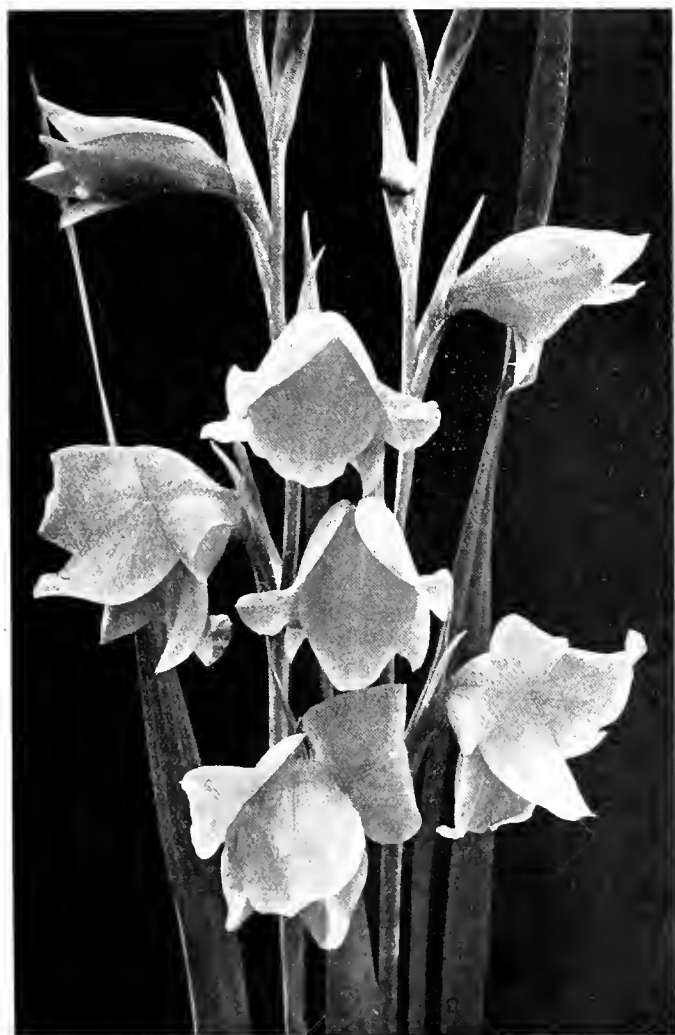
HAVING read with great interest various articles in *THE GARDEN* on the Gladiolus, it has occurred to the writer that a description of some of the best known of Victorian raised seedlings might be of interest to readers in England. The popularity which this showy and easily grown plant at present enjoys is, I think, amply proved by the fact that practically every grower for trade purposes of any standing finds it necessary, in order to keep up with the ever increasing demand for the corns, to include a very comprehensive list of Gladioli in his catalogue.

In Victoria the main centres both of seedling raising and distribution are Melbourne and suburbs, Ballarat and Camperdown. From Ballarat hails the celebrated variety Mrs. T. Rattray (raised by the late W. Rattray). I have not yet seen this,

but it is here generally recognised as the best rose pink on the market and must be very good to justify the high price asked for it. Messrs. R. Nicholls and Co. of the same city have raised a very large number of seedlings, some of the best of which are as follows: Jean Tenny, a huge flower of pale pink with yellowish throat; Egyptienne, a remarkable flower, described as "varying sunset colours," (in reality the ground colour is a pale sunset pink inclining towards lilac, flecked with slate blue and very slight suggestions of creamy yellow and white); Wm. Doncaster, a lovely flower of an unusual shade of salmon scarlet, with a neat yellow blotch; Bernice Rickey, much resembling Prince of India, but smaller and more intense in colour; and Clara Scott, a peculiarly coloured flower, described as rose cerise, but very lovely—it has a deep purplish-cerise blotch. Nerrina, light red, and Wm. Russell,

light purplish, are rather smaller flowers, but very decorative and the former is a very vigorous grower.

Messrs. Errey Bros. of Camperdown, where they are particularly favoured as to soil and climatic conditions, have raised a large number of excellent novelties, most of which have already become very popular. To mention a few of these: Chancellor, a splendid big dark crimson; Constance, a very bright and decorative orange salmon—a good flower for show, too, when at its best; Averill, a seedling from the popular Prince of Wales, a rosy-salmon, flaked salmon scarlet, with a yellow blotch, but varying considerably in flaking and intensity of colour, the former being sometimes absent, but in either condition a charming flower; and Herodion, also a flaked variety, rose pink, flaked carmine; it bears a considerable resemblance to and may possibly be related to Leolin, which, however, is slightly paler in colour and much less flaked—I have known it come almost pure pink without any flaking when grown in semi-shade, but both these varieties need to be well grown to do themselves justice, otherwise I find them rather disappointing. Eusign and Victor may be considered together, both are fine big scarlet flowers with large pure white blotches, sometimes a little flaked at the edge, the former is rather the darker in colour of the two and more liable to flaking. Eleanor stands out chiefly as a decorative and is one of the most vigorous and prolific "Glads" I know; the colour is a blend of cream, pink and



TWO PRIMULINUS HYBRIDS WHICH FLOURISH IN AUSTRALIA. THE ALMOST SCARLET ZENOBIA AND THE RUFFLED, ROSE AND GOLD LINTON.

deep rose, with a large crimson-maroon blotch in the centre. King Pearl is another big flower, pure white, deepening to creamy yellow in the centre, while Melvin is a vivid reddish-orange and makes a notable patch of colour anywhere. Perhaps the best of their seedlings to date—at any rate, as far as I know them—are Nimrod, Sentinel and Iremel. Nimrod is a huge flower of a very deep coppery crimson, flecked with chocolate, but this flaking so nearly blends with the ground colour of the flower as to give a self-colour effect; I consider it easily the best of the crimson shades. Sentinel is a splendid show flower, very large and bold and of a lovely warm salmon pink, with a crimson blotch on cream ground. Iremel is a very fine red, too deep in tone to be called scarlet, but too bright to be called crimson, though, if anything, nearer the former. It has a large deep cream blotch and makes a splendid companion flower to Ensign or Victor. The last I shall mention of Messrs. Errey's raising is Titan, aptly named, for the flowers are enormous, quite the biggest I know, and the colour very pleasing, clear salmon pink, lighter towards the centre, with a rather small purplish mark in the throat. In spite of its huge size it loses nothing in beauty, but of course it requires to be staked carefully as the spikes are so heavy.

Turning now to the primulinus hybrids, it seems that up to date Mr. G. H. Francis of the Oldown Nursery, Upper Hawthorn (a suburb of Melbourne), is the only grower to raise these hybrids to any extent. I have not seen a great number of his novelties, but the following are very good. Harmony reminds one of the well known Salmon Beauty, but is vastly superior both in size and colour, which is a lovely shade of pink, inclining to salmon, with a large blotch of yellow in the centre. The colours are wonderfully clear and pure. This and Lovelight are two of my greatest favourites. Lovelight is difficult to describe; the catalogue says "flesh, gold throat," but the colour is really a beautiful blend of pale flesh pink, cream, yellow and palest salmon shading to yellow in the throat, which is marked and dotted with crimson; the smoothness of the flower is quite remarkable, having the appearance of being modelled in wax. Treasure is a salmon pink flushed white, and Hope a pale flesh pink with a beautiful throat; both are very delicate in tint. Canary King, a very good yellow of fine form, and Lydia, yellow with crimson blotch, are as good as any of their respective colours. Those who are fond of queer shades will like Crescent, described as mahogany red, but really a shade of crimson with a decided suspicion of chocolate brown, each petal having a fairly broad gold stripe. Lena closes the list; it is a very rich shade of bright apricot and a splendid variety for decoration.

Before I leave what is to me a fascinating topic, I have a few more remarks which may be of interest. As to local conditions, the climate here (about 30° S.) is mild, with comparatively few frosts in winter, and Gladioli can be flowered with ease all the year round by planting in succession. Those which are flowered and have to complete growth in the colder months (roughly May to September) are not so satisfactory and do not produce such good corns for next season. This is, of course, what one would expect under the conditions. The majority are planted to bloom in autumn and so avoid the hot days (over 90° Fahr.) of summer, of which, however, only an average of twelve occur between December and March. In autumn, too, the colours are frequently purer and richer.

As to cornlets, many varieties seem always to produce but a very few frequently none at all, while others are almost always most prolific in this respect. Last year one corn produced an enormous new corn, over 10 ins. in circumference,

and over 140 cornlets, but this year another "beat it hollow" by producing two very large corns and considerably more than 400 cornlets!

Most varieties of Gladioli seed with great freedom, but a few varieties I find invariably produce very few seeds per pod, the most noticeable in this respect being Lavandula Major, Herada and Helios.

The varying opinions as to the "best dozen" as expressed by various readers in THE GARDEN during the early part of the year have been of much interest. Here are my selections, ranked in order of personal preference rather than of merit and exclusive of Australian-raised varieties, many of which take a very high place.

Primulinus Hybrids:—Myra, Alice Tiplady, Nydia, Salmon Beauty, Zenobia, Elbeton, Ulrica, Linton, Firefly, Arlon, Angola and Dexter. The first two are absolutely indispensable anywhere.

Large-flowered Varieties:—Byron L. Smith, Lavandula Major, Mme. Mounet Sulby, Herada, Mrs. Dr. Norton, Pink Perfection, Mrs. F. Pendleton, Orby, Flora, Britannia, Prince of Wales and Will-rink. Flora is an excellent substitute for Golden

Measure, inexpensive and scarcely inferior to that ridiculously high-priced variety.

Other excellent varieties which will give every satisfaction are Afterglow, Amaranth, Evelyn, Kirtland, Florence, Rouget de Lisle, Halley, Saphir, Liebesfluer, White Giant, Maréchal Foch, Meteor and Prince Henry of York (for colour), Captain Sverdrup, Pinnacle, Prince of India, Leonie, Loveliness, Damask, Europe, Emile Aubrun, Intensity and Helios. Varieties I have found disappointing are as follows: Captain Brandt, for form; Niagara and Yonell's Favourite for colour; and Beatrice Marion, for both.

I have as yet only grown a few of the ruffled varieties, but of these Rose Glory, Joe Coleman and Pride of Lancaster are excellent. Alton has not yet flowered and Orange Glory, though a lovely colour, is spoilt by usually having the blooms cramped—often to the extent of deformity. There is ample room for new introductions in this section as a good "ruffle" imparts a considerable amount of beauty and distinction to the flower.

Geeelong, Victoria, Australia.

AUSTRAL.

LATE WINTER AND SPRING-FLOWERING PLANTS

ALL lovers of beautiful garden displays must look ahead, very seriously, at least four times during the year. If cultivators did not make due provision in good time there would be a scarcity of flowers when there should be a profusion; these remarks apply to hardy border plants as well as to those grown under the protection of glass. Three plants, well cared for, are of more value than five that have been neglected. It is, of course, always harvest time with the gardener, but sometimes, like the miller, he must attend to many duties at once, so, along with the usual ones the garden calls for, he should pay special attention to the stocks of spring-flowering plants now growing in boxes, frames or nursery beds.

AUBRIETIA.—For massing and early spring blooming few plants are better than this. Old tufts cut back, divided and planted out have had a struggle to live in some soils during the recent spell of hot weather. The constant use of the Dutch hoe and occasional soakings with clear water have done much good and the tufts are now increasing nicely in size. From good strains seedlings look well this year and all those now in boxes should be planted out in nursery form so that fine specimens will be available for lifting in October.

POLYANTHUS.—I am sure many readers will have had trouble with their young stock and lost many old plants during the past ten weeks. Personally, I grow about two thousand seedlings each year and, had I planted all out in the usual border, many would have perished. Fortunately, I decided to form a special border in a favoured position and the young plants are now growing splendidly. They will be shifted as soon as possible, however, to the more open nursery beds as they are becoming overcrowded in their present quarters. The weather, one may reasonably expect to be more suitable for them henceforward. The soil, being on the heavy side, suits these Bunch Primroses and they form fine plants with masses of roots. Amateur cultivators sometimes lose much by retaining their young stock too long in shallow boxes; huge masses of blossom can only be obtained from big, well-established plants.

GIANT DAISIES.—These are more tenacious of life, when grown under adverse conditions, than are the

Polyanthus. Those who garden upon sandy soils must not, however, expect to grow as fine plants and flowers as those who have a more retentive loam. From sandy soils in various districts I have, during the past few years, seen many poor specimens. The sand, through the action of earthworms, strong winds, hoeing and other causes, is apt to lodge in the centre of each young plant, which is much checked in consequence. An occasional watering through a rosed watering-can will wash out much sand and greatly benefit the plants.

WALLFLOWERS.—The Wallflower is soon damaged if overcrowded, and, as the seeds are generally sown too thickly and germination is usually good, the plants at once rob each other. The main root of a Wallflower is, distinctly, a direct continuation of the main stem and so it can penetrate easily between bricks and stones and find sustenance. When treated as a spring bedder, however, it is required to afford a fine display of blossom. Timely transplanting in rather firm, moderately rich ground and at a distance apart, each way, of 8 ins., will ensure handsome specimens for planting permanently in October. If however, the plants are to remain in their nursery quarters till spring they should be planted at least 6 ins. apart. Good strains of the dark and yellow varieties are always pleasing, but there is one, a yellow, named Cranford Beauty, that appeared to me to be of extra high merit, both as regards flower and sturdiness of habit, when I saw it for the first time last spring.

VIOLAS.—For massing, and where strict conformity to shades of colour and form is not absolutely required, seedlings yield a good return for a small outlay. Last spring I saw three batches of plants of very high merit in mauve, lavender and light and dark purple colours and all were very effective. Nicer tufts are secured if at the present time all plants are afforded ample room in a quite open quarter and all flower buds are promptly removed as they appear.

The same careful attention should be given to the double and single Arabis, Campanulas, Primulas for the rock garden and Sweet Williams. The latter, neglected, become weeds; properly cared for this plant is one of our most attractive border flowers. The strains have been immensely improved of late.

GEO. GARNER.

CORRESPONDENCE

IRIS PRICES.

MR. GIBSON'S recent article (page 355) leads me to protest against the prices at which many of the older varieties are being sold. In a catalogue I have just been sent, one is told that Irises increase rapidly, and that it is as easy to grow a good Iris as an inferior one. True! Yet there are some forty varieties listed which have been in commerce ten years or more, whose prices range from 2s. 6d. to £1 1s., e.g., Standard Bearer (1904), 2s. 6d.; Mercedes (1905), 5s.; Col. Candelot (1907), 10s. 6d.; Mme. Durand (1912), £1 1s.; Crusader (1913), 10s. 6d.; Souv. de Mme. Gaudichau (1914), 15s. In some cases prices have actually been raised since last season. The prices, too, of recent French varieties, such as Ambassadeur, Medrano, etc., are also out of all proportion to the prices at which they were distributed by their raisers. When literally scores of new varieties (all, of course, quite distinct, and a great advance on old varieties!) are being put on the market at prices ranging up to £10 10s., older varieties might well be reduced to something within the reach of the ordinary citizen.—B. R. LONG.

VIOLA FLOWERS AND THE LEAF-CUTTING BEE.

IS it not unusual, at least in this country, for the leaf-cutting bees to make use of any other material than the leaves of Rose bushes in making their nests? In my garden during the past fortnight, however, one of them has been cutting Viola petals. Only the white or pale yellow Violas have been cut, the mauve and purple ones being untouched. I enclose some specimens for your inspection.—(Mrs.) M. RANDOLL.

[The flowers sent shewed the removal of the circular and oval patches characteristic of this insect.—ED.]

A HANDSOME HYDRANGEA.

HYDRANGEA hortensis Mariessii, which is now-a-days surprisingly little seen in gardens, differs from the general run of hortensis varieties in that the marginal flowers only are sterile, thus giving the large trusses somewhat the appearance

of a delicate mauve pink variety of the Guelder Rose, except that the sterile florets and, indeed, the inflorescence as a whole are much larger. A



ALSTROEMERIA AURANTIACA IN A SHRUBBERY.

diameter of 3in. is quite an ordinary dimension for the sterile flowers.—S. N.

THE HERB LILIES.

I WAS pleased to see the note from your correspondent "W. I." (page 404) on the Alstroemerias. For some reason these lovely plants are not grown to anything like the extent they were some years ago and it is well they should be brought to the notice of garden lovers, for they are really worthy of their old-time popularity. As regards A.

aurantiaca, however, a word of caution is necessary for it is a rampant grower in a soil which is to its liking and it will speedily encroach on and crowd out its neighbours, and as it sends its roots down to a great depth, much labour is needed to eradicate it. It is well, also, to cut away the seeds before they ripen if increase in this way is not desired, for on a hot sunny day the ripe capsules burst with great force and the seeds are scattered for several feet round the parent plant. Open spaces in the shrubbery are good positions for it and it will grow and thrive for years in such places. Its beautiful orange-coloured flowers are among the best for cutting, lasting in water much longer than most summer flowers. I enclose a photograph taken recently of a large group in a shrubbery which was quite old when I took charge thirteen years ago.—H. C. WOOD.

THE SHOWY MEADOW SAFFRON.

I AM anxious that those who wish to possess some of the best of the autumn-flowering Meadow Saffrons, or Colchicums, should secure them as early as possible if they are to have the full pleasure they can yield this autumn. This can only be secured by procuring the corms very early and planting them at once at a depth of 3ins. to 4ins. in ordinary soil, 6ins. in light earth and 2ins. in very stiff clay. Some bulb dealers offer for delivery in the end of August and early September, and if this can be arranged it is about the best time for planting. This may be delayed until later, but it is always advisable to plant in August if possible.

Of all the Meadow Saffrons none is more beautiful than *C. speciosum*, which has been likened to a Tulip, so large are its handsome blooms, which open out well to the autumn sun, and in a group make a lovely feature of the garden. The flowers of the typical *C. speciosum* are a fine purple with a white centre and a stout ivory-white tube. Spearling through grass or some dwarf carpeter these big flowers look very ornamental. There are several varieties. A good one is *C. speciosum maior*, with larger flowers. Still finer is the variety *C. s. rubrum*, which has the tube red or purple as well as most of the segments. There is also a very handsome ruby-coloured variety with deep



THE REALLY HANDSOME HYDRANGEA HORTENSIS MARIESSII.

coloured tube. It goes under various names and is not too easy to get hold of. A true gem is *C. s. album*, the lovely ivory-white one, sent out originally at the price of 45 per corm by a leading firm, but now available for 2s. or little more. It ought to be in every garden. — SCOTIA

BOISSIER'S GLORY OF THE SNOW.

CHIONODOXA LUCILLE has long been known as one of the most charming of the Glories of the Snow, and ever since its introduction it has been recognised as one of the most charming of our spring flowers. It is not generally known, however, that the form in general cultivation is not the same as the one originally found by Boissier and described by him in glowing language. The *Chionodoxa* named *Lucille*, which was first introduced, flowers a little earlier and is not such a fine blue as Boissier's plant. Within recent years the latter has come into

commerce and is one of the most delightful of all. It resembles the other in the possession of a large white centre, but the blue which surrounds this is much deeper, yet of great brightness. Tastes will not agree in everything and there may be some dissent from my view that Boissier's variety is superior to what is known as the type. It is distinct, also, from *C. Lucille* Timoli or Timolusii. All these three may be cultivated with advantage, either in clumps or masses in the rock garden or grass or in the front of the border. Bulbs are not expensive and may be obtained from most bulb dealers and planted at a depth of 2 ins. to 3 ins. as soon as obtained. Boissier's Glory of the Snow also makes a good pot plant, putting the bulbs almost close together and bringing on slowly in a cool house, or, better still, plunging the pots outside and bringing them in as soon as the plants show flower. — S. ARSOTT.

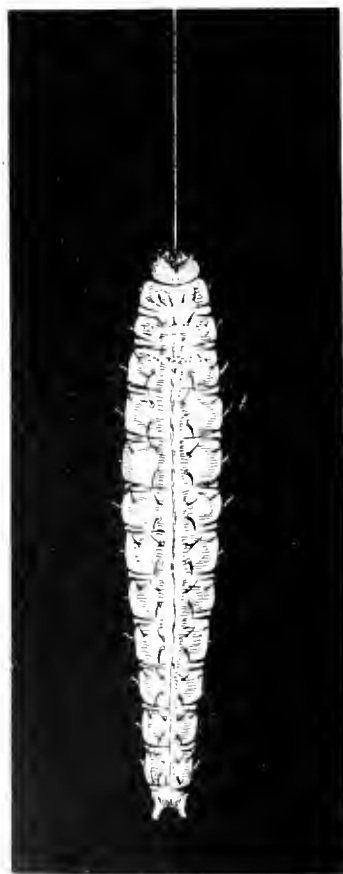
THE DIAMOND - BACK MOTH

THIS moth, known by entomologists as *Plutella maculipennis* (Curt.), which now and then becomes very destructive to crops of Turnips, Cabbage and Swede, is a more or less common pest of gardens; and its presence in some numbers on Turnip, Swede, Brassica seedlings and Mustard in Lincolnshire, and the fact that it has been reported from several other counties, is sufficient justification for a survey of its life history and the methods of control.

In 1851 the caterpillar of this moth is recorded by Ormerod ("Manual of Injurious Insects") as appearing in "enormous numbers both in England and Ireland, in some instances almost clearing away the attacked crop." It is further stated as being very widely distributed over Europe and occurring even in South Africa. The pest usually occurs in epidemic form, in some years committing serious devastation and in other years doing so little damage that its presence is scarcely noticeable. Thus in 1891, according to Theobald ("Textbook of Agricultural Zoology"), "The east coast of Great Britain was ravaged by countless numbers of this moth, whose larvæ fed on Turnips, Cabbage and most other cruciferous plants, devouring the leaves down to the midrib." The same authority goes on to say that it was estimated that this little pest, which is well known over most parts of England, caused twenty thousand pounds' worth of damage to root crops alone.

The small yellowish eggs are laid on the backs of the leaves of cruciferous plants and when the minute caterpillars are hatched they eat round holes, resembling shot holes, through the leaves, or else tunnel for a time in the interior of the leaf. As they grow they feed quite openly on the backs of leaves, eating out irregular holes in the tissue, sometimes leaving the upper epidermis intact. The shot holes are usually the first sign of the presence of the pest. When disturbed the caterpillars throw themselves off the plants on which they are feeding and hang by a fine silken thread (Fig. 1); by means of this, when danger is past, they regain their position on the leaves. The larvæ are greyish in colour at first, but as they grow and shed their outer skins they assume a pale green tint which harmonises very well with the leaves on which they are to be found. This harmony is particularly noticeable when the larvæ are feeding in Mustard flowers; they spin the flowers loosely together, and lying along one of the threads towards the inside of the flower head may be easily mistaken for one of the small green stalks of the flowerets. Though as individuals the larvæ do little damage, being only about half an inch long

when full grown, when they appear in large numbers, as many as sixty to seventy to a young Cauliflower plant, they become a serious pest. Miss Ormerod states that as many as 240 have been counted on a single plant of moderate size, and it may be imagined that a pest in such numbers, feeding for four or five weeks, will do considerable damage. In 1921 the Ministry of Agriculture (Report of Insect Pests) records an attack in Anglesey,



CATERPILLAR OF DIAMOND-BACK MOTH.
(Much enlarged.)

where, in one case, it was calculated that there were 182,700 larvæ per acre.

In Lincolnshire the attack has been developing since about the middle of July, and in several gardens which the writer has inspected there is

hardly a cruciferous plant, from Radishes to autumn Cauliflowers, free from the pest. In this district, where large acreages of Brassicæ are grown for market, the attack may become serious, but



THE ADULT INSECT (ALSO ENLARGED).

weather conditions and natural enemies may yet effectively check its development. Constant heavy rains appear to be detrimental to the growth and maturing of the caterpillars, which are also particularly prone to the attacks of insect parasites such as ichneumonids and braconids.

When fully fed, the greenish larvæ, which are, characteristically, spindle shaped and have yellow or brownish heads, spin themselves delicate, silken-netted, whitish cocoons on the backs of the leaves, on dead leaves or on the ground. These cocoons are really silken tubes in which the insects pupate, leaving their cast skins outside, adhering to one end of the network. The pupæ are at first pale yellow, but gradually become darker and mottled as development goes on. The pupal stage lasts for two to three weeks, at the end of which time the insects work their way out of the silken tubes, the pupal coats split, and the perfect insects emerge.

The following is Theobald's description of the adult (Fig. 2): "The moth has long narrow wings, the fore-pair being reddish—or slaty-brown, with a pale yellowish white border posteriorly; the hind wings are gray with long fringes of hair, a feature seen in all *Tineidæ*. When the wings are folded the pale edges of the front ones come close together and form diamond-shaped areas, hence its popular name."

It will be realised that owing to the feeding habits of this pest it is rather difficult to cope with, but it can be satisfactorily controlled in gardens by spraying with lead arsenate so as to wet the under surfaces of the leaves. This can be done by using a syringe with an elbowed nozzle which directs the spray to the under sides of the leaves with the least amount of difficulty. The spray should be made up in the following proportions: Soft water, 6 gallons; lead arsenate paste, 1 lb.; soft soap, 1 lb.

Another method of treatment is to brush the plants lightly with a bundle of twigs, which causes the larvæ to throw themselves off the plants; the twigs are then drawn between the rows so as to break the silken cords and thus leave the caterpillars exposed on the surface of the soil, where they can be sprayed with paraffin emulsion made up of soft soap, 1 lb.; paraffin, 1 pint; soft water 4 gallons.

This spray is prepared as follows: Dissolve the soap in 1 gallon of the water, add the paraffin and syringe vigorously to get a good emulsion. Now add the remainder of the water, agitating the mixture briskly while doing so. It is most important to secure thorough emulsification before applying the mixture.

There are two broods of larvæ per annum, the second brood remaining as chrysalids among dead leaves, rubbish, etc. Refuse which is likely to harbour these insects should be destroyed by

burning; and, since the larvæ feed on them, cruciferous weeds should always be kept down so as to prevent the possibility of an attack originating with them. HERBERT W. MILLS.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Mushrooms.—Where horse droppings are available they should be collected and placed in a dry, open shed until the quantity is sufficient to make a bed. They should be turned frequently until all the rank steam has escaped, then the material made quite firm and the spawn inserted an inch deep at a temperature of 80°. A covering of finely sifted loam should be given, and a layer of straw will tend to keep the bed moist. Syringe the house occasionally and, if the bed becomes dry, a light sprinkling of tepid rain water will be beneficial.

Celery.—Continue to earth up Celery, choosing fine weather, when the foliage is dry, for the operation. Remove all weeds and decaying leaves and after the soil has been finely broken up work it among the plants with the hand, and prevent any falling in the centres.

Dwarf Beans.—If brick pits are available a sowing of Dwarf Beans may be made to furnish a supply during late autumn. The soil should be enriched with manure and well dug over with a spade. Before sowing, make the soil fairly firm and, if needed, moist, then no water will be necessary until germination has taken place. Syringe the foliage daily if the weather is hot. The lights will not be required until there is danger of frosts.

Beetroots.—The roots from an early sowing should be lifted before they become too large, and then stored in ashes in a cool shed. The tops should be broken or cut off, not too near the crown or bleeding will follow and the roots thereby be robbed of their goodness.

The Flower Garden.

Propagation.—Quantities of Pelargoniums should be propagated, for filling the beds next summer, and for that popular bedding Pelargonium Paul Crampel there is nothing better than 3 in. pots in which to place the cuttings. The receptacles should be well drained and filled with sandy soil, five or six cuttings being placed around the edge of each pot. Arrange them on a shelf in a greenhouse and keep the soil just moist, but not really wet, or many will damp off. Other cuttings that should be inserted are Verbenas, Calceolarias, Coleus, Margerites and other Pelargoniums. All will readily form roots at this period of the year.

Border Carnations.—When the layers are rooted they should be severed from the parent plant and after a few days removed to their flowering quarters. Sand and old mortar rubble may be added to the soil if it is of a heavy nature. Some growers pot them off and winter them in cold frames, but in this case the plants should receive plenty of air and be grown as hard as possible or many will suffer from damp.

Spartium junceum.—Throughout July this bright yellow shrub has been most effective in the wild garden, where it is represented by several bold groups. It is readily raised from seeds, which can either be sown directly they are ripe or early in the spring. They will germinate in a cold frame, and, when the seedlings are large enough, they should be potted off singly and grown on in pots until they are set out where they are intended to bloom. This plant does not appreciate removal from the open ground.

The Hardy Fruit Garden.

Early Pears.—Early varieties, such as Williams' Bon Chretien and Jargonelle, will not keep for any length of time, but with a little forethought the season can be prolonged. Pick a few of the ripest fruits each day, and if they are not ripening fast enough place a few in a warm room. They should be consumed directly they are fit.

Wall Trees.—Although early in the season aphids was very troublesome, where the trees were duly sprayed they are now tolerably clean and making plenty of growth. Shoots needed for extension or replacing old wood should be tied to the wires, and any surplus growths removed, while all excessively strong ones should be pinched or entirely cut out. Ripening fruit will need protection from birds, ordinary fish netting being best for this purpose. Where wasps are troublesome a bunt should be made for their nests, and wide-mouthed bottles

containing some sweet substance, such as beer, should be hung at intervals on the branches of the trees. Gather the fruit when ready, and if the weather is showery the trees will require frequent overhauling.

Fruits Under Glass.

Peaches.—The late crop of Peaches and Nectarines growing in houses where little or no heat has been employed, are approaching the ripening stage, and the syringing of the trees ought to be discontinued directly the fruits begin to ripen. Plenty of air should be admitted both from the front and top ventilators and a few inches left on throughout the night. A free admittance of air will cause the fruits to be a better colour and, moreover, the flavour will be improved. Tie in any growths that may be necessary and see that the fruits are exposed to the light, by pulling on one side any leaves that may be obstructing the rays of the sun. The roots should be kept moist and directly the fruit has been gathered, syringe the trees with an approved insecticide and to ripen the growth admit all the air possible.

Tomatoes.—The plants are producing good crops, and owing to the use of the white fly fumigant as advertised in THE GARDEN this pest has been kept well under control. Continue to remove side growths and plants that have several trusses of fruit set may have their tops also cut out. Feed the roots with liquid manure, or Thomson's manure, and see that the plants are well supplied with water.

T. W. BRISCOE.
(Gardener to W. R. Lysaght, Esq.)
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—A commencement may now be made with the earthing up of this important crop. Remove all side growths and tie the plants close, but not too firmly, with a piece of raffia. Those having access to river or sea sand will be well advised to blanch with pure sand. In order to do this, lining boards should be placed on edge on either side of the plants and a little soil pushed against them from the edge of the trench, after which the sand should be placed around the plants between the boards up to the desired height and the portions of the trench behind the boards should then be filled up with soil to the same height. The boards should then be pulled up and the process repeated until the whole crop has been treated. If sand is not available, the soil should be broken up finely before surrounding the plants with it. The earthing up should be done by degrees as the plants develop. If the ground is dry the crop should be liberally watered before commencing to earth up.

Spinach.—A good breadth of Spinach should now be sown on a south border, to stand the winter and to furnish a supply in spring. Some authorities advise to sow the prickly or winter Spinach, but during many years of experience I have found the round or summer Spinach, which is of superior quality, quite hardy. Allow 15 ins. between the rows.

General Work.—Promptly clear away the remains of all harvested crops and hoe and rake the vacant quarters. Keep the Dutch hoe going among all growing crops, thin late sown Turnips and Lettuces. Water growing crops should drought occur, stirring the soil afterwards with the hoe.

Fruits Under Glass.

Late Vines will now be ripening off their fruits, and a rather dry, buoyant atmosphere should be maintained. Any cracked or deformed berries should be removed with the scissors, also any that may have been tampered with by wasps. Means should be taken to cope with these pests. Bottles containing a little ale and sugar, if suspended from the trellis, prove very good traps. Jars containing a little half-putrid fruit are also very serviceable traps; reference is, of course, made to glass jars with narrow mouths.

Orchard House.—Remove the various trees to the open as the fruits are harvested. Thoroughly

cleanse the trees by the vigorous use of the garden engine or the syringe and, if pests are present, employ a suitable insecticide in the water. Stand the trees in full sunshine and either plunge the pots, placing a small inverted flower pot at the bottom of each pot, or stand the pots on boards or on a layer of coal ashes. Traps should be employed here, too, to cope with the attacks of wasps, which are sure to occur.

Melons.—Mid-season crops will now be ripening off their fruits and rather dry conditions both of soil and atmosphere should obtain. Late crops should be kept growing by the maintenance of a brisk temperature and by a plentiful supply of moisture in both soil and atmosphere. It fruits are not yet set, watch for three or four female flowers developing simultaneously or within two days of each other, and promptly impregnate them with the pollen from a male flower, either transmitted by direct contact with a picked flower, or by means of a camel hair brush. This operation should be performed at midday or rather before it.

Strawberries.—See that the potted plants are kept regularly supplied with water and should any of them attempt to develop runners, remove the latter promptly.

The Flower Garden.

Pelargoniums.—These showy flowers are not so much employed in the flower garden as they used to be, but still have their admirers, and this applies more especially to the Ivy-leaved section. The work of propagation should now be taken in hand, commencing with the Zonals of which Paul Crampel is the favourite. Ordinary well drained propagating boxes are the most convenient receptacles for the cuttings. Equal parts of loam, leaf-mould and clean sand form a suitable rooting medium, but the leaf-mould is not essential. Pack the soil very firm in the boxes, leaving sufficient space for watering. Choose, as far as possible, short-jointed, well ripened shoots, and these will be found where they have enjoyed most air and light. Having trimmed and "made" the cuttings, insert them with the aid of a smooth, hardwood propagating pin of sufficient thickness to admit of the cutting being inserted without being bruised. Water the boxes well through a rose and stand them on some hard bottom where they will have the benefit of full sunshine; no further watering is, as a rule, required until after the cuttings are rooted.

Chrysanthemums.—Most of these will now be in the bud and will be benefited by an occasional light application of sulphate of ammonia or superphosphate, always running over the ground with the Dutch hoe immediately after the application. Keep a look-out for greenfly or the leaf miner; the former should be held in check by the use of nicotine in some form and the latter by a solution of quassia chips.

Climbers.—Young, partially developed plants should be trained, nailed or tied, as they extend, and any that have recently flowered should have the spent blooms removed. Loose, straggling growths on Ampelopsis Veitchii should be cut away, as when blown about by the September gales they are apt to tear away portions that are clinging to the wall. See that recently planted specimens do not suffer for lack of water.

CHAS. COMFORT.
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Achimenes.—As the earlier batches pass out of flower, they may be stood in cold frames, gradually withholding water as the foliage and stems die off. This latter process, however, should not be hurried by withholding water too soon. When they have died down, they may be stored dry in their pots for the winter; or they may, to save room, be turned out and stored in pots or boxes with dry sand. Later-flowering batches should be kept going by feeding them with diluted liquid manure or guano. These plants are very subject to attacks by white fly, which should be kept in check by fumigating with sodium cyanide or some other approved remedy.

Gloxinias as they pass out of flower should be treated in the same way as the above as regards watering and storing for the winter.

Isoloma hirsutum is a very useful plant for the greenhouse, as by raising successional batches it may be had in flower more or less all the year round. It is easily propagated at any time by means of the young shoots which spring from the base of the old plants; they root readily in a close case with slight bottom heat. President Chandon is a fine variety which may be treated in the same way.

Chrysanthemums should now be assisted by frequent applications of diluted liquid manure, varied with other approved fertilisers. The rule when applying manures is little and often, as strong doses may injure the roots; manures should never be applied when the plants are dry at the root. If they are dry they should first be watered with clear water. The plants should be neatly staked and regularly tied to prevent damage during stormy weather. A sharp look out should be kept for aphids, which may be destroyed by dusting with tobacco powder. Earwigs often prove troublesome, especially when the plants are stood near hedges or bushes; they should be regularly trapped and destroyed, as they do an immense amount of damage to the young buds. Small pots stuffed with dry hay, or pieces of broad bean stalks make excellent traps for them. During hot, dry weather the plants should be kept well syringed morning and evening.

Richardia africana.—Plants that have been rested in pots should now be shaken out and re-potted, giving them a very rich compost, as they are gross feeders. Stock that has been planted out should be lifted early next month and placed in suitable sized pots; where large specimens are required, three or four strong plants may be placed in 10 in. or 12 in. pots. They should be stood in cold frames and carefully watered until they have made a quantity of roots. When they are in full growth they enjoy ample supplies of water and frequent applications of diluted liquid manure and soot water.

Solanum capsicastrum.—Plants that have set their fruit may now have the tips of the shoots pinched out, as this helps the fruits to develop. If grown in pots they require ample supplies of water, as they are free-rooting plants. They should be kept well syringed as they are somewhat subject to attacks by red spider. Where the plants have been planted out for the summer, they should be lifted towards the end of the month and placed in suitable sized pots. Several days before it is intended to lift them they should be cut round with a spade or knife, at the same time soaking them thoroughly at the root. The same advice applies to other plants, such as *Bouvardia* and *Salvia*, that have been planted out for the summer.

Propagation.—The propagation of many plants that are required for next year should be undertaken at this time. The list includes quite a number of *Begonias*, such as *B. acuminata*, *Corbelle de Feu*, *Ingrami*, *fuchsoides*, *coccinea*, *l'Esident Carnot* and *Luzerna*. The last three are large, strong-growing plants that are useful for planting out to furnish pillars and rafters in the greenhouse.

Coleus.—Cuttings to provide a stock of plants to carry over the winter should now be put in. This also applies to quite a number of soft-wooded plants, as young plants are more likely to winter safely than old ones.

Calceolarias.—The sub-shrubby species and varieties should be propagated at this time. They include such species and varieties as *C. integrifolia*, *Clibrari* and *Allardii*. Some of the *C. alba* hybrids, such as *Veitchii*, are very useful for conservatory decoration. Cuttings at this time are often hard and somewhat difficult to root and better plants are generally obtained by re-rooting stock from the first sets of rooted cuttings, as plants from the young soft shoots make freer growing plants.

Royal Botanic Gardens, Kew. J. COULTS.

BOOKS

Gardening for the Novice.—There is quite a host of books written specially for the novice and for those who have progressed a very little way along the path of horticultural knowledge. We picked up Mr. Thomas's book* with pleasurable anticipations and though it turned out to be a more elementary treatise than, from its title, we had expected, we were in no way disappointed. Some of the statements made seem a little controversial—to put it mildly. As, for instance, "There are two schools of garden planning" (the formal and informal), "and everyone must decide to which of them he belongs. He certainly belongs to one of them." For our own part we believe that most work-a-day gardeners and the very cream of present-day landscape gardeners, belong to neither. They use the best features of both.

Again, Mr. Thomas writes, "If the matter is not clear, let him consider whether the path from the gate to the house shall be straight or winding." How long a path? and what sort of a house? At this rate we shall be having Mr. William Robinson written down as a "formalist"!

The first chapter gives general but on the whole helpful (*mildly* what we have written) hints about planning the garden. Succeeding chapters cover "Why Amateurs Fail," "The Right Time," "Pruning Problems," "Garden Paths"—very sound this—"Plants that Remain Gay a Long Time," "Plants that are Best Left Alone," "The New Shrubbery," "The Lawn," "The Hardy Flower Border," "The Rock Gardening," "The Alpine Border," "The Water Garden," "Propagating Trees, Plants and Shrubs," "Rose Growing," "New Flowers and Shrubs," "Hardy Lilies," "Gladiosi," "Sweet Peas," "Hardy and Half-Hardy Annuals," "Climbing Plants," "Carnations" and "Hardy Bulbs."

There are a number of minor points which, in our judgment, might be criticised—every book, of course, is open to criticism—but we shall content ourselves with mentioning one or two which, perhaps, Mr. Thomas will reconsider for the next edition. Why are the *Aquilegias* included under "Plants that Remain Gay a Long Time"? We should have thought that both the *Lupin* and the *Delphinium* had far greater claims, though both are omitted. Again, strictly speaking, *Agrostemma coronaria* is not a hardy biennial. Under "Plants Best Left Alone," are included *Erica* and *Gentiana acaulis*. Now, if planted deeply, all dwarf *Ericas* propagate very easily at almost any season by division, and the *Gentiana* never does its best if left too long (say above four years) in one place. It tolerates division as freely as anything we know. A very excellent chapter on lawns is, in our opinion, blemished by recommending top-dressing with stable manure. We thought the idea was quite out-dated.

Care has been taken to introduce no undue complexity, but in some cases, accuracy has been needlessly sacrificed to attain this end, as when *Trilliums* are broadly described as white, which is certainly true of the one recommended, *T. grandiflorum*. Despite such minor blemishes this is a valuable book and not its least useful part is the series of tables which occupy some eighty pages. "Flowers for Every month," "Pruning Hardy Shrubs and Plants," "Plants for Shady Borders," "Selections of Roses" for various purposes, "Selections of Plants to Colour," "Trees and Shrubs Tinted in Autumn," "Berried Trees and Shrubs," "Evergreen Shrubs," "Deciduous Flowering Shrubs," "Greenhouse Flowers," "Manures," "Pests," and "Plant Diseases." Chapters on "Indoor Gardening," "Fruit Gardening" and "Vegetables," round off an exceedingly useful volume.

Variety.—Mrs. Francis King's writing is now fairly familiar to British gardening enthusiasts. She writes pleasantly and, unlike certain American novelists, in English. The ideas in the present book are, naturally, not all applicable to gardens in Great Britain, largely because our climate is suitable for a much wider selection of plants than can be induced to succeed in the Eastern States of the great English-speaking Republic. Mrs. King has not hesitated, either, to borrow ideas from other writers, though she does not, like some writers on gardening topics, dress them up in her own language and pass them off as original. We have one bone to pick with the lady, however. We do think that

* "Cassell's Guide to Gardening," by H. H. Thomas, 276 pp., 8vo. Published by Cassell and Co., Limited, La Belle Sauvage, E.C.4. Price 8s. 6d. net.

† "Variety in the Little Garden," by Mrs. Francis King, 120 pp., 8vo. Published by the Atlantic Monthly Press, Boston, U.S.A. Price not stated.

when she borrows fairly extensive passages from English periodicals, it would be an act of courtesy to own the exact source. If "Variety in the Little Garden" came to be analysed a surprising proportion would be found to be extracts from various sources, used, it is true, with the utmost effect, but still lifted bodily from periodicals—*THE GARDEN*, among others—without acknowledgment.

Another patent defect in this book is a reprehensible carelessness with regard to botanical names. We might have thought that they had different rules in U.S.A. for the "cases" used for specific names to those in use "on this side," were it not that the same species are variously referred to on succeeding pages. Misspellings, too, are more common than they should be.

These things are matters of fact. When one comes to matters of opinion, one is on less certain ground, yet a preference expressed in one place for crazy paving rather surprised us, we must confess. Again, Mrs. King's objection to the Birch (page 104), is more than a little surprising. She cannot, we think, have seen Surrey woodland with its Birch and Bracken or better still, Birch and Scots Pine. The two last, in particular, associate so admirably. Then, too, a clump of Birches may be used with effect in even the smallest garden. However, the care with which we have marked what, with due respect we consider blemishes, only proves the general worth of a book which, we are sure, many English garden-lovers will wish to have on their bookshelves.

R.H.S. Plant Trials.—The Royal Horticultural Society desires to compare the merits of wild species of Tulip as garden plants and would be grateful if those having bulbs of such available would send examples (say six) of each to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (Horsley Station, Southern Railway), so as to reach him by the middle of October, 1923.

In addition, the Society, bearing in mind the difficulty of exhibiting Rock Roses (*Helianthemums* and *Cistuses*) and the number of promising new seedlings that have been recently raised, will carry out a trial of these plants at Wisley during the coming year. Three plants of each variety for trial should be sent so as to reach the Director, from whom the necessary entry forms may be obtained, by the end of October, 1923.

Answers to Correspondents

FLOWER GARDEN.

CHRYSANTHEMUMS ATTACKED (B. S.).—The foliage has been attacked by the minute maggots of a small, two-winged fly and the best method of dealing with this is to spray the plants with a nicotine wash. Dusting with soot would help to keep the fly at bay. All spraying should be done after the bright sun is past.

THE GREENHOUSE.

SCHIZANTHUS UNSATISFACTORY (Disappointed).—Our correspondent must make sure of possessing a good strain of seeds of the *Wisetonensis* or hybrid selections. Seeds should not be sown before the end of August at the earliest, about the middle of September would be better. Good loam and leaf-soil in equal proportions are suitable for sowing the seeds in and for the first potting. Make use of a pan, well drain and firm the soil in it, apply water and one hour later sow the seeds thinly, covering lightly. A cool greenhouse will answer at this stage. Pot singly in small pots, the resultant seedlings, when quite small, water carefully and still retain the plants in an airy position. In October shift the plants to 5 in. pots and winter on a high, sunny shelf. In February give the plants a final repotting, using a more lumpy compost. Premature flowering may be caused by too early sowing or by allowing the young plants to become potbound. Plants from a good strain do not require stopping to ensure a well balanced specimen.

KITCHEN GARDEN.

POTATOES ATTACKED (A. B. C.).—The Potatoes are badly attacked with corky scab, due to *Spongospora subterranea*. The worst should be burnt and the others cooked. On no account plant them or let the peelings, etc., get into the ground unburnt. The trouble is quite distinct from wart disease.

DUTCH BULBS DIRECT FROM THE GROWER



Telegrams:

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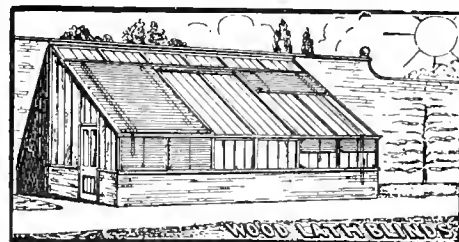
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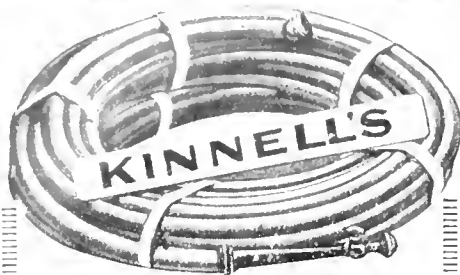
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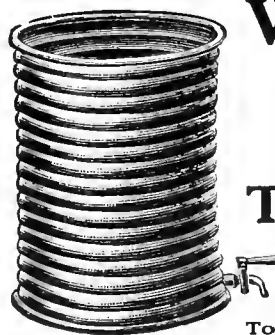
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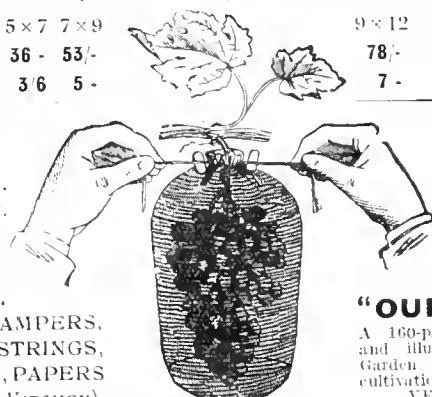
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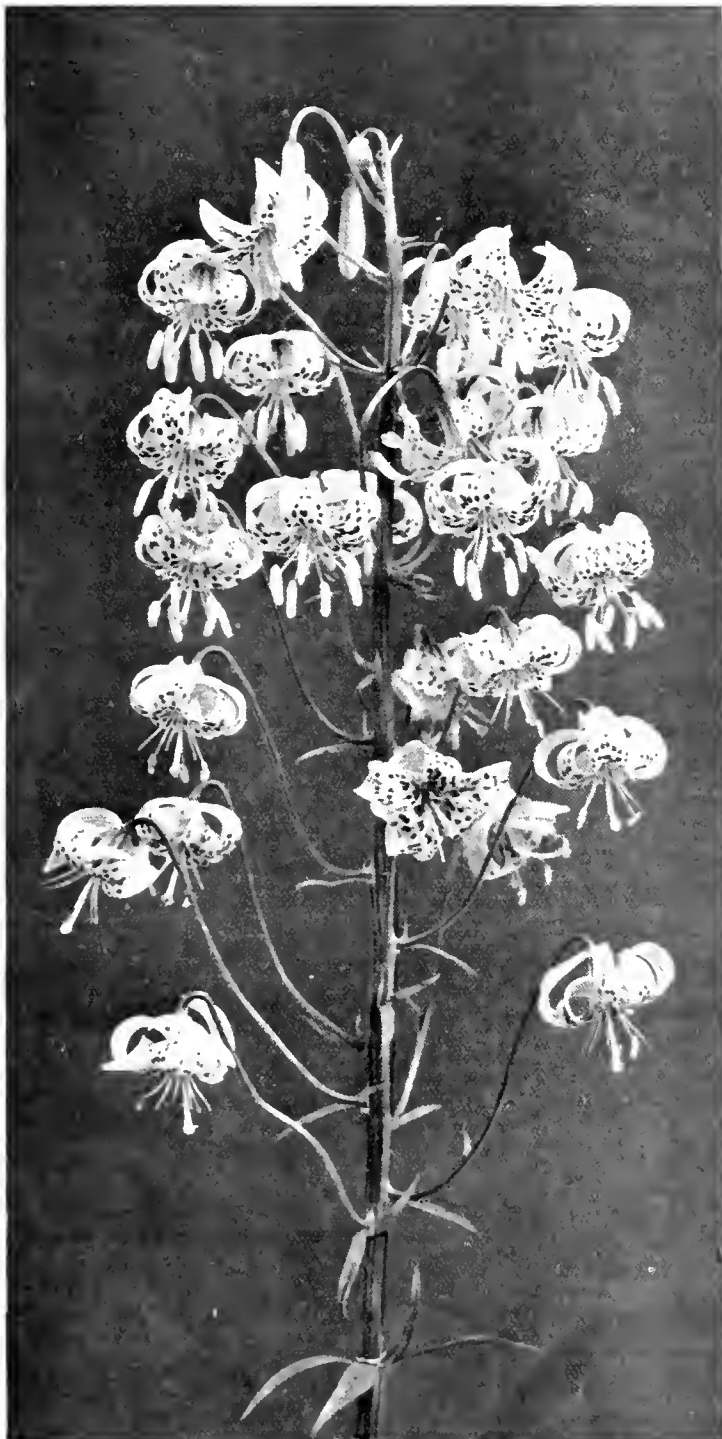
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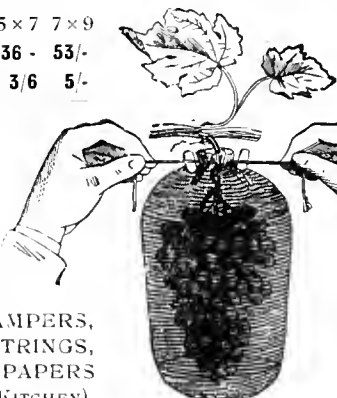
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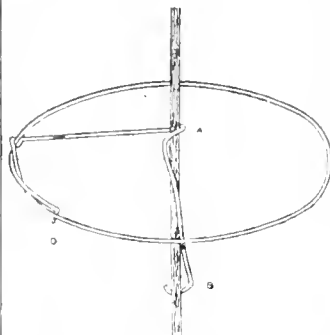
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No. 2701.—VOL. LXXXVII.]

[AUGUST 25, 1923.]

THE GENUS VIOLA

A PART from the numerous garden varieties, the *Viola* family is a very large one, consisting of about 200 species, the greater number being spread over the northern temperate regions, while thirty are found in South America, two in South Africa, and eight in Australia and New Zealand. The majority are beautiful woodland plants, and they are also found in hedge banks, open pastures and in cultivated fields. Most of the species are perennial and the plants are of dwarf habit.

In this country they are nearly all easy to grow in light, rich soil, preferably in half shady situations, but a number of them flourish in the open border. In many of the species the flowers are cleistogamous, the larger petalled flowers appearing first, but producing little or no seed, while later, small-petalled, fertile flowers are produced which furnish seed. The section to which the Wild Pansy (*V. tricolor*) belongs is an exception, for in this case all the flowers are fertile. *Violas* can be propagated by division of the roots in the autumn or spring, by seeds, runners or cuttings. Somewhere about fifty species are in cultivation, chiefly in the gardens of a few enthusiasts, and in Botanic Gardens. The following are some of the more attractive and easily grown kinds which are well worthy of culture.

V. ALPINA.—This species comes from the Eastern Alps where it is found at high elevations. It has small, oval-shaped leaves borne on long stalks, while the flowers are purple and have a short spur.

V. ALTAICA.—This species is supposed to be one of the parents of the cultivated Pansy of our gardens, all those with pale yellow petals with an undulated margin being derived from this plant. It is a native of the Altai Mountains and has large, pale yellow flowers, with a few dark purple lines near the base of the petals. It was introduced into cultivation over a hundred years ago and is easily propagated by seeds or cuttings. The seedlings vary in colour.

V. ARENARIA.—This is a rare little native plant, found in Teesdale, but is also found in various parts of the

Continent of Europe. It forms a tuft and has small leaves and pale blue flowers.

V. BIFLORA.—The twin-flowered Violet is a dainty little plant, found on the Alps of Europe, growing in the crevices of rocks and on rocky banks. It has small, bright yellow flowers and should be given a moist, half-shady position. It is an old inhabitant of our gardens, having been grown since 1752.

V. BLANDA.—An early-flowering species from North America, this has pubescent leaves and small white, faintly scented flowers, veined with lilac.

V. CALCARATA.—Well named the "Pansy of the Alps," this attractive species in its various forms is found in alpine pastures, spread over the whole of the European Alps. It is a lovely plant, forming tufts of leafy stems about 3 ins. high, bearing large, violet-purple flowers, each with a long spur. It is found in stony ground among boulders, spreading by means of underground stems, rambling among the stones and flowering freely among the short grass. This charming species is easily grown in half-shady situations, or even in full sun, provided it receives sufficient moisture for the roots. It should be planted in

very gritty soil, with thorough drainage, but it must have plenty of water in the growing season. It is easy to propagate by means of cuttings in summer, or by division after flowering, as well as by seeds. The colours of the flowers vary from violet-purple to pale lilac and pure white. There is also a lovely clear yellow form known as *V. Zoysi*, which is found in the most Eastern Alps of Carinthia.

V. CANADENSIS.—This is a handsome plant from Canada, growing about 1 ft. high, with sweetly scented, white flowers, tinged with violet. *V. Rydbergi* is the Colorado form of this species. Both plants require a shady situation.

V. CANINA.—The common Dog Violet is a well known native plant with blue flowers, that have a yellow spur. There is also a pure white form.

V. CENISIA.—A lime-loving species from the Alps, with violet flowers, and a slender, arching spur, this grows about 6 ins. high and has slightly hairy leaves.

V. CORNUTA.—The Horned Viola is a free-growing species forming dense carpets of foliage and bearing large, light purple flowers. It is a valuable spring and summer-flowering plant. It varies much in colour, there being a pure white-flowered variety as well as the rich purple form, *purpurea*. It comes from the Pyrenees and is supposed to be one of the parents of the bedding *Violas*. It is a good perennial and easily increased.

V. CUCULLATA.—This Violet has the margins of the leaves turned up so as to resemble a kind of cup. It is a common North American Violet and will grow almost anywhere. The



VIOLA ARENARIA ON MORaine AT BROCKHURST.

flowers of a pale or purple and of good size. The flowers of a pure white variety, *V. septentrionalis*, with striped blue and white flowers, is a form of this species.

V. DECLINATA is a charming little plant from the Eastern Alps and Balkans, with rich rosy-purple flowers, having a yellow eye. *V. bosniaca*, with rosy-pink flowers is a form of this species from Bosnia.

V. FLAVOLA. This is a very distinct species, growing over 1 ft. high, with erect stems and bushy habit. The flowers are pale blue and of good size. It is a native of Europe.

V. GRACILIS is a beautiful, dwarf, free-flowering kind from South-eastern Europe, with large, deep purple flowers that appear in spring and summer. It is a valuable plant for the rock garden or border, easily grown and increased by cuttings or seeds. Although first introduced in 1817, it has only recently become plentiful in gardens. The variety *valderna* (*heterophylla*) is a charming sort from the Tyrol and Greece, with smaller violet-blue flowers, spotted with darker violet and white.

V. HEDERACEA (*Erpetion reniforme*).—This is a charming species of creeping habit, only 2 ins. high, with lilac-blue and white flowers in summer. It is a native of Australia, likes a moist position and is only hardy in very sheltered situations.

V. LUTEA.—This is considered to be a form of tricolor and has large, yellow flowers with purple blotches. It has been used for crossing with the Show Pansy to produce the modern *Violas*. Var. *amena*, with purple flowers, is found on the Welsh mountains.

V. ODORATA (Sweet Violet). The delightful fragrance of this species makes it a favourite in every garden. It is a native of this country and there are numerous varieties, which have been greatly improved for garden purposes. The flowers range in colour from blue to red, purple and white. *V. odorata pallida plena*, the Neapolitan Violet, has sweet scented, double flowers of a pale lavender shade. *V. odorata sulphurea* (*V. Vilmorini*), has dark yellow flowers.

V. PALMATA is a North American species, growing in low ground and woods, with palmately lobed leaves and blue flowers.

V. PEDATA. A beautiful plant, this is found growing in dry sandy woods on rocky hills in North America. The leaves are pedately divided into about seven narrow divisions, while the large, bright blue flowers are freely produced in early summer. *V. p.* var. *bicolor* is a handsome form with the two upper petals of a deep violet colour. There is also a pure white flowered form.

V. PINNATA.—A somewhat rare plant found in alpine pastures on the European Alps, this has palmately divided leaves and violet coloured flowers in June. A form of this species, var. *charophylloides*, has larger and more attractive flowers.

V. PRIMULAFOLIA.—A species from the wet meadows of North America, this has sweet scented white flowers, the lateral petals being bearded.

V. PUBESCENS.—This is a free-growing North American plant, 6 ins. to 12 ins. high, usually found growing in dry woods. It is softly pubescent, with large leaves and yellow flowers, the lower petals being veined with purple lines. The variety *scabruscula* is a form with decumbent stems and smaller, somewhat scabrous leaves.

V. ROSTRATA. This is also a North American species, found in moist, rocky situations. The large flowers are pale blue and have a slender spur.

V. ROTUNDAGENSIS. This is of the same type as *V. cornuta*. It has bright blue flowers, the side petals and lip being striped with black. It flowers from April to August and is a native of France and Belgium.



THE BLUE AND WHITE *VIOLA SEPTENTRIONALIS*, A FORM OF *V. CUCULLATA*.



V. BOSNIACA, RECKONED A FORM OF *V. DECLINATA*, HAS RICH ROSY-MAUVE FLOWERS



THE AUSTRALIAN *V. HEDERACEA* (*ERPETION RENIFORME*).



THE BRIGHT YELLOW *V. BIFLORA* LOVES HALF-SHADE AND MOISTURE.

V. ROTUNDIFOLIA.—At flowering time the leaves of this North American plant are small, but later they develop to a large size, 4ins. in diameter. It is found in shady, rocky situations and bears good sized pale blue flowers.

V. STRIATA.—This is a strong-growing, attractive plant up to 12ins. high. The flowers are cream coloured, the lower divisions being veined with purple. It grows in wet meadows in mountainous districts in North America.

V. SUAVIS.—The Russian Violet is closely allied to our native Sweet Violet, but is distinguished by its pale green leaves and larger, paler flowers. It

was introduced from the Caucasus a century ago.

V. SYLVESTRIS.—The Wood Violet is a well known native plant with bluish-purple and lilac coloured flowers, produced on axillary branches from a radical rosette. It is also known as *V. sylvatica*. There are many forms of this species, including a pure white one.

V. TRICOLOR (Heartsease; Pansy).—A common, very variable annual, found in cultivated fields. The flowers vary from small yellow blooms to large tricolored ones, blue, purple and yellow. It is one of the parents of the garden Pansy. The variety *arvensis* has small yellow flowers. W. I.

NATURALISING BULBOUS PLANTS

THESE are few gardens so small that bulbs may not be naturalised in them. Particularly is this the case if we do not define "naturalise" too strictly. What exactly then do we mean when we state that such and such are suitable for naturalising. Surely most of us mean simply that they may be so planted that, though their presence be, during the resting season, forgotten, they will shew each year and flower profusely and, very possibly, increase by self-sown seedlings. A narrower definition might stipulate that no weeding should be necessary, but to the writer this seems unnecessarily to narrow the field. In the rock garden, weeding is obviously necessary, if only for the sake of appearance and yet some of the most natural and pleasing effects obtainable with bulbous plants may be achieved there.

Of course, to obtain natural effects in the rock garden, the rock garden itself must be tolerably natural—there is no scope for natural planting in the wretched "pocket" rockery which one still finds in some gardens. The rock garden is a particularly happy place in which to naturalise certain small bulbous plants, not only on account of the suitable conditions which can there be afforded them, but because it is a relatively simple task so to arrange them that the beauty of the individual blossoms is brought near to the eye. The various *Erythroniums* and some of the choicer *Fritillarias* come to mind in this connexion, as well as tiny *Narcissi* and *Irises* and choice *Tulip* species.

When naturalising bulbs on rockwork, care must be taken not to make the grouping too formal. Indeed, if this is to be of any size it had better take the form of a drift streaming down from a higher to a lower level and spreading out irregularly. It comes. It is, of course, quite easy to achieve monotony of even the most irregular formation if it is slavishly reduplicated and this must be guarded against. A smaller clump or two, isolated a little from the main body often helps to secure a natural effect. It is not necessary to make the overplanting, which should always be carried out coterminous with the bulb planting. If the two appear to be entirely independent it will serve considerably to enhance the natural effect.

Now for a few species suitable for naturalising on the rock garden. Any of the *Erythroniums* will answer in at least half-shady situations and in a compost consisting largely of decayed vegetable matter. Perhaps the most beautiful of all is *E. californicum* White Beauty. Established clumps often throw spikes 14ins. or 15ins. tall, with blossoms which well repay individual study; moreover it increases fairly rapidly from self-sown seed. Very handsome, too, is *E. grandiflorum*, particularly the form known as Pink Beauty. This is of similar stature to White Beauty and perfectly easy, though it does not seem to increase so rapidly from self-sown seed. Flowers 3½ins. to 4ins.

across are quite usual with this variety. Perhaps even more attractive than Pink Beauty is *E. Johnsoni*, with elegantly mottled foliage. *Nuttallianum* seems to be the freest of the yellow-flowered species. For the rock garden these should suffice.



THE CREAM AND ORANGE ERYTHRONIUM CALIFORNICUM, OF WHICH THE SPLENDID WHITE BEAUTY IS A VARIETY.

but in the woodland wild some of the numerous other species and varieties might have a trial, including the common (and cheap) European Dog's Tooth Violet, *E. Deus-canis*, which is worth growing for its handsomely mottled foliage.

Some of the choicer *Fritillarias* are worthy of a select corner in the rock garden and once happily accommodated may be left undisturbed indefinitely. Such are *FF. pyrenaica* (with purplish flowers), *pudica* (deep yellow), *camtschateensis* (vinous purple), *macrophylla* (tall-flowered pink), and *aurea*, which, however, is at the moment very scarce.

The tiny early-flowering bulbous *Irises* are, perhaps, best on rockwork, if indeed they are to be grown outdoors at all. Those who possess an

alpine house should certainly give it first call upon them. Such are *I. reticulata*, with blossoms of royal purple and gold, almost disproportionately large for its diminutive stature, and the golden *I. Danfordiae*. The early form of *I. reticulata*, known as *Krelagei*, should also be included. These *Irises* need more than ordinary care if their arrangement is to look natural.

Tiny *Narcissi*, which obviously belong to the rock garden are *N. Bulbocodium* and its very distinct varieties (or sub-species), *monophyllum* and *citrinus*. A very gritty soil, with pieces of rock embedded, and consisting for the rest mainly of humus, suits these best. They should, naturally, since they bloom so early in the year, be given situations sheltered from the east, lest some frosty morning the sun scorch them. Very similar conditions suit the quaint *Narcissus cyclamineus* and the Angel's Tears, *N. triandrus*. This last is not very easy, but some of its hybrids are almost as *chic* and distinctly easier to grow, albeit the Angel's Tears and all its progeny are, in our climate, not very long-lived plants. The species

is, as we might expect, therefore, readily replaced from seed. Such other miniatures as *minor*, *nanus* and *minimus* are also best in the rock garden, but the cultivation of these presents no difficulty.

The *Chionodoxas* make lovely patches of clear blue when the rock garden is still hardly awake, but there is no need to confine them to this part of the grounds; they may be massed freely in the wild. All are excellent plants for massing, since self-sown seedlings spring up everywhere, reminding one of a flourishing crop of young Onions. *Chionodoxa Luciliae* is deservedly a favourite, though, contrary to the general impression, there are more forms than one of the plant. The pure white form provides a pleasing contrast with the more typical bright blue ones. *C. sardensis* is deeper in colouring even than the deepest *Luciliae* and *C. gigantea* is a very distinct plant, which carries its larger saucers solitarily and uplifts them to the heavens. The saucers fade at last to seed-pods, the "grass" quietly

withers and allows the overplanting—some rapidly expanding alpine *Columbine*, perhaps—to possess the ground which a little while before was a chunk of heaven come to earth! If we use the phrase bulbous plants in its strict sense, we must rule out the genus *Anemone*. Yet, since we buy the dried tubers of many of these from our bulb merchant, along with our *Tulips* and *Narcissi*, it seems pedantic to except them, the more so as many lend themselves admirably to naturalising. The rhizomes of our Wood *Anemone*, *A. nemorosa*, do not approve of being dried off and choice varieties of the plant are, for this reason, usually offered in pots. It is interesting to make as complete a collection of these forms as possible—but for those who seek the best rather than a

collectible sentiment in Roman made of the indispensable. The semi-transparent, golden-eyed loveliness of the last named in particular is enough to turn the most matter of fact sentimental. Those who collect the leaf-mould for heath garden or the old-fashioned dell from anemone-carpeted wood-land will soon find that they have, indeed, naturalised this beautiful, if common, flower. The choice blue, double and Jack-in-the-Green forms all seem as easy and indestructible as the type in any rather shady corner where their root-run is mainly leaf-mould. We have seen them burgeoning from lateral crevices in a cliff with a north aspect where there was scant room for the rhizomes under

ground. But the soil had been specially prepared for the reception of humus-loving plants such as those indicated, the *Ranunculus* and *Haberleas*.

The chippy tubers of those related species *AA. blanda* and *appennina*, give small indication of the loveliness they afford when in flower. Both these species are so accommodating enough to look lovely in clumps of three or half-a-dozen in the tiny suburban rock garden, and yet to be wholly adapted to massing by the road in the wild. What one loses in the beauty of the individual plant in such a case, one more than makes up by the sea of blue afforded.

(To be continued.)

THE BULB ORDER

IV.—Further Miscellanies.

AS I write I have by my side a bulb catalogue of Messrs. Barr and Sons for 1882. As the gardening world knows, this firm is generally recognised as one which makes a great speciality of bulbs, and which includes in its annual catalogues many comparatively out-of-the-way species and varieties which are not to be found elsewhere, in much the same way that Thompson and Morgan of Ipswich list all manner of uncommon seeds. A comparison between this old list and the same firm's two lists for 1922 is very interesting. We see where great changes have taken place and where there has been nothing much doing but marking time. There are enormous differences in the Daffodil and Tulip sections, but comparatively little in that of the Hyacinths. Freesias have made very great strides, while *Babianas* are much as they were. In the place of five species or varieties of *Nerines* there are no fewer than two and a quarter pages of this Prince of the Autumn to pick from. The early race of bulbous Irises, known as Dutch because it was originally made in Holland (although I fancy Mr. Herbert Chapman's strain has been evolved upon somewhat similar lines) has lengthened the season (to be a bit Irish) of the "small bulbous Iris of Spain" very considerably, while the ancient *Ranunculuses* have done little but look on. I am starting with these. Some time ago I asked if anyone could tell how to grow them, as in times past I had often failed. I was advised to try them in pots. I did, and I also put some in large pans. Both attempts were dismal failures. The bulk was planted on April 4 in a well drained cold frame in fairly light soil. They were left quite unprotected, and the only special care they had was an evening soaking when there had been no rain during the day. At the end of June and during the first three weeks of July there was quite a fair display of bloom which came in handy for cutting. I must own there was nothing of the "twenty blooms on a single root" which one catalogue tells me is quite possible, but all the same I intend to try again. This is why I am suggesting the spending of a few shillings on some of each of the sections—Turban, Persian and French, to put them in the order in which they bloomed here. The Turban nomenclature seems fairly constant, but in the other sections it is nearly all what I call "fancy" naming. In the French, Oracle (pale yellow), Horace Vernet (white) and Orion (deep maroon); in the Persian, Harold (a lovely rose), Fireball (scarlet) and Commodore Napier (yellow); and in the Turban, Seraphique (yellow), Merveilleuse (orange), Groot-vorst (rose), Rosalie (soft rose) and Hercules (white) were the ones I marked. The freest

flowerers were the French. These appealed to me very much, especially as the individual blooms were of a nice convenient size for small vases.



MR. CHAPMAN'S "ROTHERSIDE" EARLY-FLOWERING BULBOUS IRISES.

How far Irises are practical politics for out of doors in our southern counties I do not know. They are, in my own experience is anything to go by, altogether out of the question for Midland and Northern gardens except under glass. When grown under such conditions, with practically no heat, they are a treat when seen in a mass on a sunny day in mid-May or early June. They then open their great big eyes and, eagle-like to prove their worth, look Phoebus Apollo steadfastly in the face:

"Nay, if thou be that princely eagle's bird,
Show thy descent by gazing 'gainst the Sun."
(Shakespeare—"King Henry VI.")

I fear I know nothing of the original species from whence we get our garden hybrids. Many of the best varieties have been raised in Guernsey. Through the kindness of Mr. William Manger I was set up last autumn with a collection of some

of these—Ella, William the Conqueror, Hubert, Vulcan, Evelina, Beauty of Norfolk, among others. When we see a good collection we get all sorts of colours—deep yellow and soft straw, deep crimson, pure white, scarlet, green, palest Cambridge blue, rose and pink—nearly all with lovely dark eyes like Ella, Hubert, Evelina and Emperor of China, one or two striped like Vulcan. As the names of Irises are, comparatively speaking, common to all catalogues, I may mention a few of my favourites: Englishton (a lovely old rose shade), Ella (white, crimson centre), Emperor of China (rich yellow with deep crimson centre), Vulcan (deep orange and red with dark centre), Hogarth (primrose with purple centre), bucephalus major (bright rose), viridiflora (pale sea green with black eye), Hubert or Humbert (dull rose with black eye) and William the Conqueror (cream with maroon eye). A greenhouse of Irises on a sunny day in May with their "soft eyes" which "look love to eyes which speak again" at least equals the scene at the historic Waterloo Ball when "all went merry as a marriage bell." Irises are the very thing for cool glasshouses. Try them and save your own bulbs.

Outside, inside, now outside again! I must say a word for the big three in the bulbous Iris world. In garden seniority the English comes first, then the Spanish and last of all, as one born out of due time—three centuries afterwards—the Dutch. They flower, however, in the inverse order. About the end of May the Dutch set the ball rolling, and as they leave off the Spanish "carry on"; then comes a two or three weeks' interregnum and the English end the sequence. The following are all well worth a trial: In Dutch, Voerman (the white), Van Everdingen (yellow), Apol (lavender) and Poggenbeek (blue). In Spanish, Royal Blue (deep blue), Flora (lavender), Prince Henry (bronze), W. T. Ware (primrose), King of the Yellows (yellow) and Rossini (lemon and white). In English, Princess Juliana (large deep blue), King of the Blues (soft blue), Mer de Glace (white), Rosalie (rosy purple), La Marquise (rich purple) and Miss Ainsworth (blue veined). It is hard to stop when marking a bulb list

if one is about to spend one's own money, it is a hundred times harder when you are not even spending other people's money but only suggesting what they might go in for.

"You have never tried Camassias?"

"Well, how about a good form of *esculenta*, say Orion or Blue Queen, and a few *Leichtlinii*?"

Years ago I always used to have a few Feather Hyacinths (*Muscari comosum monstrosum*) in pots. They came in very handy for cutting. This is quite hardy, and the only object in giving it glass culture was that it made it look nicer. It acted, in fact, as a sort of vanity bag to the quaint inflorescence, which is neither fish, flesh, fowl nor good red herring. The whole looks like a mass of pinky mauve filaments which are having, as two men I met last week expressed it, "a happy day." They are all over the place, but whatever the cause of their eccentric behaviour, the whole effect is excellent. One tip to any good "Quocker-wodger" who is moved by curiosity to try some

himself—don't throw the bulbs away, as I have known people do, when the hard, little conical button which soon appears in the centre of the slender foliage looks as if it were an immovable fixture and that something has gone wrong. It is only its way. Its motto is "slow but sure." Later on it takes its time in disentangling itself, and one does not wonder at it when one compares the hard, solid-looking start with the finished article.

"Just a dozen or two, please, to try! Eighteenpence a dozen is not a very serious matter."

As the ladies were leaving the room the wife of the dearest old parson in the world turned to him and said, "Now, John, remember." When the door was closed he sighed and said, *sotto voce*, "And I was once a two bottle man!" The Editor stands over me as I keep writing on and on. Hand and index-finger are raised. His lips move. "Joseph, remember." Enough said!

JOSEPH JACOB.

HOLLIES—EVERGREEN AND DECIDUOUS

In our gardens the best known representatives of the genus Ilex are evergreen Hollies, varieties and hybrids of Ilex Aquifolium. Several deciduous species, however, are attractive in fruit, notably I. verticillata.

AMONG the evergreen trees and shrubs which are native of Britain, the Common Holly is the most valuable in garden, pleasure ground and park. Forming thick and much-branched specimens from the ground upwards to a height of 50 ft. or 60 ft., occasionally up to 80 ft., the Holly is exceedingly useful for shelter belts and screens. For thick, impenetrable hedges it surpasses even the Yew, being readily kept in shape with shears or secateurs. The Holly is not much favoured for topiary work, but is very well adapted for bold effects. Though growth in the first few years is rather slow, when once established in permanent positions, Common Holly makes very good annual growth both in height and width. Because of its slow early growth, well furnished Hollies for hedges may appear rather expensive, but the initial outlay is more than worth while in the provision of a good permanent hedge.

In addition to being a native of Britain, *Ilex Aquifolium* is a wild tree of the Continent and Western Asia. While a large number of the named varieties grown in our gardens are sports, or seedlings, resulting from a long period of cultivation and selection, others are hybrids between it and the Canary Island Holly, *I. platyphylla*, the Balearic Island Holly, *I. balearica* and probably other species. The varieties and hybrids, however, are so numerous, and are the result of so very many years cultivation and selection, that it is only possible to speculate as to the origin of a considerable number.

To supply foliage and colour in the pleasure grounds throughout the year the best green and variegated-leaved Hollies are well-nigh indispensable. In the shrubby borders, but best of all as specimens on the lawn, with the grass-green setting, the colours of the leaves are very attractive. A short list of the most distinct will suffice here, leaving those who desire a large selection to visit the collection at Kew, or a tree and shrub nursery specialising in Hollies.

Green-leaved: *camellæfolia*, very large dark green leaves, and large berries; *Hodginsii*, one of the best green Hollies, noted for its free berrying propensities; *Marnockii*, rich green broad leaves and large berries; *Mundyi*, a male Holly, with large spiny foliage; *Shepherdii*, raised in the Liverpool Botanic Gardens, where it is one of the

best evergreen shrubs, in what must be one of the most unsatisfactory climates in Britain to cultivate plants; *Wilsoni*, large dark green spiny leaves and red fruits.

Variegated-leaved: *argentea pendula*, Perry's Silver Weeping; *argentea regina*, Silver Queen; *aurea medio-picta*, Golden Milkmaid; *aurea regina*, Golden Queen; *Golden King*; *Lawsoniana*, yellow centres, edged with green.

Other distinct and interesting forms include *fructu-luteo*, yellow berries; *flavescens*, the Moonlight Holly, with leaves of a yellow shade; *terox*, the Hedgehog Holly, very spiny; *monstrosa*; *myrtifolia*, with narrow leaves; and *scotica*, a smooth-leaved Holly.

The varieties of hybrids of *I. Aquifolium* occupy such an important place among evergreens that we are apt to overlook quite a number of other ornamental species.

I. cornuta, the Horned Holly, is a native of China. This Holly is slow in growth, forming a compact evergreen bush, usually as wide as high.

I. crenata, the Japanese Holly, is a close-growing bush, of which there are several forms, major being, as the name suggests, more robust in growth, with black fruits, and *Mariesii*, a dwarf attractive shrub, in much demand for the rock garden.

I. opaca, the American Holly, is more interesting perhaps than attractive, compared with

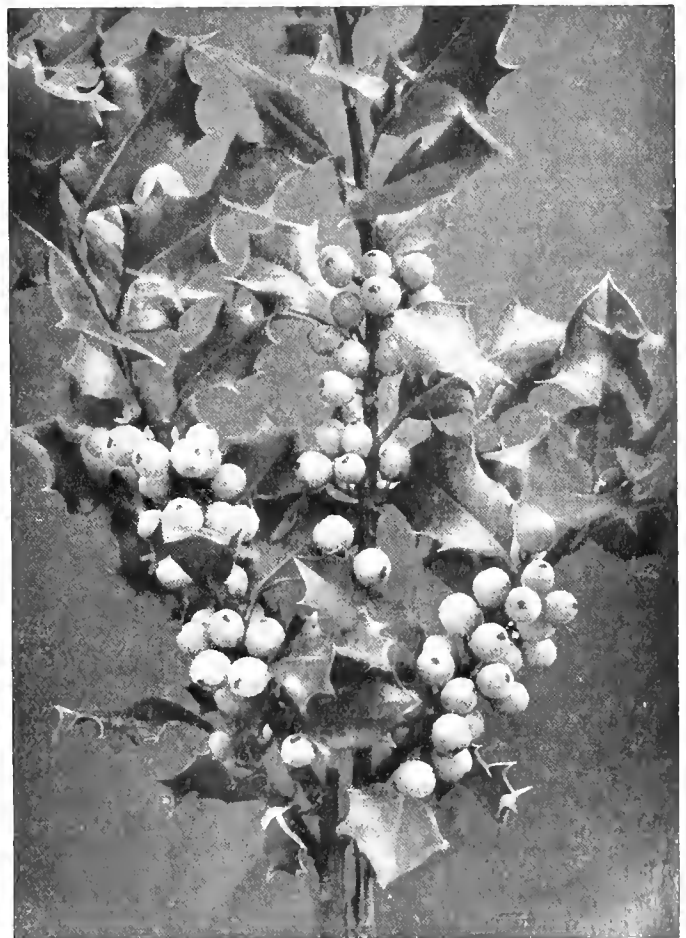
the varieties of *I. Aquifolium*. It is a native of the Central and Eastern United States.

I. Pernyi is a Chinese Holly, first introduced by Mr. E. H. Wilson in 1900. It has small, dark green, spiny leaves, making an attractive specimen shrub of moderate size, though Mr. Wilson records occasional wild trees up to 50 ft. high. It has red berries, the seeds from which, as well as cuttings, provide ready means of increase. Another Holly introduced the same year from China by Mr. Wilson is *I. Fargesii*. It is well spoken of by several with whom plants are doing well, but with us the only plant growing at all freely is in shade and shelter.

I. platyphylla, the Canary Island Holly, is a free-growing evergreen with larger leaves than the Common Holly. Forms of this are var. *balearica*, with darker green leaves, from the Balearic Islands; var. *maderensis*, bright green; and *nigrescens* with rich dark green foliage.

THE DECIDUOUS HOLLIES.

This group of Hollies was originally separated from the evergreen section and known by the generic name of *Prinos*. The best known and most valued species for cultivation in our gardens is the American Winterberry, *Ilex (Prinos) verticillata*. It forms a much branched deciduous shrub, 6 ft. to 8 ft. or 10 ft. high, bearing in autumn quantities of sealing-wax red berries, which, as the leaves fall, become wonderfully attractive in the autumn sunlight. The berries of this Holly are very much used for decoration in the United States, taking the place of our evergreen Holly berries. The winters in U.S.A. are too severe for the culture of our native *I. Aquifolium*, except in the southern states.



THE GOLDEN-BERRIED HOLLY, *ILEX AQUIFOLIUM FRUCTU-LUTEO*.

LILIES IN THE GARDEN

(Continued from page 414.)

Other deciduous Hollies include *H. laevigata*, *monticola*, *serrata* and *decidua*, but except, perhaps, the last named, they are seldom seen outside botanical collections.

CULTIVATION.

While Hollies, in general, favour a moist loamy soil, they thrive in most soils and positions and are very good town shrubs. In common with other evergreen shrubs, spring, when new growth is beginning, is the best time for pruning. This may be fairly severe, if need be, for Hollies stand the knife, or saw, as well as most, and better than many, evergreens. August, when growth is practically finished for the year, is the best time to clip hedges and formal specimens on terraces and lawns. Shears are mostly used for reasons of expense or quickness, though if time permits secateurs should be employed for small formal specimens, to obtain the most satisfactory finish to the work.

Seeds, cuttings, layering and grafting provide ready means of increasing Hollies. The free-growing varieties root readily in a frame with slight bottom heat or a cold frame during late summer and early autumn. Others of the weaker growing varieties, interesting or novel, rather than ornamental forms, are more often increased by grafting under glass in early spring.

TRANSPLANTING.

Some care and attention is necessary successfully to transplant Hollies, especially of any considerable size. September and May are the best seasons for planting. Unless an unlimited supply of water is available if required, the transplanting on light soils is best done in September. Moved at that time they commence to make new roots during the autumn and with the winter rains are well settled in the new positions—an important matter if the following summer happens to be dry. On heavier ground, May, when new growth and root-activity has commenced, is usually favoured for moving. In addition to watering at the roots, newly planted Hollies should be sprayed morning and evening during dry weather.

It is desirable that the nursery ground where young Hollies are grown should be of a fairly heavy nature, so that they can be moved with good balls of soil attached to the roots. If the roots are cut to any considerable extent in transplanting, a somewhat corresponding amount of pruning and shortening of the longer branches is desirable. If a few of the older leaves fall off soon after planting, it may be taken as a good sign rather than otherwise. What the planter does not like to see is the leaves wither and hang.

Some comment was made last winter on the fact that Hollies were being transplanted in mid-winter at Kew. When, however, machines are available to transplant specimens weighing from a few hundredweight up to nine or ten tons of soil bodily with the plants, the season of planting scarcely needs consideration.

To the town dweller the Holly is best known by reason of its attractive berries for Christmas decoration. Among those unaware that Holly bushes are frequently (one might almost write usually) unisexual, the fact that berries are never seen on some Hollies gives rise to comment. To obtain good crops of fruits, bushes of both sexes must be planted; though, obviously, one would prefer a larger number of female forms. At the risk of repetition I sub-entend the names of a few well known varieties of each sex.

Male: *argentea regina*, *urea regina*, *Mundy*, *Wateriana*, *etlaclarensis* and *Donningtonensis*.

Female: *candellaria*, *flavescens*, *Hodginsii*, *Marnockii*, *Wilsoni* and *fructu-luteo*.

There are male and female trees of several varieties, which include *argentea medio-picta* and *urea medio-picta*. A. O.

CONTINUING the list of Lilies that should be included in the first collection to be planted, the section that must not be omitted is the Martagon. First, because it embraces many beautiful and distinct forms, but more because it is suitable for every garden.

Perhaps it will be as well to explain to the new cultivator that there is a whole section (or

or less regular intervals, and the whole spike thus forms a very graceful and "finished" looking arrangement.

Some of these species would not be recognised by those who only know the old purple Turk's-cap, which is the one offered by bulb merchants as *Lilium Martagon*. Old as it is, and it is said to be the oldest Lily in English gardens, it is well worth growing, as is also the pure white form *Lilium*



LILIUM MRS. R. O. BACKHOUSE OF MARTAGON X HANSONI PARENTAGE.

what experts have called a sub-genus) that comes under the title Martagon, and that the principal characteristic that distinguishes the species and varieties included therein from others is that all the flowers are reflexed. Some are more so than others, but they all belong to what are known as the Turk's-cap Lilies. The flowers are borne in a pendent or nodding position from the main stems, which form straight, erect spikes or racemes, varying in shape somewhat with the different species, but all bearing their flowers round the upper portion of the stem. In most cases the leaves are borne in whorls round the stem at more

Martagon album. Any soil suits them, and they are quite indifferent to lime. I cannot mention all the species and varieties that are included in the section, but the following will be quite sufficient for the average gardener to make a start with.

Lilium Hanson grows 3 ft. to 4 ft. high, sometimes rather more, bearing numerous golden yellow flowers spotted with black. It is a fine plant for the amateur to include in a trial collection because it is "safe." The first year after planting it often does not attain full stature, probably because it is often lifted and kept out of the ground too long, which obviously must

retard the root development. Never mind, it is not very good the first year, let it alone, and if the conditions are healthy it will come through all right subsequently and improve with time. It prefers a position where the soil is fairly strong and not too light, and certainly out of the direct sunshine. I have mentioned this first because in a way it has become the most important member of its section. As a parent of good varieties it has exercised a very potent influence. As long back as 1805 *dalhansonii* (now very scarce) received the award of merit of the R.H.S. This was a cross between *Hansonii* and *dalmaticum*, and was figured in *THE GARDEN* in July, 1893. By the way, *THE GARDEN* of those days used to give us wonderful coloured plates of any new or good plants that came before the public eye. Nothing quite up to the standard of those plates was ever published in any other popular periodical, but times have changed. *Dalhansonii* is a Lily with a fine upstanding stem bearing many flowers of rich deep purple, mingled with brown and growing 5ft. high. This and *Marhan*, a cross between the white *Martagon* and *Hansonii*, were two of the earliest successes as a parent. Since then there have been many, some of which are worthless, but the most recent and best of all are the crosses between the various *Martagons* and *Hansonii* raised by Mrs. Backhouse. These form almost a new race, with exceptionally sturdy, erect stems, bearing numerous flowers, and include varieties with buff, yellow, orange and bronze tinted flowers of great size, some exquisitely spotted, others almost self-coloured, others, again, delightfully suffused with pink, rose, brown, apricot and many subtle intermediate tints. They are robust, vigorous plants and quite "safe" even in the hands of the veriest amateur. Mrs. R. O. Backhouse and Sutton Court were the two first of these to be introduced, succeeded by *Golden Orb*, and there are several others now obtainable.

Of all the "Turk's-caps" the *Chalcedonian* scarlet *Martagon* (*Lilium chalcedonicum*) is the most startling on account of its colour, a brilliant vivid scarlet of fiery intensity. It has stood the test of time for several hundred years in English gardens and is still unique so far as colour is concerned. There is a variety called *maculatum* on account of the black spots on the brilliant scarlet flowers, and this is the variety that should be planted whenever it can be obtained. It is more robust than the type, grows taller, and has been known to survive when, for some undetermined cause, the latter has died out or failed to do as well as it should. As, however, both forms are frequently to be found in old cottage gardens, probably the direct descendants of those described by Parkinson and Linnæus, they can be well recommended on the score of hardiness. They can be found doing well in practically all sorts of soils. There are other varieties one reads about but rarely sees. A purple form is said to have existed at one time, but I think it is unknown now. This is one of the Lilies that does not obey the general rule among the *Martagons*, and bear its leaves in whorls, more or less regularly spaced up the stem.

The mention of *L. chalcedonicum* suggests another very excellent garden Lily, *excelsum*, perhaps better, or more familiarly known as *testaceum*. Not that from the ordinary gardener's point of view there is a very close resemblance between the two. In fact, the casual observer would scarcely attribute the parentage of *testaceum* to *chalcedonicum*. At the same time a more intimate study reveals many points of similarity, particularly in the shape of the flower and the way it is carried on the stem, and also in the arrangement of the foliage. It is, indeed, a fine Lily, and should certainly be among those that



THE VERY HANDSOME WHITE FORM OF THE MARTAGON,
LILIAM MARTAGON ALBUM.

even the novice plants. Very tall, even among Lilies, of soft buff yellow, with a faint suffusion of reddish orange in its colour composition, it is quite unique in this respect. It is a vigorous grower and does well in most soils, and is another Lily that does not object to lime. No one can vouch for the origin of this Lily, although all the evidence goes to prove it was the result of a cross between the Scarlet *Chalcedony* and *Madonna* Lilies. It is, however, a curious fact that this startling innovation in the Lily world appears to have been quite unnoticed at the time, as no one appears to know where it originated.

Another good Lily that comes within the *Martagon* section is *colchicum*, a far more convenient name for the plant than the one by which it is generally known (*monodelphum Szovitzianum*). This has clear pale yellow flowers with black spots. It will, under favourable conditions, grow 5ft. high, is very strongly scented and, in short, a Lily for every garden.

There are three very beautiful Lilies that are classed as *Martagons* that are more suitable for the damper spots in the garden and, indeed, succeed well by the side of a stream or pond. *Lilium canadense* is variable in colour from pure yellow to deep orange, grows about 3ft. in height, and is very dainty. *Lilium pardalinum* grows much

taller, often 5ft. or 6ft., has orange and crimson flowers with dark spots, and develops large numbers of its beautiful flowers (often twenty or more buds and flowers) on the same stem; this also is variable in colour, and there are several good varieties. *Lilium superbum*, taller still and with exquisitely graceful flowers of orange shaded to crimson, very distinctly spotted, is the finest of the North American Bog Lilies.

These are a few of the Turk's-cap Lilies, and no one will regret giving them a trial because they are among the "safe" species. Even those that like moisture will thrive in any good garden soil that is not too hot and dry.

I suppose few people, wandering through an English garden, realise what a cosmopolitan affair it is. Nothing except the language we speak, in modern life, is so indicative of the world-wide energies of the race. Foreign pictures are collected and remain among us as examples of foreign art. The music of the world's composers comes and stays, as individual effort. These undoubtedly exercise an influence on home products, but never, as it were, become naturalised and take root in the nation's being. Words—and plants, alone do this. The newly imported plants of our gardens of

one generation, become the garden commonplaces of the next, and to the multitude the occupants of the flower border are just garden flowers, with never a thought of their origin. In two generations the hybridist has mingled the characteristics of species collected from widely distributed areas to such an extent that they cease to have any nationality but our own. Perhaps the most startling exception to this rule is in the way the Japanese Lilies have remained Japanese. One would almost conclude that the words of Kipling, "For East is East and West is West, and never the twain shall meet," could be extended from their social aspect to the garden. Yet nothing has exercised a more potent influence on modern gardening than the opening up of Japan, with its free intercourse of commerce, during the nineteenth century, and perhaps the richest contributions Japan has made to English gardens are its Lilies. The hybridist at home has done curiously little towards mixing them with other species.

Particulars of these Japanese Lilies and the remainder of this list of sorts for the garden, together with a few remarks on raising many of them from seeds—an extremely interesting phase of gardening—must be reserved for a concluding article.

GEO. DILLSTONE

(To be concluded.)

ABOUT STRAWBERRY CULTURE

THE cultivation of the Strawberry needs care and skill. This is generally regarded as the most difficult of the small fruits to manage. The first necessity is a suitable soil, and experienced growers are agreed that a heavy loam gives the most consistent returns. In soils of a light nature growth is often suspended by drought. When preparing the ground it is well to remember that the plantation should endure for three years. Thoroughness and liberality, therefore, should be the motto. I believe in double digging or trenching, according to the nature of the subsoil. Good farmyard manure should be mixed with both spits at the rate of half a ton per 100 sq. yds. The ground should be lightly trod and raked ready for the reception of the plants not later than the latter end of September—the earlier the better. Each plant should be set firmly and care taken not to bury the crown. A small crop of fruit will be borne the first summer after planting.

Straw should be spread beneath the berries when they are about the size of marbles, to keep them clean. I have heard growers say that it is a mistake to fruit Strawberries the first year after planting. My own judgment, after a careful test, is the reverse. All runners not required for the purpose of propagation should be removed at the earliest practicable date, and an abundant crop will be carried the second year. After it has been gathered, the oldest leaves should be removed. They have reached an age when they cease to function well and the crowns ripen better in their absence. It is wiser, therefore, to remove them. Runners should also be cleared away from the bed. In the third year the plants will give a profitable return. After that they cease to be worth the land occupied.

The above routine will, of course, be commonplace to experienced gardeners. It is necessary to have successional batches of Strawberries or there will be a break in the supply of fruit. The accepted and sound custom is to provide three batches of one, two and three years old plants respectively. Runners should be taken from one year old plants. It is essential to use some care in the selection of this propagating material. Runners from "blind" or fruitless plants are unsuitable. They are almost certain to bear the sterile character of their parents. Choice should also fall upon the first runners, because they are known to possess a strong constitution. There are two methods of propagation. One consists of inserting the runners in 3in. pots. A light potting compost should be used. The receptacles are plunged into the soil to keep them level and reduce watering. The creeping stem of the young plant is secured in position by a stone or wooden peg. This method of propagation is considered best because the plantlet receives parental support until it is established. The attachment is then severed and the stock is transferred to its permanent quarters at the appointed time. The alternative form of propagation is to detach the runners from their parents and plant them 6ins. apart in nursery beds. Where labour is scarce this is the procedure adopted, less watering being required. There are many varieties of the Strawberry. Royal Sovereign is the one most grown. The fruits are early, of fair flavour and they travel well. The Laxton is rather later. It is a good variety, very similar to Royal Sovereign in appearance, but not quite so heavy a cropper. Sir Joseph Paxton is a useful late kind, bearing very large berries. The above varieties, owing to their vigour, should be planted

in rows 1ft. apart, the plants in the rows 1ft. 6ins. I should like to make mention of Bedford Champion. It is a most consistent late-fruiting variety. Not

being very vigorous in growth, it finds ample accommodation in rows 2ft. apart and 1ft. from plant to plant. GEO. H. COPLEY.

DARWIN TULIPS AT LOWDHAM

THE Editor paid a visit this year to the Lowdham Nurseries of Messrs. J. R. Pearson and Sons, just when the Darwin and Cottage Tulips were at the height of their glory. The nursery beds are a wonderful sight, of course, and it is interesting to see somewhat similar varieties growing side by side, but to institute a reliable comparison, it would be necessary to see them several seasons running. All who have experience of these very attractive sections will agree that both the Darwin and Cottage varieties vary very considerably according to climatic conditions and that the supreme variety of one season is often somewhat "under the weather" the next, while another sort of, possibly, similar colouring shews a corresponding improvement.

The amateur visiting these tulip fields for the first time will probably suffer at first a shock of disappointment, for late-flowering Tulips look incomparably finer in clumps of moderate size than they do as mere chequered masses of colour in row upon row of oblong beds. This first disappointment over, enthusiasm will come, for they are extraordinarily well grown and marvellously free from rogues.

Among the Darwins the eye, as usual, picked out the popular Farncombe Sanders, of vivid

the shining rose Pride of Haarlem. Certainly the great Dutch bulb-growing centre has reason to be proud of this splendid variety!

Now for a few words about the paler coloured sorts! Clara Butt inevitably catches the eye in this section and at its best it is of beautiful colour and excellent form. The mauve shaded Rev. Ewbank also attracts and the practically pure white White Queen gives needed variety. A good breadth of the rather dowdy William Copland reminds us how well this variety forces and how really beautiful it is under glass. To those who dislike the slight staining of White Queen, L'Ingénue, the white of which is delicately but decisively suffused with rose, will appeal strongly.

There is a multitude of good dark purple and maroon Darwins. Far too many, most people will think. Andrea Doria, Faust, Frans Hals and Leonardo da Vinci, are some of the best. The Bishop, rich purple shot with lilac, is distinct and of good form, while La Tulip Noire, which almost lives up to its name, must not be overlooked. It is, indeed, very effective associated with some of the salmon Darwins and orange Cottage varieties, such as Orange King and La Merveille; the latter, one of the most glorious of all the varieties on view at Lowdham—the colour may best be described



SOME OF THE MAY-FLOWERING TULIPS.

cherry-red colouring, still, perhaps, the best all-round Darwin in cultivation. The large and handsome deep rose Petrus Hondius, stout-stemmed and compact, also made a lovely splash of colour, but, of course, the varieties with orange or salmon shading kill pure rose tones if allowed to approach them at all nearly. Such an one is to be found in Prince of the Netherlands, not very dissimilar to Farncombe Sanders in colour, though darker and not so bright, and distinctly larger in flower. Even more like Farncombe Sanders is Professor Rawenhoff, but this year, at any rate, "Farncombe" had the advantage. The rich deep red Bartigon, a very sturdy grower also attracted favourable comment. Mr. Duncan Pearson recommends this especially for forcing. Nauticus, deep glowing rose, with a dark violet base, is another showy sort, also useful for pot work, and the same may be said of

(very inadequately) as salmon shot with vermillion. Among late-flowering Tulips outside the Darwin fold, there are several other indispensables, such as the splendid Gesneriana major, the almost equally valuable Gesneriana lutea, the useful Inglescombe Yellow, the clean-coloured Inglescombe Pink and the glorious Mrs. Moon. All these and many more we saw at Lowdham, all in the prime of vigour, and studied and compared them until our eyes fairly ached with the riot of colour.

Only the Tulips were in blossom on the occasion of our visit, but we were equally impressed by the many acres of Narcissi, including numbers of the very newest and choicest. They have a very short way with eelworm at Lowdham. New stocks are grown apart and, if they shew any signs of this dreaded pest, the bulbs are treated without

loss of time to the hot-water cure. The results certainly justify the trouble; it is impossible to imagine a finer or healthier lot of plants and most readers need no reminding of the quality of the bulbs sent out, year by year, by this well known firm.

Fruit trees and Roses, Messrs. Pearson's other specialties, are grown equally well and splendid breadths of established market trees shew just

how these should be pruned to give the best results. The thousands upon thousands of dwarf Roses were not sufficiently forward to enable one to judge what the plants would be like by autumn, but they promised well. An experimental plot of standards, however, worked upon a new stock attracted attention. This stock appeared to be of rugosa kindred and we shall be interested to hear how it turns out.

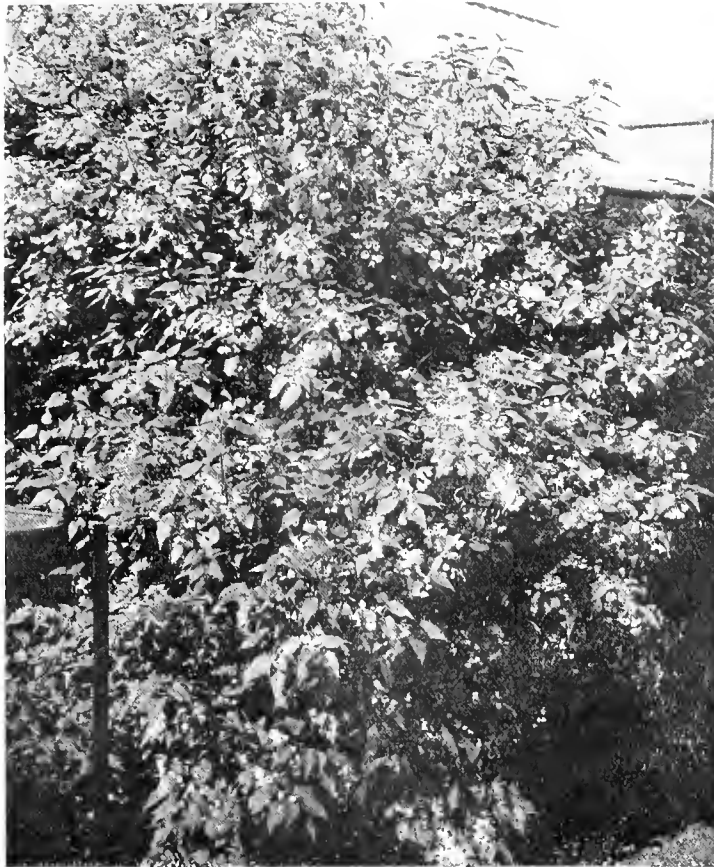
THE RIBBON WOOD

LAST season and this I have had in flower in my garden a shrub that has given me infinite pleasure, partly because of its exceptional beauty, and partly because of the pleasant memories associated with

a plant which I have known affectionately for many years and have seen growing, as all growing plants are seen to best advantage, in its native soil and country. The shrub in question is *Plagianthus Lyallii*. I do not know, though I dare say I ought to know, what particular plant-loving Lyall has had his name associated with this fine tree; but, if ghosts take account of such considerations, the ghost of Lyall must be proud to remember that his name is inseparably linked with two of the most lovely plants of the New Zealand flora, one, *Ranunculus Lyallii*, the stateliest of Buttercups, and the other, *Plagianthus Lyallii*, a Mallow, as beautiful in its way as the Buttercup, though not, perhaps, so rare, and certainly not so difficult. I am not sure whether the generic name has not been changed by botanists from *Plagianthus* to *Hoheria*, or possibly it is *vice versa*. Anyhow, to me it has always been *Plagianthus*, and will be to the end of the chapter, unless a pretty English name is preferred, in which case we may call it "Ribbon Wood" or "Lace Bark," the names by which it is called by Dominionists unversed in botany, in allusion to the tough and lacy inner bark used by women-folk in early days for various millinery purposes. Of the two names I believe Ribbon Wood is the more generally used.

Among British trees the nearest analogue of the Ribbon Wood is perhaps the Cherry. If there is anything in trees more beautiful than a Cherry or Gean tree in bloom I do not know it; and when I say that what a well grown Cherry tree is to April a well grown Ribbon Wood is to July, I mean to give the New Zealand tree the warmest praise I can devise. But though both trees give the

general effect of freshly fallen snowflakes, it must not be supposed that the New Zealand plant merely repeats the Cherry, from which, on the contrary, it differs materially in branch, bark and foliage, as well as in the character of the



PLAGIANTHUS LYALLII IN EDINBURGH BOTANIC GARDEN.

individual blossom, which is essentially malvaceous, resembling somewhat that of the white *Malva moschata*, but without the hard lustre of that Mallow. The leaf of the Ribbon Wood is a flattened spear-head, with serrated edges, somewhat like the leaf of certain Poplars, and is attached to the twig by a somewhat long footstalk, which should make it, one would think, as tremulous to the wind as the leaf of the Aspen. The colour of the foliage is peculiar, a light olive, and is an effective setting for the blossoms, which spring from the axils of the leaves in clusters more or less dense, quite a different fashion of inflorescence from the spur system of the Cherry. The Ribbon Wood is notably a "twiggy" plant (almost what botanists would call "sarmentous"), and this infinity of twigs, each carrying, midway of its length, a dense cluster of axillary blossoms, gives the tree the well furnished appearance it has in July.

How hardy the Ribbon Wood is in this country I cannot exactly say. My own tree, still young and of modest size, has stood unharmed here (in Somerset) for four or five years, but it grows against a south wall. From my knowledge of the plant in its native habitats, however, I should expect it to stand our winters quite in the open in all but exceptionally high and bleak situations. The distribution of the *Plagianthus* in New Zealand is peculiar and interesting. It is exclusively confined to the Middle Island (say lat. 42-45S.), and there to the western side of the lofty alpine range which forms the axis of the island, being found seldom, if at all, on the eastern side. It seems to prefer the moist conditions of subalpine forest country, though its area extends from sea-level to an altitude of 4,000ft., at which latter elevation it is deciduous and, needless to say, has to endure a sufficiently low winter temperature. Where I have myself seen *Plagianthus Lyallii* most luxuriant and abundant has been at elevations midway, I should think, between the sea and the alpine levels, to the west of the picturesque Otira Gorge, for instance, on what is known as the "West Coast Road." But in my memory no locality is so closely associated with the *Plagianthus* as the high plateau in front of the Sutherland Falls, some fourteen miles from the head of Milford Sound, in Western Otago. Though the sight of mountains, near or far, sets my nerves tingling, I am not particularly susceptible to the lure of waterfalls. Still, a fall that is twelve times as high as Niagara (the "official" height is 1,004ft.) is surely something. It is true that the volume of water is by comparison inconsiderable. From a cliff 2,000ft. high, drop 600yds. of Brussels lace, tucking it up here on some projecting jag, splitting it up there, flouncing it out now and then with crinoline, at rare intervals letting it fall in solid sheets, and you would have something indistinguishable from the Sutherland Falls, except for the absence of spray and pother at the foot. Still, though not Niagara, the Falls were worth going fourteen miles to see. For, after all, what is fourteen miles? Especially when one is rowed four of the fourteen up a lovely lake and tramps the rest through scenery bewildering in its diversity—mountain, valley, river, shady forest, with such filmy Ferns and such mosses underfoot as I shall never see again except in dreams. Though always an interested observer of vegetation, especially if it is at all new, I retain but few individual impressions of the countless interesting things seen on that memorable tramp, my memory having room only for one distinct picture—the lovely grove of flowering Ribbon Wood through which one had finally to pass to the front of the Falls.

SOMERS.

THE MEXICAN WHITE PINE

PINUS AYACAHUITE, the Mexican White Pine, especially without its cones, may very easily be mistaken for the commoner Himalayan *P. excelsa*, which, to our knowledge, has occasionally been supplied for it. It may, however, always be distinguished by its young shoots being covered with a minute down. Those of *P. excelsa* are perfectly smooth. The cones also are very similar in size and shape, but are always to be recognised, in that the scales nearest the stalk are curled back towards it, as they never are in *P. excelsa*. For the rest, the Mexican White Pine is a handsome tree with its leaves in bundles of five. It is quite hardy in the Home Counties, but likes the milder conditions of the extreme South and West, where its less hardy variety *Veitchiana*, with cones up to 18ins. in length, also thrives. The cones in the typical form are usually 6ins. to 12ins. long.

CORRESPONDENCE

GOOSEBERRY SAWFLY.

[Our issue of August 11, ways of overcoming this pest are described, but not my method. Many years ago, year by year our bushes were cleared of leaves, and we used to pick the "caterpillars" off. I noticed when the men were doing this that many of the caterpillars used to fall off. So I stopped the work and had a ring of soot put round close to the stem of each tree, and every morning each bush was shaken with a forked stick. The "caterpillars" fell off and could not get back, and so none came to maturity, and the next year we had none and have had none since. This may interest your readers who are troubled with this pest.—THACKRAY TURNER.]

GOOSEBERRY SAWFLY AND SILVERLEAF.

I HAVE been very interested in reading the article in last week's GARDEN on the gooseberry sawfly, also its prevention and remedies. May I give a very simple and, I find, certain preventive — i.e., plant a single Broad Bean between each Gooseberry bush, and the sawfly will trouble you no more. I was told of the remedy years ago, before we had a garden, and know no "reason why," merely the results. In 1915 I tried to persuade our gardener to do this (we had just come to a country rectory with a large garden and he was taken on with the garden, having worked for several rectors before), but like the

"Waters of Jordan," it was far too simple a remedy; however, the following year, when gardeners were not to be had, I ran the garden with the help of a boy and we tried the Broad Bean remedy with the greatest success, and every year, now that our original gardener is back again, the Beans are planted among the Gooseberries as a matter of course, and he talks of how "we" keep our Gooseberries free from caterpillar!

I should very much like to add my thanks to your correspondent of last year for the valuable hints on the cure of silver leaf. In May, 1922, we uprooted and burnt a splendid Victoria Plum which was badly affected and cut away more than half a Czar, which was also badly touched; then in July I saw a "cure" in THE GARDEN; we immediately treated the Czar, and at intervals during the autumn and winter, with the result that this year the half of the tree that was left is covered with fruit, the foliage is healthy and the tree starting to make good the part that was cut away.—C. E. WILLIAMS, N. Devon.

THE CARPENTERIA.

I ENCLOSE a photograph of *Carpenteria californica* which you may care to reproduce in THE GARDEN. It is one of the most beautiful of evergreen shrubs, and seems to be but little known. I have three plants, all grown against the house and walls, but they get no other protection of any kind. We are 450ft. above sea-level, and although in severe winters the ends of some projecting shoots get frosted, they are cut off without any hurt to the plants and all the plants flower freely every season. I am surprised it is not generally known and much more grown. I know of only one other plant in this district—the South-East of Scotland.—A. R.

THE BEST SIX BEDDING ROSES.

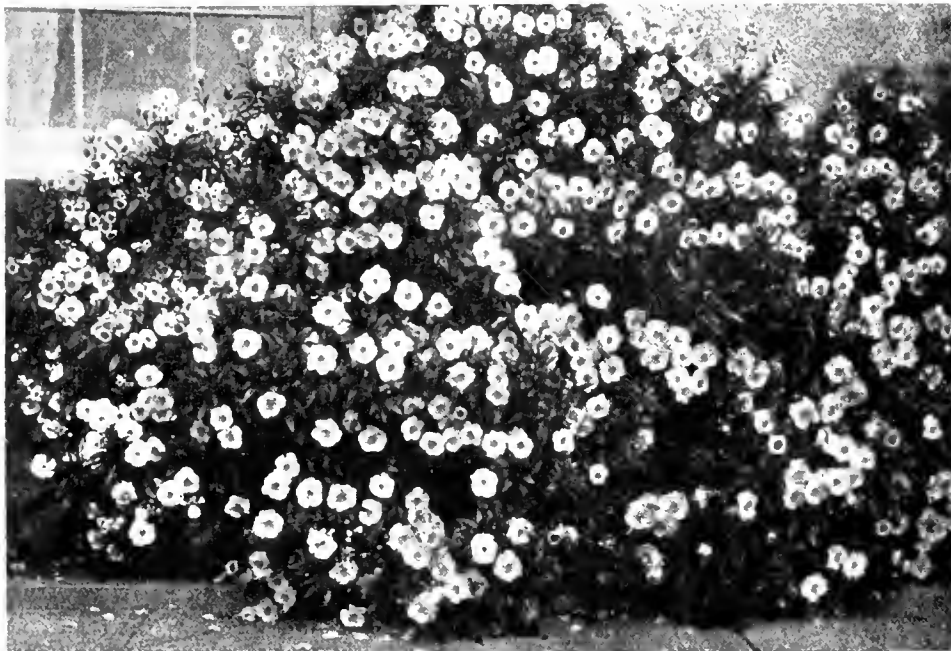
I THINK it would interest a great many of your readers if you could induce some of those learned in Roses to give lists of best bedding Roses. If you could find space, perhaps you could make the suggestion in your "Correspondence." I derived considerable assistance from a list published in your columns in reply to a similar request. To start it I would suggest Hadley, Mrs. H. Morse, Christine, Mrs. C. V. Haworth, The Queen Alexandra and Mme. Butterfly.—C. ECHLIN GERABLY.

THE GENTIANELLA.

THE illustration gives a portion of a large bank of this Gentian which has not been moved for many years. It will stand in one position for a long time if it has a good dressing of some fertiliser as soon as it has finished flowering and also plenty of water in the growing season.—W. A. MINER.

PLANT NAMES.

IN Sir Herbert Maxwell's "Memories of the Months" (2nd Series, page 250) I read that *Monarda didyma* is "first cousin of the Bergamot often seen in old-fashioned parterres." Only cousin? I thought *Monarda didyma* was the Bergamot. What, then, is the Bergamot often seen in old-fashioned parterres? Possibly *Monarda fistulosa*, which I do not possess. Incidentally, I note that, on the opposite page to that already quoted, Sir Herbert Maxwell, speaking in praise of *Gracilima littoralis*, assumes that this plant has no English name. This tree is native to New Zealand and very common there, where few know it by its scientific name but all call it "Broad-leaf." *Chorva ternata* is also, on the same page, said to have no English name. In "The English



CARPENTERIA CALIFORNICA IN SOUTH-EASTERN SCOTLAND.



A GOOD MASS OF THE GENTIANELLA, GENTIANA GENTIANELLA.

Flower Garden" the name "Mexican Orange Flower" is given. I can say nothing as to the currency of the name. Possibly it was invented by the author who uses it. Anyhow "Mexican Orange" is not a bad name. What is it called. I wonder, in Mexico?—SOMERS.

AN UNCOMMON ANNUAL.

THAT interesting plant *Martynia proboscidea* is a native of Louisiana, seeds having been introduced into France during the eighteenth century. *Martynia* is a half-hardy annual, and although of no great garden value, is worth growing for its large purple or whitish flowers and curious fruits. Each of the latter is provided with two large curved hooks, which probably serve as an aid to seed distribution. The fruits do not appear to set freely unless the flowers are hand-pollinated. This can be done with ease on account of the large size of the flowers and the abundance of pollen they produce.—N. K. G.

THE SPRING STAR FLOWER.

I WAS pleased to see N. H. P.'s remarks about that inexpensive yet pretty bulbous plant, which few amateurs appear to cultivate—the Spring Star Flower, *Triteleia uniflora*, also known, by the way, as *Milla uniflora* and *Brodiaea uniflora*. It is truly a delightful spring flower, especially in considerable quantity, and when growing in grass is lovely indeed. The writer knew a garden on the outskirts of Edinburgh where it had been planted in the grass for years and had seeded freely and spread to a gravel drive where it looked equally charming in its informal array, spreading over the green turf and gravel and opening out to the sunshine of spring. Its drawback is that it prefers to be in the sun as its real beauty is not fully revealed until it responds to the wooing of King Sol. It has given rise to at least two varieties, alba and violacea. Both are more expensive than the type, and it is doubtful if they are as useful as it is. Alba is white and violacea has blooms of a porcelain blue. From the reference given above to an Edinburgh garden it may be gathered that *Triteleia uniflora* is hardy in most places. It may be purchased in autumn with the other bulbs and planted at a depth of about 2 ins. Where it established itself and seeds freely it is exquisite in the grass and it may also, as your illustration shews (page 416), be planted in clumps in the rock garden as well as in the border. It comes from Buenos Ayres and is one of the few plants coming from there which may be considered hardy.—SCOT.

FOR THE COOL GREENHOUSE.

THE attention of bulb-lovers possessed of an alpine house which is slightly heated, or a cool greenhouse, is directed to the Chilean Blue *Orocus*, *Tecophilæa cyanocrocus*, a real jewel among

bulbs, and quite a rare plant in gardens. It has been recommended for outdoor culture, but, unless in specially favoured parts of the kingdom, it is



A FLOWERING SPRAY OF MARTYNIA PROBOSCIDEA.

not hardy enough to risk out of doors. Some succeed with it in a frame or under a handlight in a warm, sunny spot, but even if it should escape the ravages of slugs there, it is safer when grown in pots, planted 2 ins. to 3 ins. deep in light, rich soil in October, and sparingly watered at first (giving more when the season advances) and grown on in a cool house, where it should bloom in March or April. It is an exquisite flower, crocus-like in appearance, and of a lovely blue, with a white throat. It is, unfortunately, a rare bulb in commerce and seems to become scarcer in the trade, but it is still offered by some dealers. There are several varieties some of which are not on offer, but one called T. c. violacea, with violet-blue flowers, is available from some sources.—S. ARNOTT.

TULIPS IN GRASS.

ON page 419 of THE GARDEN for August 11, Mr. Briscoe, in his notes in "Gardening of the Week," when writing about bulbs in grass, says, "Daffodils, Tulips, Scillas, Snowdrops, Crocuses, etc., are so beautiful when naturalised in grass. . . . They produce a wealth of bloom when established and increase in numbers." May I ask him, first, which Scillas and which Crocuses does he refer to? My experience with *Scilla campanulata* varieties is that they do not increase in numbers in grass, and with regard to the old yellow Dutch Crocuses that I have grown it is much the same. Probably, other Dutch varieties would sow themselves and so produce and increase in the course of time, but these I have not tried. Secondly, may I ask him how he has got Tulips of any kind to give displays of bloom

every year and to increase in numbers without giving any "further trouble when once planted"? For the last twenty years or more I have been trying to solve this problem myself, and I have asked by word of mouth and through the Press how the trick can be done, and I am as far off as ever from a satisfactory solution. But one is always ready to learn, and if Mr. Briscoe would only tell us in the columns of THE GARDEN how this consummation can be achieved, of having Tulips to succeed in grass like Daffodils, he would confer a very great favour upon myself and upon many owners of parks, fields and lawns who would like to have a little barbaric splendour in their surroundings once a year at any rate. I have got an envelope of replies to a question I once asked in THE GARDEN on this subject but they neither gave me help nor hope.—JOSEPH JACOB.

CURRENT WORK AMONG CHRYSANTHEMUMS

If given good treatment these plants will afford cultivators a lot of pleasure both under glass and in flower borders throughout the autumn and early winter months.

THE season has come round once more when interest in these plants is deepened through the appearance of thousands of flower buds in nearly every garden where the blossoms are appreciated. The harvest is now approaching; it is the result of nearly twelve months continuous labour.

PLANTS IN BORDERS need judicious support against the strong south-west winds; this support should be afforded in such a way that very little of the stick or branch will be noticed; neither should the natural shape of the bush be altered. If tightly tied the plants will resemble sheaves or faggots of wood and look very bad in the border. Having seen to the branches the next thing to do is to examine the border to give copious supplies of water where necessary and also of liquid manure, to apply a mulch of half-rotted manure, wood ashes, spare soil from an old heap, and, in ornamental borders near the dwelling house, leaf-soil or coconut-fibre. These attentions are worth while as their effect will be substantial and pleasing.

PLANTS IN POTS.—These have needed very close watching throughout the summer months on account of the great heat and prolonged drought. It has, however, been possible to feed the plants regularly since the early part of July. The regular use of soot sprinkled about the plants and the occasional syringing of the foliage with soot water have, combined, had the effect of clearing the leaves of the maggot, also of green and black fly. Cultivators must watch closely for the very tiny thin grubs, caterpillar-shaped, rolled up in the tip leaves, as they destroy the point of growth containing the precious buds. To keep the plants clear of these pests the shoots should be examined every other day. Throughout August and the first half of September, of course, buds will be "taken" where large blooms are required. The work of "taking" them should be done gradually, removing the side shoots or, in the case of terminals, the side buds, a few each day till only the selected bud is left. Feeding at every watering-time may be the rule, all stimulants being applied in a weak state, as strong doses less seldom given, do harm, not good. If rust or mildew appears, syringe the leaves, especially the undersides, with sulphide of potassium, a quarter of an ounce dissolved in a gallon of water—two applications being better than one. Place the plants under glass just before the buds open and the colour of the petals can be seen. GEORGE GARNER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cabbages. When the plants in the seed-bed are large enough, they should be transferred to their final quarters. The small-growing varieties should be set out 1 ft. apart, but the larger kinds will need almost twice the amount of space. A rich soil is not required, and the onion-bed will be found most suitable for this crop, while a piece of ground recently occupied by Potatoes may also be used. Water the roots at planting-time, and if the seed-bed is very firm, the young plants should be lifted with a fork to prevent undue injury to the roots. Where slugs are numerous, dust the plantation with lime, and employ the hoe at frequent intervals to destroy weeds and to maintain a fine tilth. Another batch of plants should be put out a fortnight or three weeks hence.

Turnips should be thinned as the necessity arises, and the soil between the rows loosened with the hoe. A dusting of well-seasoned soot is beneficial.

Spinach.—The final sowing of this vegetable should be made during the next ten days, and earlier sowings should be kept clear of weeds, while the young plants may be thinned to 6 ins.

Onions.—The bulbs from the plants raised early in the year are showing signs of maturity, and those that still possess strong green tops should be bent over so that the leaves touch the ground. The bulbs should be thoroughly ripened before they are stored, and there is nothing better than a dry, open shed in which to store them. Damp is usually the cause of decay in Onions and, when storing them, it should be borne in mind that ordinary frost is not harmful.

Vegetable Marrows.—These are producing good crops, and the roots may be assisted with liquid manure or a reliable fertiliser. Cut the fruits before they get too large, and remove any dead leaves and worn-out shoots.

The Flower Garden.

Dahlias should be provided with stout stakes and the growths tied up with strong twine, or they will be broken down with heavy rain and wind. If the weather is dry, give them a mulching of manure. The new variety *Coltness Gem* is a fine thing, and it should certainly be given a trial by all Dahlia-lovers.

Roses.—On some varieties mildew has made its appearance, and where this is present the foliage should be sprayed with one of the specifics for mildew or with liver of sulphur, 1 oz. to 5 gallons of soft water.

Chrysanthemums.—These will need supports to keep the stems in an upright position, or later on they will be useless for cutting. A little disbudding will be necessary with the kinds that bloom during October.

Bedding Plants.—Such plants as Wallflower, Polyanthus, Forget-me-not, Aubrietia, Arabis and Alyssum are making nice sturdy specimens. Hoe the soil frequently between the lines and keep the ground free from weeds.

Eremuri.—These stately plants are best left undisturbed for several years, but where they have formed a number of crowns it will pay to divide a few plants. Now that the foliage has died down such work may be carried out, or new plants may be purchased. A well-drained position is necessary, and the crowns should be several inches below the surface. The young growth and flower-spikes in their early stages require a little protection from spring frosts.

Lilium candidum.—This beautiful old Lily is often seen in excellent condition in cottage gardens, while in larger establishments it is often but sparsely represented. Now is a suitable time to plant the bulbs, or lift and divide existing clumps. Deep planting should be avoided, and where the soil is of a heavy, retentive nature plenty of sharp sand should be added.

The Hardy Fruit Garden.

Morello Cherries are exceptionally hardy and rarely fail to produce a crop and, moreover, they flourish where many other fruits would linger. A north wall is an ideal spot for them, and although they are usually associated with such a position, they will nevertheless thrive as pyramids and bushes if planted in the cooler parts of the garden. Early in the season the necessary disbudding was, no doubt, carried out, so directly the trees are cleared of their fruit any

further pruning may be done. Remove the old wood that has fruited and tie in enough of the current season's growth to cover the wall. The main branches should be retained unless they are unhealthy. By pruning at this season the growth has a better chance of being ripened, and it also relieves the pressure of work later on. When the operation is completed give the roots a thorough soaking of water if the soil is dry.

The Fruit Quarters.—Here it will be necessary to use the hoe freely to get rid of all weeds before the winter and prevent any from producing seeds. Any dead branches should be cut out and burnt.

Fruits Under Glass.

Vine Borders. From time to time it is necessary to provide the Vine borders with fresh soil, the old rooting material eventually becoming exhausted. In some instances there is room for additions to the Vine border, and the best time to provide new soil is soon after the Grapes have been cleared. An addition of 2 in. is ample, but where the border is already filled it will be necessary to take out a trench and remove the old soil until live roots are found. It should then be replaced with good turfy loam chopped up with a spade, adding ½ in. bones to the extent of 1 cwt. to the cartload and one or two barrowloads of mortar rubble. Well mix the soil a few days before it is needed and protect it from heavy rains. Care should be taken not to injure the roots.

T. W. BRISCOL

(Gardener to W. R. Lysaght, Esq.,
Castleford, Chepstow, Gloucester.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Shallots are very popular with amateurs, who often fail with the cultivation of Onions. Shallots should now be ripe, or nearly so, and may be lifted, bunched and hung up in a dry airy structure, or even in the open for a time, unless the weather proves wet.

Herbs.—Mint, Sage, Thyme and other useful herbs should now be cut, selecting a dry day for the operation. Tie them together in moderate sized bunches and hang them up in a dry, airy structure to dry.

Onions.—Autumn-sown Onions should now be ready for harvesting. It is a good plan to arrange them along the sides of the pathway or on some other hard surface for a fortnight or so, prior to storing them. Spring-sown Onions will also be showing signs of ripening, and any thick necks which still stand erect should be flattened by gentle pressure with a garden basket; this will arrest all attempts at further development and compel them to fall into line with their neighbours.

Leeks will now be growing freely and will respond to weekly attentions with a little stimulant of a nitrogenous nature. Finely powdered fowl manure suits them admirably; it should be watered in if the weather proves dry. Keep the Dutch hoe moving freely among the crop.

The Hardy Fruit Garden.

Morello Cherries.—It is inadvisable to give attention to the wood now, until the fruit has been picked, and such attentions should not be necessary if it was given as the shoots developed. If a portion of this crop is double netted it will prolong its season of utility very considerably.

Young Trees.—Attend to the training of young fruit trees, more especially those on walls or espaliers; the young shoots can be much more easily manipulated now, while the wood is green and supple, than later on when it becomes ripe and hard. Keep a sharp look-out for woolly aphis and should it appear, paint the affected parts with paraffin or methylated spirit. If the soil is lacking in moisture, apply a liberal supply of water, as the young trees suffer from drought much more readily than well-established ones. After watering, stir the surface of the soil with the hoe, unless the trees have been mulched. If not already done it will be an advantage to mulch them even now.

The Flower Garden.

Dahlias should now be making a brave show; go over the plants and give them a final tying for the season; do not tie them up too tightly, rather loop them up into a natural position quite loosely. Remove all spent blooms and examine the earwig traps frequently. Water the plants liberally should drought occur.

Gladioli. Go over the plants and readjust the ties if the plants are becoming "hanked," giving additional ties as the plants develop. As the stems and foliage of the early-flowering varieties become ripe they may be cut over and if the plants are becoming "blanky," the whole should be lifted and the corns cleaned and graded prior to being replanted a few weeks hence. On soils where these early sorts do well the smaller corns may be planted in nursery lines to develop, but on less suitable soils the smaller ones should be discarded, as they are not worth troubling about.

Delphiniums.—Those who have raised seedlings should now plant them out about 9 ins. apart in the reserve garden, where they may remain until spring, when they should be planted out into their flowering quarters.

The Wild Garden.

General Work.—Those who possess a wild garden should give it a general overhaul and clean up before the rush of autumn work comes on. The grass should be cut with a scythe or reaping hook. The pruning knife or hedge bill may have to be applied to certain over-vigorous plants and spent blossoms should be cut away. The hoe, or more likely the digging fork or cultivator, should be brought into play on the parts that come under the spade.

CHAS. COMFORT.

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Nerines that have been dried off for the summer start flowering towards the end of August, usually commencing with *N. Fothergillii* major, many of the hybrids following later on. Nerines do not require frequent repotting—in fact, they produce their flowers with the greatest freedom when the pots are crowded with bulbs—but if repotting is necessary, it is best done at this time. Plants in bad condition should have all the old soil shaken away, and all dead and decaying roots, as well as the decayed base of the bulb, carefully removed. The compost should consist of a good rich medium loam to which a little leaf-soil has been added, also a ½ in. potful of fine bone-meal to every bushel of soil, with enough clean coarse sand or old mortar rubble to keep the whole open and porous. Dry bulbs, which can be purchased at this time, should be potted up as directed. After pitting, water at the root should be very sparingly given until a quantity of new roots and some growth is made; this precaution should be observed with all similar bulbous plants, as overwatering after repotting is a common cause of failure. Stock that does not require repotting should receive a good soaking at the root, gradually increasing the supply as growth develops. Nerines should not be neglected after flowering, as this is their growing period and their successful flowering the following season depends very largely on careful cultivation during that time. Not every cultivator is successful with Nerines, but they are so beautiful that they are worth some extra trouble.

Vallota purpurea, of which there are several varieties, is another bulbous South African plant, which one seldom sees in good condition in gardens. The best specimens are generally seen in cottage windows. This plant when well established and in good condition should be left severely alone, as it resents frequent disturbance. Anyone wishing to make a start with this plant can generally purchase dry bulbs about this time. As in the case with most bulbous plants, water should be very carefully given until a quantity of new roots is made. Vallota, unlike many other bulbous plants, is really evergreen, and should never be dried off altogether, although after growth is completed, the plants may be kept somewhat drier for a time.

Primulas. The main batch of Chinese varieties should now be ready for their flowering pots, 48-sized pots being usually large enough for this purpose. They enjoy a light rich compost, to which some old mortar rubble should be added. They should be potted well down, or else they become loose at the neck and tumble over. If this is done they will not rot off, as is generally supposed, but will develop fresh roots from the stem.

Primula malacoides. The most forward batch should now be put in their flowering pots. This Primula is excellent for decorative work, as perfect examples can be grown in quite small pots. On the other hand, fine groups for conservatory decoration can be obtained by placing several plants together in shallow pans.

Hippeastrums.—The earlier batches should have now completed their growth and may be removed from the growing house to cold frames, where water should be gradually withheld. The frame lights should be kept on and the bulbs fully exposed to the sun. Young stock should be kept growing steadily on, without drying off, until the flowering size is reached. Plants raised from seed sown this season should now be ready for placing in small pots, or they may be pricked off into boxes until they are a little larger. They may be grown on in pots or planted out in beds with some bottom-heat at command.

Lilium candidum grown in pots is very useful for the embellishment of the conservatory. Bulbs should be potted during August or the beginning of September. Early potting is essential to ensure success, and this Lily should be grown perfectly cool. Some lime or old mortar rubble should be added to the potting compost, as this Lily is a lime-lover. It is not a stem-rooting species, so it is not necessary to leave room in the pots for top-dressing. After potting, the pots may be plunged to the rim in ashes at the bottom of a wall.

Cinerarias for early flowering should now be in their flowering pots, while later sowings that were pricked off into pans or boxes should now be put into small pots. They should then be stood in low pits or cold frames, keeping them fairly close for a few days until they get a hold of the fresh compost. The plants should afterwards be kept perfectly cool and be given plenty of air on all favourable occasions. They should also be given plenty of room, for they soon spoil if at all crowded. When the pots are well filled with roots the plants enjoy plenty of feeding with diluted liquid manure and soot water. Fumigate lightly and frequently to prevent attacks by aphids, to which Cinerarias are very subject.

Royal Botanic Gardens, Kew. J. COURTS.

Trial of Pinks and Allied Plants.—The Royal Horticultural Society will carry out a trial of varieties of Pinks and allied plants for cultivation outdoors in their gardens at Wisley during the coming year. Three plants of each should be sent so as to reach The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (Station Horsley, Southern Railway), on or before September 30. The necessary entry forms may be obtained on application to the Director.

The Foremarke Cup, for twenty spikes of named Gladioli, in not less than ten varieties and not more than two spikes of any one variety, will be offered for award at the Royal Horticultural Society's Meeting on September 4. The winner will be required to sign a guarantee that all the flowers exhibited were grown by himself. Entries must reach the Secretary, Royal Horticultural Society, Vincent Square, London, S.W.1, not later than August 29, and the flowers must be arranged by 11 a.m. on September 4.

FORTHCOMING EVENTS.

August 25.—Hawick Horticultural Society's Exhibition.—Langholm Horticultural Society's Exhibition.—Dumfries Horticultural Society's Exhibition.

August 29.—Mitcham, Tooting and District Horticultural Society's Meeting.—Sandy Horticultural Society's Exhibition.

August 30.—Royal Oxfordshire Horticultural Society's Exhibition.

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CRÆSUS (Incomparabilis). This famous flower is still the finest richly coloured Incomparabilis and, being of vigorous and free increase, is now listed at, comparatively, a very moderate price. Each, 7 6.

CRYSTAL. A very fine and distinct Giant Leedsii, having symmetrical, flat, overlapping, pointed, pure white perianth, and bold, clear lemon crown of almost equal length with the segments. A fine show bloom, the flower has great substance and lasts a long time in good condition. Each, 1 6; per dozen, 15 -.

Donax (Incomparabilis). One of the late Mrs. Backhouse's remarkable introductions. A most distinct and striking flower, having a broad yellow perianth and wide orange-scarlet cup; a variety that is bound to become popular and worthy of a place in the very best collections. One of the three varieties that carried off the "Walter Ware" Challenge Cup at Birmingham, 1921. Each, 6 6.

DRAGON. Undoubtedly, one of the most brilliantly coloured Narcissi extant. Flower as large as Albatross, with fine, spreading, white perianth of good substance, and large, shallow, spreading crown of clear, bright vermilion; very striking. A tall and robust plant. To get the colour at its best the flower should be cut young. Each, 10 6.

Everest (White Trumpet). The flower is pure white throughout and is of fine waxy texture, having broad, well formed perianth, standing at right angles to the trumpet, which is beautifully finished with a neat flange at the brim; perhaps its most striking feature is its tallness, having a stem quite 20ins. long. A wonderful show flower. Award of Merit, 1922. Each, £4.

GOG (Yellow Trumpet). A very early and very vigorous Yellow Trumpet; a fine long stem, carried very erect; bound to become a popular variety, as the constitution is the best we have seen in any yellow Trumpet; altogether a pleasing variety. Each, 7 6.

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Irish Pearl. One of the very best Giant Leedsii's ever raised from Minnie Hume, crossed with a Trumpet; large flower, having splendid overlapping white perianth of great substance, and large, bold, beautifully frilled crown, opening primrose, soon passing to white. The plant increases with great rapidity, and is exceedingly vigorous and free blooming. Each, 3 6.

Kingcup (Incomparabilis). A big, self, clear yellow flower, having broad perianth and shallow crown; best described as a glorified Homespun. Each, 2 6.

Lemon Star (Giant Leedsii). One of the best of its class. A large flower with overlapping and pointed white

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NO. 2702.—VOL. LXXXVII.]

[SEPTEMBER 1, 1923.]

THE HARDY CYCLAMENS

BELONGING to the Primula family, the genus *Cyclamen* consists of about twelve species, limited to Central and Southern Europe, North Africa and Asia Minor. All the species are great favourites, with lovely flowers, some very fragrant and produced in profusion over a long period. In addition, the foliage of several kinds is very elegant and ornamental. The hardy members are of the greatest value for planting on rockwork, in the wild garden under trees and in shady places where few other plants will thrive. The culture of hardy *Cyclamens* is quite easy, although they flourish more freely in the southern and warmer parts of the country. In their native habitats they are found on rocky sloping banks, generally under the shade of trees, with a northern aspect, in chalky, stony, porous soil, out of reach of any stagnant moisture. Here the tubers are wholly or partially above ground, among moss, low-growing herbs and buried in dry leaves in winter, which act as a protection against frost. In this country it would hardly be possible to grow them in this way, but success may be attained by carrying out the following directions.

When planting select a perfectly drained border or sloping bank of porous soil; if of a heavy nature, add plenty of sand, well decomposed leaf-soil and pieces of old mortar rubble. Plant the tubers when they are at rest, from June to August for autumn-flowering species, and from July to November for spring-flowering ones. Surround the tubers with sand and take care that the tops of the tubers are level with the ground. If the soil is dry give it a good soaking, afterwards applying a layer of sand, leaf-soil, coco-fibre, moss or any similar material, and see that the soil does not get frozen during the winter. The fern border is an ideal place for *Cyclamens*. They there get shade and suitable conditions among the matted roots. *Cyclamens* may be propagated by cutting the tubers

into pieces, leaving one eye attached to each division, or by cuttings of leaves having a small portion of the tuber attached to the base of the leaf-stalk. The best way, however, is by means of seeds, which are freely produced. When fresh they germinate in a week or two, but when old they are much longer in coming up, sometimes lying dormant for a year or more. Sow the seeds as soon as ripe in pans or boxes of light, sandy soil, keep moist and shaded till the seedlings are up. Winter in a cold frame for the first year and the following autumn, when the small tubers are at rest,

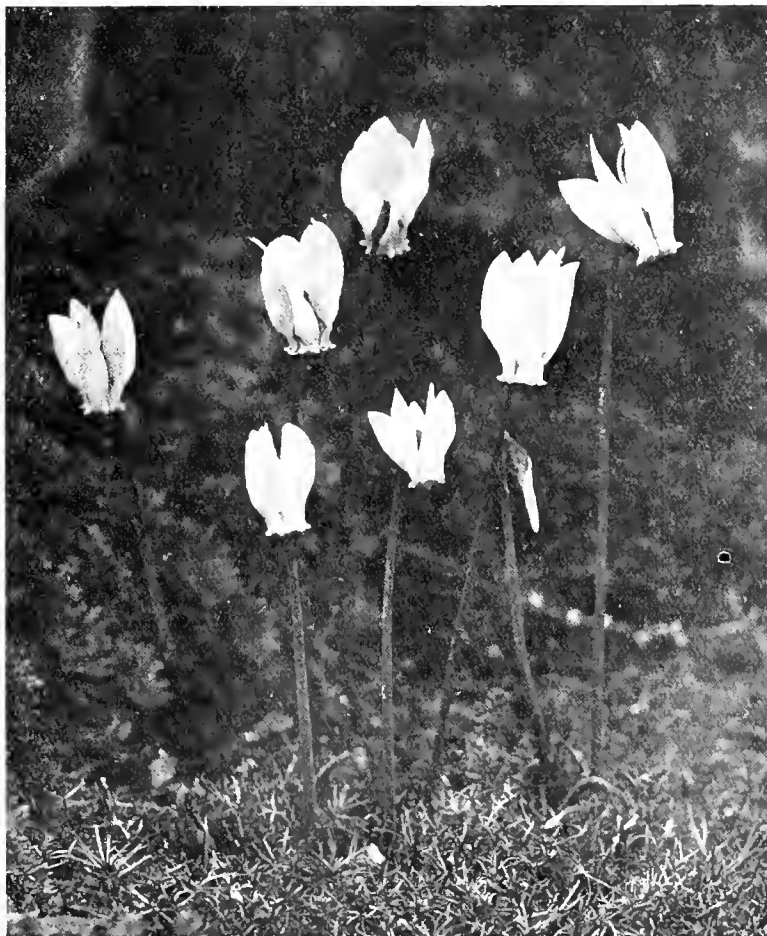
replant them rim or rim, apart in a similar compost. The following autumn they will be ready for planting out and will flower in the second or third year from seed. In the south-western parts of this country they may be naturalised and will spread quickly by means of self-sown seedlings. Of the following some are autumn-flowering, others bloom in spring, while *C. europæum* flowers in summer.

C. AFRICANUM.—A native of North Africa, where it grows in sandy oak woods; this is less hardy than the others. It is closely allied to *C. neapolitanum*, with large tubers and ornamental marbled leaves. The flowers are sweet scented, pale or deep rose in colour, with a purple spot at the base of each petal, and are produced in October and November.

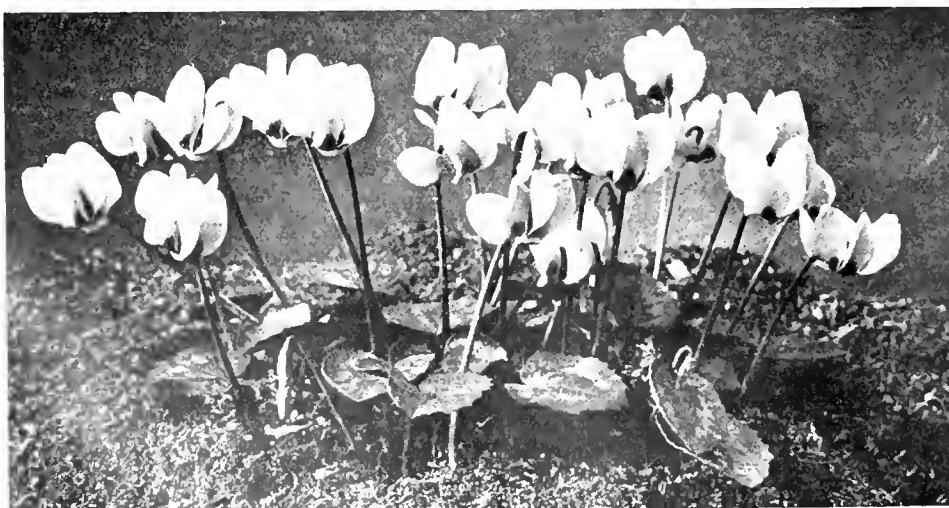
C. ATKINSONII is a hybrid between *C. Coum* and *C. ibericum*, nearer to the latter, but with slightly larger foliage. The flowers vary in colour from purple and rose to white. It is a valuable plant for spring flowering, for besides being quite hardy in the border, it is suitable for growing in pans for display in the alpine house.

C. CILICICUM.—An autumn-flowering species from the mountains of Cilicia and Asia Minor, where it grows in fir forests; this is closely allied to *C. europæum*, from which it differs by its pulverulent calyx and other small details. The leaves are entire or slightly serrate, purple beneath, appearing with the flowers. The blossoms are pale rose or pure white and strongly scented.

C. COUM.—This beautiful little early spring-flowering species comes from the mountains of the Caucasus, Asia Minor and Greece. It is very distinct, with small corms and round, dark green leaves that are never marbled, and deep purple beneath. Appearing with the leaves, the flowers are small, deep purple or rose, and are produced from January to March. There are several varieties in cultivation, including a white-flowered one.



CYCLAMEN NEAPOLITANUM, FLOWERS FROM THE LEAFLESS CORMS.
The illustration shows the white-flowered form.

THE SPRING-FLOWERING *C. REPANDUM ALBUM*.*CYCLAMEN COUM* HAS FOLIAGE DESTITUTE OF MARBLING.THE VERY HANDSOME RICH ROSE-COLOURED *C. PSEUD-IBERICUM*.

It is one of the hardest kinds in the family, easily grown and valuable for the alpine house. A plant known as *C. calpinum*, from Mount Taurus, is only a form of this, with leaves faintly marbled and pink flowers.

C. CYPRICUM.—As its name implies, this is a native of Cyprus, and is closely allied to *C. neapolitanum*, differing chiefly in its unfolded leaves and longer, narrower petals. It bears white flowers, each segment having a purple spot at the base. This is a plant rarely met with in gardens.

C. EUROPEUM (Snowbread).—Also known as *C. odoratum* among a host of other synonyms, this species is widely distributed in the mountainous regions of Central Europe, Greece, Asia Minor and the Caucasus. It is of easy culture, with deep green leaves that are rounded with a cordate base, usually entire, marbled with white above and purple beneath. The flowers are purplish-red, darker at the base, strongly fragrant and produced from July till October. It is one of the best for the shady fern border or bank and has almost evergreen foliage. For this species calcareous soil is preferable.

C. HEDERICUM (syn. *C. vernum*).—This comes from the Iberian Caucasus and may be considered a form of *C. Coum*, with marbled leaves and larger flowers, varying in colour from purple to deep rose and white. It flowers rather later than *C. Coum* and the petals are sometimes blotched at the base. It is a charming spring-flowering plant, quite hardy and easy to grow, either as a pot plant or in the border.

C. LEBANOTICUM comes from the valleys of the Lebanon, at an elevation of 2,000ft. to 4,500ft., where it grows in rocky ground of a chalky nature. The leaves are large, with entire margins and are marked with a silver zone on the upper surface, while the underside is dark violet. The flowers are large, sweet-scented, bright pale rose in colour, with a carmine blotch at the base of the petals. It flowers in February and March and is hardy in sheltered positions.

C. NEAPOLITANUM (syn. *C. hederifolium*).—This beautiful autumn-flowering species is one of the best and most useful plants in the genus, being quite hardy. In the autumn it produces its flowers in abundance, followed by beautiful marbled leaves, which persist through the winter and following spring. It is a native of Southern Europe, but does not extend into Asia Minor. In old plants the tubers get very large, often one, or more in diameter. The leaves are variable, elegantly marked with white above and purplish beneath. The flowers are of good size, rose coloured in the type, but there are many varieties, some pure white. The blossoms are produced from August to October.

C. PSEUD-IBERICUM.—This is one of the finest of the *Coum* section, but of doubtful origin, being described from plants growing in the nursery of Mjühr, Van Tubergen. The leaves, like those of *C. ibericum*, are marbled with a zone of white, but instead of being entire the margin is crenulate and the underside of a richly-purple colour. The rich, rose-coloured flowers are borne well above the foliage in March.

C. REPANDUM.—This spring-flowering *Cyclamen* is often erroneously called *C. hederifolium*, a name which is also often used for *C. neapolitanum*. It is a native of Southern Europe, being plentiful in Central Italy, and ascending to 6,000ft. on the Greek mountains. The tubers are small and produce tufts of toothed, angular leaves, beautifully marbled with white above and purplish beneath. From March to May the flowers appear with the leaves; they are rosy white and spotted with purple at the base of each petal and larger than those of *C. europæum*. This species on the whole

is rather more tender than the others and requires a more sheltered position. It is also known as *C. bicaristifolium* and *C. vernum*, the latter name also being applied to *C. Comm.*

There are some other species which have been omitted owing to their being less hardy and rarely

grown in gardens, such as *C. balearicum*, a small species from the Balearic Isles, with marbled foliage and pale lilac flowers; *C. gracum*, and *C. latifolium*. Both the latter are found in Greece, are closely allied and do not stand our winters well outside.

W. L.

LILIES IN THE GARDEN

(Concluded from page 441.)

LAST week I mentioned *Lilium Hanson* as among those that were indifferent to the presence of lime in the soil, but, although this is of Japanese origin, it must not be concluded that all the beautiful Lilies of Japan tolerate lime. On the contrary, the majority strongly object to it. Of most of the Japanese Lilies it can truly be said that where Rhododendrons, Azaleas and the lime-hating shrubs generally, do well, the Lilies will thrive.

Among the finest of those that come from the "Happy Isles of the East," are the auratum, followed closely by the Tiger Lilies and the various forms of speciosum, or as it was at one time better known, lancifolium. The best of the auratum is, undoubtedly, platyphyllum, not only on account of its magnificent size, the glorious breadth and rich green of its foliage, but because it is by far the most vigorous and easiest to grow and the one that establishes itself more satisfactorily than any other in the English garden. It was my good fortune, a few hours after posting the previous instalment of this serial to the office of THE GARDEN, to stumble across a planting of this wonderful Lily in a garden less than twenty miles from Charing Cross. The accompanying photograph is of one of the clumps, selected rather on account of its more even lighting for photographic purposes than because it was the best. There is, indeed, a gardening lesson in this uneven lighting (for photographic purposes) of the remainder. Mr. Brown, the gardener at Castle Hill, had skilfully chosen spots where the Lilies, planted in the shrubbery, would be partially shaded during the brightest period of the day. The planting was also arranged so that the foliage of the shrubs surrounding the masses cast a shadow over the roots of the Lilies, which undoubtedly in large measure accounts for his success. Incidentally, I saw also in the same garden, planted in the borders, several clumps of the wonderful *L. Henryi*, planted about four years ago, towering above the taller herbaceous plants and full of health and vigour, just opening their first flowers. This, the wonderful "orange speciosum," is really a deep apricot in colour. It is a Lily that should be planted wherever any of them are being used.

In the same garden, old established masses of *L. pardalinum* had gone off for this season, but had left enough to shew how truly magnificent they had been. But to return to the auratum; although platyphyllum is essentially the variety for the novice to obtain, having grown it he will not be content to possess this variety alone. Sooner or later he will come across the gorgeous red-banded rubro-vittatum. The enormous richly fragrant flowers of this variety are among the most startling productions of the Japanese flora in England. The blossom has six huge white petals, each with a bright crimson band down the centre or mid rib. It is a little variable in colour intensity and there are, undoubtedly, some forms better than others, but all are striking and, moreover, all are good garden plants. I remember seeing in a Suffolk garden some years ago groups of these two varieties growing in a large bed of Rhododendrons. The Lilies had been there twelve years and many stems were 5ft. to 7ft. high, carrying over twenty fine

blossoms. A third variety that can be added is Wittei, when obtainable. It is the whitest of all the auratum, being quite devoid of spots. All, of course, are very fragrant.



A FOUR-YEAR-PLANTED BULB OF LILIUM AURATUM PLATYPHYLLUM IN A GARDEN NEAR LONDON.

The Tiger Lilies are a very important group because of their late flowering and also on account of their wonderful orange colours. The best of them is *L. tigrinum Fortunei giganteum*. Thirty flowers of the deepest orange, richly spotted, on a spike 6ft. or even more high is a common occurrence. In some parts of the country this Lily does not flower until late August or September; of course,

seasons and local conditions vary this period somewhat, but it is essentially among the late Lilies. By this time the foliage of Azaleas has begun to change to brown and bronze tints, and if the Lily-grower wants to see this gorgeous variety at its best he will plant it in groups among Japanese Maples and Azaleas. Remember, when choosing its position, that it grows anything from 5ft. to 7ft. high.

The earliest of the Tigers is splendens, flowering in late July and August. The type tigrinum (or sinensis) is perhaps a little later, and there is a double form called flore pleno that rarely flowers before the other two are well out. The average height of these is 4ft., but splendens will exceed it under good conditions.

Among the later flowering Japanese Lilies none is more beautiful than the speciosum group. From pure white to the deepest crimson, all the varieties are good. The pure white form album Kratzeri, is one of the most wonderful white flowers in the garden. Not the purest white, perhaps, although its green central band detracts nothing from its exquisite beauty and, indeed, emphasises the purity of the remainder of the sepal, but it is the best white for outdoor culture. Of the rose and red forms there are several varieties of which roseum superbum, Melpomene and magnificum are the best investment for the average gardener.

Where shall I stop? There are enough Japanese Lilies left really demanding all the space available for this, the last of the present series of articles. I must, however, just mention a few other good sorts by name and then leave the reader to make enquiries for any further information required about them. For the borders there are the charming and mostly dwarf early-flowering Thunbergianum (or elegans) section. Orange Queen, venustum macranthum and Van Houttei are a representative trio of the best. Late May and June is the flowering period and none of the section grows more than about 2ft. high, some of them hardly exceeding 6ins. A little later than

these follow the unbellatum (davuricum) section, of which the pure orange yellow form known as davuricum luteum is by far the most attractive, although grandiflorum, incomparabile and Sappho should also be planted. June and early July is the flowering period; colours yellow, orange and crimson, but mostly orange. Everyone who has a peaty soil and a bit of thin

odorous, but of a pleasant, so-called, "Krameri" (so known, and more correctly "Lapponicum"), but it can be grown in any good light soil, well drained. In some cases it is the most delicately fascinating of all the pink Lilies. A species that resembles it, *abellum*, is perhaps of better and more vigorous constitution and in favourable circumstances has been known to seed itself about. Frankly, however, I think it inferior in colour and form to *Krameri*, but it is really well worth growing.

On the *L. longiflorum* group I do not intend to waste much space. Perhaps of all the Lilies of Japan they are the best known, because of the popularity of their pure white trumpets, as florists' flowers. They can be grown out of doors, but are really much better as pot plants under cover, and few people have been able to get them to perpetuate themselves in the open. If they are required for outdoors, and no one can deny that they are very useful there, then it is best to procure sound new bulbs each year and plant afresh.

Now, I must leave the Japanese Lilies, although the tale is not yet half told, and just mention one or two of the Chinese forms. Before doing so, however, I must notice the noble Himalayan

would be too fantastic, no language too high flown, or extravagant to lavish on the wonderful species of the genus that have reached us from the little known regions of Central and Western China. As it is I must be content with a "practical" reference to one or two kinds that readers of *THE GARDEN* can plant out of doors, and first and foremost comes *L. regale*, queen of the tribe. Hardy as any species in cultivation, it grows and flowers and seeds so freely that it is getting more and more popular every year. In America it has been grown by the acre for cut flowers. In England I venture to say that had there been no Great War there would have been millions where there are now thousands. Nothing among Lilies can exceed the beauty of its exquisitely shaped flowers. These are borne on sturdy stems furnished from the base upwards, thickly, with long narrow leaves, and are funnel-shaped, white, suffused with yellow on the inside and pale pink outside, the pink deepening towards the mid rib where it becomes a ruddy brown. The pink seen through the white gives to the flowers a pearly texture that is exceedingly attractive. Newly planted bulbs produce anything from two to six flowers according to the condition and age of the bulb, but established bulbs often bear many

There appears, however, to be no reason why it should not succeed.

I must also point out that the collection I have named is quite incomplete, but I think it is large enough to meet all the requirements of the gardener who wants to try to grow Lilies in his or her own garden for the first time. As enthusiasm grows the list can be extended and it will be, because the enthusiasm will grow.

The new grower of Lilies will be too impatient for results to wait for the produce of seeds. Nevertheless, increase of stocks can be quite easily achieved by this method and seeds of most varieties can be obtained. The directions need be but brief. Sow on gritty soil in shallow pans that are thoroughly drained, just covering the seed with sand. Plunge the pans in ashes or some material that will ensure that the soil never gets dry, and also reduces the necessity of frequent watering. The seeds will come up rather irregularly, that will be the more pronounced the longer they are kept after they are ripe before sowing. Even if some of them fail to put in appearance during the first year, do not give up hope. If the seeds are sound, that is if you can find them in the soil, they will come up in time. The first year's growth will look about as unlike what you expect a Lily should be as possible, but little bulbs will be formed which can be pricked off in pans or a frame, after the first leaf has died down. As these little bulbs will be in very shallow soil the protection of a cold frame or even a cool greenhouse is desirable. When the bulbs are large enough they can be transplanted to permanent quarters or into nursery lines to be grown on until they flower. Some sorts, such as *regale*, can be sown in cold frames and left for two years, when they can be transplanted into nursery beds and the largest bulbs selected from time to time for planting as required. Some varieties will take much longer to flower than others, the quickest results I have known being with *L. philippinense* (Price's var.), which flowered sixteen months after sowing. Some sorts may take as long as four or five years to flower. Whether it is worth while is a matter for the individual to decide, but there is certainly an added interest in raising one's own seedlings and watching them mature; moreover, the survivors are acclimatised.

In concluding this article it may be as well to raise the question whether the Lilies themselves are worth the trouble. After all, what does this trouble amount to? There are hundreds of things you grow in the garden that require as much or more, that do not possess one half the individual attraction of well grown Lilies. Compare them with many other flowers in the garden and it is Lilies first and all the time. Apply the test, an analytical test, by quoting a well known writer on matters of art and beauty. "The first necessity of beauty of line is curvature." No plant in the garden possesses more exquisitely curved lines than the Lily. Every line is moulded to delightfully varying curves. "Of colour gradation"—the softly graduated colouring of many of the Lilies is unequalled in all the world of floral colour. "The second necessity of colour is subtlety." Try to state in definite terms the true and exact colour of such Lilies as *Krameri*, or *regale*, and you will realise what a difficult problem subtlety of colour can be. "And the second necessity of line is softness." It is just that softness of curved lines that has caused the Lily to be held up through all the ages as the perfect flower and a symbol of all that is beautiful, and also that has caused so many flowers that have no relation to the genus to be called some sort of "Lily." Not all the art of all the painters, nor all the fancies of all the poets throughout the ages, could achieve the impossible and "paint the Lily" in nobler sublimity than that of which it is worthy.

GEO. DILLISTONE.



LILIUM REGALE AMONG RHODODENDRONS.

L. giganteum. Plant young bulbs of this in the rich leafy deposit and half shade of woodland, or as near as it is possible to get to such conditions. See that the position is one in which they will never get dry and they will attain the noble stature of rosette, or so and bear large spikes of their long tubular white flowers, above luxuriant and enormous bright green leaves. A really fine group of this Lily is a sight never to be forgotten. If you plant large bulbs you may succeed in getting them to flower the first year, but they may die before they attain maturity. If you plant smaller bulbs they may not flower the first year, but will establish themselves much better and are certain to succeed if the conditions are suitable.

Chinese Lilies. If I were a real journalist instead of a very hard worked garden-maker, I should revel in just this one theme. No poetic flight

more flowers on a stem. This is *par excellence* the Lily for the garden. Another Chinese Lily that is equally satisfactory, although of quite a different type, is *pseudo-tigrinum*. Deep orange flowers, an orange that has much more red than yellow in it, August-flowering, often lasting well into September, tall, slender and therefore graceful, it bears numerous reflexed flowers, in a nodding position, above the dainty narrow leaves which almost cover the stem from the base upwards. It has a constitution that makes it doubly valuable for the garden.

Of the other Chinese Lilies I can say little now. Some of them are for the garden, a few are better grown indoors. *L. Willmottiae* has been grown successfully out of doors, but it is too new and untried for the novice to risk just yet. Only the expert, too, will feel inclined to risk *centifolium* until it gets more plentiful and, therefore, cheaper.

THE BULB ORDER

V.—Tulips.

I HAD a mild shock last week. A contemporary gardening paper announced the result of its readers' selection of the twelve most popular garden flowers of the present day and the Tulip was not one of those in the list. I would not have thought it. This venerable inhabitant of gardens has had ups and downs in its long career, but I imagined that after the reaction of the show period about the latter part of the first half of last century, it was rapidly regaining its lost position, if it had not already done so. The space given to Tulips in any decent-sized modern bulb catalogue is very striking, and I cannot think why it is so large if it is not an index of the flower's popularity. If Petrus Hondius in his "*Dapes Inemptæ*" (1610 and 1621) correctly represents the garden feeling of his time, the Tulip must have enjoyed a prominence which it might not be too much to call the high-water mark of its appreciation. He calls it

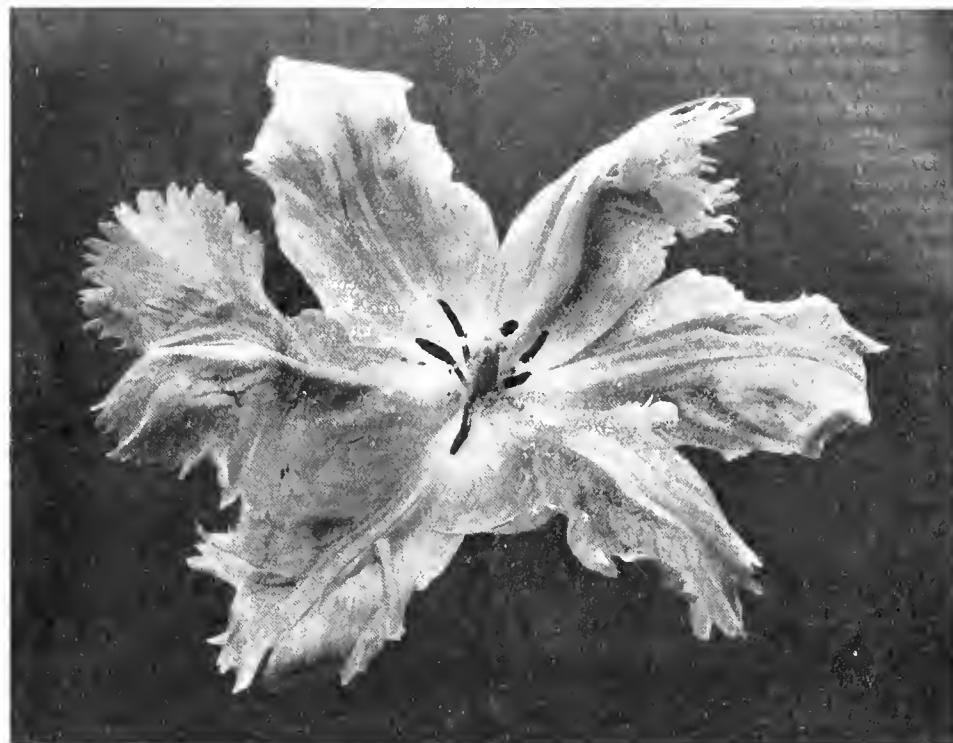
"An Emperor flower extolled
Over every flower being."

Later on in the poem he says some people were so much taken with its beauty that they gave up the cultivation of all else. He calls them foolish "Who build their gardens for one flower and no other."

Clearly, in the days of Petrus Hondius the Tulip had caught on and had become a very fashionable flower. Has it ever had a greater vogue than it had then? This it must be remembered was fifteen years before the mania (1635-37), when, presumably, it was grown for pleasure and not for profit. Our ideas have changed. Few, if any, give themselves up to-day to the cultivation of one flower only. People want a succession in order to have their gardens bright for as long a period as possible. No flowers can provide brighter colours in April and May than Tulips, hence their popularity in modern times. In the early sixties of last century, when Cliveden was looked up to as the ideal spring garden and when none could rival Dropmore in bulb-gardening, it was the early varieties, as we now call them, that were used in their displays. It was a variety like Yellow Prince, Vermillon Brilliant or some Duc van Thol that would come to mind if anyone then said "Tulips," just as the modern man when he hears that word thinks of the taller and more important looking May-flowerers. I will deal with these first. Everyone who orders Tulips, orders some of these, but the "Mau in the Street" is bewildered as he takes up his catalogue to make out his order. Not only is the assortment large, but the descriptions are perplexing. Some of the cheap Dutch catalogues take the cake. I have seen one in which The International and Ronald Gunn are both described by the one word "violet," whereas the former is a rich ruby red and the latter a greyish mauve or lilac.

It is very difficult to convey the small differences in very-much-alike varieties in black and white, but that is no excuse for making two Tulips which are as different as a spaniel from a foxhound, seemingly identical. If I tried to please everyone I should most likely please no one. I am not quite sure that I can select a dozen Darwins, or a dozen Cottage and Breeders that will please myself, but the selections which follow are at least an honest attempt to do so. My dozen Darwins are: Clara Butt (pink), Eclipse (deep mahogany red), Edmée (rose, edged bluish), Euterpe (long soft lilac-mauve), Faust (deep reddish-purple), Marconi (dark violet-purple), Petrus Hondius (bright rose), Pride of Haarlem (cerise), Prince of the Netherlands

(deep cherry-red, edged soft rose), Ronald Gunn (greyish lilac and purple), Sophrosyne (delightful soft rosy pink), and Teddy (a very bright scarlet). It made into a baker's dozen the thirteenth would be Crêpuscule (round silvery blue). Afterglow is



PARROT TULIP FANTASY, SAID TO BE A SPORT FROM THE WELL KNOWN "DARWIN"
CLARA BUTT.

left out because we get orange reds in the Breeders. The pure white Zwanenburg is at present for millionaires only. Mrs. Maurice Tweedie, an idealised Crêpuscule, has not as yet left Whitewell. Miranda, which came from Holland originally, I can no longer find in any list. It is an improved International and supreme in its shade of colour. Elephant, the huge slaty-grey, is a wonder when seen at the top of its form, but it does not seem quite as robust as it might be. William Pitt, the deep blood red, is only turned down with tears. Venus, the tall soft rose, begged hard to be one of the lucky thirteen. The great big dark purple Giant ought to be with the elect. How could I fail to select Homer, La Fiancée, Duchess of Hohenburg, Jubilee, Yolande, Farncombe Sanders, Moralis and Professor Francis Darwin? Practically, what does all this mean? It means there are many excellent varieties—one quite as good as another. It is fortunate it is so, for it takes a great many to go round now that everybody with any sort of a garden wants some. It is not so difficult with the Cottage and Breeders, which I find are put into one section in most English lists. A favourite twelve of mine are the following: Avis Kennicott (long deep yellow), Boadicea (orange red and brown), Bronze Queen (biscuit colour), Ellen Willmott (primrose), Gesneriana major (deep scarlet), Golden Crown (yellow, edged rosy red), Louis XIV (purple and bronze), Lucifer (orange red), La Merveille (long flower, orange-carmine), Marksman (magnificent scarlet), Picotee (white, edged rose), and Prince Albert (rich brownish-yellow). To make a baker's dozen Inglescombe Pink (many

pink) must be added. Perhaps the thirteenth should have been Orange King (orange) or Mrs. Kerrell (the lovely pink), or The Fawn (fawn and white). It is a difficult matter to say which. For growing for cutting, either outside or in a cool house, few Tulips in my estimation are before the fascinating light bizarre Zany. There is a peculiar charm in the straw-yellow ground colour, flaked and edged with a pretty shade of carmine, and when the flowers are associated with a pale bright-toned

green it is a "bit of all right." Are rectified (or striped) Tulips coming into fashion again? The firm of Dobbie and Co. is shrewd and far seeing. In their 1922 bulb list they honoured me by quoting my opinion about a bed of Rembrandt Tulips, which I have called a "bewildering medley of colour." It is. But a bed of rectified *pure bred* English Tulips, when at its best, is something brighter and more glorious, because the colours are purer and the bases either pure white or pure yellow. What would I not give for a peep into the past to see those famous Tulip beds of Groom, the great florist, which yearly attracted all fashionable London? We have plenty of better varieties now and the mixture of "Old English Tulips" which this firm lists contains many of them.

If asked to name a good half dozen early and mid-season varieties for growing in the garden in clumps, I should name the following: Cramoisie Royale (cerise), Canary Queen (primrose, edged lemon), Prince of Austria (orange-red), Prince de Ligny (yellow), White Swan (white), and Thomas Moore (terra-cotta with buff edge). These are all tall growers for early varieties. With the mention of Fantasy I must bring these notes to a close. It is, I believe, nothing but the well known Darwin variety Clara Butt, which has sported and taken on a "parrot" form. The colour is a soft rosy pink, with here and there green splashes running through it. I have not grown it myself, but I have seen it at shows and was greatly struck by it. It is, unfortunately, rather dear to buy as yet.

JOSEPH JACOB.

GLADIOLI AND DAHLIAS AT VINCENT SQUARE

So far as exhibit at the Royal Horticultural Hall, Vincent Square, on August 21, were concerned, it was still practically a close season with Orchids, for there were no novelties and only a handful of plants. The Fruit and Vegetable Committee also had in easy time; but, while it was not a large show, the Floral Committee were well employed. At eleven o'clock the Joint Dahlias Committee, which is composed of members nominated by the Royal Horticultural Society and the National Dahlia Society, had to consider the merits of a large number of new Dahlias. A few of the novelties might have been relegated to the rubbish heap on sight, but, generally, the quality was decidedly good. An improvement was especially noticeable in regard to the flower stalks, which were in all cases long enough to bear the flowers clear above the foliage. Some exhibitors did not seem to realise that, for award, three blooms of a novelty must be sent. Besides these new Dahlias, there were a couple of good collections in the hall. Their size and quality encourages the National Dahlia Society to expect a good display at their annual show on September 5.

In addition to the new and rare plants described in due course, there were several well grown specimens of less common though not rare species. Mr. C. Turner sent splendidly flowered branches of *Erythrina Crista-galli* and *Clerodendron tomentosum*. Mr. N. Hadden, West Porlock, Somerset, exhibited exceptionally well flowered sprays of the tender *Lonicera Hildebrandiana*, which appeared to have been grown out of doors, probably against a

warm wall, and he also shewed the interesting *Bonania multiflora*. The Common Marjoram, *Origanum vulgare*, sent by Mr. Lawrensen, though quite a common wildling, seemed to be hitherto unknown to quite a number of visitors. This herb is very pretty when in flower.

Gladioli again filled the public eye to a great extent and there were some very pretty and uncommon colourings among them, in addition to many standard sorts. Major Churcher had a large collection and his bowls of Alice Tiplady, Sedan, Woodcote and others were prettily arranged. Montezuma was again very attractive, as also were Magic and Martha Washington. In the exhibit by Messrs. Lowe and Gibson there were several of weird and fascinating colours. John T. Pirrie and Adriatic are examples. Zanthia, a neat *Primulins* of deep orange shades was much admired, as also were Red Fire and the American St. Thomas. Messrs. Kelway and Son had a good collection of the large-flowered sorts, and Mr. Alfred Edwards of Fordham, Ely, a very bright and attractive lot of *primulins* hybrids.

The general floral exhibits chiefly included second spikes of *Delphiniums*, *Rudbeckias*, *Helianthi* and herbaceous *Phloxes*. Mr. G. Reuthe shewed *Eucryphia cordifolia* very well set with flowers. Mr. Geo. G. Whitelegg has in Schubert and Preciosa a couple of desirable garden Pinks.

A magnificent collection of *Montbretias* was exhibited by Messrs. Sutton and Sons and these were "backed" by *Phlox Drummondii* and *Verbenas* in great quantity and a variety of

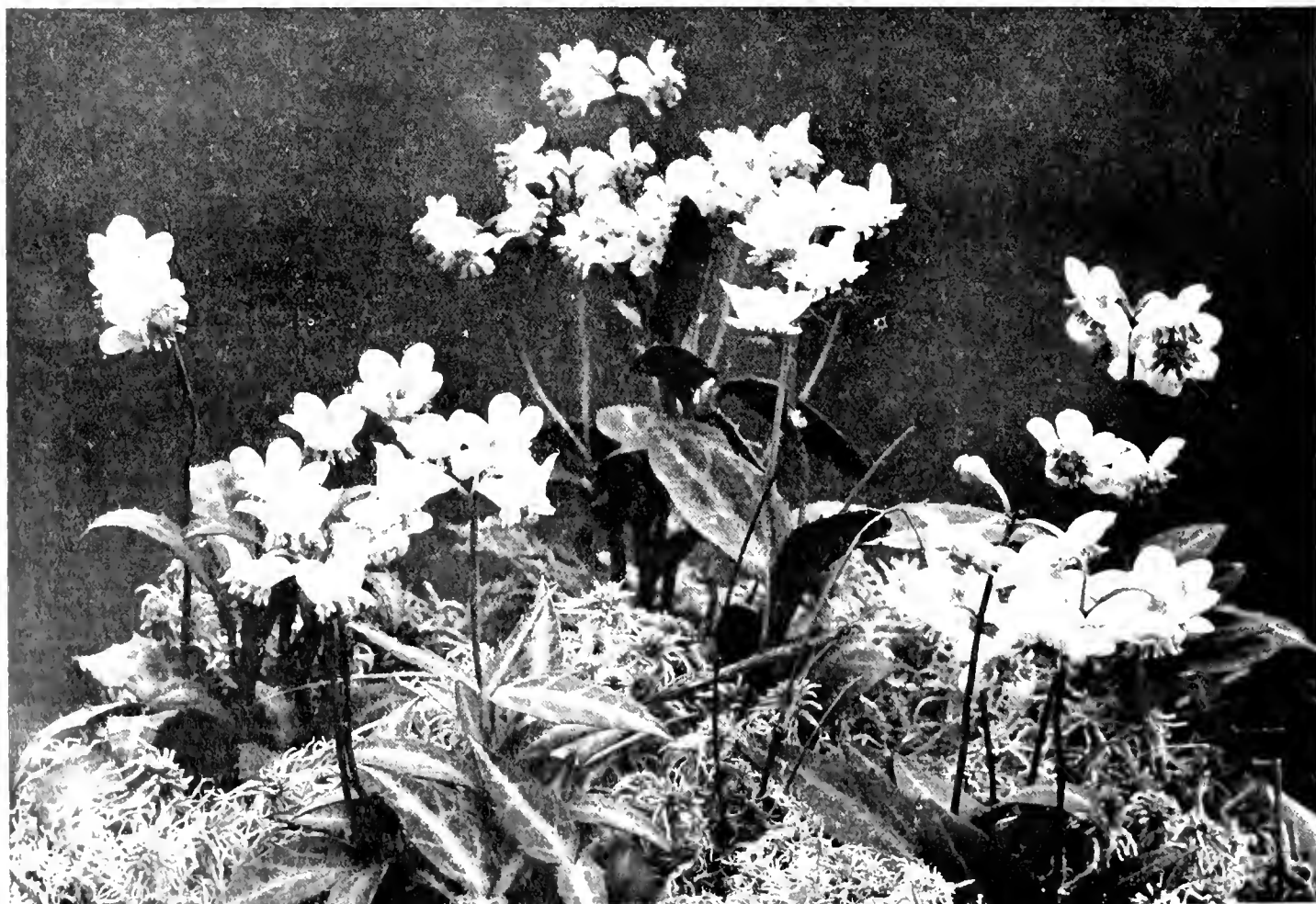
beautiful colours. The *Montbretias* included Henry VIII, Queen Mary, Carmine, Una, Tangerine and other admirable sorts.

It is not an easy matter to exhibit a first-class collection of vegetables just now, but Messrs. Barr and Sons were able to make a display that filled many visitors with envy. They set out, in the best exhibition manner, practically all seasonable kinds in as near perfection of form as possible. When all the items are so good it is difficult to select any for special mention, but we are inclined to the opinion that the Tomatoes, Golden Sunrise, Scarlet Beauty and Peach, and Beet Covent Garden Compact Top, were the very best. Those who are interested in the uncommon sorts admired the perfection of the Long Purple Aubergines, the Golden Padded Butter Beans and the Large Green Paris Globe Artichokes.

A noteworthy collection of fruit was contributed by Mr. A. J. Nix, Ulghate, Crawley. The well grown bunches of Black Hambro Grapes, weighing 10lb., were stated to have been cut from two vine rods. The Peaches included Grosse, Mignonne and Bellegrabe, but even better than these was the large dish of River's Early Orange Nectarine, which was of superb quality. Messrs. Daniels Bros., shewed a large quantity of their splendid Daniel's September Black Currant.

NEW AND RARE PLANTS.

***Chimaphila maculata*.** This pretty little plant so fascinated the Floral Committee that it granted a first-class certificate straight away and with



MOST BEAUTIFUL OF THE WINTER-GREEN CLAN, THE FRAGRANT CHIMAPHILA MACULATA.

this award most would be in agreement, for it has uncommon beauty of flowers and foliage, to which is added the charm of delicious rather hawthorn-like fragrance. When young, the lanceolate, toothed, slightly fleshy leaves are of a delicate pea green colour with definite silvery markings

Rose America.—Judging from the splendid blooms on view, this American variety has a great future and the introducer is fully justified in terming it "a wonderful Rose." The quite full, shapely blooms are carried on exceptionally long erect stalks. The petals are broad and substantial

Gossamer.—A narrow petalled exhibition Cactus of good form. It is of pale mauve colour with a very pale centre.

Doris Trayler.—A handsome dusky Decorative variety. The deep crimson colour is heavily flushed with maroon.



THE FRAGRANT NEW ROSE AMERICA WITH SILVERY ROSE BLOSSOMS.



GORGEOUS CRIMSON SPRAYS OF THAT BRAZILIAN LEGUME ERYTHRINA CRISTA-GALLI.

along the midrib and veins. With age, the colour darkens and the silvery markings lose their sparkle, but the leaves are still decorative. The flower stems are only a few inches high and from them hang two or three white flowers, almost like miniature Hoya carnosa flowers. *C. maculata* was introduced from North America in 1752 and for a considerable time was known as *Pyrola maculata*. It "thrives in thin, mossy copses, on light, sandy, vegetable soil, or in moist and half shady parts of the rockwork or fernery." It is propagated by division. Shewn by Mr. G. Reuthe.

Dianthus Allwoodii Clarkson Pink.—This variety is quite distinct from the remainder of the free-flowering "Allwoodii." It is rather larger, more shapely and of delicate pale pink colour. The fragrance was slight. Award of merit. Shewn by Mr. G. Miller.

Gladiolus Poppy.—The name scarcely does justice to the sparkling scarlet colour of this strikingly handsome variety, and this colour is enhanced by the purple and white markings on the two lower segments. It is a compact, medium-sized spike. Shewn by Messrs. Lowe and Gibson.

Montbretia Cecil.—This is quite the best of the yellow varieties. The flowers are of rather more than average size, they open well and are well disposed on the spike. Award of merit. Shewn by Mr. S. Morris.

and of good pink colour with a darker centre. The foliage is a dark glossy green and the blooms are delightfully fragrant. This should be a splendid florists' Rose. Award of merit. Shewn by Mr. Elisha J. Hicks.

Rudbeckia purpurea elegans.—This variety is a great improvement on the type species. The flowers are much larger in every way, the colour is richer and the florets stand out well instead of quickly hanging down, as in the species. This new variety will provide a welcome change of colour in the herbaceous borders at this season. Shewn by Mr. Amos Perry.

NEW DAHLIAS.

The Joint Dahlia Committee, which met for the first time this season, selected the following novelties for trial at Wisley next year from the large number which was submitted for consideration.

Gloria.—A magnificent Decorative bloom of large size and crimson colour, flushed with maroon.

Martin.—Another good Cactus with a yellow centre and flushed outer petals.

Miss Edith L. Jones.—Somewhat similar to the previous, but of deeper colour and with very long stalks.

Periscope.—A rosy purple Cactus of starlike form and borne on long stems.

A. E. Amos.—A very shapely Cactus with narrow incurving petals of dark coral red colour. The flowers are well carried on stout stems.

John W. Woolman.—A well set up Cactus with long, incurving petals of pale yellow colour which is flushed with rose when mature. The above were shewn by Messrs. J. Stredwick and Son.

Rosie.—This is a very beautiful rosy mauve Miniature Paeony, but as the name has already been used it will have to be changed. This and the next three Dahlias were shewn by Messrs. Jarman and Co.

Joyce Goddard.—A vividly beautiful garden Cactus variety. The rich scarlet petals are coloured bright yellow at the base.

Betty.—A very pretty pale lilac Pompon of good form which will be a welcome addition to these dainty flowers.

Gold Cup.—Another desirable Pompon Dahlia. It is of medium yellow colour.

Hindhead Star.—A very decorative variety of good shape and buff colour shaded with rose at the tips. This and the two following were shewn by Messrs. J. Cheal and Sons.

Haslemere Star.—This may well be termed an improved Southern Star and so is of value.

Vesuvius.—A brilliant miniature Paeony of deep scarlet colour, shaded with crimson.

SOME SHRUBS OF LATE SUMMER

THE sweetest Roses of the year may often be found among the Rugosas from August onwards, and of these I think the first place must be given to Blanc Double de Coubert. The large blossoms of this fine old variety are, when fully open, a pure, cold white and, as the flowers open flat, they disclose a central tuft of yellow stamens. The foliage is of a peculiarly fresh green and the beautiful buds, faintly shaded with shell pink, open well in water and fill the room with their refreshing old rose perfume.

Rosa rugosa Conrad F. Meyer, in a lovely silvery rose and delightfully scented, is a worthy rival of the foregoing, and there is something very taking about the loose bunches of semi-double pink blossoms borne by *R. r.* Belle Poitevine. Mrs. Anthony Waterer, which appears to be a hybrid, also yields fine late blooms in a bold cerise and they are not less fragrant than those of the rest of the clan. *R. lucida* has been very beautiful in the woodland throughout July and looks like continuing in flower for some time to come, and there are some rambling masses of the creeping *R. Wichuraiana*, whose glossy foliage is now adorned with lax clusters of star-shaped white flowers. This is a delightful Rose for the right place, and there is a variegated form of it which, though not nearly so rampant a grower, is worth a good place. A good deal of pink suffuses the creamy variations of this variety, especially in the young shoots.

Although Veronicas of the *Andersoni* set, with their fine foliage and large bottle-brush flowers in almost every conceivable shade of colour, other than yellow and orange, are reliable late bloomers and distinctly showy, they cannot be depended on to stand the winter here, even though we are no more than five or six miles from the western sea. Moreover, I am never quite sure that these shrubs fit in with the majority of woodland and garden plants sufficiently well to merit the risk involved in growing them. They seem more at home in the walled gardens of the seaside resort, and perhaps it is because they are so widely grown in such places that one cannot raise much enthusiasm about them. Yet the pure white *Mt. Blanc* is very attractive; *Gauntlettii*, salmon pink, is a pleasant change from the heavy purples, wine reds and mauves, and there is a rosy pink variety of the same class as the well known deep violet *Autumn Glory*, which is uncommon and distinctly good.

V. salicifolia at its best is one of the most popular of the taller shrubby species and it is quite hardy here, seeding about the woodland as freely as *V. Traversii*, but it is not, to my eye, so attractive as the latter. A vigorous young plant of *V. Traversii* (an earlier bloomer), well furnished with its multitudinous spikes of white, delicately shaded with a hint of blue, can be a really handsome bush that will hold its own with the best of companions, and it is, moreover, the hardiest of its race. There are, however, good and bad forms in *V. Traversii*, many of the seedlings which this species produces so abundantly being poor and weedy in the blossom. Once this plant gets leggy, which in the course of time it inevitably does, it should be replaced by young plants, for it does not often break satisfactorily from the base after cutting back.

The shrubby Hypericums comprise a group of species and varieties of the utmost value in the late summer garden. The pick of the basket is probably *H. patulum* Henryi, which produces during August and September a prolific crop of golden-yellow flowers, often nearly 2 ins. across and of remarkable firmness and texture. This attains the height of about 3 ft., and near it comes the more compact *H. Hookerianum* (oblongifolium), with narrower

leaves and rather smaller flowers. Both of the above are said to be somewhat tender, but we have never had them injured in the slightest degree and, like most of their kind, they do well under the shade of deciduous trees. *H. hibernicum* is a



THE RED BOTTLE-BRUSHES OF *CALLISTEMON SALIGNUS* (*METROSIDEROS FLORIBUNDA*).

heartly, free grower—perhaps too free sometimes—for the woodland or wild garden, and it is by no means unattractive when its dense mass of slender, wiry, 3 ft. growths are crowned with their small, upright, yellow blossoms, each with their conspicuous "brush" of stamens. There are several other species, American and Chinese, which are much after the pattern of *hibernicum*; and *H. trifolium*, with larger flowers, has been strongly recommended by those who grow it. There is, however, an extraordinary similarity, to the average eye, between all these *St. John's Worts*, and those mentioned may, I think, be considered fairly representative of the genus. *H. Moserianum*, rather earlier and much more dwarf, is practically in a class by itself, and very beautiful and distinct it is. It is a hybrid between *H. patulum* and *H. calycinum*, with all the fine attributes of the former and none of the latter's sins. *H. tricolor* (Richeri), whose leaves are splashed with crimson, white and green, is an interesting little plant of about 1 ft. for those who have a fancy for such things.

Desfontainea spinosa is a remarkably handsome shrub which, under congenial conditions, will grow to a bulky bush of 8 ft. or more in height. It usually opens its first flowers here in early July and continues in full bloom right to the "back-end," the waxy, crimson-scarlet bugles, about 2 ins. long, with their brilliant yellow throat and lip, creating a most gorgeous effect against the dark green, holly-like foliage. In not a few gardens this fine plant has a way of getting shabby with age and it often dies piecemeal just when it has attained a good size. This failing is usually foreshadowed by an extraordinary crop of blossom and the shrub is then said to have "flowered itself to death." But it would probably be nearer the truth to say that this excessive production of flower was itself

a symptom of some loss of vitality attributable to defective root action. From what I can gather from my own experience and that of others it is soil exhaustion, coupled with drought—practically synonymous terms in one sense—that causes *D. spinosa* to go off in the manner suggested. Specimens in rather heavy soils of the old kitchen-garden variety never seem to suffer, but flourish abundantly

for many years. So, with that in mind, we intend trying *D. spinosa* on a good bed of vegetable compost and old cow manure instead of our natural woodland loam.

Enkianthus cernua rubra is a shrub that has done more sulking than anything else here, though its autumnal leaf-colouring has always been very gorgeous. With this, however, the error was more than likely in the planting, for the solitary specimen now in possession was put in a place where the soil contained a good deal of lime. Being an Ericaceous species, this shrub would probably object to such fare, but it would be interesting to know how others have succeeded with it. Another shrub which has thus far disdained our most patient attentions is *Abutilon vitifolium*. This has been tried in all manner of soils and situations, but on every occasion it has turned us down. It would not be quite so bad if it would promptly die outright, but it prefers to languish, and a plant that does that is not a pleasant companion. What makes it the more exasperating is the fact that *A. vitifolium* flourishes like the proverbial Bay tree in a neighbour's garden where conditions appear to be similar to our own.

Very different is the case of *Sollya heterophylla*. This charming little twining shrub came into bloom quite early this summer, it is full of blossom to-day and looks like carrying on far into autumn. There is a singular daintiness about *S. heterophylla* which is irresistible. The pretty twist of its myrtle-like leaves on their slender, spiral wands, the elegant, hairlike flower stems and, swinging at their tips, the little bells, which on first opening are a beautiful speedwell blue, together make an object of surpassing loveliness. Then this delightful thing is, as I have suggested, as hearty and easy-tempered as a Scotch Fuchsia, but it is not quite

so hardy and should be given a warm wall in most places.

Another twining shrub of the highest merit is the Chilean *Berberidopsis corallina*. We have this against a north wall and it is now opening its coral-red, pendent flower clusters, for which the fresh green, leathery foliage affords an admirable backing. This is probably a good deal harder than is generally supposed. It appreciates a cool root-run in old vegetable soil or well-rotted cow manure and turf loam.

Of the shrubby Sages, *Salvia Greggii* from the mountains of Texas is a hardier species and a better bloomer here than the old *S. Grahami*, but it also needs a light, warm soil and does not flower as freely as one would wish, save during exceptionally fine autumn weather, when it will often put up a good display of its geranium-red blossoms. Allied to the Sages is *Perovskia atriplicifolia*, a really choice shrublet of about 4ft. in height with silvery-white stems and leaves which are strongly aromatic. This appears to do best in a warm, sunny, open spot that is not too dry in summer. The flowers, which are borne at the ends of the new growths in slender panicles, are a clear violet-blue and nestle in a setting of white wool, which gives them a distinct and attractive appearance.

CORRESPONDENCE

CALEOLARIA AMPLEXICAULIS FOR BEDDING.

THE fine beds of the herbaceous annual *Calceolaria* were so much admired last June in the park that gardeners are becoming aware there are other members of the family beside the too universal bedding yellow *Calceolaria* so dear to old-fashioned gardeners. They almost invariably edge it with dark blue *Lobelia* and in consequence, make it abhorred by those who are sensitive as to shades and colours in their gardening! *C. amplexicaulis* is a well known and beautiful plant for summer bedding, but its growth is rather lanky and young plants are not very free flowering, so it is not grown as much as it deserves—and here comes my point. I saw a splendid big bed of this fine old plant on the breezy (shall I say windy?) esplanade at Scarborough the other day. The plants, tied to sticks, were over 2ft. high and smothered in flowers; I never saw such a splendid show. On enquiring of the Borough Head Gardener, I found that this big bed was planted last year and that it *survived last winter* without protection! So beautiful a bed, with its sheaves of flower, was happily planted on a groundwork of *Verbena venosa*, which equally stood last winter's storm. Such a combination deserves to be repeated in all seaside gardens where they are free from heavy, damp dews and will, I trust, be perpetuated both here and elsewhere, though a severe winter would, no doubt, kill the *Calceolaria*. The dry and wind-swept gardens of our south-east coast will prove especially suitable for such a plant. Another semi-hardy plant also deserves notice. There are several forms of *Fuchsia triphylla* which are quite as hardy as most *Fuchsias* commonly grown at the seaside and I saw a fine plant of it that had stood for three years on a sunny bank in such beauty that its tall shoots with fine foliage crowned with abundant sprays of drooping coral flowers made the *Hydrangea* bushes look hopelessly commonplace and dull. I for one shall hope to see masses of it near the *Agapanthus* which are now just in flower—a more brilliant and fairly lasting combination could not be found. The growth of these *F. triphylla* hybrids is so much more vigorous on old established plants that it is also a lesson for gardeners on the Riviera, where it will flower in autumn and spring.—E. H. WOODALL.

The shrubby *Eupatorium Weinmannianum* does not come into one's garden with any very convincing testimony as to its worth. Its undoubted tenderness stands against it no less than does its relationship with some of the weediest of composites. But its broad corymbs of fragrant white flowers are produced at the head of the 3ft. to 5ft. stems throughout the autumn, and these the butterflies love no less than the crushed strawberry pads of *E. cannabinum*, the Hemp Agrimony, our only native species. Therefore, since a plant that brings September butterflies to the garden has to possess a malignance that is wholly unpardonable before it is cast into outer darkness, it is probable that this *Eupatorium* will be accorded hospitality for as long as it pleases to abide with us.

Also on its trial is *Metrosideros floribunda*, not that this gorgeous shrub is ever likely to lack appreciation, but it has not yet stood a winter severe enough fairly to try its constitution. Albeit a young specimen of this Australian has so far promised most favourably, making not only vigorous growth, but a number of heads of flower. These fuzzy, bottle-brush inflorescences are about 6ins. long and positively blaze with a fiery red that tends to a glowing crimson in a subdued light. N. WALES.

A FINE SPANISH CHESTNUT.

I AM forwarding you a photograph of a large Spanish Chestnut tree growing at my home, New Plymouth, N.Z. The branches span 93ft. and the circumference round the growth of the tree is 279ft. The diameter of the bole is 5ft. 4ins.



A SPECIMEN SPANISH CHESTNUT, *CASTANEA SATIVA*.

The tree is growing steadily and is a fine specimen, and I thought it might prove of interest to you.—NEWTON KING.

LATE-FLOWERING TULIPS.

THE Rev. J. Jacob always writes upon such a diversity of topics other than gardening, from a bricklayer's taste in liquor to the wardrobes, if any, of goddesses—was not yellow, by the way, reserved for an entirely different class of young

woman?—that I suppose he can never find space to repeat his useful plain-sailing bulb lists, with straightforward descriptions and simple directions. Years ago he gave us a Tulip selection that was useful and to the point, even though, years ago, it was verging on the anachronistic.

Since that day May-flowering Tulips have increased and multiplied; here and there we may get a fleeting hint of their later novelties, but for the most part your worthy specialist, so garrulous on other subjects, remains willfully taciturn on what should be an inexhaustible topic to him. Does he keep a blind eye for all those wonderful Dutchmen's catalogues with their laconic descriptions of "shot" and "violetish"? Or do they leave him cold? Has he never tried to find a decent substitute for the dull sobriety of the Rev. H. Ewbank?

Is he satisfied with the forced cheerfulness of John Ruskin, which always gives one the impression of a man protesting that an east wind is the best of all possible weathers? Surely we want something better than these and other Victorian types, so much beloved of English growers. Even now most of them do not list Bronze King or Panorama, and I suppose it will be twenty years before Vulcain or St. James comes on the English market. The trouble is that the English grower gives us too little, the Dutch too much. When will our specialist come along and give us an up-to-date, distinct and unassailable selection, a genuine glowing purple, a pure lavender or an admissible blue? For my part I can only say that I have tried many and failed often, and I hope someone else, if not Mr. Jacob, will make an effort to bring us up-to-date. Beyond the forms already mentioned—and of these Vulcain is not worth its present price—Doni Pedro, Moonlight, Massenet and Clara Butt,

I am not convinced that any of the later Tulips can be called ideal, but I do not profess to anything like universal knowledge.—R. S.

THE PUSCHKINIA.

WE have few prettier hardy bulbous plants of spring than the Puschkinias, or Striped Squills, which are charming for the rock garden, for planting in grass, or for groups near the front of the herbaceous border. They are little

scilla-like flowers and, indeed, closely allied to the Scillas. Of the two species recognised in the "Index Kewensis," only one appears to be in commerce. This is *P. scilloides*, which is synonymous with *P. libanotica* and *P. siculus*. It is very frequently catalogued as *P. libanotica*, and a

meal-eatable good. Unfortunately, it looks very much like the rest of the slugs and how or why it became carnivorous instead of vegetarian I do not know, but the delightful truth remains that while others are greedily gobbling up one's precious seedlings and young Lettuce, the Testacella is waiting to gobble up them. When one finds a long, fat, juicy beast, with "slug" written all over him, crawling at night among one's choicest seedlings, it is not unnatural to slaughter without further enquiry, but it is unwise. The Testacella has a small oval shell on the point of the tail, the hall-mark of respectability among an otherwise disreputable race. It is astonishing how quickly one gets to recognise this distinguishing mark and one is quite safe in sparing all who bear it.—CROYDONIA.

winter-flowering species, coming into bloom in late October and continuing until spring is well in. That, at any rate, is what it may be relied upon to do in any of our milder counties. It is not a tender species, but as its blossoms are apt to be spoiled by wintry weather, it makes a more satisfactory cold-house plant in all but our favoured localities. In foliage and habit *V. difformis* is much like *V. major*, but it does not appear to spread so rampantly as the latter. The blossoms, about 1½ ins. across, are singularly lovely, being a cold glacier white suffused with a very pale wash of violet and the segments of the corolla are sharply pointed to one side, thus giving the flower that "whirling" appearance seen in some of the lesser Periwinkles. The present is a favourable time for planting. In selecting an outdoor site a partially sheltered spot in light, gritty loam should be chosen.—T. C.

NOTES FROM A WEST-COUNTRY GARDEN

ALTHOUGH one's garden never looks more dejected than it often does for some days after heavy rain has broken up a July drought, and although there is an unmistakable smell of autumn rising from the wet earth, it is still only August. Among the many rather pinched-looking individuals which have been shrinking under a pitiless sun for a month are some survivors and late bloomers which help to bridge the gap that lies between summer and the "season of mists and mellow fruitfulness."

Gentian septemfida is one of these, and a valuable plant it is, not only because it is often at its best during this off-time, but because it is both reliable and extremely showy. Given a good bed of this fine Gentian you may count upon having a gorgeous display of blue for five or six weeks, and one that will recur every season for years without the plants receiving any attention beyond a spring top-dressing of leaf-mould and loam. We have a couple of square yards of *G. septemfida* in extremely light soil and close to the top of a retaining wall some 10 ft. high. Yet the plants, now a dozen years old, never fail us and many of the heads carry as many as fifteen blossoms. The trailing form of the same thing, known as *G. Lagodechiana*, is no less beautiful, if not quite so free and robust. Like the type it is a clear, yet bold, azure, and the prostrate, leafy stems with their upturned blossoms are extremely elegant.

The magnificent *G. Farreri* is not so satisfied with us as the foregoing, though it has a reputation for good temper with so many; but with this, as with many other plants, it is probably a matter of finding the right spot—for it is indisputable that there are a number of plants which, no matter how much patience is bestowed upon them, refuse to be comforted in some gardens until they are put into a place which is to their liking. Soil, aspect and treatment may appear to be identical in all spots, yet they will flourish in one and sulk in another.

Gentiana Pneumonanthe, the Marsh Gentian or Calathian Violet, also opens its flowers in August. The form we have here is one collected from a West Country bog, and though the flowers—sapphire and emerald Harebells with green stripes—are like that of other types I have seen, they are borne singly, one on each stem, the latter being unbranched. Another admirable plant in blue for the August border or rock garden is Buxton's



PHILADELPHUS LEMOINEI ON A WALL.

variety with denser trusses of flowers is generally sold as *P. libanotica compacta*.

The stems are from 4 ins. to 8 ins. in height, the leaves being from 4 ins. to 6 ins. in length, lance-shaped, channelled and of a dark green colour. The flowers, about an inch in diameter, are generally white or very pale blue, decorated by a distinct deep blue stripe down the centre of each segment. The variety *compacta* is more effective than the type, but is rather less graceful. The Puschkina is not at all difficult and will flourish in a light, well drained soil in a warm situation, where it will prove hardy. Some recommend peat, but this is not necessary. It is one of the bulbs which should not be too long out of the soil and should be planted as soon as obtainable in autumn at a depth of 3 ins. or so. I have sometimes covered the place with light litter for the first winter, but it does not seem absolutely necessary to do this. Slugs occasionally destroy the flower buds as soon as they appear. *P. scilloides* is a native of Asia Minor and adjacent countries.—S. ARNOTT.

A GARDENERS' FRIEND.

YEARS ago I used to destroy everything that looked like a member of the genus slug. There is, however, a slug that should certainly be encouraged, for it is carnivorous and preys upon lesser members of its brethren and therefore does

AN UNUSUAL WALL SHRUB.

I THINK the enclosed picture of *Philadelphus lemoinei* as a wall shrub may interest some of your readers who only know it as a not very tall bush. Of course the usual method of pruning—to cut out the old wood to the base immediately after flowering—has to be considerably modified when the plant is grown in this way, but it is quite easy to grow and train.—H. C. W.

A BEAUTIFUL BAMBOO.

THE strikingly handsome *Arundinaria auricoma* is never quite

so beautiful as it is during the later summer and autumn, for its foliage is then at its fullest and best. This is a Japanese species of about 4 ft. in height, with dark purplish stems and an abundant foliage, the leaves being from 3 ins. to 6 ins. in length and up to 1 in. broad. The most remarkable feature about the plant is the leaf colour, this being a fresh green, conspicuously striped with yellow. In some instances the leaves, which are silky when young, may be almost entirely devoid of green, but the two colours are usually about evenly divided and arranged either in broad or thin lines or in both. Though it is inclined to spread by suckers in some soils, *A. auricoma* can generally be trusted to behave in this way with much more moderation than many of its kindred. It does not insist on anything better than ordinary, moist, well drained soil, and will often thrive for years in woodland loam that is anything but damp in full summer. *A. auricoma* is, moreover, a fairly hardy species and one that may be tried wherever *A. japonica* (Metake) will thrive.—N.

A WINTER-FLOWERING PERIWINKLE.

IF the merits of *Vinca difformis* (acutilorata) were better known, there is no doubt that it would be more widely grown than it is. Its chief value lies in the fact that it is a

variety of *Geranium Wallichianum*, a perennial of undoubted hardiness and one that delights in any free loam with or without lime. Although this splendid form is so infinitely superior to the type, it is still uncommon, and this is the more remarkable when one realises that it comes fairly true from seed. That is to say, you will get in a batch of seedlings a majority of plants whose saucer-shaped flowers are of that pure nemophila blue which distinguishes the variety from the dull reddish purple of the original.

This is also the season of the genus *Ceratostigma* (*Plumbago*), and there are few better plants for a warm, sunny corner than *C. plumbaginoides*. We find that this species does best wedged in among stones under and about which it can thread its wiry roots and send up its bunchy tufts of roin. growths which terminate in the lovely blue flowers. This is quite hardy in light soil and a free bloomer with the sort of root-run I have described. The flowering period extends well into autumn, when the foliage assumes brilliant tints of crimson and orange. In *C. Willmottianum*, which grows into a bush of a couple of feet or more, and which does not appear to run like *plumbaginoides*, the leafage and flowers are both smaller and the blue of the latter hardly so intense.



MOST GORGEOUS OF GENTIANAS, THE SOFT YET BRILLIANT BLUE GENTIANA FARRERI.

Although *Raoulia australis* appears to be indifferent to drought, it is a moraine plant and one that usually waits for heavy rain about this season before it flowers. Some humpy masses of this pretty carpeter, which are so firm and close-set that they resemble the heads of lichen boulders, broke out into an eruption of tiny ivory beads within two days of the weather changing. There were few objects in the rock garden more attractive than these when those ivory knobs dappled the silver mail with little puffs of gold and some dainty, half-bred Harebells hung their pale azure flowers over the sheeny, metallic-looking mounds.

Cyananthus lobatus is an August bloomer of no little distinction, and for some years it has proved quite permanent on a well drained ledge that is not too dry. It is a pleasant little plant with prostrate branchlets of small, hairy leaves

each of which terminates in a conspicuous violet-blue blossom. *C. incanus* is another species of more slender proportions and more delicate in line.

Some of the *Potentilla*s may always be depended upon to give colour during the holiday month, and the most gorgeous is *Potentilla argyrophylla* Gibson, the well known "Gibson's Scarlet," a plant of the highest quality where a large, sprawling mass of pretty foliage and brilliant scarlet flowers is desired. *P. atrosanguinea* is also of this set and a valuable border plant, but a better thing than any of these to my mind is *P. nepalensis* (*formosa*). This because it is an all-season bloomer, the large, black-eyed, rosy-cerise flowers are of an unusual and good colour, and the plant is an easy doer anywhere. For the rock garden there is a dwarf form of the above, *P. n. Willmottiae*, a delightful little plant of no more than 6 ins. high, often less, and with even larger flowers than those of the type and of a more brilliant colour. *P. Tonguei* will often come into flower again at this season, and this again is a diminutive *Potentilla* of the greatest charm, with flowers of a soft apricot-buff, deepening to a crimson zone at the centre.

One of the most satisfying masses of colour in a mixed border during the last few weeks has

from seed. A group of *S. virgata*, with its bold heads of violet, will always produce a telling effect in the August border, and there are many other excellent kinds, not forgetting the incomparable *S. patens*, which may be counted as hardy enough for wintering outdoors in many West-coast gardens.

It is at this season that that strange Japanese plant, *Kirengeshoma palmata*, comes into flower. Though among the first of the herbaceous things to appear in spring, it takes all summer to produce its 2 ft. ebony stems with their broad, *Spiraea*-like leaves, which terminate in the curious flower sprays. These latter consist of a loose, branching cluster of somewhat pendent flowers, about 2 ins. in length and of a soft ivory yellow. The blossoms suggest some pale Marigold waiting half-opened for the sun, but they never get beyond the shuttlecock shape and, like Primroses, "die unmarried" on the threshold of winter. *K. palmata* is, nevertheless, a handsome and interesting plant for a cool, half-shady spot, and its autumnal leaf colouring is by no means the least of its attractions.

Whether they are in the border, woodland or wild garden, the old Evening Primroses—the large-flowered type—must always be reckoned among the best of late summer and autumn flowering plants. They are so stately in habit, their colour is so good and their fragrance so refreshing that that familiarity which is said to breed contempt can never lessen the affection with which they have come to be regarded by most of us. Their splendid and hearty vigour, their indifference as to whether they are in sun or shade, and the quiet and commendable manner in which they will maintain a fresh stock of self-sown seedlings for each year's flowering are also attributes which have helped the Evening Primrose to hold its own so successfully against the inrush of novelties.

Among the tall Campanulas for the woodland or shrubbery of the later summer few can give such a charming effect as *C. lactiflora*. Individually, the plant might be eclipsed by many, but there is a strangely fascinating beauty about a mass of this elegant species when the curiously luminous azure of the bold flower-heads gleams like a blue autumn mist in the shadow. A. T. J.

SCENTED LUPINS

SHEER amazement is the only feeling of which one can be conscious when standing before an exhibit at a flower show of the modern Lupin in its full glory, a sensation that is only intensified when memory begins to work and recollection of the varieties of but a few years back comes vividly before the mind. Who could or would have supposed that so much latent possibility lay behind the modest spikes of white, blue and purple, with which we were all so familiar? It was a beautiful flower then (when it did not disappoint by shedding a good third of its buds unopened), but to-day words absolutely fail to convey any adequate picture of the marvellous range and beauty of the colours displayed. This, however, is not all. Nature, when she is encouraged by the hand of the hybridist, is apt to overflow with bounty and in the case of the Lupin she has, as her latest and best development, given us a series of perfumed forms. This is not a faint washy odour, but a delicious and unmistakable perfume that fills the air all round where they are growing. The colour range is not restricted in this remarkable break, for every shade of white, blue, mauve, purple, crimson, pink and yellow is represented and one is only left wondering what surprise this remarkable plant can now have "up its sleeve" for us. C.W.

INSECTIVOROUS PLANTS.—I

THAT all plants are wonderful is a truism that anyone who has studied them ways—even to a superficial degree, is compelled to admit. What, then, are we to say of this remarkable class that, in addition to getting its living in the ordinary way by means of the roots and leaves, has gone further and evolved a series of cunningly baited traps which capture insects? Not is this all. There is a definite purpose for which those insects have been trapped—a larger supply of nitrogen; but this nitrogen can only be obtained if there is an elaborate digestive apparatus to deal with and absorb it. Let me now say a few words about the means of digestion before we proceed to examine individual plants and the means whereby they attain their ends.

In all cases there is much that is analogous to the human stomach—so much, indeed, that we find the division between the plant and animal world wearing very thin indeed. Whether it is the liquid contained in the curiously elongated "pitchers" of the *Nepenthes* or the sticky globules of the *Sundew*, the "bait" or fluid, by which the unfortunate insect is tempted to its death, becomes acid immediately a "catch" has been registered. This conversion of the digestive fluid into an acid, immediately there is anything to "eat," changes the nature of the insect's body into such a condition that the plants can use it for themselves. Analysis of the liquid, so commonly referred to as water, in the pitchers of the *Nepenthes*, shows that various acids are present—malic, citronic and formic acid—as well as a peptonic ferment as in the animal stomach and yielding the same result. In the *Sarracenia* the fluid in the long, upright pitchers appears to be devoid of digestive power, but accelerates decomposition, so that, ultimately, the ends of the plant are served: for, when the pitcher dies and falls over to the earth, it carries with it a rich store of nitrogenous manure ready for the roots. With the *Pinguicula* or *Butterwort*, a greasy secretion is poured forth from the leaf surface so that it appears as if covered with hoar frost, and, if we enquire into the composition of this once again, we shall find that it is a solvent capable of digesting the captured prey. The *Sundew*, agile with glistening glands that appear like drops of honey, first sticks its prey by its glutinous powers, then pours over it a digestive acid fluid. *Venus's Fly Trap* attracts again by rosy red digestive glands which, immediately they are warned by the touching of the sensitive hairs, pour forth an acid digestive, while the leaf itself closes together in from eight to ten seconds.

It will be clear from all of this that the insectivorous plants are feeding upon a much higher chemical level than the majority of plants, and it may come as a surprise to those who have only met a few of these freaks to know that no fewer than 500 species of plants are known to have adopted "flesh eating" as an addition to their larder. In every case it seems to be that they have adopted this strange method of adding to their store of nitrogen because they grow in peat, a staple that is notably deficient in this essential of plant life, though why some species have adopted it, while others have not, seems to be impossible of explanation.

Before we leave the subject of insect catchers in general, let us take a glance at the methods of trapping that are employed. These may be broadly separated into three divisions. In the first of these are placed those which form pits or cavities into which ingress is fatally easy, while exit is well nigh impossible. Every possible inducement is offered to entice the insect within that fatal death chamber. Examine the interior of the

pitchers of many of the *Nepenthes* and you will find that the lip is plentifully besmeared with nectar. Note, too, that this is so placed that it is unobtainable until the creature has been induced to enter the danger zone. This danger zone varies in the means of inducing, for in some cases it is highly polished and of wax-like smoothness. In others, the way to the nectar below—or apparent nectar, for the whole appearance is often mere delusion—is paved with rows of downward pointing hairs, over which it is delightfully easy to walk until one turns and finds oneself faced by a formidable barricade of bayonets against which it is impossible to make any headway. So, either by a staggering slide which precipitates the insect into the death pool beneath or the no less sure, soft and easy telted road, but along which there is no return, the insect goes to its death—and the plant gains its nitrogenous meal.

The second division relies for its captures upon what at first sight appears a far more primitive system—in short, the sticky flypaper. But pause a moment, before we dismiss the subject so lightly. Those glittering drops of moisture or those greasy-

feeding leaves of the *Butterwort* are backed by the formidable digestive juice which—as soon as there is anything to eat—flows forth and disposes of the nitrogen collected by the "flypaper."

Third and last is the most wonderful group of all these plants which, in addition to stickiness and digestive powers, have added that of movement. Both the *Sundew* and *Venus's Fly Trap* exhibit this remarkable power of movement. No sooner is one of the extremely sensitive hairs touched by an insect than it at once begins to close downwards; and, more remarkable still, other hairs in the immediate neighbourhood seem to receive a telegraphic message for aid, for these, too, at once begin to bend *boards* and close down upon the capture. Now, those sensitive tentacles are endowed with an almost uncanny power of discrimination. Bits of sand, stick or other small particles, do not provoke any response whatever—the leaves remain as before and nothing happens. The tiniest speck of animal food, however, immediately wakes those resting powers, the acid digesting fluid is poured forth and the "plant" literally gobbles the dainty morsel. In future articles I propose to deal with some of the most remarkable examples of these insect-devouring plants, with cultural details.

H. W. CANNING-WRIGHT.

THE SHRUBBY HYPERICUMS

THE *Hypericum* (St. John's Worts) only need to be planted and given fairly good treatment for their beauty to be appreciated and their usefulness fully to be admitted. About twenty years ago I saw *H. calycinum* planted to form a carpet in a large bed where specimen *Rhododendrons* were grown. The position was a quite open one and the soil, if I remember rightly, rather stiff loam, but there was no doubt as to the plants being at home there. A few days ago, when judging at a flower show in South Hants, I saw this *Hypericum* in two quite different positions and soils. One was under taller-growing shrubs—in partial shade, too; the other was in a raised border in a hot position and without shade from the sun. In both instances the plants were thriving and flowering freely. There are so many borders in gardens generally where the *Hypericum*s would thrive, and the lovely flowers and beautiful foliage both last so long in a nice fresh condition. The following are some of the best kinds to grow: *H. Hookerianum*, strong growing and evergreen, bears large deep yellow flowers; *H. patulum* has curved or arched shoots, deep green foliage and medium-sized flowers; *H. calycinum*, of spreading habit, is

nearly evergreen and succeeds well under trees, either as an edging to a drive where large specimen trees abound or as a true carpet plant under choice shrubs; *H. Moserianum* has very large flowers, rich yellow and shews to best advantage when planted about 1 ft. apart to form clumps near the front of a large border. I am praising the beauties of quite old garden favourites, but I am sure readers who also know the plants and love them will feel I am justified.

GEO. GARNER.



THE ROSE OF SHARON, *HYPERICUM CALY CINUM*.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cauliflower.—Another small sowing of Cauliflower should be made during the next week or ten days and, should the weather prove severe, the resultant plants will probably stand the winter better than those sown earlier. Directly the early batch is ready the seedlings may be picked out in nursery beds or planted about 18 ins. apart on a warm border. A sturdy, short-jointed growth should be encouraged.

Parsley.—If seed was sown some weeks ago the seedlings will be large enough for thinning. This may be done gradually by pulling out complete plants as Parsley is required for the kitchen.

Spinach.—The winter variety of this useful vegetable constitutes an important crop, especially in large gardens, and at the present time the soil between the rows should be hoed occasionally to keep down the weeds. When the seedlings are large enough, thin them to ones. If for any reason the seed has not germinated freely, another sowing should be made without further delay. In cold districts a warm border should be chosen.

Lettuce.—At this season Lettuces are usually plentiful, but it will be necessary to look ahead if the supply has to be kept up. Seedlings that are large enough may be transplanted in lines 1 ft. apart, and another sowing of both Cos and Cabbage varieties should be made. Select hardy kinds, such as Continuity and Bath Cos. If Lettuces are in great demand it will be advisable to make a liberal sowing during the early part of this month. Later on some of the plants may be transferred to cold frames.

The Flower Garden.

Propagating continues to demand attention and cuttings of Pelargoniums, etc., should be secured at the earliest opportunity until the requisite number are inserted. The present month is also a suitable time to take cuttings of various shrubs, such as Buddleias, Veronicas, Escallonias and Berberises. Select half-ripened shoots, cut them off at a joint and trim the lower leaves close to the stem. A cold frame or handlight, if placed in a partially shaded spot, will be found the most suitable for the cuttings. A layer of sandy soil should be placed in the frame and made fairly firm, when the cuttings may be inserted in lines a few inches apart. Each kind ought to be correctly named to prevent confusion later on. Keep the soil just moist and to this end it should be sprayed twice daily whenever the weather is fine. The lights should be closed for the greater part of the day, but a little air may be admitted for an hour or so during the forenoon.

Bulbs.—It is essential that the bulb order be despatched as soon as possible in order that the bulbs may be at hand when required for planting. A quantity ought always to be grown in the reserve garden to supply cut flowers, while patches in the grass are very effective. Both may be planted during the present month and, of course, later, but early planting is recommended when the ground is available, even for the May-flowering Tulips.

Roses.—The climbing or rambler Roses growing on poles and pergolas may have the old growths which have flowered cut out and sufficient new shoots should be tied in to produce flowers next season. Overcrowding should be avoided, the object being to get the new wood well ripened. New poles should be fixed where there is any doubt about them lasting another season.

The Hardy Fruit Garden.

Peaches and Nectarines.—Trees from which the fruit has been gathered should be examined and all useless shoots which have borne fruit removed in order to give the new growths a chance to become thoroughly ripened. Late varieties, the fruits of which are still swelling, may be given a soaking of weak liquid manure and, if the weather proves dry, all trees growing near walls should be afforded a copious supply of water. If allowed to get excessively dry at the base the fruit buds may fail to develop next spring.

Raspberries.—If not already done, the old canes that produced fruits this season should be removed at once, and this remark applies also to Loganberries and Blackberries. Retain sufficient new canes to produce a crop next season, always selecting the strongest and best growths. A dressing of manure may be given and future treatment consists of cutting away new shoots as they appear.

Fruit Picking.—Those who are fortunate enough to possess a crop of Apples and Pears should make an effort to gather them in good condition and prevent any waste. It may be necessary to go over trees several times and only remove those fruits that readily leave the branches. Store them thinly in the fruit room and place them on the stages without straw or any other material.

Fruit Under Glass.

Late Grapes.—Very few possess a suitable place to store grapes after they have been removed from the robs, so, to keep them as long as possible in the vinery, the bunches ought to be ripe by the end of the present month. All lateral growths should be pinched and a free circulation of air kept up by opening the ventilators, more or less, both day and night. Muscat Grapes may need a little heat from the hot water pipes to allow sufficient ventilation to prevent damping of the berries and to keep up a night temperature of 65°.

Vegetables Under Glass.

Tomatoes.—Where plants have been raised to produce a crop during the winter and early spring months they will now be ready for the final potting. Pots 10 ins. in diameter will suffice and ample drainage should be provided. A rich soil is not advised, but when the pots are filled with roots liquid manure may be applied. Grow the plants in a greenhouse and for the present admit plenty of air.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.)
Casle'ord, Cheps'ow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spring Cabbage.—The sooner Spring Cabbages are planted out the better, so that they may get well established before winter. A quarter which has been cleared of Potatoes suits this crop admirably. No manure will be required at present and the only preparation of the soil that is necessary is to fork it over. On light soils even this is unnecessary; the soil, however, should be raked over. For Harbinger allow 15 ins. between the rows and 12 ins. between the plants in the row, and for Sutton's April, Flower of Spring, or McEwan's Vanack, allow 3 ins. more either way.

Potatoes.—Seed of second early varieties should now be sowed; select second-sized tubers for the purpose. While it is advisable to choose well shaped tubers for seed, it is a fallacy to suppose that their produce will, in turn necessarily be perfect. The shape of the individual tubers is quite accidental, the presence of a stone or a lump of stiff clay often accounting for malformation. Expose the tubers to the light and air for ten days or a fortnight before storing them.

Leeks.—Continue gradually to earth up Leeks in trenches as they develop. If collars have been employed, draw them up a little if necessary. Feed the crop lightly, weekly or bi-weekly, through the drain tiles inserted into the sides of the trench. It is advisable to change the feed occasionally, bearing in mind that all members of the Allium family have a preference for nitrogenous fertilisers.

Salading.—Thin and transplant Endive and late-sown Lettuce; both these plants should be accorded a place on a south border. Another couple of sowings of Radishes and Mustard and Cress may yet be made in the open.

Vegetables Under Glass.

Cucumbers should still be plentiful and, where the supply is in excess of the demand for present use, the surplus should be utilised or pickling. Continue to thin and stop the young growths. As female flowers open, it will be advisable to impollinate them artificially, more especially if the weather proves dull and wet.

Tomatoes.—Later crops will now be ripening their fruits and all available means should be employed to accelerate the process, as solar heat will soon be declining. One need now have less hesitation in removing any leaves or portions thereof that are obscuring the light from the fruits. Admit air freely on all favourable occasions and leave a little on all night. Allow a little heat in the pipes on dull days and also overnight, starting the fire sufficiently early to prevent any great drop of temperature as the sun heat fails. The plants should now be topped and all laterals promptly pinched out.

Fruits Under Glass.

Peaches and Nectarines.—As trees get cleared of fruit they should be vigorously syringed to cleanse both wood and foliage. Should thrip be present, fumigate the house with tobacco or apply it in liquid form through one of the various insecticides which are on the market. Go over late crops daily and carefully gather the fruits that part readily from the stalk. A catch-net should be provided, however, as, despite the closest attention, a certain number of fruits will drop of their own accord.

Figs. Second crop Figs will now be ripening off and all available means should be used to rush the process during the present month. Endeavour to maintain a dry, buoyant atmosphere with a fairly brisk temperature; do not hesitate to remove an occasional leaf if it is in any way excluding the light from a fruit or fruits.

Guava (Psidium Guava).—This tropical fruit is occasionally met with in Scottish gardens and its sweet, aromatic fruits are sure to be appreciated when produced; they are now largely imported into Britain in preserved form from the West Indies and from South America. The tree is of easy culture and succeeds well on the back wall of a vinery, a position which is not often utilised to best advantage.

The Flower Garden.

Sweet Violets.—A frame should now be prepared for the reception of these. They succeed best when raised 2 ft. or more above ground level. A spent hot-bed is suitable for the purpose and failing this, a bed should be made up of any loose material that will not ferment except in a very mild way. Place the frame on the bed and cover the bed with a foot deep layer of good sound loam. Allow the bed to settle for a week and then lift the plants carefully with good balls of soil attached and plant them in the frame rather closer together than they were in the open. Give them a good watering and make sure that all runners have been removed. At this stage it is a good plan to tack a lath of wood across the frame near the top and bottom to support the sashes; this ensures a free current of air in the frame which is essential, as the plants should on no account be coddled. Mat the frame for a few days if there is bright sunshine.

Pentstemons.—A start may now be made with the propagation of these popular flowers. Cuttings taken near the base are preferable to those produced higher up the stem, for although the latter are always thicker, they are not so well ripened and never produce such satisfactory results. Insert the cuttings in boxes firmly packed with sandy soil and place in a cold frame. Water with a rosed can and keep the frame close and shaded.

Brompton Stocks.—It is advisable to get these planted out into their flowering quarters without delay, so that they may get well established before winter sets in. On heavy soils a percentage of the plants generally succumb, so they should be accorded as favourable a position as possible. If the soil is in good heart no fertiliser should be applied until spring and in any case farmyard manure should not be used. If the soil is really poor give a light dressing of bone-meal. Plant about 1 ft. apart, using the trowel.

CHAS. COMFORT.
(Formerly Head Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Antirrhinums are excellent plants for growing in pots for conservatory decoration during the spring months and for this purpose they are worthy of more general cultivation. The seed should be sown in a cold frame towards the middle of the month. Find the intermediate varieties best for this purpose, as in their earlier stages they may be used for furnishing the stages and when they become too tall for the benches may be used in the beds. In their great variety of beautiful colours they are very useful for giving a supply of cut flowers. They should be sown thinly and pricked off before they become crowded in the seed pots. When large enough they should be potted up singly. If a good medium loam, without any leaf soil is used, their growth will be more stocky and sturdy; old mortar rubble may be used instead of sand to keep the soil open. The plants may be wintered in 48-sized pots, giving them a shift into 6 in. or 7 in. pots early in the New Year. They should have plenty of air and perfectly cool treatment at all times and may be grown in cold frames until they require more head-room, when they should be removed to a cool airy greenhouse.

Schizostylis coccinea. Commonly known as the Crimson Flag or Kafir Lily, this beautiful plant is more or less hardy in the South, when planted at the foot of warm walls. It however makes an excellent plant for pot culture, flowering through the autumn. Where stocks exist, strong clumps should be lifted some time during this month and placed in orn. pots. There is also a beautiful new rose coloured variety which is equally useful. One advantage of this plant is the fact that it may be successfully flowered in an unheated greenhouse. Where it is desired to grow strong stock for flowering in pots, the clumps should be divided into single crowns during the spring and planted out in the reserve garden, from whence they may be lifted and potted up during the autumn.

Tecoma alata (syn. *T. Smithii*) is now showing its flower buds and care should be taken to rub out the lateral shoots as they appear, for, if they are allowed to develop, the flower buds will fall off.

Bouvardias should be kept neatly staked and tied and pot-grown plants should be given plenty of air, as the cooler they are grown the more useful they will be later on for the greenhouse. Stock that has been planted outside should now be lifted and placed in suitable sized pots. Where quantities of cut flowers are required, it is a good plan to plant them out in a bed in a low house where they can be given a little heat; they will then give a supply of flowers over a long period. Considering how dainty and beautiful they are it is surprising they are not more generally grown at the present day. They are subject to attacks by *Begonia mite* which, however, is easily prevented by the use of the sulphur vaporiser. They also suffer badly from attacks by white fly, which should be kept in check with sodium cyanide or some other approved remedy.

Saxifraga sarmentosa is very pretty for the greenhouse, well grown plants in 48-sized pots being useful for decorative work. Runners should be secured at this time and potted up singly in small pots, in which they may remain until early in the New Year. It is also very useful as a basket plant, ordinary greenhouse treatment, of course, suiting it, as it is a favourite window plant. The variety tricolor is very pretty but requires a little more heat.

Abutilons, although not so popular as they used to be, are still very useful for furnishing the conservatory. Some of them are seen at their best when they can be planted out and trained over back walls or rafters. Most of them are somewhat dense for the roof and should be kept well thinned out. The slender-growing *A. vexillarium* and its variegated form are, however, ideal for draping rafters, as they do not unduly shade the plants beneath them. The hybrid *A. Milleri* is also very fine for this purpose and flowers with wonderful freedom practically all the year round. *A. insignis* is ideal for draping rafters in a large conservatory. Even if it never flowered it would be worth growing for its great rugose leaves. Its flowers are borne on long slender, drooping shoots, which makes it ideal as a roof climber. Well grown plants of *A. Thompsoni* and *A. Savitzi*, which are largely used for summer bedding, are very useful in the greenhouse during the autumn for mixing with other plants. They are all easily propagated at any time by means of cuttings.

J. COTTES,

Royal Botanic Gardens, Kew.

The Chinese Witch Hazel (*Hamamelis mollis*).—A shrub which, in the Home Counties at any rate, flowers regularly about New Year's Day, lasts a month or six weeks in beauty, and has a gracious perfume that is perceptible 3 yards or 4 yards away, is decidedly one of which note should be made. Such is the Chinese Witch Hazel. Each flower has several thin, narrow, rich yellow petals half an inch or rather more long. The flowers are without stalks and produced in clusters. The leaves are the largest among Witch Hazels, being roundish and 3 inches to 5 inches long, the lower surface covered with a soft down. It is undoubtedly the most of *Hamamelis*—in flower as well as in foliage. It was first discovered by Maries in the Yangtze-kiang Valley in China, about 1879, but it was twenty years later before it began to spread in cultivation. It is a

deciduous shrub of spreading, rounded form, with stiff, stout, zigzagged branchlets. It can very readily be grafted on the Virginian Witch Hazel.

A Handsome Late Spiræa.—Among the late-flowering, shrubby *Spiræas*, *S. Aitchisoni* must be given a foremost place, for it is an exceedingly elegant species, a reliable bloomer and quite hardy. This shrub was introduced rather more than twenty years ago, its native habitat being Afghanistan and Northern India. It makes a spreading, loose-habited bush, some 8ft. to 10ft. in height, with gracefully disposed branches which are a reddish tint when young. The foliage, which is deciduous, is ash-like, or pinnate, each leaf being made up of a dozen or more slightly toothed, narrow leaflets. In August the flower panicles break from the ends of the branches in long sprays of creamy-white. The individual flowers are larger and not so closely clustered as those of many allied species, thus presenting less of that toamy, plume-like effect characteristic of this type of *Spiræa*. *S. Aitchisoni* is a robust and easy doer in almost any cool, good soil and those who have failed with the closely allied and more tender *S. Lindleviana* can take up this species with more confidence of success.

An Uncommon Cotoneaster.—That fine plant *Cotoneaster bullata*, which is still uncommon in gardens, is among the earliest of its genus to afford coloured berries and one of the last to lose them. It forms a spare-habited shrub of a few rather stiff, but slightly arched branches about 8ft. or more in height, these being scantily furnished with crinkled, broadly ovate leaves. The flowers are inconspicuous and soon over, but the fruits which succeed them are the size of small cherries and borne in clusters of considerable size. These begin to change colour about mid-August and ripen to a rich crimson. As birds do not seem so fond of them as they are of many other species, these fruits often hang until mid-winter, thus remaining until after the leaves have fallen. *C. bullata* (also known as *C. moupinensis* var. *floribunda*) is a native of Tibet. It is perfectly hardy and of the easiest culture.

The Coral Shrub. The twining evergreen shrub, *Berberidopsis corallina*, is a native of Chile, and although it was introduced as long ago as 1862 it is still rare in gardens. This is doubtless partly owing to the fact that it is somewhat tender and also because it has proved a sulky, "bad doer" with many. But *B. corallina* is a plant of such unique merits that it is worth any amount of patience. It appears to prefer a cool root run in peaty loam or other vegetable soil and, in such, it has been known to do well against a north wall, after refusing to prosper in a southern aspect. The foliage of *B. corallina* suggests a relationship with the Barberry, for the ovate leaves are crisp and leathery and slightly spiny at the margins. The flowers are produced in clusters, each one hanging on a slender, bright red, 2in. stalk like that of a *Fuchsia*. The blossoms, which often remain a long time in the bud stage, open in August to a width of about ½in. and they are a bold coral red which is very effective against the pale green of the foliage. *B. corallina* is a wall shrub that fully merits a good trial in any of our more genial counties. It is said to dislike lime, but opinions do not always agree on that point.

A Little Known Pæony.—Although we have some good hardy plants from Corsica and the Balearic Isles, not every one is trustworthy in our land and at first we are cautious regarding them. Happily the April-flowering *Pæonia Cambessedessii* appreciates our climate and not only flourishes, but grants us its benison of flower with reasonable freedom. It is a very charming species, coming with

red foliage, which becomes green about the time the flowers open. These are single, of a good size and of a beautiful pink, on a plant about a foot or a little more in height. The leaves pass off red also. It is one of the prettiest of the *Pæonia* species and appears to be quite hardy and thriving well. It can be seen doing well on sloping banks of light, gravelly soil. Its seedlings are sometimes said to be tender, but old plants do not reveal any trace of want of hardiness.

Stuartia Malachodendron.—This shrub is one of the most beautiful members of that wonderful flora of the South-Eastern United States to which the attractiveness of our gardens is so largely due. It was first grown in this country by Mark Catesby, whom bibliophiles know as the author of a fine "Natural History of Carolina," and who flowered it in his garden at Fulham in 1742. At present it is one of the rarest of American shrubs. The largest example known (it is about 18 feet high) is in a garden at Stoke Poges. The flowers expand in July and August, and are 2½ inches to 3½ inches across, the five petals pure white, in contrast with which the beauty of the stamens—which have purple filaments and bluish anthers—is most effectively brought out. It is to be feared we do not thoroughly understand the cultivation of this *Stuartia*; either that, or the possibility that it is naturally short-lived, must be held to explain its rarity. But it is clear that it abhors dryness at the root, that it loves a peaty soil, and that it needs a sheltered position. It occurs wild in woods, and will probably be found to succeed best in company with smaller shrubs that shade the ground about its roots—under conditions, in fact, that suit *Euryphia cordifolia*.

Trial of Materials for Grease Banding.—The Royal Horticultural Society will carry out a trial of materials for grease banding in its experimental gardens at Wisley during the coming season. Materials for the trial are invited and should reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained), on or before September 15, 1923. (Goods to Horsley Station, Southern Railway).

General Bulbgrowers' Society of Haarlem (Holland).—The various floral committees have recently made the following awards. **FIRST CLASS CERTIFICATE.**—*Iris hispanica* Leviathan, dark golden yellow. **AWARDS OF MERIT.**—*Delphinium Johan*, indigo blue, centre mauve, eye white, symmetrical spike with big single flowers. *D. Lady Astor*, soft rose mauve, self-coloured, small, compact spike. *D. Mrs. Willy van Egmond*, turquoise blue, shaded pink, eye white, flowers semi-double, spike light and elegant. *Iris Niphium Bianca*, nearly white with violet shading, small yellow blotch. *I. X. Blue Giant*, standards purple, falls lavender blue, small and round with yellow blotch. *Papaver orientale* *Wilhelmina Regina*, salmon pink, very large flowers. *Ranunculus asiaticus* *superbissimus* (French *Ranunculus*) *Mahony*, dark brownish red, big flowers, long stems.

FORTHCOMING EVENTS.

September 4. Royal Horticultural Society's Fortnightly Meeting.——Royal Caledonian Horticultural Society's Meeting.

September 5. National Dahlia Society's Annual Show, to be held at the Royal Horticultural Society's Hall.——Lowes Horticultural Society's Meeting. Kelvin Hall Flower Show, to be held at Overnewton, Glasgow (four days).

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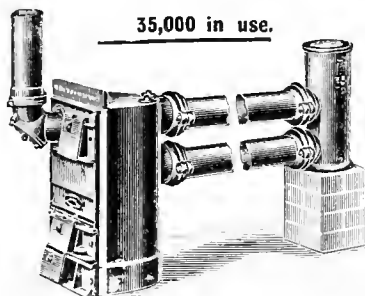
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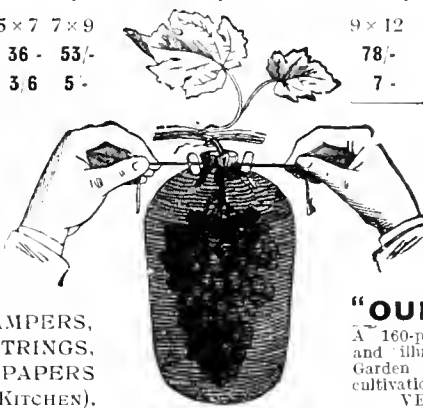
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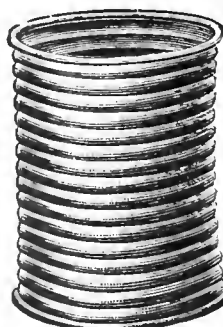
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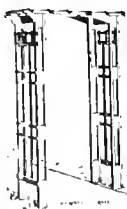
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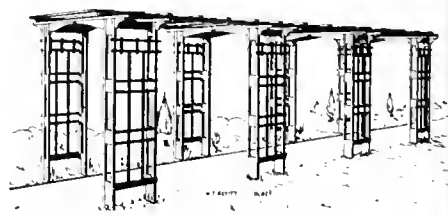


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No. 2703.—VOL. LXXXVII.]

[SEPTEMBER 8, 1923.]

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THE cultivation of shrubs and trees principally for the effect which they produce in autumn is far more common than it used to be, but even to-day there are many gardens which are sadly lacking both in the gorgeous leaf colouring which, with some species, precedes the fall and in the immense variety of ornamental fruits which should provide beautiful colour effects from early autumn until far into the winter.

For the small garden it is very desirable, whenever possible, to "kill two birds with one stone."

Those shrubs and trees, therefore, will as a general rule have preference which have other features of interest beside delightful autumn tints or admirable fruits. Leaf-colouring is outside the scope of these notes, but as regards ornamental fruiting kinds, additional use may be afforded in a variety of ways. Most obviously, perhaps, the blossoms may be ornamental: this is decidedly the case with many of the Thorns, with *Skimmia*, with *Ligustrum sinense*, with the Crabs, with the Strawberry Trees (*Arbutus*), with many *Barberis*, with the *Mezereon* (which, however, would be more valuable if its fruits ripened later), with *Pernettya*, with many *Rose* species, a number of *Rubi* and the *Leycesteria*.

It is obviously advantageous if the berry-bearer is evergreen, and here the *Hollies* leap to mind, but it must not be forgotten that not all *Hollies* bear fruits. There are some excellent evergreen *Cotoneasters*, the *Pernettyas* are evergreen and so are some of the *Barberis*, though such are by no means the most effective when in fruit. The *Ivies* when they reach the adult stage are very pleasing—even showy under certain conditions of lighting. The *Butcher's Brooms*, too, are effective evergreens with handsome fruits, but *Ruscus* is unisexual, and care should be taken to plant both male and female plants.

Some species are notable both for handsome fruits and fine autumnal leaf-colouring. This is true of the always beautiful Japanese *Acer palmatum*, handsome in bark and foliage, effective when in flower and when hung with its showy "keys,"

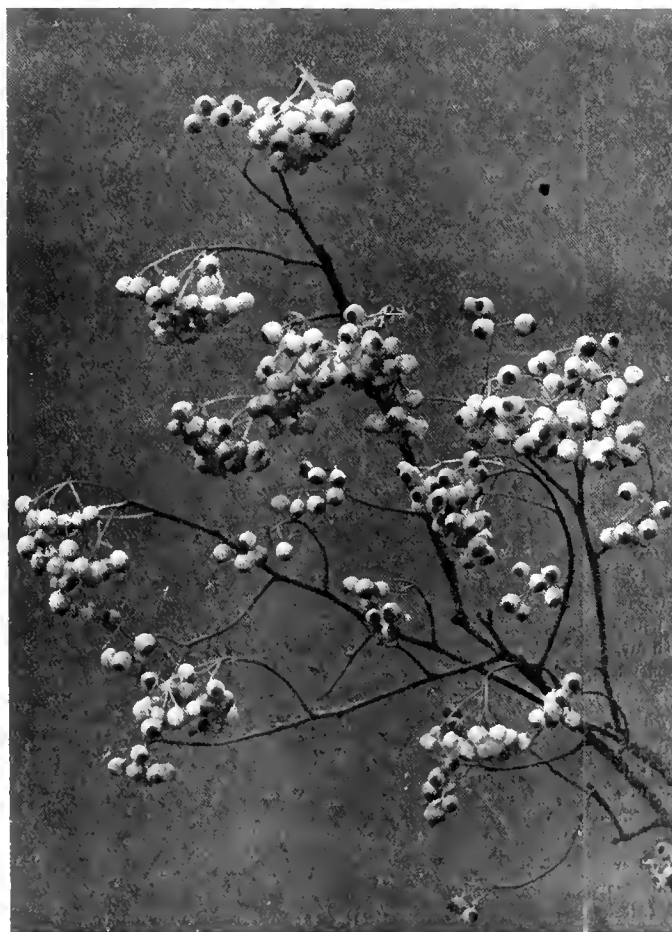
and again when, before the fall, its foliage turns a lurid red. *Berberis Thunbergii*, mainly grown for its autumnal leaf-colouring, is effective also with its sealing-wax red fruit, and the same may be said of *Berberis vulgaris* and *B. Wilsonæ*. Most of the Thorns colour delightfully, so do the Spindle Trees (*Euonymus*). *Rhus glabra* and *R. trichocarpa* are noteworthy alike for the remarkable fruit pyramids and the splendour of their autumn garb; while with some of the *Cotoneasters*—notably with *C. horizontalis*—the colouring of the leaf detracts to some extent from the

effectiveness of the innumerable berries. *Beech* and *Hickory* are alike notable as beautiful trees which are attractive when in fruit. The several species of *Hickory* are quite hardy, but should be planted in their permanent quarters from pots when still quite small.

Many of the coral and red-fruited *Barberis* are so beautiful in winter with their slender growth and golden spines that they would doubtless be grown even though they seldom fruited. The very best of these fruiting *Barberis* include *Wilsonæ*, *subcaulialata*, *brevipaniculata*, *Prattii*, *dictyophylla*, *polyantha*, *Sieboldii*, *sinensis*, *Stapfiana*, *yunnanensis* (valuable also for autumn leaf colour) and, last but by no means least, our native *B. vulgaris*. We have in this list plants of all sizes, from the rott. tall *B. vulgaris* to the almost prostrate *B. Wilsonæ*.

The *Cratægus* family is a large one, and most of the species bear ornamental fruits, but some are distinctly more palatable to birds than others, and, quite apart from this, the fruits of some species remain much longer on the trees than the average. The kind illustrated on page 462, *C. stipulosa*, is a Mexican species and remarkable on that account, for few trees from that country are hardy in Britain. It is June flowering and the blossoms are effective. The fruits, which are large ($\frac{1}{2}$ in. by $\frac{1}{2}$ in.), are yellowish and, as the illustration shews, marked with dots. They are retained on the tree for a long period, and are accompanied by the leaves, which, at any rate in the South, persist into the New Year.

The Cocks-pur Thorn, *Cratægus Crus-galli*, is even more effective than *stipulosa*, since its fruits are equally lasting and deep red in colour. This is a handsome species when in flower and remarkable for its brilliant autumnal leaf colour. The Washington Thorn, *Cratægus cordata*, illustrated here, flowers in July and is very distinct. The fruits are very brightly coloured and long lasting. *Cratægus Carnei* is a hybrid of which the seed parent is said to be *C. stipulosa*, but the speckled fruits are orange red; the blossoms, too, are larger and more striking than



THE BRIGHT FRUITS OF *CRATÆGUS CORDATA* REMAIN LONG ON THE BRANCHES.

those of *C. mollis*, the fruit peels on the tree and is much whiter.

C. mollis is a climber, which grows into a tree of some 20 to 25 ft. tall and spreading. It has quantities of small fruits. *C. mollis* is even larger, reaching 30 ft. or even to 40 ft. This is one of the most beautiful of flowering Theae, but the large fruits fall early in autumn.

Crataegus Korolkowii, often known as *C. tatarica* in gardens, also forms a large tree, with exceedingly large and handsome red fruits marked with dots. *C. tomentosa* has dull orange-coloured fruits, but the foliage colours excellently and the tree is very handsome when in flower. *C. macrantha* is remarkable for the size of its thorns and also for its handsome crimson fruits. Other kinds of special merit as fruiting trees are *C. orientalis*, *punctata* (a large grower) and *prunifolia*. The last named, however, sheds its fruit early.

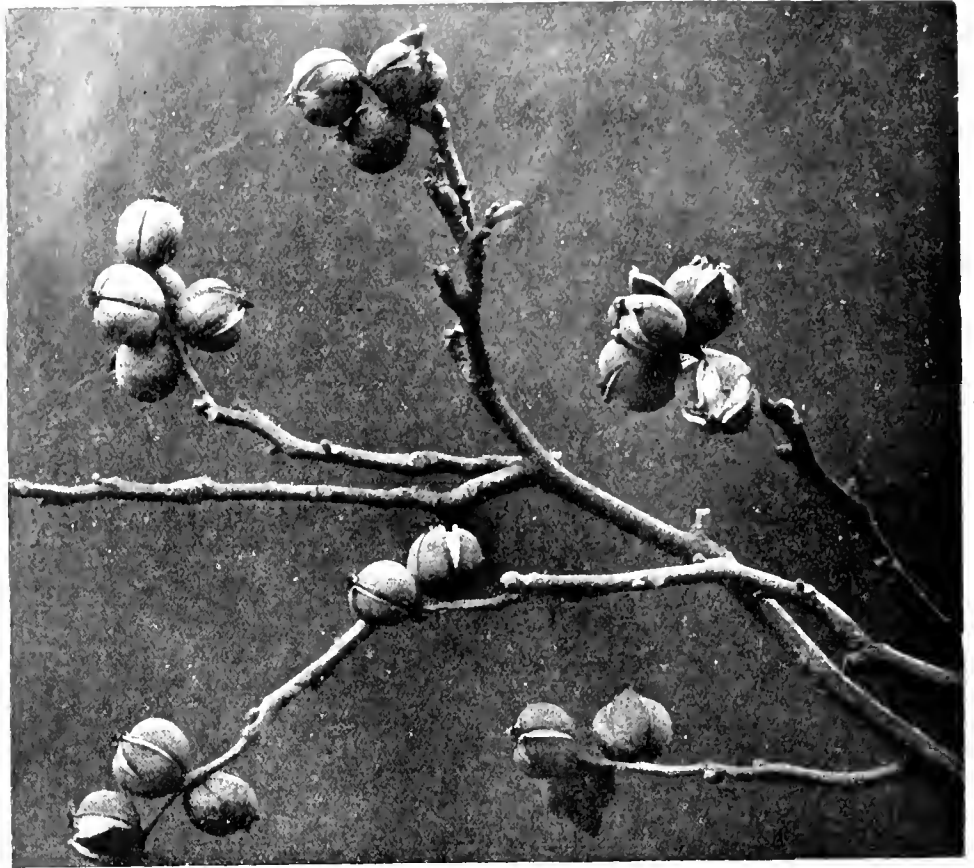
If the number of the true Thorns (*Crataegi*) is bewildering, the *Cotoneasters* are almost as numerous and quite as difficult to select, since here we have quite dwarf shrubs as well as those of moderate stature and at least one (*frigida*) which forms a small tree. *Cotoneaster frigida*, though it is often thus seen on a 6 ft. or 8 ft. leg and is especially effective so trained for a small garden, grows naturally into a spreading shrub up to 15 ft. or 20 ft. high and more through. The foliage is large (3 ins. to 5 ins. long) but not specially conspicuous, nor is the tree when in flower particularly attractive, but when the hawthorn-like "berries" ripen in fairly early autumn the effect is marvellously beautiful. Unless taken by birds the fruits remain on the branches until the new growth develops in spring, when the contrast of the fresh green foliage and the crimson bunches of fruits is very remarkable. Allied to *C. frigida* are *C. bacillaris* and *affinis*. *C. bacillaris* is a most effective large-flowering shrub, but as far as its blackish purple fruits go is much less ornamental than *C. frigida*. *C. affinis* seems to be an intermediate form between *C. frigida* and *C. bacillaris*. It is less attractive than either.

Simonsii is probably the best known of the *Cotoneasters*, growing 8 ft. tall or more. It is rather an upright grower until it has attained some size, when it becomes more spreading. It may be used to make an effective informal hedge or screen, and has even been planted as undergrowth and cut for peesticks, for which purpose the rather sail-like twiggy branches are admirably adapted. The berries are scarlet and the plant is semi-evergreen. *C. acutifolia* is not very dissimilar, though rather smaller in growth, more slender in habit, and the fruits ultimately turn black. It is not a species one would include in a small collection.

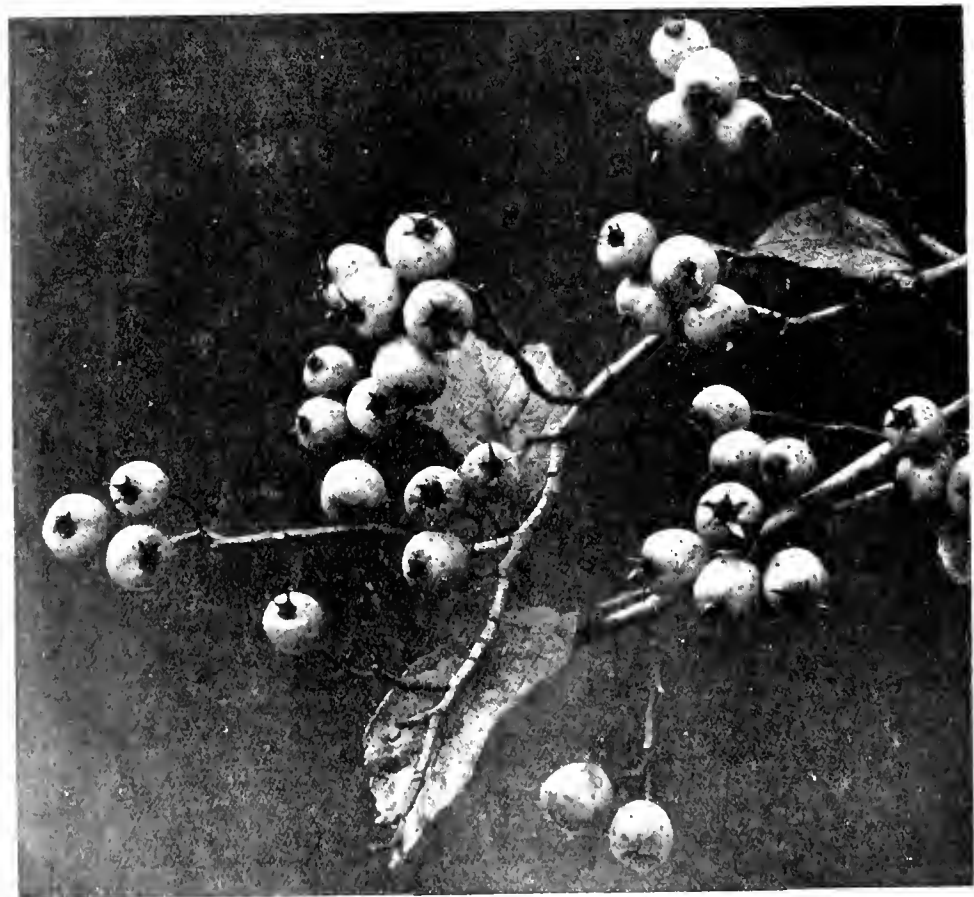
In *Cotoneaster Francheti* we have a valuable evergreen species which grows up to 10 ft. tall, with slender, arching, wand-like branches covered when young with greyish brown wool. The foliage is comparatively small and neat and felted beneath, and the blossoms, which (as very usual in *Cotoneaster*) are white inside and rosy without, rather "set off" the tree. The orange-scarlet berries are freely produced, but would be more striking were it not for the greyish down which smothered them. *C. pinnosa* is an allied species of very similar appearance in many ways, but with crimson fruits and pure white blossoms. Though not brilliant, both these species form interesting, useful and attractive shrubs.

Cotoneaster banyana might be described as a giant form of *C. ovata* (known evergreen *C. microphylla*). It is a tree or shrub, a height of 10 ft. and is very useful for a permanent screen. The berries are red and not specially conspicuous, though attractive on close examination.

(To be continued)



FRUITING SPRAY OF THE PIG-NUT HICKORY, *CARYA PORCINA*.



CRATAEGUS STIPULACEA WITH LARGE YELLOWISH FRUITS, HAILS FROM MEXICO.

ROSES FOR SCOTTISH GARDENS

ABOUT twenty-three, or possibly twenty-five, years ago I read an article under this same title, and have never been able to suppress a feeling of resentment against its writer because the gist of his article was that it was futile to expect fine blooms of the really good Roses in Scotland, and that only the hardest and coarsest of the old type of Hybrid Perpetuals, the old Damask, Cabbage and Moss Roses, with a few climbers, such as Gloire de Dijon, Seven Sisters and the Ayrshire Ramblers, could be depended upon in the majority of Scottish gardens.

Many times since then I have read similar statements and views and have wondered whether their authors have really seen Roses grown by some of our Scottish enthusiasts; whether they have visited the fine Rose shows at Dunfermline, Dundee, and at Edinburgh and Glasgow, or have visited the Rose nurseries of the Fergusons at Dunfermline, Dobbies at Portobello, Crolls at Dundee, and Cockers as far north as Aberdeen. A fortnight in Scotland in company with some horticulturist who knows his way about, would suffice to disillusion anyone who holds the notion that Scotland is a poor Rose country; and for the matter of that it has been the common occurrence for the Northern growers to swoop down upon the Southerners at the National Rose Society's autumn shows and triumph over them. Yes, my English readers, Scotland has some Roses, and good Roses, too!

It would, truth to tell, be a more laborious task than I should care to undertake to compile a list of the varieties that will thrive in Scotland; for, as a matter of fact, in many gardens, especially on the western side of the country, even the Teas, which are reputed to be least hardy, thrive as one seldom sees them in the average English garden.

The Hybrid Perpetuals certainly do remarkably well, and it is worthy of note that the dark varieties of full substance, such as Charles Lefebvre, Victor Hugo, Xavier Olibo and Prince Camille de Rohan, throw finer-coloured flowers in the cooler Northern climate than in the greater heat of the English summer.

Ulrich Brunner, Frau Karl Druschki, General Jacqueminot and Mrs. John Laing grow with fine vigour and bloom so continuously and freely as to substantiate their claim to the term Perpetuals; and one may see in many a humble cottage garden in Scotland superb blooms of that great and grand old Rose *Her Majesty*, a typical specimen of which is still a Rose "to raise one's hat to."

The Scottish love for a flower of form still savours of the discriminating taste of the old florist, and the best of the old H.P. class are still beloved and grown, bushes of great age and huge size being by no means uncommon.

Of the modern race of Hybrid Teas a large proportion will thrive quite satisfactorily in Scotland, but in view of the fact that the soil is very largely of a light, porous nature and that the seasons are considerably later than in the Midlands and Southern Counties of England, the prudent Scot pays careful attention to the matter of stocks on which Roses are budded, and that, if my observation has guided me aright, is a far more potent factor than even the individual peculiarities of the varieties of Roses themselves.

For a long time my firm conviction was that the cutting Briar (*canina*) was the stock for heavy, cold soils, the seedling Briar for lighter and drier soils, and Manetti for the Teas and Noisettes. That conviction was the outcome of tuition during apprenticeship rather than of personal observation and experience; but when first the laxa stock

began to claim the close attention of rosarians and its use was advocated in the Press, my impression was that 'twas but the whim of a few who always seem to hanker after the new to the detriment of the old and proven. Nothing, thought I, should shake my faith in *canina* stock. A visit to Messrs. Cocker's nursery at Aberdeen opened my eyes to the real merits of laxa stock, for there in that northern nursery, in an exposed field where the winds were both strong and cold, a whole range of modern varieties of Roses was budded on laxa stock, and the evidence was striking and convincing that not only was growth appreciably earlier than in the case of the same varieties on *canina*, but the branches were stouter, the foliage finer and more substantial, and—a great point for consideration in Scotland—the plants on laxa were earliest to bloom. On another occasion I saw, at Messrs. Dobbie's grounds at Portobello,

There are Roses which in England suffer considerably from scorching and bleaching during midsummer's sun. These sorts may generally be relied upon to throw some splendid blooms in Scottish gardens. I have never seen *Sunburst* in a Southern English garden so really fine as it may often be seen in Scotland. The *Lyon Rose* is frequently of indifferent colour in English gardens, but I have seen it very fine in Scotland. *Edward Mawley*, the great flower that is grand when it comes good, is all the better for the extra time it takes to develop in the cooler atmosphere of a Scottish garden; and that lovely tinted Rose *Mrs. David McKee* deserves mention, for the flowers are fine in form and bewitching in colour, where it can open without undue hurry.

If one glances through selections made by English growers of the best garden varieties for amateurs, he will rarely find it necessary to strike



ROSE ALBERIC BARBIER—ONE OF THE BEST RAMBLERS FOR NORTH BRITAIN.

a long border in which many varieties were growing on laxa stock beside the same varieties on *canina*, and the difference in the growth and freedom of the plants was almost uniformly in favour of the laxa stock. Thus was my prejudice against the rival of my favourite *canina* stock broken down, and with a clearer vision I convinced myself that, if one would succeed with the Hybrid Teas, which in many cases are prone to produce too much soft, sappy wood in autumn to be advantageous in Scotland, one should rely upon plants budded on laxa, which makes earlier growth and ripens it earlier than the *canina* stock. Even so good an autumn-flowering Rose as *La Tosca* will ripen up well before winter on the laxa stock, and that means much to the Northern grower.

The value of a late autumn-flowering Rose is not so great in Scotland as it is in Southern England: first, because all Roses are definitely later, the month of September being to Scotland what July is to the Southern rosarian; and secondly, there is the difficulty already referred to of having late bloomers in full soft growth when we want the bushes to be ripening off and losing their foliage.

out one as being unsuitable for Scottish gardens. Caroline Testout and General McArthur are practically sure to figure in the selection, and they are both excellent for Scottish gardens. *Grüss an Teplitz* is a variety well-nigh everybody recommends, and often it is advised that the strong-growing branches should be pegged down. That is very excellent advice, and for my part I would strongly urge that wherever a garden in Scotland is on the hillside, or in an open, exposed situation, it is wisest to grow varieties that can be pegged down. They are much safer and less liable to be blown out of their sockets than when growing erect.

We may peg down Frau Karl Druschki, Gustave Regis (a delightful and altogether charming old Rose), Mme. Isaac Pereire, Duke of Edinburgh (particularly useful for the brilliance of its colour), Gloire de Dijon (better thus than even on a wall) and a good many other fine varieties that will produce quantities of blossom.

The Roses to avoid in districts where the rainfall is rather heavy, as it is in some parts of Scotland, are the very big, heavily built sorts, such as

an idea of what they look like in mass formation, and the other, on the back, of a single spike of a "Burns new hybrid Delphinium." Unlike Mr. Samuel, this raiser goes in for light shades and crows that on his own dunghill he has "nearly eliminated the darker shades." He seems rather up against the bee-like centre and says opinion differs very much about "whether the bee adds or detracts from the flower values." My own opinion is that as a rule it adds to the beauty

of a flower and that, as it is such a distinctive feature, in every single bloom it ought to be retained. When doubling is carried to such an extent that no trace of the bee remains, it is overdone. We want as our ideal to *better the Delphinium*, not to make it into a small florist's Ranunculus or a glorified Bachelor's Button or Fair Maids of France. I know Mr. Samuel thinks pure singles are too dainty and deciduous for this present forgetful and rather matter-of-fact world. [J. J.]

extents the glowing orange *Zanthia* show the spacing and graceful pose which distinguish the best primulinus hybrids from all other sections. For the sake of comparison we also reproduce herewith what the Rev. J. Jacob aptly described in 1921 as the "flower-dressed telegraph pole of dutiful Darling." Some of these "telegraph poles" are quite decorative (the variety *Fire Queen*, for example, which, incidentally, is nicely hooded), but they are not typical of *Gladiolus primulinus*. They have, nevertheless, more to recommend them than the large-flowered hooded sorts, many of which should certainly have gone to the rubbish heap, while the better ones might be segregated in an intermediate group as being showier than the primulinus varieties proper and more graceful than the large-flowered.

The good things which are at present coming from America are "ruffled." Some of these belong to the primulinus section; some should go with the intermediates, while a great number are frankly large-flowered. The ruffling finds favour with most people, so perhaps we shall end by expecting wavy petals in a *Gladiolus* just as now we do in a Sweet Pea.

It is rather strange, but hitherto the primulinus hybrids in commerce show little signs of Colvillei blood. Of course, the Colvillei section are normally out of flower before the "primis" begin to open, but that need present no insuperable difficulty to the hybridist, while the similarity in habit and size of flower would seem to make Colvillei and its immediate relatives invaluable either as pollen or seed parents.

The Lemoinei section is another which seems to have evolved out of all recognition. It is,

AMONG THE GLADIOLI

By THE EDITOR.

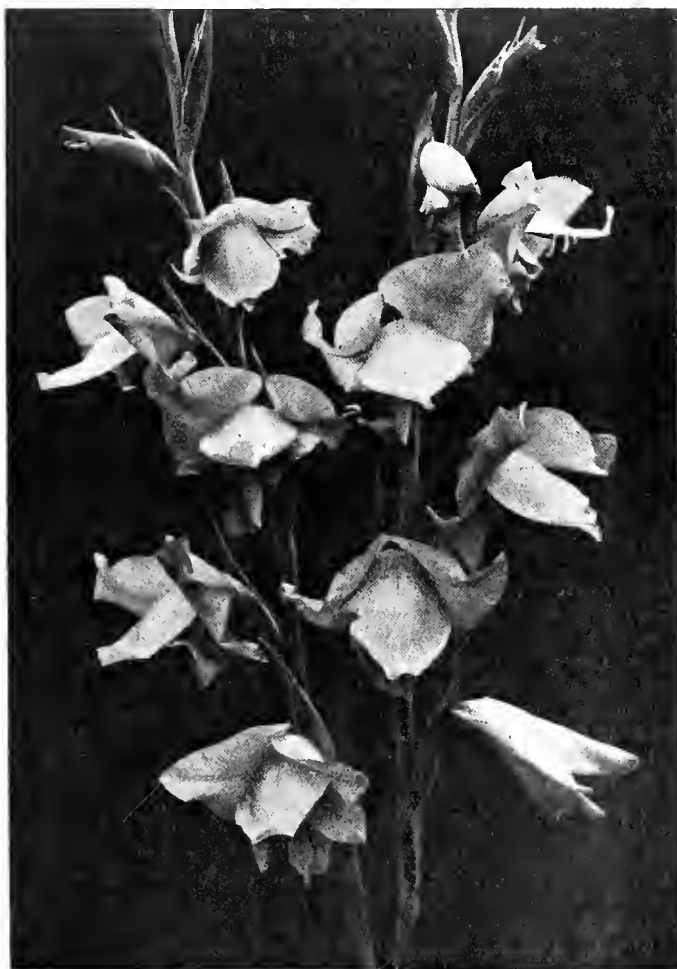
HERE is no doubt at all that at present the primulinus hybrids are first favourites among Gladioli. All the other sections might almost be included among the "Also ran." I should fancy that this is particularly true in the United States, for many of the new "primulinus" varieties they are sending out would appear to have been raised from flowers which had a primulinus variety "looking on" at pollinating time. Even then I fancy the looker-on must have worn a respirator or something on a par with the spring chicken's goloshes when he soaked his feet in the chicken-broth-that-was-to-be.

Quite seriously though, some of the new primulinus hybrids from "across the pond," if they have primulinus blood, which is highly probable, do not shew it. Not only are they large and rough—disgustingly large and horribly rough—but they have mislaid the hood, which is surely

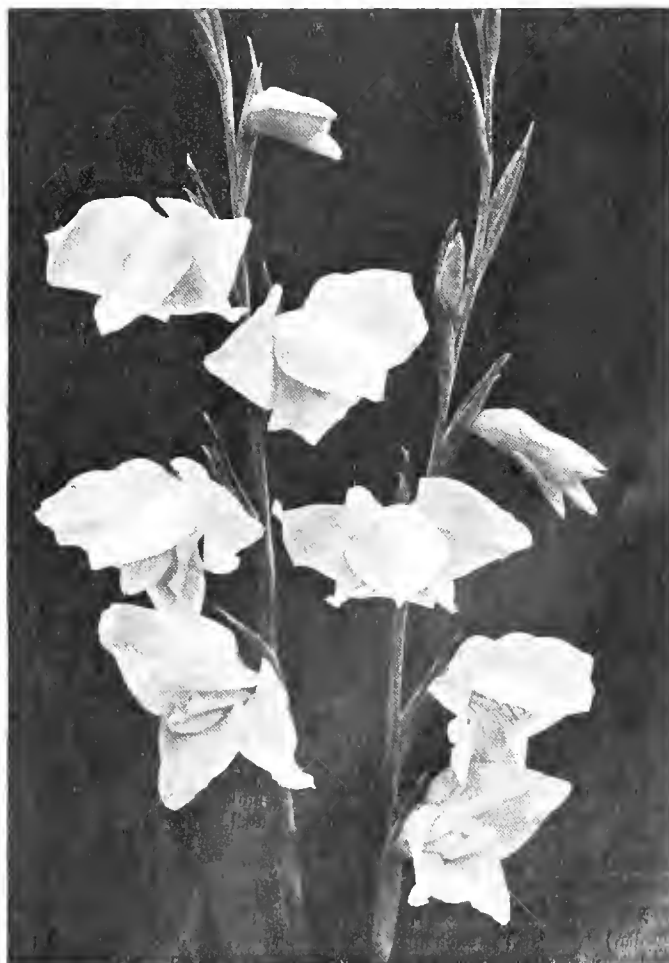
the most characteristic feature of *Gladiolus primulinus* and its hybrids.

Of the forms which retain the hood only too many are big and coarse, and the hood itself coarse and "floppy." It is to be feared that for the future we shall have largely to fall back upon British and Dutch seedlings for new varieties of good primulinus type. We want more sorts of similar size and quality to *Nydia*, *Woodcote* and *Orange Brilliant*. Even *Alice Tiplady*, unless not too well grown, tends to come too large, and this is bad in two ways. The mere size of blossom destroys the daintiness of the spike directly, while indirectly it spoils it from a decorative standpoint, because the larger flowers come too close together and so lose the airy grace so characteristic of the section.

The pictures which accompany these notes of the salmon pink *Nightingale* and (to a smaller



THE BRILLIANT ORANGE PRIMULINUS GLADIOLUS ZANTHIA.



A CLEAN BUT SOFT SALMON PINK, G. NIGHTINGALE.

indeed, a "hood and side curtains" effect entirely, and might be rather eddily coloured. Childish varieties of the old closely-hooded *Lemnomen*, that were distinct and interesting, but the constant introductions in this section have lost their

SPRING-FLOWERING BULBS FOR WOODLAND AND GRASS

SETTING aside the tribes of *Narcissus*, there is a number of bulbous plants suitable for naturalising in woodland or semi-wild garden which not only possess very special claims for recognition, but which ought to be planted as early as possible. It is proposed to offer a few suggestions here by way of assisting the perplexed amateur towards making a useful selection from the lists which appear with such commendable promptitude as soon as the first hint of autumn invades the garden.

Among the contents of these lists the Dog-tooth Violets (*Erythronium*) should make a strong appeal, since most of them are easy to grow in any average soil that is well drained, while their beauty and peculiar elegance are unquestionable. The cheapest and least fastidious is the European *E. dens-canis*, of which there are several varieties bearing purple or rosy lilac, prettily reflexed flowers in spring. The leaves of this old species are large and egg-shaped and of a delicate emerald green blotched with reddish brown. Some sorts have much larger blossoms than the type and there is a very charming pure white form. *E. dens-canis* will flourish in much drier soils than most others. It soon becomes established, naturalising freely, and is a most reliable bloomer. *E. grandiflorum* (*californicum*), an exquisite little Lily carrying on one stem several ivory yellow blossoms with a ring of orange at the base, can also be strongly recommended. The variety *giganteum*, of the same species, has even larger flowers of the same delicate loveliness and, like the type, a mottled, glossy foliage of singular beauty. The pale yellow *E. americanum* is another that deserves a place in every collection; and then there is *E. revolutum* in various colours. Two outstanding varieties of this are *Johnsoni*, the large-sized blossoms being a clear rose, centred with orange, and *Watsoni* in creamy white, zoned with bright yellow. With the exception of *E. dens-canis*, which enjoys the early spring sunshine, most of the "Dog-tooths" appreciate partial shade, and the American kinds should have a fairly moist soil. Planting should be done early, preferably among thin grass or other light woodland herbage, the bulbs being set at least 3 ins. deep in light soil and about 5 ins. in a heavier medium.

The hardy *Cyclamens* are so chastely beautiful and so admirably suited for planting in cool, leafy places, about old stumps and along the mossy margins of woodland tracks, that no one who has any such spots as these in which to indulge his fancy can overlook them. Though not one of the earliest, *C. repandum* (*vernum*) is among the prettiest, the vivid carmine blossoms being yielded from April to early summer. This species has the ivy-shaped leaves of the popular autumn-flowering *C. neapolitanum* with a "shadow pattern" of silver running through their cabbage-green. Still earlier than *repandum* is the dainty *C. Coum*, whose deep crimson flowers (there is also a white variety) may often be found with the Winter Aconites and Snowdrops. This species can always be recognised by its small, rounded leaves, which are a plain, heavy green unrelieved by any markings, and akin to this is *C. hiemale*, another winter bloomer, with leaves of the same style as those of *Coum*, but mottled with greyish white.

Better known than *C. hiemale* is *C. ibericum*, an early spring bloomer in which the type has pale crimson blossoms with a blotch of richer colour at the base of each segment. The leaves, which appear after the flowers, are kidney-shaped,

often waved at the margins, and their deep green is relieved by a zone of silver. There are several forms of this pretty species, the variety *album* (*Atkinsoni*) with a magenta eye being the most distinct. Then who does not know the fascinating little *C. europæum* of the Alps, which will yield its sweet-scented, deep carmine flowers with the utmost generosity from late spring onward into summer and early autumn, the most lovable as it is the most reliable and easy of its delightful race? Most of these *Cyclamens*, with the exception of the last mentioned, which may be planted 6 ins. deep, should be put in with the upper part of the corms near the surface and, unless the soil is naturally rich in leaf-mould, an annual top-dressing of well matured cow manure, leaf-soil, turf loam and old mortar should be applied. When *C. europæum* does not prosper it may be tried in a bed mainly composed of old mortar and brick rubble intermixed with a little leaf-mould and overlaid with the latter or finely granulated peat moss.

The *Crocuses* and *Colchicums*, like the *Narcissi*, would need a lengthy article to themselves, so one passes on to the *Snowflakes*, which are also among those that demand early planting. The best known of these is *Leucojum vernum*, the Spring Snowflake, an easy, hardy little plant that should never be omitted when naturalising in this way. Good as it is, however, the Spring Snowflake is eclipsed by *L. carpaticum*, whose twin white bells are of more hearty, ample proportions, each segment being adorned with a golden blotch. This variety (or species?) is perfectly hardy; it will thrive in sun or shade, but, like *vernum*, it asks for a year or two for settling down, after which it will be "a joy for ever"—if left undisturbed. The Summer Snowflakes (so called because they always flower in spring?), especially the *Gravetye* variety, are as easy as *vernum*, and well worth a place where their greater height can be accommodated with a suitable carpeting support.

The *Scillas* usually listed for naturalising in woods and other places must be numbered among the indispensables, for, quite apart from that peculiar fascination of theirs which accounts for the popular esteem in which they are held, they are cheap as bulbous things go and most of them are a perfectly safe investment, since they are easy and permanent almost anywhere, mouse-proof and return a handsome dividend by natural increase.

Though the Siberian Squill (*S. sibirica*) is a dainty, inexpressibly charming little plant that will always hold its own, those on the look-out for something more novel in this way may plant *S. bulbocodium* with every confidence in being no less satisfied with the results. This is a deeper blue than the foregoing and an earlier bloomer. There is a lovely flesh pink form of the same species which is well worth the ruinous outlay of sixpence a bulb. The pale blue form of *S. sibirica* known as *S. s. taurica*, also earlier than the type, is good but not very distinct, but *S. s. alba* is very dainty and refined, and most effective in little clusters among the blues.

For flowering in May there are few plants of the kind under discussion here which will produce such splendid drifts of colour for a comparatively small sum as the Spanish and English *Scillas*, or Wood Hyacinths. These are, moreover, perfectly hardy and good-tempered anywhere in sun or shade, light soil or heavy—so long as the drainage is good—and once they are put in the ground no further attention will be asked by them.



GLADIOLUS PRIMULINUS DARLING.

"hood and side curtains" effect entirely, and might be rather eddily coloured. Childish varieties.

Evolution is a fine thing, but who could wish to evolve, say, a polo pony into a Clydesdale? And who, except, apparently, the hybridist, wants to exchange the *Nydias* and Woodcotes of yesteryear for the sort of slightly hooded *Princeps* forms which are being sent out to-day?

for years, if ever. The commonest of these is the blue, or blue-purple, *S. nutans* (festalis), our native wild Hyacinth, often called "Blue-bell," and few people who have shrubberies, woodland gardens, grass orchards and the like will be without some bold groups of this beautiful species. There is at least one rosy pink variety of *S. nutans* which is a pretty and effective plant; but the pick of the bunch is, I think, the creamy white form, *S. n. alba grandiflora*. This is a really lovely thing whose 15in. gracefully arched flower-stems, strung with their large and elegant bells, are surpassingly lovely in the shade of woodland trees.

Though *S. hispanica* (campanulata) often attains a greater height than the above, and while it affords us a very wide selection of good and distinct

Heavenly Blue is still perhaps the most beautiful and, at the same time, most generous in peopling the world about it with its pretty offspring. But *M. botryoides* in a deeper blue, with the lip of each urn-shaped floret set off with a ring of little white teeth, is no less reliable and charming, and this species gives us white and other forms. These *Muscari* enjoy an open situation in any free lawn, but they will do under deciduous trees. The flowering season extends from March to the end of May. The bulbs are best planted in September 3ins. to 4ins. deep, but those of the exquisite little *M. azureum* (*Hyacinthus azureus*), which must not escape mention, need not be more than about half that depth.

The old Star of Bethlehem (*Ornithogalum umbellatum*) can be a tiresome pest in the wrong

place and of the *Chionodoxas*, which include a selection of charming species, varieties and hybrids, most of which are admirably adapted for associating with *Triteleas*, *Snowdrops*, *Muscari*, *Winter Aconites* and the like. The wonderful gentian blues of *C. sardensis* and *Lucilia*, with their shining zones of white, can never be too well known, but in addition to these there are some pure white forms and hybrids in various shades of lilac and pink. All these are very precious, and in most free soils they naturalise with the greatest freedom.

Those who do not relish the savour of garlic may be well advised to let the *Alliums* alone, always excepting one or two, of which *A. neapolitanum* is a notable example, which have "turned down" the family odour. The species mentioned



THE SO-CALLED SUMMER SNOWFLAKE, *LEUCOJUM ÆSTIVUM*.



THE WHITE SPANISH SQUILL, *SCILLA CAMPANULATA ALBA*.

varieties, it lacks the peculiar grace of *S. nutans*. Albeit, this is none the less valuable for all such purposes as those to which the native Hyacinth lends itself, and the quite upright, tapering spikes have a stateliness of their own which is appealing. *S. hispanica* is, moreover, very hardy and robust and a good coloniser, its flowers opening at about the same time as those of *nutans*. Any good list will offer the reader a description of the various fine blues, lavenders, whites, rose pinks and parti-coloured varieties of this accommodating *Scilla*, and I can guarantee a satisfying and cheerful result from wide plantings of any of them.

The Grape and Starch Hyacinths comprise a number of excellent kinds for naturalising in grass or other short herbage, and they are so distinct both in form and colour that they can hold their own in the best of company. The familiar

place, and so can *O. nutans*. But the silvery white stars of both of these may be very effective and useful when naturalised like *Snowdrops* in a safe place where one may never have to dig them up. They will be quite content in shade and flower in the late spring. Hardly less easy, but infinitely more attractive, is *Triteleia uniflora*, which, in any warm, sunny place among other things of an equally refined and nice disposition, will establish itself for ever. Though a native of the Argentine, *T. uniflora* is quite hardy, and its white flowers, on 6in. stems and delicately shaded with a faint blue wash, are delightfully fragrant. The form known as *T. u. violacea* is distinguished by having rather more blue in its three-pointed stars, and each petal is divided down the middle with a conspicuous stripe. These should be included in the smallest bulb order; and no less can

is happily one of the best for naturalising in woodland, and it carries on its 15in. stems fine heads of white flowers. *A. Moly*, with starry blossoms and large golden discs, and *A. Ostrowskianum* in rose may be mentioned as highly desirable, reliable species for the same purpose, but the trade lists offer many more in a variety of colours. Most of these *Alliums* are robust colonisers, they possess the commendable virtue of being cheap, and they flower abundantly from spring onwards.

Fascinating as they are, the *Fritillarias* are not everybody's plants, but of the many species offered, our own *F. Meleagris* is probably the most satisfactory for naturalising in grass. But even this often has a way of disappearing after a season or two unless the soil happens to be to its liking, when it will flourish abundantly. The white variety is the most attractive of those usually

ated, and although it has not yet been satisfied with the treatment we have accorded it, a good many twopeaces will probably be squandered in the hopes of one day fulfilling the desires of this mad and bloodless thing which is so fascinating and so sad.

It is rather surprising to find a country garden which will not, despite careful cultivation, grow *Erantillaria Melegaris* permanently. As a rule it will flourish in open meadowland, in the rock garden or on the edges of woodland. It commonly reproduces itself (if allowed) from self sown seeds, and the white form is generally considered as easy as the more typical coloured varieties. The species is, of course, indigenous and grows wild in quantity in some Oxfordshire meadowland where the loam is rather on the stiff side. Since it flourishes and increases rapidly on the Dutch bulb farms, it would not seem to be fastidious as to soil. *Ed.*

TOMATOES FOR EARLY CROPPING

CULTIVATORS who can command an unlimited amount of fire-heat throughout the winter certainly need not hesitate to grow Tomatoes in the winter months. From plants raised in due course and of suitable varieties a nice crop of fruits may be gathered practically throughout the winter; but I do not wish to deal with them in this note, but rather with the raising and wintering of plants to afford a supply of ripe Tomatoes quite six weeks before it is possible to secure them from spring-raised stock. Adequate heat and suitable structures are, coupled with cultural skill, necessary to success. I mention these facts here as quite recently an amateur cultivator told me he was intending to raise a good stock of Tomatoes this autumn, grow them through the winter and reap an early harvest of fruits. This was to be accomplished without any artificial heat in his structure, in which very good crops have been grown in the summer months. His astonishment was great when told that in our climate it could not be done.

The seeds should be sown late in September in the northern counties and about October 10 in the southern. The resultant seedlings must be pricked out singly in small pots, the latter filled with lumpy loam two-thirds and leaf-soil one-third. A very small quantity of old mortar rubble may be added, but no organic manure.

The chief point is to keep the plants on shelves near the roof glass to ensure sturdy growth. Before the pots become too full of roots the plants must be shifted to cin. pots; it does not matter when this work is done provided there is no frost at the time, and, furthermore, it is advisable to leave the pots, soil and plants in the same house, doing the actual repotting there too. In these cin. pots the plants must remain till that stage is reached when they should be transferred to the fruiting pots—again, ones doing very nicely. All through, the lumpy fibrous loam should form the bulk of the potting compost. The lowest temperature to be quite safe should be 58°; a night temperature of 62° to 65° is desirable when the first truss of flowers opens. Full exposure to light, no direct draughts on to the plants and ample distance apart are essentials to success. Set every fruit by gently tapping the flowers at noon. Top-dress with a mixture of loam, wood-ashes and bone-meal, paying extra attention to watering,

and a good welcome crop of early fruits may be reasonably expected.

The importance of keeping the plants as dwarf and sturdy as possible cannot be exaggerated.

THE ALPINE HOUSE AND ITS CONSTRUCTION

THE alpine house is now becoming one of the regular features of the up-to-date garden and is, in some cases, replacing the more costly greenhouse where artificial heat is required for the preservation of plants during the winter.

There are several ways of housing alpenes. They can be grown in an ordinary greenhouse in pans, providing the house is well ventilated and receives a full share of sunlight. All alpenes need plenty of sun and air, especially in winter. It is advisable to arrange the staging that the pans can be plunged into a mixture of sand and granite chippings, or something similar, to afford good drainage. This treatment helps to keep the plants moist at the roots and simplifies watering in summer.

A more elaborate way of growing alpenes under glass is to build a miniature rockery in the greenhouse, which is more interesting and gives the plants a more natural setting. As I have just completed the construction of such a rockery under glass, I will relate the chief points which were taken into consideration.

First of all, the position, facing south and south-west, with a blank wall of an outbuilding, was agreed upon. The wall gave good support to the main part of the rockery, which was built with a bold effect nearly up to the roof. Enough room was left to grow plants of a succulent nature,

and the seeds should be sown very thinly and pricking off be carried out in good time, while no effort be spared to keep clean the roof glass.

GEORGE GARNER.

as it would naturally be on the dry side and rather difficult to water. The rest of the rockery was laid out with large bays, so that as many plants as possible could be accommodated.

The soil used for the construction of the rockery was the sittings from a stone quarry, which affords good drainage. The foundation and floor to a depth of 2 ft. consisted of clinker and ashes, which also provide good drainage. The path is rough stone paved, with places left at sides for moisture and shade-loving plants, such as *Primulas*. The whole of the rockery was then top-dressed with at least 1 run. of good soil, to which was added a good portion of sand and granite chippings, so that good drainage was assured throughout the whole structure.

One portion of the rockery is confined to choice plants in pans plunged up to the rims, another to plants permanently planted, and yet another to plants flowering or about to flower in pots completely plunged, which can be changed as the plants cease to flower. This gives a varying interest to the house which would not exist if all the planting were permanent.

The approximate size of the house is 12 ft. high, 15 ft. long and 12 ft. wide, and it contains quite a hundred different varieties of alpine plants. From the point of view of a lover of alpenes, how could space under glass be better employed?

Oxtd.

R. C. JOLIFFE.



THE NEWLY CONVERTED ALPINE HOUSE AT OXTED PLACE.

CORRESPONDENCE

PLANT NAMES.

REFERRING to "Somers'" note on page 444, may I submit that the name Bergamot seems to have been appropriated to *Monarda fistulosa*, L.? In the "Kew Hand List" the genus *Monarda* receives the English name of Horsemint, which in Prior's "Popular Names of British Plants" is assigned to *Mentha sylvestris*, L., and on turning to that species in the "Kew Hand List" I find the name Horsemint given to it as well as to *Monarda*. This is a fair example of the hopelessness of attaining precision in the use of English names of plants. Popular usage will always vary in one district from that in another. The English Bluebell, *Scilla nutans* Sm., must ever be distinct from the Scottish Bluebell, *Campanula rotundifolia* L. In "The English Flower Garden" Mr. William Robinson uses the name Horse Balm to indicate the genus *Monarda*, and that of Wild Bergamot for *M. fistulosa*, agreeing in the latter respect with Prior, who does not give Horse Balm at all. For *M. didyma* the "Kew Hand List" supplies the English name of Oswego Tea, while Mr. Robinson adds the synonym Bee Balm. It may be noted that the origin of the name Bergamot is very remote from the herb *Monarda*. It was first applied to a small, highly flavoured Pear—Bergamotta—grown at Bergamo in Lombardy, and later to the Sweet Lime, *Citrus Limetta*, producing the fruit from the rind of which is extracted the aromatic oil used in perfumery. The herb *Monarda* earned its English title through a similarity in its odour to the said oil.—HERBERT MAXWELL, *Monreith*.

THE CULTIVATION OF STRAW-BERRIES.

I AM induced by another season's experience and by Mr. Copley's article (page 442) again to write a few words on this subject. Mr. Copley says "runners should be taken from one year old plants." Presumably he means ordinary plants that have fruited once, and here lies the chief difference between my methods and his. I was taken to task, with a flavour of contempt, some while ago by a correspondent for maintaining that runners taken from maiden plants, *i.e.*, one year old plants not allowed to fruit, give markedly better results than runners from fruited plants. I still maintain that the difference is surprising, and my opinion is based on full thirty years' practice by myself and many friends and neighbours who have taken my advice. Runners so taken are stronger, healthier and, what is very important, can be had a fortnight earlier. Plant physiology coincides with what practice proves. If a Strawberry plant is forcibly prevented from propagating itself by the seed of its fruit, it naturally makes a strong push to propagate itself in another way. Here, this season, we have had a good object-lesson. By some oversight our maiden plants were too few for our needs and we had to fall back on fruited plants for runners to complete our new bed. We found them scarce, small and fit to plant out only two days ago (August 22), whereas the others were planted the first week in August and are thoroughly established.

I should much like to meet with the growers who, according to Mr. Copley, say "it is a mistake to fruit Strawberries the first year after planting." And here we can afford to smile at his observation that "a small crop of fruit will be borne the first summer after planting." Our first year's crop is invariably (unless the weather defeats Strawberries everywhere) a heavy one and in quality

distinctly the best. Indeed, we regard the Strawberry as an annual, as a great weight of fruit



THE BEAUTIFUL STRAW-YELLOW SEMI-SINGLE ROSE JOANNA BRIDGE.

can be secured from a bed of plants set out only 1 ft. apart every way. We never keep a bed three years, and not always two. But all this depends upon one thing, that is, early planting, by which I mean the last week of July or not later than the first week of August. And this earliness, again, depends upon a supply of runners from maiden plants.

An incidental advantage of this annual system is that the exhaustion of soil consequent on its occupation for three years by the same crop is avoided and Strawberries can come back to it much sooner in rotation. It is well proved that they require fresh ground. I do not think many growers will agree with Mr. Copley that "a light potting compost should be used" for potting the runners. Pure loam and fairly heavy at that is far better, or squares of turf loam where they are obtainable. As to varieties, it is, as with Potatoes and many other things, experience alone which shows what is best suited to each garden. Here, having tried almost every new variety, we find none in the same class as President for richness of flavour, fresh or preserved, and continuance of crop.—G. H. ENGLEHEART, *Dinton, Salisbury*.

ROSE JOANNA BRIDGE.

NO bed of Roses has attracted more attention from hundreds of visitors here than Joanna Bridge (H.F.). We put in thirty plants in the autumn of 1920, and they now stand 5 ft. high and might well be higher, but we have to prune them down somewhat to keep them in good shape. This year they started to bloom on July 1, and are now a solid mass of blooms and buds, which look like continuing until the frosts come. This Rose was put on the market by Mr. Elisha Hicks in 1916, but never seems to have received the praise it merits, although Mr. Hicks has made a strong feature of it at all the important Rose shows.

Its flowers are semi-single, the buds are strawberry tinted, opening to straw-yellow flowers. Where large strong-growing plants are desired as bedding Roses it has no equal, but it must have plenty of room and should never be planted less than

3 ft. apart. We have found it quite immune from disease.—HERBERT L. WETTERN, *Oxford*.

THE JASMINES.

"NORTH WALES," who complains that *Jasminum Beesianum* does not flower, has let his plant grow too tall. It is in reality not so much a climber as a trailer which straggles along the ground, rooting itself every foot or two. But whatever is done to it the flowers never seem to be very large or numerous; moreover, they do not keep their colour well. Has your contributor tried *J. stephanense*, the new pink kind (*Beesianum* × *officinale*)? The old-fashioned single white is, as he says, under a cloud at present, but there are reasons for this. It is a rampant grower; garden walls nowadays are low, and if planted against one of them it takes up an inordinately large amount of lateral room, besides being difficult to manage. Trained against a house it quickly reaches the second storey, and does not flower much until it gets there; the flowers are not large enough to be effective at that height, and if they are to be kept down to the level of the eye a rather troublesome method of pruning has to be resorted to. As regards the double form of *Jasminum officinale* mentioned by "North Wales," will he please indicate from whom it can be obtained?—H. A. BAYNE.

IRIS PRICES.

WITH reference to your correspondent Mr. Long's letter *re* the above, I think he somewhat overlooks the main factors which must determine the price of a commodity such as an Iris plant. The Bearded Iris is rapidly coming to the fore as a "fashionable" flower—thanks to the extensive hybridisation which has been, and still is being, carried on on both sides of the Atlantic and on the Continent. The "supply" of the better varieties will always be the chief

net attention on the price at which these various varieties will sell, which, in turn, will be determined only with the demand but with the rate of increase of these varieties. This latter varies very considerably, as anyone who grows Bearded Irises extensively will readily find out. Again, the "stocks" of certain Irises, some of ten years introduction, are very limited and, for the reasons above stated, growers cannot get their stocks up to a desired level. Though in no way connected with the "trade," I could name quite a few Irises (old ones) listed at prices ranging from 2s. 6d. to 7s. 6d., of which it would be difficult to obtain fifty plants from an individual grower. What is the grower's alternative? It seems to me that he must either (a) continue to sell all he wants of a given variety at his price, or (b) withdraw that variety from his list for a season or two until he has a sufficient stock to meet the demand at a reduced price. This is a matter for the growers themselves, but I should imagine that it is preferable to adopt the former course. As regards Mr. Long's remarks concerning the discrepancy in prices between the Continental raisers and the English growers, the plants sent out by the former at the much lower prices cannot be compared with the plants distributed by our home growers, and in many cases plants from the Continent require "growing on" for a season at least before reaching the flowering stage. Furthermore, I am quite sure that all of our English growers would be delighted to reduce their prices 50 per cent. if they felt that they had any hope of filling the ensuing increased demand.—SIRI.

THE VITALITY OF FOXGLOVE SEED.

AFTER reading the most interesting account of Foxgloves in *THE GARDEN* for July 21, page 373, I thought I would send you a photograph of part of a group taken here, some of them being as much as 7ft. in height. The interest attaching to the picture, however, is afforded by the time the seeds have remained dormant in the ground, while still retaining their germinating power. In the winter of 1906 a large portion of a shrubbery consisting principally of Common Laurel was cut down to within a foot of the ground. It was then dug over, all dead leaves, etc., being dug in. In the following spring patches of Foxglove, Poppy and common Marigold seeds were sown to take off somewhat the bare appearance until the Laurels had grown again. In the summer of 1908 the Foxgloves flowered. By that time the Laurels had grown from 2ft. to 3ft. So, after clearing away the dead flower-stems, no more was thought about the Foxgloves. Now comes the interesting point. During the winter of 1921 we again cut down the same lot of Laurels, repeating the process of digging in the dead leaves, etc. No seeds of any kind were sown. In the spring I noticed something come up thickly all over the ground, which at first sight I took to be weeds, but which proved to be Foxgloves, the seed of which had remained in the ground since the time they were sown in 1908, a period of fourteen years. The photograph gives but a faint idea of what they really looked like, as there must have been between two and three thousand of them of various heights and shades of colour. A few Poppies came up and flowered and one solitary

Marigold, thus shewing that their seeds do not retain vitality like those of the Foxglove.—H. REYNOLDS, *Great Yarmouth*.

LILIUM POMPONIUM.

I HAVE been greatly interested in Mr. Dillistone's very helpful articles on Lily culture, especially on the importance of shading the roots. With almost all Lilies this requirement is beyond dispute, but in the case of *Lilium pomponium*, a native of the Maritime Alps, I do not think it can be necessary, and is probably even injurious. This Lily is locally plentiful in the neighbourhood of St. Martin Vésubie, on very steep limestone hill-sides in the full glare of the scorching southern sun. It is most luxuriant on the low ridges of scree, and very seldom occurs at the bottom of even a shallow gully where small lavender bushes and other dwarf shrubs grow. I noticed that the finest Lilies were always on scree, where there

have found one plant with four flowers and a very few with three on a stem. The colour is almost identical with the more familiar and much taller *L. chalcedonicum*, an intense fiery scarlet of the Turk's cap shape, typical of the Martagon section. Although St. Martin Vésubie is probably the best known locality for this lovely little Lily, it may be found scattered over a wide area of Southern France. It occurs high up on limestone cliffs in many parts of the Var valley and through the Gorge of Daluis as far north as Guillaumes; in fact, its distribution is very similar to that of *Saxifraga lanosecana*, another treasure of the Maritime Alps.—N. G. HADDEN, *West Porlock*.

A VALUABLE ACHILLEA.

IN your issue of April 7, page 176, which, owing to absence from home, had not been noticed before, Mr. Clarence Elliott has a note on an *Achillea* which he calls *A. Lewisii*, saying that



FOXGLOVES FROM SEEDS WHICH HAD LAIN DORMANT FOURTEEN YEARS!

was scarcely any other vegetation, merely a few scattered tufts of grass and a stray *Astragalus* or *Onobrychis*. What the plant evidently delights in is full exposure to sunshine, a light soil rich in lime and the sharpest possible drainage. I do not know if anybody has tried it as a limestone moraine plant, but I feel sure it would succeed well in such a situation, where it would look more at home among small alpine plants than in the herbaceous border with coarser things. The bulbs are usually about oins. below the surface soil, which consists mainly of limestone debris washed down annually from higher ground, but the roots work their way down to a rich loamy subsoil full of stones. Underground watering should not be necessary for *L. pomponium* in cultivation even on a moraine garden, for it certainly cannot obtain much moisture during the summer on the stony slopes where it grows naturally, and the bulbs must receive a thorough baking. In the richer soil of our gardens it will attain a greater stature than it does at home, where it rarely exceeds 18ins. in height and usually bears only one or two flowers. I

"for some reason it has got about under two names," the other being *A. King Edward*. I rather doubt his claim to *Lewisii* being correct by right of priority, as I have known *A. King Edward* for quite sixteen years. This was raised about 1907 from seed saved from *A. tomentosa* in a small garden in North-West Norfolk. Two seedlings came up, one which is known generally in the trade as *King Edward* and the other has not to my knowledge been sent out. It differs from the above in having creamy white ray florets, with a pale lemon yellow centre, the foliage being similar in shape and habit, but lacking the beautiful silvery appearance of *King Edward*. It agrees with it in one respect, that is, in its long season of flowering. The parentage is undoubtedly *A. tomentosa* × *A. ageratifolia*, as these plants were planted close together when seed was saved. The name was decided upon by the raiser and Mr. G. W. Miller of the Clarkson Nurseries, Wisbech, to whom it was given, who about twelve years ago had some at one of the R.H.S. shows at Vincent Square. C. HUBBARD.

HERALDS OF AUTUMN IN A WOODLAND GARDEN

THOUGH the Bracken in the glen is splashed with chrome yellow and amber and the dwarf Furze has added its gold to the purple of the heathery hills beyond the tree-line, I rather think it is the autumn catalogues which flutter in with every breeze that sound the truest knell of summer. For they send one's thoughts forward at a bound to "the moist rich smell of the rotting leaves" and such incidentals as bank balances to which even the wiles of the most seductive of nurserymen must be subservient.

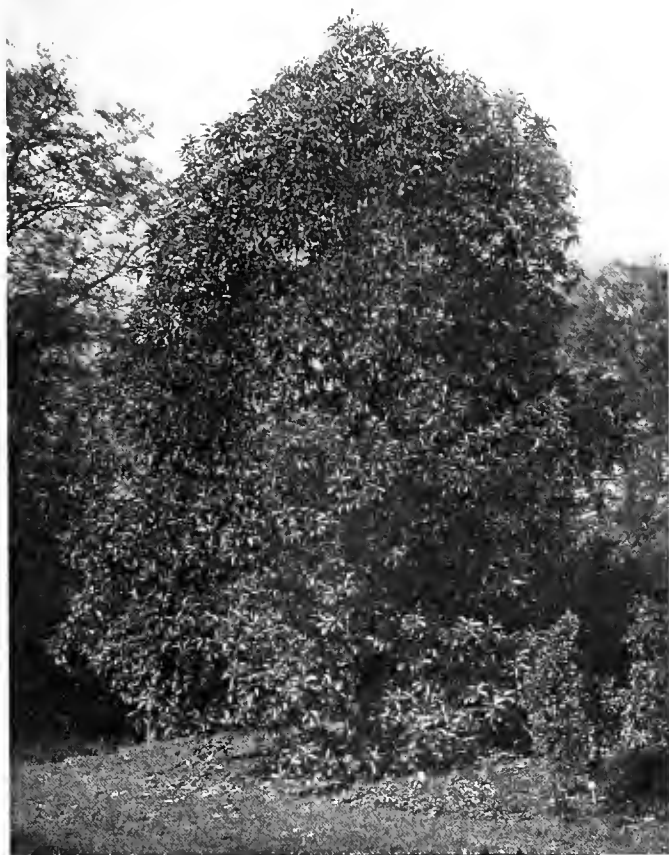
But there are not wanting indications in the garden itself that the "close bosom-friend of the maturing sun" has already set her smouldering fires alight, and one enjoys a feeling of satisfaction rather than regret in the presence of those symptoms of ripeness and fulfilment which fill the poets so often with melancholy. Perhaps this may be accounted for by the fact that August is of all months the least interesting of the average gardener's year, to which September comes as a tonic, stimulating that fresh interest which the advent of another planting season inspires, and which is whetted by the subtle fascination of the said catalogues. Gardeners seem to have been peculiarly susceptible to temptation ever since . . .

But I wander. It was towards *Berberis Thunbergii* that I set out, for no reference to autumn at its earliest can be made without according this species a prominent place. Here this well known, neat-habited shrub is invariably the first to surrender its green and, once it begins to change colour, the transformation is so rapid that in a few days the foliage will be ablaze with that wonderful blend of orange and crimson which makes this familiar

bush so highly valued by all who enjoy autumn tints.

B. dictyophylla also exchanges its emerald for a warm red before most things have prepared to relinquish further claim on summer, and another of the same race which, possibly owing to its being in a very dry spot, flares into crimson at about the same time is *B. virescens*. As for the berrying Barberries, most of them have yet to develop their fruit crop, but the plum-coloured clusters of *B. Darwinii* were cleaned off by the birds before July was out. The berries of *B. Sargentiana*, a shrub more notable for its fine habit, beautiful foliage and coloured bark than for fruit or flower, are beginning to turn black, and the black beads which hang from the arching wands of *B. pruinosa* are getting white with the meal that they will retain all winter.

In *Cotoneasters* the first to show coloured fruits here is *C. bullata*, and this is undoubtedly one of the best, since the berries, borne in large bunches, are fully $\frac{1}{2}$ in. in diameter and a rich blood crimson. They also remain long on the branches, often until some weeks after the leaves have fallen. The prostrate form of *C. horizontalis*, whose fish-bone branches remain on a horizontal plane, in contradistinction to those of the type which are tilted in mill-sail fashion, also colours its fruits early. This is usually a most extraordinary cropper, and a well grown specimen crowded with its brilliant orange-scarlet berries must rank



THE MADRONA, *ARBUTUS MENZIESII*, A SINGULARLY BEAUTIFUL AND OUTSTANDING TREE.

among the very choicest of autumn-fruiting plants.

An old shrub which I always think is most charming between summer and autumn is *Leycesteria formosa*, for it is at this time of year that its smooth, emerald green, hollow canes of the current season's growth are at their freshest and best. Then there are the curious flower clusters, hanging like toy pagodas on a Christmas tree at the ends of the elegantly drooping stems. Though there may still be a few milk-white trumpets at the tips of these strange ornaments, their chief attraction is the wine-coloured bracts which envelop the ripening fruits, presently to turn from crimson to black. These fruits are greedily eaten by birds, presumably after they have fallen, and they germinate so freely that seedling plants appear in all manner of unexpected places.

As its mottled leaves are among the first to disappear, so the vivid scarlet clubs of the wild *Arum* are always to be counted among the heralds of autumn. These afford a pleasing dash of brilliant colour in the green and shady places of one's woodland garden, and they are followed closely by the crimson berries of *Lily of the Valley*, which looks singularly attractive against the creeping Ivy among which the plants that bear them are growing. Though the *Lily of the Valley* does not fruit as freely as one would wish, and though mice or other creatures devour the berries, wisely leaving those of the *Arum* untouched, I am assured that one may be thankful that it fruits at all, this being considered an uncommon occurrence.

The fine golden yellow of such *Hypericum*s as *H. patulum* Henryi and *Moserianum* is just the colour that harmonises most happily with the hues of the coming autumn and there is something to be said at this season for a well grown group of the sub-shrubby native, *H. androsaemum* as an inmate of the wild garden. Though I never feel quite sure that in full summer I like *Fuchsia Riccartoni* as a woodland plant, for it does not seem then to harmonise very happily with anything, its blood red flowers are by no means unwelcome among the warmer tints of the later year. This *Fuchsia* and others are usually at their reddest just when the spikes of many of the Torch Lilies (*Kniphofia*) are ablaze with their brilliant yellows and fierce reds, and among which the medium-sized *K. Nelsoni* may be singled out for very special mention.

Ribes aureum, the Buffalo Currant, changes the pale green of its three-lobed leaves to a beautiful vinous hue before September is far spent, and on that account alone it is worth a place in any woodland garden. At about the same time one may expect the "strawberries" of *Arbutus Unedo* to develop their orange and scarlet tints, which are always so attractive among the pale primrose-coloured flower clusters which arrive with them. Though it has not yet blossomed here, the more beautiful and interesting *A. Menziesii* makes amends for this failing by a process of bark peeling, after which the smooth wood glows with a warm cinnamon brown which is one of the most delightful of the many attributes of merit that can be claimed by this fine species.

On the dry, sunny bank where these *Arbutus* trees flourish, no matter how droughty the summer may be, there are some imposing clumps of *Apera arundinacea*, yet another plant which attains its fullest beauty at this season. The Pheasant-tailed Grass, as it is popularly called, makes an imposing and elegant tuft of narrow-bladed foliage some 2 ft. or more in height and of a pale, shining green suffused with brown. Towards autumn these grass blades assume warm hues of coppery red and rusty vermillion, the green almost entirely vanishing. At the same time the lovely flower panicles slip out of their sheathes and droop over in long, graceful plumes, bronzy purple and soft as silk. The flowering-stems, with their wonderful branching heads, light as air and the very embodiment of elegance, will attain the length of about 3 ft. and last well into the autumn. *A. arundinacea* is, indeed, an all-season plant, for its beautiful foliage is hardly less charming in the depth of winter than it is to-day. Though not quite reliable in severe winters, this species will put up with a deal of cold in a really free and dry soil, and it usually makes sure of the perpetuation of the race by producing plenty of self-sown seedlings.

Some of the *Geranium*s are most conspicuous in the "hectic red" of their passing even before August is out, and not the least beautiful of these in the wilder parts of the garden are our common

Here Robert (or Robertina) and, what might be considered a greatly magnified form of the same, *G. Lowen*. The stout, angular branches of the latter, which bear their rather scanty leaves nearly 3 ft. in height, are a rich blood crimson, and the foliage assumes the same colour as the plant, which is biennial, dies; with no less haste *G. liberum* adorn its foliage with warm tones of crimson scarlet. The *Megaseas* are splashed with red and, also along the woodland walks, one notices that the leaves of *Fiarella cordifolia* are already stained with more than a hint of autumn's flush. What purports to be the variety purpurea

of the last mentioned, always a striking foliage plant, also now enriches the bronzy purple of its handsome leaves, and the curious foliage of *Saxifraga Camp* is enlivened with dashes of carmine.

To all these little indications of autumn's approach the hearty old Figer Lily adds the splendour of its glowing spires. No other flower, not even the *Montbretias*, which naturalise all too freely about the woodland garden slopes, can quench with their fiery orange and vermilion hues that colour note with which the Figer Lily so triumphantly proclaims the passing of one season and the beginning of another. N. W.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Mustard and Cress.—It will now be necessary to use boxes for growing this useful salad and, when the seed is sown, these should be placed in a warm greenhouse. Boxes 3 ins. or 4 ins. deep are suitable and a layer of manure from an old hot-bed may be placed in the bottom, the remaining space being filled with leaf-mould and loam. Do not cover the seeds with soil, but a sheet of paper may be used until germination is effected.

Cabbage.—No time should be lost until the requisite number of plants are set out. The smaller seedlings can be left in the rows until the spring, when they will be found useful to fill up gaps and thereby continue the supply.

Weeds.—These make considerable headway during the present month and, unless they are kept down, it will mean a lot of work later. They rob the soil and retard the crops, so the hoe should be kept busy during the next few weeks. Small gardens often suffer through the neglect of their neighbours who allow their weeds to seed. Some weed seeds are carried by the wind a considerable distance. There are several such patches in my own district.

Endive.—Improved Batavian is a useful variety, and seedlings that are large enough may be planted 15 ins. apart. This is a very good substitute for Lettuce, but it needs careful blanching to be appreciated.

Celery.—At this period of the year every opportunity when the weather is dry should be seized to earth up Celery. Clean the plants of dead leaves, side shoots and weeds, and tie a piece of raffia around each plant before the operation begins. Late-planted Celery must wait a few more weeks before any earthing up is practised.

The Flower Garden.

Crown Imperials.—These old-fashioned flowers are always attractive, and bulbs may be planted from now till the end of October. Other *Fritillarias*, the tuberous varieties of *Iris*, *Sparaxis* and the Dog's-tooth Violets (*Erythronium*) may also be planted. All will thrive in ordinary garden soil, and the last named is suitable for the half-shady rock garden.

Violets.—During the present month these should be transferred to cold frames or heated pits. A layer of rough material should be placed in the bottom to act as drainage, and the rooting medium should consist of three parts loam and one part leaf-mould. Lift the plants with a good ball of soil and get as many specimens in the frames as possible without undue overcrowding. When the planting is completed the foliage should be a few inches from the glass. Give the roots a soaking of water and, until they are established, spray the plants twice daily. The lights will not be required for several weeks unless we get a spell of wet weather. If red spider is present, it will be necessary to syringe the foliage, especially the undersides, with N.L. All insecticide. Pinch out all runners as they appear.

Buddleia variabilis.—This is a shrub well worth growing, being especially valuable for its late-flowering propensities. The best varieties are *Vetchiana* and *magnifica*, and growers should endeavour to keep up a true stock by means of cuttings, which can be inserted in frames during the next few weeks. Seedlings appear freely and, as they are almost invariably much inferior to the kinds mentioned, should be rooted up directly they are seen. In this district they germinate in stone walls, and unless they are removed in the early stages of growth the roots do considerable damage.

The Hardy Fruit Garden.

Planting Fruit Trees. It is time to think about the planting of fruit trees. The order may be sent to the nurseryman and the ground prepared. If a new orchard is contemplated, the stations can be marked and the holes dug out. Standard trees of Apple, Pear, Cherry and Plum should be planted 2 ft. apart, but for pyramid or bush-shaped trees half the distance will be ample. Where Peaches, Nectarines, etc., are to be planted at the base of the wall surrounding the kitchen garden the soil will be good enough for the trees, but it may be necessary to see that the drainage is right, and, furthermore, an application of broken line rubble will be beneficial to all stone fruits. When planting fruit trees the holes must always be large enough to take the roots when spread out to their fullest extent. For orchard trees holes may now be dug 3 ft. to 4 ft. in width and 2 ft. deep, and the soil at the base of the hole should be also broken up. Details on planting will appear later, and although late planting is often practised with good results, I like to finish fruit tree planting before Christmas, hence the reason for making preparations early.

The Selection of Apples.—When making a selection the size of the garden must be taken into consideration and the number of trees required. The object should be to keep up a supply as long as possible, and early varieties must be limited. A few useful sorts are Langley Pippin, St. Everard, Lane's Prince Albert, Cox's Orange Pippin, Bramley's Seedling, Wellington and Stirling Castle. Allington Pippin is considered by some to be a first-rate Apple, but personally I would not recommend it. ["Allington" is not a first-rate dessert Apple, though very handsome, but it is a heavy cropper and is probably the best fruit in existence for that very essential condiment—apple sauce. —Ed.]

Fruits Under Glass.

Strawberries.—Plants that have been placed in their fruiting pots are making progress and the receptacles are filling with roots. At this stage they may be fed with liquid manure about twice each week and, when the weather is fine, a daily spraying of weak soot water will be beneficial. Remove all runners and weeds as they appear, and if the soil has become hard, lightly prick it over with a pointed stick. Expose the plants to full sunshine and keep the roots moist.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.)
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spring-Sown Onions.—These Onions should now be ready for harvesting. They will in any case firm up more quickly out of the ground than in it if they are arranged thinly on a hard bottom in full sunshine. Allow them to remain in this position for the matter of a fortnight, when they should be graded, tied up in bunches and hung up in a cool, airy structure. The "thick-necks" should be bunched separately and should be used first.

Globe Artichokes.—The crop having now been cleared, the stems should be cut down. Being gross feeders, the plants should receive a good supply of partly decayed farmyard manure, which can either be forked in or be allowed to remain as a mulch until spring. There are two varieties of this vegetable to be met with in gardens; one is somewhat conical in shape and is much inferior to the true Globe variety. It is well to see that one has the real article.

Kidney Beans. As previously advised, any surplus pods of either Dwarf or Runner Beans should be picked before they become tough and be preserved in salt for winter use. It should hardly be necessary to point out that these preserved Beans should be steeped in fresh water for at least twelve hours before being cooked.

General Remarks.—Run the Dutch hoe occasionally between the lines of Winter Onions and Winter Spinach and hand-weed the rows. When clearing off pea straw, store away the stakes in an upright position. Break over the leaves of fully developed Cauliflowers to preserve the whiteness of the curd.

The Hardy Fruit Garden.

Strawberries.—Those who purpose planting strawberries in spring should take runners now, and care should be taken to avoid any that have been produced from blind plants, e.g., those which failed, not merely to set fruit, but to flower, as all such runners are almost certain in their turn to produce blind plants. The plantlets should be run out in nursery lines, the lines 9 ins. apart and the plantlets 2 ins. or rather more apart in the line. Some sandy soil suitable for cuttings should be worked in among the roots. This will facilitate the further production of root and will enable the cultivator to lift the plants with nice little balls at planting-time. Sufficient runners having been secured, the remainder should be cleared away and the plantation be thoroughly cleared of weeds. It being understood that these are one-year old plants, they should receive a light mulching of farmyard manure, to be forked in in spring.

Apples. Some of the earlier cookers will now be available for the kitchen, but unless they are likely to fall, they should only be picked as required. At this early date they soon get soft after being picked. Meantime see that the fruit-room is thoroughly clean and sweetened by the free admission of fresh air. A note should be made of any trees in want of root pruning, of which more a fortnight hence. Rampant growth and failure to fruit or to fruit freely are sure indications that a tree is in want of root pruning.

Loganberries.—The Loganberry and its congeners, such as the Wineberry and the Cut-leaved Bramble, should have the old shoots cut away and the young ones tied neatly up. This applies more especially where the plants are trained on poles or on a single trellis. As I have suggested before, the double trellis is the ideal for training these sprawling Rubi.

Enemies.—Rats, mice, wasps and bluebottles are all apt to work havoc among ripe and ripening wall fruits. The two first mentioned must be kept down either by trapping or poisoning, the last two by trapping with jars or bottles partly filled with semi-putrid fruit, jam and water, or sour ale and sugar.

The Flower Garden.

Carnations.—If plants were layered in July or early August, the layers should now (after being severed from the parent plant) be ready for lifting. On all but very heavy, retentive soils, autumn planting is to be recommended. The bed or border which is to receive them should be deeply dug. Farmyard manure should not be applied, bones in some form being preferable. If some old mortar can be obtained, it will be appreciated by the plants. If the soil is on the light side, it should be trodden firm and the surface be raked smooth. Refrain from treading on it when wet. Lift the plants carefully with the handfork and plant with the trowel about 15 ins. apart.

Violas.—Cuttings should now be plentiful, so that the work of propagation may be undertaken now or at any time within the next few weeks. The cuttings may either be accommodated in boxes and placed in a close shaded frame, or they may be inserted in the body of the frame. I have found that Violas lift with better balls when struck in sifted fibrous loam plus a very small proportion of sharp sand than when struck in the orthodox mixture of loam, leaf-mould and sand in equal proportions. Similar treatment should be accorded to Pansies when they are propagated by cuttings.

Pinks which were propagated by cuttings (often called pipings) should now be planted in their flowering quarters. Seedlings, too, should be planted out if this has not already been done. Although closely allied to the Carnation, the Border Pink is more accommodating than its more pretentious relative. Both the common *alba umbriata* and Mrs. Sinkins are suitable for edgings to walks, and are very effective when so used.

CHARLES COMFORT
Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

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GREENHOUSE AND CONSERVATORY.

Annuals in Pots are very useful for furnishing greenhouse during spring and early summer. Seed of these should be sown from now onwards until the end of the month. After sowing, the seed pans or pots should be stood in a cold frame and there be kept shaded until germination takes place. The seed should be sown thinly and the seedlings be pricked off before they are at all crowded. The pricking off should, in the first instance, be into pans or boxes, from which as soon as they are large enough they should be transplanted to small pots. Some kinds, such as *Schizanthus*, should be grown singly in pots, while slender-growing plants may be grown three or four in a pot. To ensure success, annuals must at all times be grown under perfectly cool conditions, with ample ventilation on all favourable occasions. It is important to keep the young plants well up to the roof glass. A cool, airy greenhouse gives perfect conditions during winter. Although they can be grown perfectly well in cold frames, it is certainly a great advantage if heat is available. *Schizanthus*, *Godetias*, *Clarkias*, *Mignonette*, *Nemesias*, *Rhodanthes* and *Acroclinium* are all useful and popular plants for this purpose. *Scabiosa atropurpurea* in its many beautiful varieties is worthy of more general cultivation under glass, as it is specially useful for a supply of cut flowers.

Housing Chrysanthemums.—Early varieties, where the buds are well forward, should now be taken indoors, otherwise the blossoms are apt to damp. They should be put in a cool, airy house, which should be kept well damped down for a few days, as the plants, until they become accustomed to the different atmospheric conditions, are apt to suffer from the droughty condition of the air normal indoors. Houses should now be cleaned and prepared for the reception of plants that have been stood outdoors for the summer. All plants standing outdoors should be kept well staked and tied to prevent damage by high winds.

***Funkia grandiflora*.**—This beautiful white-flowered, sweet-scented *Funkia* is an excellent plant for the unheated greenhouse. It has handsome flowers and equally handsome foliage, and is worthy of more general cultivation as a pot plant. As it is a strong grower, it requires generous treatment, 7 in. or 8 in. size pots being necessary to do it justice. In the South, at least, it is hardy in warm, dry situations, but it flowers so late that the flowers often get damaged by early frosts.

***Funkia tardiflora*,** a much smaller-growing plant, although quite hardy, flowers very late and is also fine for growing in pots for the greenhouse. Where a stock exists the plants may be lifted from the open at this time and placed in pots. They should be well watered in and stood in a cold frame, where they can be kept close and shaded for a few days until they get established. The variegated varieties of *Funkia lancifolia* and *F. ovata* are also excellent for the greenhouse during spring and early summer. They may be lifted from the open ground during autumn or winter and placed in suitable-sized pots.

***Heeria elegans*.**—This pretty trailing plant is very charming when grown in small baskets. It flowers freely during summer and autumn, and is easily propagated by means of cuttings, which should be put in at this time. One can thus have good plants for making up baskets early in the New Year. For later flowering, stock can again be propagated early in the year. This plant grows quite well in any good potting compost to which a little fibrous peat has been added.

***Helichrysum rupestre*.**—This beautiful silvery-leaved plant is sometimes used in summer bedding schemes. It is not hardy, and well grown plants of it are very charming in the greenhouse or conservatory. Every part of the plant is thickly covered with a thick, woolly tomentum. Like many plants of this class, it is by no means easily propagated, as the cuttings are very apt to damp off. It can, however, be increased at this season and again during the spring. The cutting pots should be stood under bell-glasses in a cool house, taking care they are never too damp. At the same time the cuttings must not be allowed to flag.

Ficus macrophylla is a very useful plant for house decoration or for the greenhouse. For this purpose I consider it superior to *Ficus elastica*, as it is not so heavy in appearance; it also has the advantage of branching naturally, and thus makes a fine specimen where large plants are required. It is easily propagated at any time by means of cuttings, which root readily in a warm case. The more slender-growing shoots are best used for this purpose.

Royal Botanic Gardens, Kew.

J. COULTS.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

**BORDER AND PERPETUAL-FLOWERING CAR-
NATIONS** (A. B.).—The following are splendid varieties in every way, namely: Border—Bookham Clove, crimson; Elizabeth Shifner, orange; Leander, salmon; Lady Hermoine, rich salmon-pink; Cecilia, yellow; and Gloire de Naney, white. Perpetual-flowering—British Triumph, dark crimson; White Pearl and Lady Inverforth, salmon-old-rose.

BEGONIAS FROM SEED (Aber, Caerphilly).—Unless precautions were taken to exclude all insects—even ants—no doubt many of the flowers will have been cross-fertilised in this way. The seedlings from the seed saved may contain an odd one that is superior to the parents, but the majority will not be better, but inferior. Practically all varieties bear pollen; good cultivation being the rule. As the pollen found may be used, but there is no certainty as to quality of resultant flowers from plants raised from the seed saved. Raising new varieties is always an uncertain, but, nevertheless, very interesting occupation, as, sometimes, flowers of high merit result. As the seed pods are ripening, paper bags should be suspended under them to retain them should they become detached, as well as any loose seed.

NARCISSI DISEASED (Narcissus, Cornwall). The bulbs have been destroyed by the eelworm, which has done so much damage to these things in recent years. The treatment consists of heating the bulbs to 110° F., neither more (which would kill the bulbs), nor less (which would not kill the eelworms), for three hours. Narcissi should not be planted in soil from which diseased bulbs have been taken, for the soil is certain to be infected and no treatment that is practicable outdoors can be applied to the soil.

ABOUT CLIMBERS AND BORDER PLANTS ("Barty").—In our correspondent's district (Trowbridge) there should not be any difficulty in getting the following plants soon established on the wire division fence, namely: Honey-suckles, Jasmine, Wistaria and Bridgessia-picata, the last named being very pretty and evergreen. A few small specimens of *Choisya ternata*, *Berberis* and *Skimmia japonica* planted at the foot of the fence and well apart would look charming. The first three named would be quite satisfactory trained on the south and west walls, with, on the south wall, *Rose Aimée Vibert*, white with evergreen foliage. One *Clematis Jackmanni* should be included on the west wall. Add to the list named the following kinds of plants for the border: *Doronicums*, *Anemone japonica* and the white variety; *Dolphins*, *Gaillardias*, *Perennial Asters*; *Phlox*, *Rudbeckias*, *Titomas*, *Achillea* The Pearl, *Lechinis chalcidonica* and the dwarf *Solidago*.

TREES AND SHRUBS.

SOME SUITABLE TREES FOR SHADE (W. F. W.).—One of the best kinds of trees to plant both for shelter and shade is *Cupressus macrocarpa*; erect-growing, rapid, withstands strong winds and always looks well; also, it may be pruned, if necessary. The Purple Sycamore, *Wych Elm* and Common *Acacia* are also excellent. If several specimens of the Almond, *Laburnum*, Purple Beech and Mountain Ash be added, our correspondent would secure a good and interesting shelter to the south side of the lawn. The Fig would be slow in growth and deciduous in winter. A specimen of the Mulberry, in corner position, would give satisfaction, as this tree is generally liked. A selection may be made from the above according to requirements.

OLD ACACIA TREES (A. M.).—There may be a slight smell from the sap or decaying wood of *Acacia* (Robinson) trees. We have never heard, nor can we imagine, that this is harmful in any way. May we suggest that these old trees should have some attention to improve their appearance and prolong their lives. The first work will be to cut off all the dead and dying branches back to living wood, preferably where there are the vigorous young growths spoken of. If there are any holes with decaying wood, these should be cleaned out and tarred when dry. Also tar all wounds made by cutting off branches. To prevent water lodging in holes and crevices creating further decay, these should be filled with cement or large holes with concrete. A dressing of manure from a spent hot-bed, or mushroom bed, will be very beneficial spread over the surface beneath the trees, making a good sweep well beyond the spread of the branches where there are likely to be any roots.

FRUIT GARDEN.

PLUM TREE GUMMING (Folsted).—No doubt, as the tree is on its own roots, the gumming is the result of a too strong growth. The soil must be retained in a firm condition. No manure water or surface mulches of manure must be applied. Care must be taken not to wound any portion of the tree. Dissolve half a pound of common salt in 1 gallon of water and apply to soil over the area occupied by the roots; immediately afterwards pouring on 4 gallons of clear water through a rose watering-can. Do this at once. In November surface dress with a peck of lime.

FRUIT UNDER GLASS.

PEACHES ATTACKED (H. C.).—The Peaches are attacked by a fungus which is causing decay, but this has followed cracking of the skin of the fruit, which is the original cause of the trouble. Probably there has been some irregularity in the water supply. Watering once a week with a solution of 1 oz. of sulphate of potash to the 3-gallon can during May, June and July is an aid to the prevention of cracking.

THE POMEGRANATE (S. A. A.).—This plant is not generally grown in this country, though there is no difficulty in cultivating it successfully, especially near walls

and in the Southern Counties. The small shoots, somewhat similar to those of the Peach tree, should be trained in against the wall, as the flowers are borne on them. Many shoots should be disbudded, if overcrowded, while they are small. The remainder will bear flowers if light and air can reach them. The double-flowered varieties are grafted on the single-flowered stocks. The dwarf variety is usually grown in pots. It flowers freely and lives, with ordinary care—even in small pots—to a great age. The plants require a light but rich loam.

PEACH LEAVES DISEASED (M. H., St. Margaret's-at-Cliffe).—The leaves are affected with the Shot-hole fungus, *Cercospora circumscissa*. The foliage and wood of the tree, the adjacent wall and the ground below should be sprayed with Bordeaux or Burgundy mixture, either of which can be obtained ready mixed. Use a fine nozzle on a good spray syringe and spray at evening or on a cloudy day. The whole plant and foliage must be covered carefully.

BOOK ON PEACH GROWING UNDER GLASS (H. E. G.).—Our correspondent would find either of the two books named below suitable. In the book "How to Grow Vegetables and Fruit for Profit and Exhibition," there are long illustrated chapters on Peaches and Nectarines. This is published by Messrs. Blake and Mackenzie, Islington, Liverpool, post free 1s. 9d. "The Book of the Peach," by H. W. Ward, post free 3s., is to be had from The "C. G. A.," 24-25, St. James's Street, London, S.W.

KITCHEN GARDEN.

CELERY UNSATISFACTORY (J. J. C.).—The Celery is suffering from being a little too dry at some season. There are a few green flies upon it, but not enough to do it serious damage. A dressing of soot will, no doubt, be beneficial to the plants.

CELERY ATTACKED (W. McC., Perthshire).—The Celery appears to have been attacked by green flies which have punctured the leaves and caused the death of portions of them. For these and for the grub which tunnels the leaves, spraying with a nicotine wash is the best remedy.

MISCELLANEOUS.

VEGETABLE REFUSE AND SOIL (H. J.).—Our correspondent should use all the old refuse soil which has been rotting for more than a year. Before applying it to the flower borders, it should be turned over once more and a 5 in. potful of common agricultural salt scattered on every barrow load of the refuse to sweeten it and kill the grubs of injurious insects found there. Lime may be used if salt is not available and, if procurable, add one-third the bulk of farmyard manure also.

YELLOW TREFOIL ON A LAWN (E. T.).—The little yellow Trefoil has spread amazingly this season, but it will doubtless diminish another year and perhaps the grass will grow the better for it having been there, as it so often does after Clover. The best thing to do will be to give the grass a dressing in spring of sulphate of ammonia at the rate of 1 lb. to the square rod of grass, taking care to spread it evenly. This will encourage the grass and check Clover and other non-grass plants on the lawn.

ROSE RUST (Miss J. W. R.).—The rust appears in the form of a yellow dust on the undersides of the leaves, later on developing and forming black dots or patches. The spores germinate freely and thus the disease—a fungus—grows. If the plants are very badly affected root them up and burn them. The formaldehyde may be prepared as our correspondent suggests (one table-spoonful to one gallon of water), and the full strength used in the case of affected bushes; but diluted again by one-third as a preventive. Spray every ten days, three times or so, directly the yellow dust begins to form. As the Roses are standard and weeping standard, prune in the usual way; if they were cut to the ground the stock, only, would grow again, as the budding has, probably, been done in the proper way and the low pruning would result in the loss of the Roses altogether.

NAMES OF PLANTS.—W. S. M.—1, *Leycesteria formosa*, 2, *Perettia mucronata*.—G. H. W., Norwich.—1, *Polygonum sachalinense*; 2, *Daphne Laureola* (Spurge-Laurel).—W. B., Corsham.—*Rudbeckia laciniata* fl. pl. (Golden Glow).—E. A. B., Kings Heath.—*Hydrangea paniculata*.—(G. R. J., Springfield).—1, *Jasione perennis*, 2, *Leycesteria formosa*.—(K. F. S.).—1, *Pinus radiata* (insignis), not very hardy except in favoured positions. 2, *Thuja plicata*; 3, *Cryptomeria japonica*; 4, *Sequoia sempervirens*; 5, *Cupressus Lawsoniana* var. *erecta viridis*. No. 3 should succeed on the Deveron.

NAMES OF FRUIT.—A. T. R., St. Albans.—Apple—Emmett Early. —B. H. J., Essex.—Apple—Emmett Early (Early Victorian).

FORTHCOMING EVENTS.

September 10.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardeners' Society's Meeting.—Hove Horticultural Society's Exhibition (two days).

September 11.—Jersey Gardeners' Society's Meeting.

September 12.—East Anglian Horticultural Society's Meeting.—Royal Caledonian Horticultural Society's Exhibition (two days).

September 13.—Wargrave and District Gardeners' Society's Meeting.

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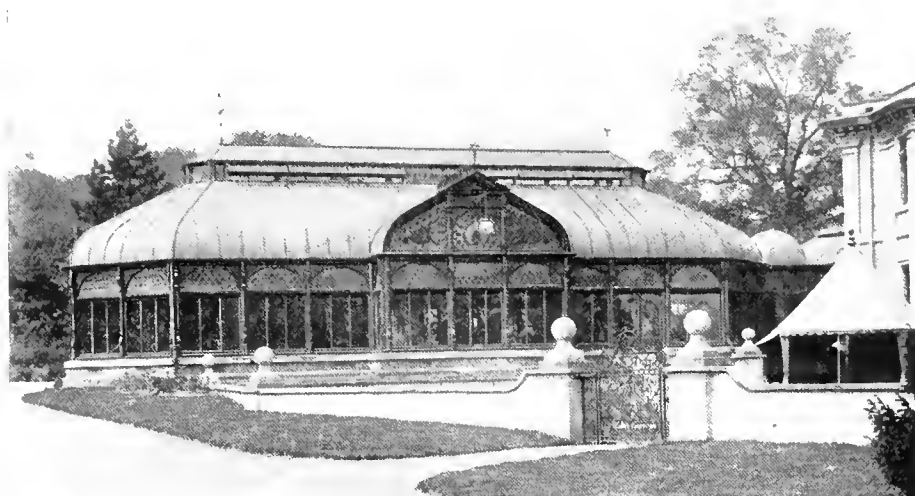
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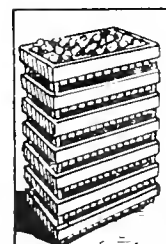
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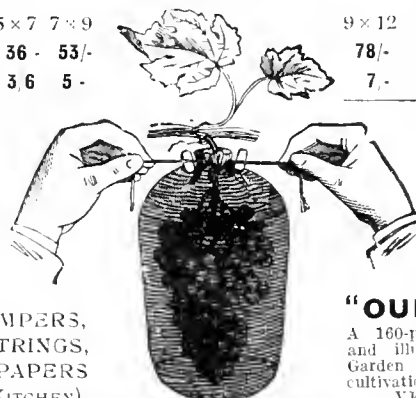
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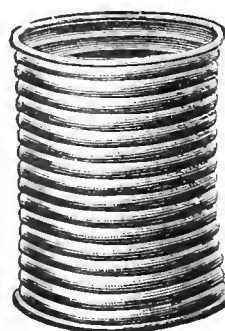
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No. 2704.—VOL. LXXXVII.]

[SEPTEMBER 15, 1923.]

PLANTS FOR THAT HOT BORDER

SOME of the most interesting plants our gardens hold are suitable only for special positions or particular composts, or *very probably* both. There are numbers of plants, to come down from the general to the particular, which love shade and will furnish the shady border; and, again, there is an equally wide selection for the border which is sun-parched, so that there is no excuse at all (except ignorance) for the wilting Phloxes, Michaelmas Daisies, Rndbeckias and such like which one too often sees in such positions.

Among shrubby things we have the Rock Roses (*Cistus*) and their cousins the Sun Roses (*Helianthemum*), both in great and beautiful variety, which are glad of all the sun they can get. Then we have the Spanish Broom (*Spartium junceum*) which will grow in sun or semi-shade, but is not over-hardy and will tolerate poor, dry soil. Shrubs with grey foliage are specially fitted to endure heat and drought, and here the *Santolinas*, *Lavenders*, *Olearias*, *Caryopteris*, *Artemesias*, etc., prove invaluable.

When we come to herbaceous and bulbous plants there is still no shortage, especially in the latter class. All the heat available in these Islands is necessary so to ripen *Crinum Powellii* and its beautiful white form that they will flower satisfactorily. The same applies to the *Belladonna Lily*, *Amaryllis Belladonna*; to the *Regelio-Cyclus* Irises (and the *Oncocyclus* varieties if these are attempted); to *Iris unguicularis* and its several forms; to the *Tigridias*; to the *Calochorti*; to the *Brodieas* and most of the *Alströmerias*. *Habranthus pratensis*, an *Amaryllid* with brilliant scarlet blossoms growing a foot tall or rather more, appears to be quite hardy, but flowers freely only when in a really sun-baked spot.

The *Belladonna Lily* should not only have a warm corner, it should have protection as far as possible from the east. This plant develops its foliage in late autumn and winter, and if this is damaged, as it often is, either by morning sun on frosted leaves, or, to a lesser extent, by wind, the bulb can scarcely be expected to produce flowers the following year.

The *Regelio-cyclus* Irises are admirably suited for a sun-parched position in light soil, but the latter should be enriched with good decayed cow-dung if obtainable, otherwise Wakeley's Hop Manure is an excellent substitute. They should be planted towards the end of October and should be lifted each year after flowering. The presence of lime in the soil is essential for these Irises—a fact which should be remembered at planting-time.

Iris unguicularis, or *I. stylosa* as it is still generally called in gardens, is apt to grow unthrifflly in rich soil, especially if at all moist, and in this condition not only fails to flower, but is in danger of succumbing to winter cold. Quite apart from this and the fact that this charming species never blossoms freely after a wet, cold summer, there are many forms of the plant, and some of those most frequently met with are neither the most beautiful nor the freest to flower.

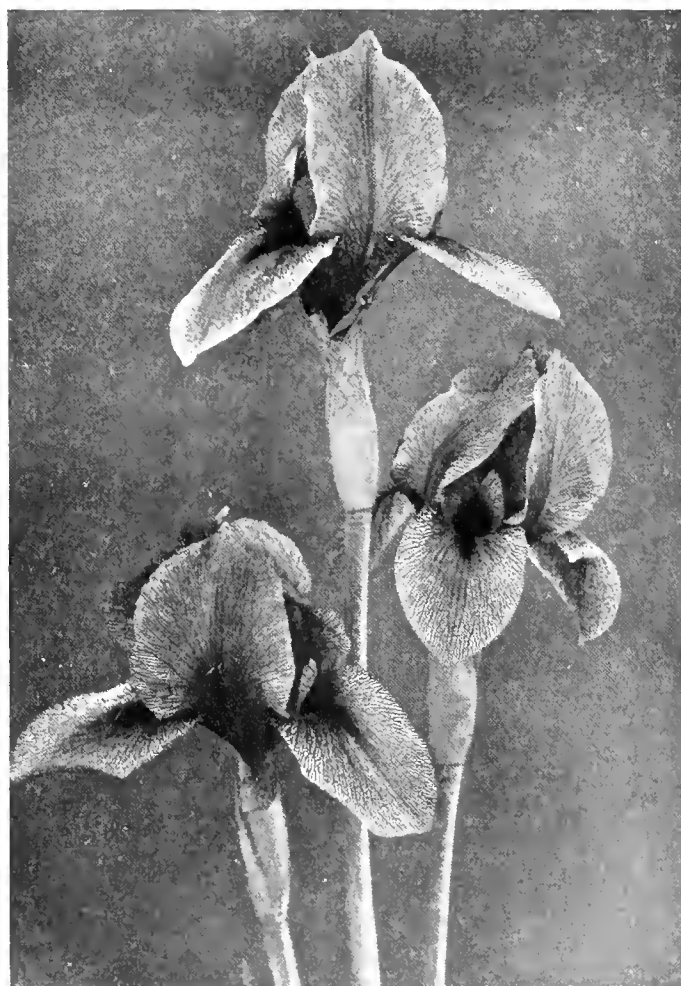
Tigridias for outdoor cultivation should be kept in sand until March and then planted on a really warm border in good soil. Given favourable weather conditions, they are very effective and attractive in late summer.

The *Calochorti* or *Mariposa Lilies* come mainly from California and, as one would expect, revel in strong sunlight. In most localities a frame set against a south wall has proved most satisfactory for their cultivation, but the enthusiastic hardy plantsman is always keen on growing such things in the open, and a south border in those parts of the country where sunlight is abundant gives fair results in an average season. They must be planted in autumn and given a certain amount of protection through the winter.

The *Brodieas* are hardier than many people suspect, but it is wise to give them a little protection in winter. It is fallacious, too, to suppose that they like a poor soil. On the contrary, they like one in good heart. Hop manure is very useful for these and, indeed, for bulbous plants generally, since it is free from insect pests and less likely to harbour fungoid disease.

All the *Alströmerias*, which may be grown outdoors, save only the hardy and rampant *A. aurantiaca*, like a warm, sheltered border. The many forms of *A. chilensis*, *A. Pelegrina*, *A. psittacina* and *A. versicolor* or, as it is more often listed, *A. peruviana*, include those most satisfactory for culture outdoors.

The Bearded Irises in general, provided the ground is well and deeply worked and plentifully supplied with lime, will tolerate much heat and, indeed, flower the better for it, and



REGELIO-CYCLUS IRIS ARTEMIS, A STUDY IN SHADES OF PURPLE.
The blotches are black and the reticulations on the falls white.



ONE OF THE HANDSOMEST OF THE MARIPOSA LILIES, *CALOCHORTUS MAWEANUS* WITH MAUVE FLOWERS.



AUSTRALIAN PLANTS LIKE HEAT. THE PICTURE SHOWS *ERIGERON MUCRONATUS*



IDEAL FOR A WARM, BUT NOT TOO SUNNY, BORDER, THE ST. BRIGID ANEMONES.

their beautiful foliage adds greatly to the attractiveness of the border. The name of them is legion, and it would be quite inappropriate to enter into a discussion as to their several merits here.

The Californian Poppy, *Romneya Coulteri*, though much harder now than when first introduced, flowers best at any rate in cold summers on a south border. This is one of the plants no garden should be without.

Australian plants are almost without exception sun-lovers, and the ever-blossoming little *Erigeron mucronatus*, illustrated herewith, though not a choice plant, simply revels in sun and heat.

The Anemones of the coronaria and pulgens race, including the beautiful St. Brigid and St. Bavo strains, like a nice warm border it shades available from midday sun. In small gardens such plants are often sought for.

There are a number of annuals, biennials, and perennials which, being neither, are usually renewed annually from seed, which flourish on a really hot border. The amount of drought which a *Sisylastrum* will stand is immense, and the great variety in colour and habit now obtainable is forced upon our notice at every turn. The *Eschscholzia*, surely one of the most showy plants we have, is a great lover of sun and heat, and should be raised from seeds sown in spring or autumn in the place where it is to flower. From white, through cream, soft yellow and various bright yellows or hints to orange and so on to chestnut-brown, there is a wonderful colour range, while many have tones of rose or purplish crimson on the outside of the petals.

The *Geraniums*, or Horn Poppies, also, like a sunny border and, though reckoned perennial, are best renewed from seed. The *Dianthus*, the *Antirrhinums* are excellent for the front of the border, but should not be used too freely, since they are not beautiful when "shattered" up in dull weather. The herb of one of *D. aurantiaca* appeals to most people, but the immense and beautiful colour range of the hybrids is attractive. These run into almost identical tones with the *Gerbera* hybrids. These latter, by the way, will grow outdoors on a really hot south border, but we cannot truly state that they are usually a great success.

How often does one see the wall behind such a border planted with quite unsuitable wall shrubs. Rose Dorothy Perkins is often planted in such a situation, and very unhappy and pest-ridden it looks! If Roses are wanted, there are numbers of Climbing Teas and Hybrid Teas which would succeed, as well as the charming little Banksian Roses. There are so many attractive shrubs which would luxuriate in such a position that there is no need whatever to plant kinds which would thrive out in the open garden. Consider the many beautiful *Ceanothuses*, *Abutilon vitifolium*, the *Carpenteria*, the not very hardy *Jasmines*, such *Clematides* as *Armandi* and the host of other climbers which would grow on a south wall, but may not otherwise be had outdoors, and it becomes evident that common things should find no space there, even if they succeeded, which they very seldom do.

Really tender kinds should, wherever possible, be kept for a wall with an aspect to the west or south, or, if this is impracticable, shade from the morning sun may sometimes be afforded by a projecting chimney-breast or by a buttress of vegetation on trellis-work provided by the gardener. Rare fruiting trees, such as the Loquat and the Pomegranate, are attractive for such places. The former has remarkably handsome foliage and the latter is beautiful when in blossom, so that the plants when they are produced, are in the place of themselves and all the more appreciated for the result.

THE BEARDED IRISES

BY W. R. DYKES, M.A., L.E.S. L.

SOME weeks ago there appeared in these columns an article on Bearded Iris species, which summed up what was known of them about thirty years ago, at the time when Baker compiled his Handbook of the Iridaceæ. The so-called species were described in the order in which they appeared in Baker's book, and in many cases the wording of the descriptions was identical.

Since 1892, however, much research work has been carried out, and our knowledge of the wild species of Iris and of natural and garden hybrids between them has grown very considerably. This growth has been made possible by the examination of the very numerous dried specimens of wild plants which are preserved in the various herbarium collections and by the cultivation of living plants from known localities.

Thus we now know the difference between *I. pumila* and *I. Chamæiris*. The former has practically no stem and a long perianth tube between the ovary and the flower, while the latter has a stem which is at any rate always longer than the tube.

Colour alone is no guide to specific difference, and both these species may have either yellow or purple flowers. The curious thing is that in some localities there is apparently very little colour variation, while in others every plant seems to be different. Thus *I. Chamæiris* on Mount Coudon behind Toulon is all yellow or yellow flushed with brown, while at Roquehaute on the coast of Hérault there is every variation. *I. pumila* in the Deliblat in Hungary is always purple, while on the Geissberg outside Vienna and on the Dahnatian coast near Zara and Sebenico there is infinite variety.

Many of the plants sold as *pumila* are in reality *Chamæiris*, but no one who has once seen the ripe seed-pods of *I. pumila* will ever again confuse the two species. The capsules are literally on the ground, broad at the base and tapering to a conical point to which is still attached the long, withered perianth tube and the remains of the flower. The ripe capsule splits open, not from the apex, as in *I. Chamæiris*, but below the apex, as in *I. arenaria* and in the species of the *Regelia* group.

I. Chamæiris is found only in South-Eastern France and in Northern Italy; *I. pumila* in Austria and Hungary, Croatia, Greece and Southern Russia.

In Sicily there is a rather delicate species like a large *I. Chamæiris*, but with the long tube of *I. pumila*. It looks not unlike a natural hybrid between the two species, but it can hardly be so, because artificial hybrids between them are quite sterile and differ in some slight but well marked details.

For some unknown reason Balkan Irises have sharply keeled spathes—the green or membranous sheaths in which the buds are contained. There are, in fact, quite a number of Balkan species with keeled spathes, which have counterparts in Western or Central Europe, in which the spathes are either shapeless or merely rounded. Thus

I. spuria and *I. graminea* correspond to *I. Sintenisii* and *I. Urmovii*. In the same way the Balkan *I. mellita* and *I. Reichenbachii* correspond to *I. pumila* and *I. Chamæiris*. Of both there are yellow and purple forms, which have been described as distinct species. Thus *serbica* and *bosniaca* are merely yellow forms of *I. Reichenbachii*, while *balkana* and *Athoa* are purple. *I. mellita* is dwarf like *pumila*, but has sharply keeled spathes and is the species of which one variety from Skutari, opposite Constantinople, is in cultivation under the name of *rubromarginata*. *I. Reichenbachii* has a stem from 3 ins. to 6 ins. in height

only what we should expect of plants which are natives of countries like Central Europe with a rigorous winter climate.

I. aphylla has a host of synonyms, such as *biflora*, *bisflorens*, *bohenica*, *hungarica*, *furcata*, etc., some alluding to its habit of flowering a second time in the early autumn, some to the branching habit of the stem, which forks characteristically below the centre, and others to the various localities in which it is found. It is characteristic, also, of *I. aphylla* to have spathes of thin membranous texture either wholly green or more or less flushed with purple. The colour of the flowers is usually a deep purple, though both yellow and almost white forms are not unknown.

I. variegata comes from Hungary, Croatia and the Balkans, and is the source of the yellow colour in our garden Bearded Irises. In the wild plant the standards are yellow and the falls more or less closely veined with some shade of brownish purple on a yellow or creamy ground. The spathes are green and remain persistently so, even when the flowers are fully developed.

In *I. pallida*, on the other hand, they are always wholly scarious or papery, even long before the buds emerge from them. It is interesting to remember that all such plants as *sambucina*, *squalens*, *lurida* and even *germanica* have spathes which are scarious in the upper part and green or herbaceous in the lower part, an indication that they are hybrids which owe their origin to a cross between a species with herbaceous spathes and a species with scarious spathes.

Another fact, which appears only to have come to light in the last ten or fifteen years, is that in the only two localities where *I. variegata* and *I. pallida* are both known to grow wild, namely, near Bozen in the Tyrol and on the Velebit Mountains above Carlopago on the Croatian coast, natural hybrids also occur identical with those to which such names as *squalens* and *sambucina* have been given. In such hybrids it is easy to see the struggle for mastery of the purple of *pallida* and the yellow of *variegata*. Moreover, it is quite easy to raise these hybrids in our gardens by crossing the two species.

I. germanica is frankly a puzzle.

All we know for certain is that it has never been found undoubtedly wild anywhere. Moreover, it is extremely reluctant to set seed under any conditions, and it has a habit of making its new growth in the autumn, which would mean that its foliage would suffer in a Continental winter and the plants remain flowerless, as they not uncommonly do even in this country in a season of late frosts and in exposed situations.

Again, there is not one *germanica* but several. The common form in this country is bluer than those we find in Southern France. The variety *Kharpuz* was sent to Foster from the town of that name in Northern Asia Minor and is naturalised near Srinagar in Kashmir, while *atropurpurea* grows in masses at Beaucaille, opposite Tarascon on the Rhone, and at many other places in the



IRIS VARIEGATA, "THE SOURCE OF THE YELLOW COLOUR IN OUR GARDEN BEARDED IRISES," CONTRASTED WITH IRIS KÖNIG.

and a comparatively short tube. *I. mellita* has a long tube and is nearly always stemless.

These four species, *pumila* and *Chamæiris* in the west and *mellita* and *Reichenbachii* in the Balkans, are never more than a foot in height, and the only other species which are certainly natives of Central Europe seem to be *I. aphylla*, *I. variegata* and *I. pallida*, of all of which there are many local varieties. All those who have grown them know how readily and persistently they all set seeds, while it is comparatively rare to see a pod on any so-called *germanica*, *lurida*, *flavescens* or *sambucina*, and rarer still to find more than one or two seeds in them.

I. aphylla, as its name implies, loses its leaves entirely in autumn; so, too, do *I. variegata* and *I. pallida* to a very large extent. This is

South. Many of the forms found growing abundantly at Lido di St. Andrea in Nèpal a hundred years ago! About 100 years ago I found an Iris growing high up on the rocks between the two arms of Lido di Como, in a position where I felt sure it must be wild and not an escape from cultivation. When the plants, which I brought home, flowered they proved to be Kochii, but, unfortunately, they will not set seed, as we should expect them to do if Kochii were a wild species. No form of germanica has been known to reproduce itself from seed. The few seedlings that have been raised are all dwarf plants, resembling *I. aphylla* more than any other species.

Another puzzle about germanica is that each purple form seems to have a corresponding albino form. The so-called germanica alba is one, another even whiter was found growing by the roadside in Istria, while the well known florentina is another. This is the albino of a slender form of germanica which is used along with pallida in the manufacture of orris root near Florence. Streaks or patches of purple not infrequently occur in flowers of florentina and also in the other albino forms of germanica. Florentina has nothing whatever to do with *I. albicans*, which is the albino of the Arabian *I. Madonna*. *I. albicans* and *I. Madonna* can easily be picked out of a collection in winter by their curiously twisted leaves and by the fact that the tips are always browned by the frost. *Albicans* has been transported all over the world as an ornament for Mohammedan graveyards, while *Madonna* was only discovered in, and introduced from, South-Eastern Arabia less than twenty years ago.

I. pallida has many local forms. Near Bozen it is a sturdy plant 3 ft. high with a stiff stem and very glaucous leaves. In Dalmatia it is much more slender, with either green or glaucous leaves and flowers of every conceivable shade of purple, using that unsatisfactory word in its very widest sense. Ciengialti and Loppio are only two forms among a vast number to be found on the eastern coast of the Adriatic, and the so-called pallida dalmatica is almost certainly of hybrid garden origin and not a native of Dalmatia. It is much nearer to the Bozen form than to anything that grows in Dalmatia. Moreover, it very rarely sets seed and, when it does, gives a long series of variations.

Another old garden plant, *flavescens*, is similarly almost certainly of hybrid origin. It seldom sets seed and is quite distinct from *I. imbricata*, with which it has been confused. The latter is a plant from the south-western shores of the Caspian, and was once grown at Kew under the name of *obtusifolia*. The flowers are of a curious greenish yellow, sometimes streaked with purple, and the spathes are very large, green and inflated. In cultivation a purple-flowered form of it has appeared. Neither *flavescens* nor *imbricata* are found growing wild in the Balkans.

I. kashmiriana is a difficult plant to flower in this country. It wants a thorough roasting in summer, and has a purple counterpart, which seldom finds its way beyond the borders of Kashmir. The white form is used for decorative purposes by the natives, as is also *albicans*, and the purple form is as neglected as *I. Madonna*.

The so-called *plicata* can hardly be a wild species. It does not come true from seed, and it is not known to occur in the wild state anywhere. It seems rather to be a seedling or hybrid of *I. pallida* and is, in fact, a *pallida* in which there is some factor which prevents the purple colour from spreading all over the segments of the flower. The colour is confined to the veins and usually to the extremities of the veins near the circumference of the petals.

In Asia Minor and in the hill country to the north of Mesopotamia there are undoubtedly

several little-known or unknown species of Bearded Iris. Specimens have occasionally been in cultivation, but never apparently for very long, nor has anyone tested their validity as species by raising them from seed. Moreover, the specimens seem always to have come from inhabited areas and not from regions in which it was obvious that they were wild plants. Probably, now that we are once more at peace with Turkey, it will be possible to obtain further specimens and to decide how many species there are.

At present the claims of *I. trojana* to specific rank seem undeniable. It has a tall branching

stem, long, narrow pointed buds and comparatively narrow foliage. It is supposed to have reached the Vienna Botanic Garden from the neighbourhood of Troy, but it is obvious that a plant from such a locality might not necessarily have been a native of it if, as now seems probable, Irises were in cultivation as garden plants when Minos reigned at Cnossus in Crete about 1600 B.C. However, *I. trojana* seeds readily and reproduces itself with those slight variations in the tone of colour in the flower which we expect to find when raising a species from seed. It is probably to *I. trojana* that we owe the tall, branching habit of many of the newer hybrids.

PHLOXES—DWARF AND TALL

THIS family consists of about twenty-seven species, of which nearly all are natives of North America, the only exception being *P. sibirica*, which is found in North-Eastern Asia. Somewhere about a dozen species are, or have been, in cultivation, and these include many popular garden plants, the best known of which are the numerous varieties of *P. paniculata*, or *decussata*, as it is sometimes called. The many beautiful garden forms constitute a prominent feature in gardening, either planted in groups in the herbaceous border, or placed by themselves in beds in half shady situations. These, with *P. maculata* and *P. glaberrima*, form the taller-growing section of the genus. The majority of species are of a dwarfer habit and very free-flowering. These low-growing plants are excellent for ledges and banks in the rock garden, or for a well drained position in front of the herbaceous border. They are charming in spring,

many species forming large cushions of foliage close to the ground, so thickly covered with flowers that the foliage is entirely hidden. Though perfectly hardy, they suffer frequently from damp in winter, so that they naturally require a sunny and well drained position in light, rich soil.

All the dwarf Phloxes are readily increased by cuttings in late summer. These may be taken off when long enough, after the plants have finished flowering. They should be inserted in pots in sandy soil and placed in a close, shady frame for a time, when they will strike freely and form nice pieces ready for planting out in early spring. Unlike the taller kinds they do not take kindly to division. The latter may be increased by division in early spring, or by means of cuttings in the autumn. Old established clumps of the dwarf kinds benefit by a top-dressing of rich soil in the autumn worked in between the trailing branches. All the kinds mentioned below have been, or are now, in cultivation.

P. AMENA.—One of the dwarf species, this is a well known charming plant of prostrate habit, with evergreen hairy leaves and bright rose-coloured flowers, very profusely borne in spring. It has been in cultivation for nearly a century, and is a native of the hills and dry barrens of Virginia and other parts of the United States. A useful, early-flowering plant, valuable for the rock garden, or for spring bedding, it grows freely in any good soil.

P. DIVARICATA.—This is one of the most distinct of the Phloxes, growing 1 ft. to 1 1/2 ins. high, and is worthy of a place in the border or in the rock garden. Like many other kinds, this somewhat frail-looking plant fully appreciates a rich and deep soil, with frequent transplanting, which is best done early in



ONE OF THE BEST FORMS OF PHLOX DIVARICATA—VAR. LAPHAM.

September or in March. The pale blush-lilac flowers are freely produced in branching corymbs during April and May, the corolla lobes being either entire, or notched at the apex. That with the notched lobes is the type, while the other is sometimes called var. *canadensis*. Unlike most of the other dwarf *Phloxes*, it does not last long in flower, but, in spite of that drawback, it is well worth its place in the garden. There are many varieties of this species, one having almost pure white flowers. Var. *Lapham* is a handsome kind, with larger flowers of a richer colour and entire corolla lobes. There are also varieties with flowers of a rosy purple colour, probably garden hybrids. This species inhabits damp woods in Canada and the United States.

P. DOUGLASSII.—This species of *Phlox* is of dwarfer, more compact habit even than those of the *subulata* section, forming tufts of thickly interlaced stems, covered with stiff, slender leaves. It is one of a set of dwarf-growing species found on the Rocky Mountains, which includes *P. caespitosa*, *P. canescens*, *P. bryoides* and *P. Hoodii*, all desirable plants, but not yet all in cultivation. *P. Douglasii* is usually found growing in dry, rocky ground, or on bare mountain summits, and varies considerably in the size and colour of its flowers, ranging from shades of purple to lilac and white. Those with the darker flowers are smaller in habit, with somewhat greener foliage, while in the var. *diffusa* the pale lilac flowers are much larger and borne on plants of a laxer habit. To grow the plant successfully it should be planted in soil of a stony nature with a large flat stone laid over the roots to keep them cool in summer.

P. DRUMMONDII.—This is a well known, half hardy annual from Texas, growing up to 1 ft. in height, with pubescent foliage and corymbs of beautiful flowers, varying in colour from rich rose to purple and white, in August. It should be sown in heat in spring and planted out where it is to flower in May or June.

P. GLABERRIMA is a slender-growing species near *P. ovata*, but taller, with narrow glossy leaves on stems up to 2 ft. high. Its reddish-purple flowers are produced in panicles during July. It is native of the prairies and open woodlands of the Southern United States. *P. g.* var. *suffruticosa* is a more robust form, with rose-coloured flowers.

P. MACULATA is also a slender-growing plant, 2 ft. high, closely allied to *P. paniculata*. It has a narrow panicle of rosy-purple, sweet-scented flowers in July. This species likes a rich moist soil, it being found in rich woodlands and along the banks of streams in the Southern United States. It gets its name from the usually purple-spotted stems.

P. OVATA.—A handsome plant, with somewhat fleshy leaves and smooth stems up to 9 ins. high, bearing corymbs of large, rich, rosy-purple coloured flowers in summer, this species has been in cultivation since the year 1759 and is very hardy, doing well in stronger soil and moister situations than the others. This plant is often grown under the name of *P. carolina*, which is really a variety of this species with taller, hairy stems and smaller flowers, light purple rose in colour and starred in the centre with a darker shade. The latter plant was the first kind of *Phlox* introduced into this country, having been in cultivation since the year 1728. It is a native of South Carolina and is less hardy than the type.

P. PANICULATA. From this species and *P. maculata* have been produced all the popular and beautiful border *Phloxes* usually known under the name of *P. decussata*. The type plant grows up to 5 ft. high or more, according to situation and soil, and bears large panicles of rosy-purple flowers in August. There is also a lovely pure white-flowered variety. Both these are excellent garden



PALE BLUISH LILAC—*PHLOX DIVARICATA CANADENSIS*.



ONE OF THE CHOICEST AND MOST CHARMING SPECIES, *PHLOX DOUGLASSII*.

plants, more graceful and elegant in habit than the shorter, stiffer-growing hybrids. The type is a native of the Southern United States and is usually found growing in open woodlands.

P. PILOSA is a slender-growing species about 1 ft. high, with flat corymbs of purple flowers of large size. *P. p.* var. *oculata* is a charming plant, with white flowers, having a purple eye. Very variable in habit and colour of flowers, *P. pilosa* is found in dry or sandy woods over the whole of the United States.

P. PROCUMBENS.—This is a hybrid between *P. amena* and probably *P. subulata*, of prostrate habit, with lilac flowers, having a darker eye.

P. REFLANS (var. *P. stolonifera*).—A pretty plant of dwarf creeping habit with reddish-purple flowers and suitable for the rock garden. It is very free-flowering, sending up numerous stems

4 ins. to 6 ins. high, about the beginning of May, each bearing about six of its richly coloured flowers. A useful plant for spring bedding, it is easily propagated by its runners, and thrives well in light, rich soil in a partially shady position. It is a native of damp woods in the Alleghany region of the United States.

P. SILLARIA is a native of Southern Illinois, where it is found on the cliffs of the Kentucky river, growing in the fissures of precipitous rocks. It is closely allied to *P. subulata*, but is of more spreading habit, with longer leaves and more scattered flowers. These are very pale blue, or almost white in colour. *P. s.* var. *lilacea* is a charming tree-flowering form, producing an abundance of bloom and lasting for a considerable time in perfection.

P. serotina. The Moss Pink is a prostrate, growing perennial, forming moss-like tufts of rounded foliage, with stiff, pointed leaves. Only one or two inches high, the whole plant is covered in spring with sheets of flowers of various shades of colour. The type has pale purple or flesh coloured blossoms, with a dark purple eye and is a native of

the Eastern United States, growing on bare, rocky hills and sandy banks. Many improved garden forms and hybrids have been raised from this species and *P. Stellaria*, some of very compact habit, others at free growth and taller in stature than *P. subulata*. The flowers vary in colour with many shades of crimson, purple, rose, lilac and

white. *P. subulata* (Nelsonii) is a well known plant, with its sheets of snow-like white flowers in spring quite covering the foliage. Nurserymen offer a number of beautiful varieties, one of the best of which is "Vivid," with vivid rose-coloured flowers, not inaptly described as "hot salmon colour." W. L.

AN EARLY AUTUMN SHOW AT VINCENT SQUARE

THE Royal Horticultural Society's Hall was fairly well filled on September 4, but the exhibits, though good, were less interesting than on some recent occasions. The alteration in the place for "New and Rare Plants" is a decided improvement in the arrangement, and under the new method early visitors are now spared on entering the bare expanse which formerly drew the eye. It was quite the correct meeting for making the change, as there were no "New and Rare Plants" to place there and it saved a vacant site in a prominent position.

The Floral Committee found only about half a dozen or so novelties for consideration, and these were chiefly Gladioli and Chrysanthemums of moderate merits. Those, and they are many, who find an appeal in blue flowers liked the *Anagallis*, which we mention at the end of these notes, even though it did not find favour with the Committee.

■ Dahlias, naturally, filled goodly spaces, and the fine collections of Messrs. Carter Page and Co. and Messrs. J. Cheal and Sons we have reserved

for fuller notice in our account of the National Dahlia Society's Show.

In view of the Foremarke Cup competition, Gladioli formed quite an important part of the floral exhibits, even though the collections in competition fell short of anticipations. Only Messrs. Lowe and Gibson and Major Churcher competed, and the cup was awarded the former for twenty interesting varieties. Their best sorts were Al Shira, Gipsy Queen, Splendora, Titanic and Orange Gloey; while chief among Major Churcher's set were Buckeye, Red Knight and Marie Lyon. In another place he staged attractively arranged bowls of Alice Tiplady and Dorothy Wheeler.

The largest general collection of Gladioli was set up by Messrs. Kelway and Son, and this included many good large-flowered varieties, such as Sword of Fire, James Kelway Toms, Alderman, Dorothy Kelway and Prince of Orange. The daintier primulinus hybrids predominated in a noteworthy collection arranged by Messrs. R. H. Bath, Limited, and here Alice Tiplady was again much admired. A goodly vase of

Prince of Wales harmonised well with Chris. Topsy, Atalanta and J. O. Koen, three primulinus hybrids, were worthy of special attention in the exhibit staged by Mr. A. Edwards.

Roses seemed to possess unusually bright colours, and in this respect a selection set up by Messrs. Wheatcroft Brothers, who were shewing for the first time at the Hall, was very striking. They were a little unfortunate in their position, as the display would have been more successful had there been a background. Very good collections were contributed by Messrs. Alex. Dickson and Sons, Messrs. Paul, the Rev. J. H. Peuberton, and Messrs. D. Prior and Son. The principal varieties were Alice Amos, Betty Upchurch, Lady Inchquin, Christine, K. of K., Mrs. Hy. Bowles, Una, Emma Wright, Sonv. de Georges Peruet, and especially the Queen Alexandra Rose and Walter C. Clarke.

Herbaceous Phloxes were the most numerous of the general border flowers, and while they were not quite of such high quality as on some former occasions, there were many beautiful sorts on view, particularly those with soft, pleasing colours,



BEAUTIFUL AUTUMN BLOSSOMS OF WEIGELA BOUQUET ROSE WERE A FEATURE OF MESSRS. CHEAL'S EXHIBIT.



A QUAIN AND LARGE-FLOWERING BRILLIANT BLUE PIMPERNEL, ANAGALLIS MONELLII WILLMOREANA.

In the large group of Mr. H. J. Jones we particularly noted Mrs. M. van Hoboken, which is of delightful rosy mauve shade and apparently very free flowering. Thor, which is a trifle deeper in shade and has a definite carmine eye, was very attractive, as also was Riverton Jewel. A somewhat uncommon variety was the royal purple William Ramsey.

Sutton's Monthrettas were again immensely admired, and the large collection of such handsome spikes as those of the orange-scarlet Queen of Spain, the orange and crimson Queen Mary, the pale orange Una and the red-stained Henry VIII were very decorative. Mr. S. Morris set up a smaller collection, chiefly of new sorts. Copper King is well named, and is most uncommon. Rosemary, of red and yellow tones; Jessica in crimson and gold; and Joan of Arc, the best pure yellow, are the names of some of the very best.

The second crop of Delphinium spikes is now well in season, though, on account of the unfavourable season, they are not so tall and stately as in some years. But the spikes seem to be more compact and so give good colour values. Lavanda, Queen of the Belgians and Lord Curzon were very notable.

Among the various Kniphofias a vase of the graceful little K. Nelsoni minor was very pretty. Pentstemon barbatus Torreyi, Physostegia virginiana and Lilium tigrinum splendens in Mr. Amos Perry's group were very desirable. Messrs. J. Cheal and Sons had a little set of unusually good Honeysuckles in their collection of hardy shrubs. Lonicera belgica Late Red well shewed its density and free-flowering habit, while L. Scarlet Trumpet and L. Heckrottii are two other most valuable Honeysuckles.

The double pink Blackberry is rather an uncommon shrub, and we were interested to see good sprays of it (*Rubus fruticosus plena*) in an exhibit by Messrs. B. Ladhams, Limited, who also had heavily fruited branches of Shirley Prolific Blackberry.

The pot plants of their Giant Mimulus shewn by the Chalk Hill Nursery Company attracted a deal of attention, as also did their fascinating little Sempervivum plants. In between, they set up plants of a good strain of Antirrhinum. Nertera depressa in tiny pots and bearing its uncommonly clear orange-coloured fruits seemed to be a new plant to many visitors, but it has long been grown in our greenhouses and is even found to be hardy on occasion. Campanula bononiensis alba is at first sight very uncampanula-like. It produces straight, erect stems of smallish white flowers. In marked contrast were the plants of Campanula carpatica turbinata varieties as shewn by Mr. G. Reuthe. Their large, widely expanded blue flowers seem almost impossible from the close-growing little plants. A rather neglected plant of great value was also to be seen in Mr. Prichard's collection. This is Aconitum Fischeri, a perennial which stands drought well, continues to bear lovely blue flowers over a long period, and is also a good "poor soil" plant.

Some especially good Violas were displayed by Mr. Yandall. Edina, dark blue; W. H. Woodgate, pale blue; J. V. Macdonald, white; and Moseley Perfection, yellow, are the names of only a few of the large collection. Mr. Clarence Elliott had one bowl of Viola tricolor of lovely rich colouring, and he also shewed a number of fascinating little upright Irish Junipers.

Greenhouse plants were represented by splendid flowers of Streptocarpus from Messrs. R. and G. Cuthbert and their usual beautiful Carnations from Messrs. Allwood Brothers, Messrs. Stuart Low and Co. and Mr. C. Engelmann. Messrs.

Allwood specially featured their new Perpetual Borders and Allwoodii.

Messrs. Daniels well illustrated the long-keeping quality of their September Black Currant and also shewed several dishes of Apples.

NEW AND RARE PLANTS.

Anagallis Monellii Willmoreana.—This is a very beautiful and uncommon "Blue Pimpernel."

NATIONAL DAHLIA SOCIETY'S SHOW

FOR the second time this year we have rejoiced to see a special flower society overcome serious weather difficulties and give its

members and the public generally an enjoyable show. As is fairly well known, the National Rose Society seriously considered the abandonment of its summer fixture, but the optimists prevailed. Although in the case of the National Dahlia Society there was no question of any abandonment or postponement of its annual show, the management were caused great anxiety on account of the devastating effects of the furious gale which swept over the country a week beforehand. The general quality of the blooms was surprisingly high.

The imposing groups of magnificent Dahlias so well set up by such exponents of Dahlia growing as Messrs. Carter Page and Co., who received a large gold medal; the fresh and attractive collection of Decorative sorts so finely displayed by Mr. J. T. West, another gold medal winner; the charming arrangement by Messrs. Jarman and Co.; and exhibits of great value by Messrs. J. Cheal and Sons, Mr. Charles Turner and the Central Garden Supplies, received a deal of well deserved admiration.

Among all these collections were to be found the very best of all the many types of Dahlia.

In the open competitive classes Messrs. J. Cheal and Sons won many first prizes. Their vases of Homer, Queen of the Pinks and Mrs. H. B. Brandt, among the Miniature Cactus, were very beautiful. Daisy, Irene, Silver Queen and Regulus of the Pompons, shewn on frames, and especially Girlie, Electro and Daisy of the same type, in vases, were charming examples of these dainty blooms. Among their shapely singles, Marie, Leon and Kitty were perfect in form. The large Paony-flowered varieties Ethel May and Yellow Prince continued to be shapely throughout the day; while in the small Paony section, Leonie Cobb, Hector and Rosie were highly decorative examples from the same growers. All their blooms were beautifully fresh, clean and bright.

It is a semi-trailing little variety from Tunis which has angular stems, neat green leaves and bears charming blue flowers fully twice the size of the Scarlet Pimpernel. Shewn by Mr. G. G. Whitelegg.

Lælio-Cattleya × *Mrs. Medo*, Low's variety.—A handsome spike of medium size. The perianth is rich yellow. The lip, which is narrow at the base, is prettily waved and of velvety crimson colour. Award of merit. Shewn by Messrs. Stuart Low and Co.

In the class for large Decoratives Mr. H. Woolman was first with large, but perhaps rather



A FINE NEW SINGLE DAHLIA, LITTLE JENNIE (SHADES OF FAWN AND CARMINE).

rough blossoms, including such sorts as Futurity, President Wilson and Fireflare. Messrs. J. Cheal and Sons continued their successes with such excellent Collarettes as Vera, Scarlet Queen, Henri Farman and Mrs. J. Courtauld in both classes.

As usual, chief honours in the open Cactus classes went to Messrs. J. Stredwick and Son, who won the gold medal with an impressive display of eighteen varieties (six blooms of each), and first prizes in other classes. Their very best blooms were Mrs. A. T. Barnes, Silverhill Pink, Mrs. A. Harvey, Gigantic, Supreme, Gloriosa, Lucien, Highwayman and John F. Woolman. The best twelve Cactus flowers on boards were shewn by Mr. H. Woolman, who included perfect blooms of Abbotsford, Meridian, Mammoth and Mrs. C. A. Gilliatt. Messrs. W. Treseder,

Limited, alone in the classes for Show and Fancy Entries, but were awarded the first prizes for excellent examples of this old type. Duchess of Albany, Merlin, Chas. Wood and Warrior are the names of only a few of their good blooms.

The amateurs' blooms came from over a wide area, embracing Bedfordshire, Hampshire, Cornwall and the Channel Islands. The chief prize winners were Mr. W. G. Cramp, Streatham; Mr. A. T. Barnes, Bedford; Mr. A. Brown, Leagrave; Mr. M. Howard, Chesham; Mr. A. F. Popfield and Mr. S. T. White, both of Southampton. The quality of the blooms was gratifyingly high and this section was a good feature of the Show. The newly arranged classes for amateurs who grow their own blooms unaided were very popular.

NEW DAHLIAS.

The Joint Dahlia Committee found forty-three seedling Dahlias awaiting judgment, and although the senders of a few must have been of decidedly optimistic temperament, the majority of the novelties reached a high standard of excellence. Each of the varieties described below, which are selected for trial at Wisley, promises to be a really good garden plant. Besides these, Miss Ivens, a pretty Collarette, shewn by Messrs. W. Treseder, Limited, and Lydia, a charming little Pompon with exceptionally long stems, were of considerable merit. The latter was shewn by Messrs. J. Cheal and Sons.

Little Jennie.—A most charming single of perfect rounded shape. It is of shining fawn colour, tipped with rosy mauve, and has a neat carmine zone. Shewn by Messrs. W. Treseder, Limited.

Mrs. Perry.—A very uncommon Collarette of medium size and bright scarlet colour. The quills, which are one half the length of the petals, are the same colour. Shewn by Messrs. W. Treseder, Limited.

Nutfield Priory.—A very graceful miniature Peony. The ground colour is a good yellow and this is flushed with pale orange. Shewn by Messrs. J. Cheal and Sons.

Defiance.—A splendid miniature Peony. The yellow colour is heavily flushed with warm scarlet. As the name has already been used, this variety must be renamed. Shewn by Messrs. J. Cheal and Sons.

Victory.—This is another variety to be renamed. It is a giant Decorative variety of cactus-like habit and rosy mauve colour, with a yellow centre. Shewn by Messrs. J. Stredwick and Son.

Zebra.—An ugly bloom. Its merits seem to be that the striped flowers have longer stems than those of any other bicolor Cactus Dahlia—which is pursuing an ideal to excess. If the variety lives it must have a new name, as there is already a Zebra. Shewn by Messrs. J. Stredwick and Son.

Thos. Want.—A magnificent show Cactus having the ideal long rolled incurved florets. The colour is deep coral. Shewn by Messrs. J. Stredwick and Son.

Thos. Ewbank.—A most delightful miniature Cactus of dwarf habit, very free-flowering and producing well made petals of geranium-scarlet colour tipped with rose. Shewn by Mr. A. J. Cobb.

Vive la France.—Another excellent miniature Peony from the University Gardens, Reading. It is of intense velvety crimson colour and is a desirable variety in every respect. Shewn by Mr. A. J. Cobb.

Amun Ra. This was the giant flower of the Show. The blooms measured over 6 ins. across and are of primrose yellow colour, prettily flushed with apricot; the centres are reddish. It is a flattish Decorative bearing broad, pointed florets. Shewn by Mr. H. Woolman.

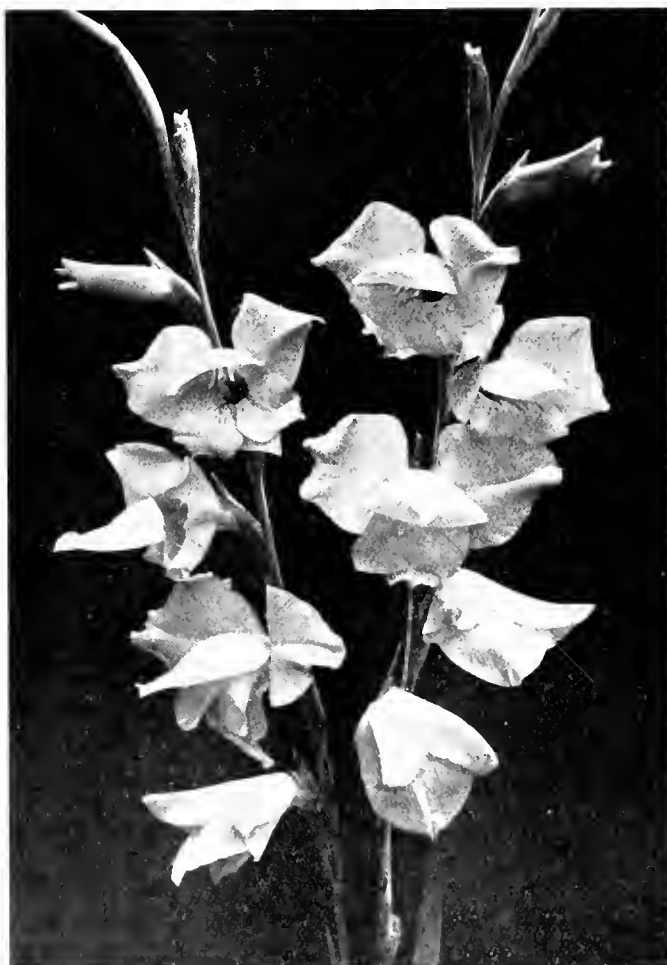
GLADIOLUS PRIMULINUS HYBRIDS

WHAT a coming of age it will be when in 1925, *Gladiolus primulinus* will be celebrating the twenty-first anniversary of the first public appearance of its flowers at a show in England! It is impossible for anyone who has not kept up with its numerous descendants to imagine what it will be like. Why so? Because even more than the advent of the Darwin has done for Tulips, or the unexpected appearance of the Spencer type has done for the Sweet Pea, the chance find of *G. primulinus* at the Victoria Falls on the Zambesi has accomplished for the *Gladiolus*. Or all the *Gladioli* that Africa has given to us, none surely has had a wider and more far-reaching influence upon the family than this—its last gift and (may I not say?) its best.

I am moved to write about *primulinus* hybrids by the unexpected arrival of two large market flower boxes from Messrs. R. H. Bath of Wisbech, crammed full of spikes of these very delightful plants. They have filled every available suitable receptacle in the house and turned the rectory hall into a *Gladiolus* garden. I have never had a *primulinus* or a *primulinus* hybrid growing in the "flesh." My *Gladiolus* growing—and I once had a very decent collection—was cut short by a sudden severe frost, which proved too much for the protective measures wherein I had trusted, and left me a sadder but a wiser man. I have never made a new start. Hence it has been a reminder of old times to have lived with a collection once again for a few days. The first thing

I must say is that the introduction of this new blood has improved the race out of all recognition in the subtle warmth of colour and the slender gracefulness of spike which carry the smaller, saucy-looking blooms of the new type. Pretty well every section—it is not an anachronism to use this word—must have been mated with *primulinus*. But blue-purple like we see in the famous Baron Hulot seems to have been left out. Perhaps the colours would not "take," or the colour result of the cross has been found to be anything but pleasing. As a compensation we have enough pink, red, orange, yellow and white shades to satisfy most people. A list of some of their names, taken from Ridgway's Colour Chart after a careful matching of their flowers, bears this out—viz., scarlet, scarlet red, peach red, spectrum red, Orient pink, shell pink, geranium pink, cosine pink, begonia rose, thulite pink, pinard yellow, light green yellow, sulphur yellow, capucine orange and so on. In form and habit these *primulinus* hybrids are to the old thick-set, heavier spikes of the *gandavensis* and *Childsii* sections what the daintier, loosely clothed spike of *Oranje Boven* is to the heavier and more tightly packed spikes of the orthodox Dutch *Hyacinths*. How well I remember the Horticultural Club dinner in the evening of the first day of the first Forced Bulb Show at Vincent Square! I had to open the discussion on the flowers in the hall, and in the course of my remarks produced a spike or two of *Oranje Boven* and said what a beautiful and pleasing variety it was, at the same time

expressing the hope that we might have more of them. It was altogether too much for the veteran, Mr. G. H. van Waveren, who followed. He took up the flowers and flung them down on the table to shew his scorn of what to him were pitiable objects. His verdict was wrong. Beauty has conquered orthodoxy. Most big firms now put *Oranje Boven* in their bulb lists, presumably because it sells. To outline future happenings is like skating over thin ice; but the *primulinus* hybrids have already made such a good start with the flower-loving public that I may use, with regard to their future, the very words of a brother clergyman—Dean Herbert of Manchester—who is certainly one of the greatest authorities of all time on any matter pertaining to bulbs and who, in writing of the future of the *Gladiolus* long before *primulinus* or even *Saundersii* were ever thought of, said: "I am persuaded that the African *Gladioli* will become great favourites when their beauty in the open border, the facility of their culture, and the endless variety that may be produced from seed by blending the several



THE APTLY NAMED GLADIOLUS (PRIMULINUS) SALMON BEAUTY.

species are fully known; nor will they be found to yield in beauty to the Tulip and Ranunculus." My own comment is, if this last remark were true *then*, how much more true is it *now* that primulinus has given us something of its own fairy-like grace and *petitness* to the more solid-looking beauties of the past. This new type equals the older ones for garden decoration, more than equals them for growing in pots, and much more than equals them for using for cutting.

The prophetic confidence of Messrs. R. H. Bath is given a concrete form by a plantation of two acres of these hybrids. There are other firms, too, like that of Lowe and Gibson, who also are expressing their belief in the future in a visible manner at Crawley Down. No end of primulinus hybrids will be wanted. Only let them get better known; and, *above all*, let each one show its provenance, so that he who runs may read.

JOSEPH JACOB.

THE MONTBRETIAS

IN some gardens these lovely hardy border plants are cared for and grown well, but in the majority of gardens, if they are not neglected altogether, very little trouble is taken with them. When properly cultivated the plants form very striking clumps in the border. Although there are some extraordinarily fine new varieties, I think very few growers are prepared to discard the old *M. crocosmaeflora*. There is room for it and the larger-flowered ones. *Crocosmaeflora* makes a brave show in the border, especially when the bulbs are planted singly and sufficiently far apart to admit of growth without undue crowding of leaf and stem or robbing of roots. One frequently sees plants growing like sheaves of corn in appearance and having fifty bulbs where there is only room for five. Moreover, this old plant is quite happy outdoors in an English winter, which the new ones are not. Few of the combs fail to start and grow away even in a naturally cold clayey medium, but the ideal soil for this plant, and the Montbretias generally, is one of average strength and thoroughly well drained. Retentive soils should be made more porous by adding well rotted leaf-mould. In newly planted shrubberies, to avoid bare patches of soil for several years, Montbretias may be successfully planted in clumps of from ten to two dozen. By the time that this stop-gap planting is unnecessary, the bulbs will be ready for lifting, grading and replanting in another border. As a dry border plant this is difficult to surpass. I have several clumps which have withstood much dry weather, but it would not be justice to them to leave the bulbs longer in such a position, so in due course a more suitable one will be found. Well matured bulbs of good size potted in a nice sandy compost in the autumn will afford a supply of flowers for the greenhouse or conservatory, and are of special value in town and suburban gardens. When potted the bulbs must be kept quite cool till roots form freely. Plunge the pots under old ashes or coco-nut fibre.

The following are some of the best of the newer varieties: Lord Nelson, dark orange; Star of the East, orange; Lady Hamilton, light orange; Drap d'Or, chrome yellow, large flowers; Etoile de Feu, vermilion with yellow throat, large; Germania, bright red, large; Phare, scarlet and orange; and Sulphurea, deep chrome yellow, very large. Splendid for pot culture are the following: Drap d'Or; Soleil Couchant, golden yellow, dwarf; Californica, pure yellow; Phare and Gerbe d'Or, dark orange. In the open borders the average height attained is 2ft. G. GARNER.

CORRESPONDENCE

PRIMULA LA LORRAINE.

AMONG the many interesting Primulas exhibited by Dr. John Macwatt of Duns, at this year's Chelsea Show, I noticed a nice little group of this hybrid Primula, raised, I believe, by Messrs.

and white, striped with purple. In the open I have never had it satisfactory unless when covered rather a "bull" that, perhaps, but readers will understand that I mean temporary protection on the open ground. In many winters, unless



A SMALL PORTION OF DR. MACWATT'S PRIMULA EXHIBIT AT LAST CHELSEA SHOW. "*La Lorraine*" is the considerable group of *Sieboldii*-like Primulas right in the centre of picture.

Lemoine et Fils of Nancy, France, some years ago. I understand that it is a hybrid between *P. Veitchii* and a variety of *P. Sieboldii*. It has not, I think, been shown in such a nice group before, and I was glad to know from Dr. Macwatt that it does well with him and is a flower he thinks highly of. It does not appear to have the same defect that is possessed by the *Sieboldii* varieties of vanishing from the garden without any apparent cause and is more akin to *P. Veitchii* in this respect. It has large, well formed flowers of a warm deep pink and the group shown by Dr. Macwatt made quite a nice feature in a more than usually interesting collection which was highly appreciated by all Primula lovers.—S. ARNOTT.

THE WINTER CROCUS.

THE number of cultivators of the Crocus species appears to be increasing, though not very rapidly. It may be well, therefore, briefly to refer to *Crocus hiemalis*, often offered under the heading of the "autumn-flowering" species. It is generally due to bloom about December and January—a time when sun is scarce and other weather conditions far from suitable for such a sun-worshipper as the Crocus. In consequence *C. hiemalis* is of little use in the open, unless it is covered with a hand-light or bell-glass. It is a pretty little flower, small in size even for a Crocus,

in a very sunny place and covered with glass, it never opens, although it may remain in bud for a long time as if awaiting the sun, until it becomes a mass of pulp through the effects of the winter's rainfall. The moral is to leave *C. hiemalis* alone, unless you are prepared to cover it, or, better still, plant it in a pot and flower it in the alpine house or cool greenhouse.—NORTHERNER.

THE CARPENTERIA.

IN reference to the letter of "A.R." in your issue of the 25th ult. concerning the paucity of *Carpenterias* grown in this country, I would like to say that two varieties of that splendid shrub have flourished against a south wall here for twenty years or more, flowering luxuriantly every July. I enclose specimens of the two plants, from which it is plain that they may be classified as major and minor, major having much bigger leaves of a lighter green than minor. The blooms follow the foliage in size.—REGINALD RANKIN, Bt., Hereford.

[The foliage and flower-sprays sent differentiated the two varieties very clearly.—ED.]

THE ÆTHIONEMAS.

GENERALLY speaking, *Æthionemas* are excellent plants for dry, sunny positions or rocky ledges in the rock garden. They are not at all

difficult to grow, but once established they much dislike disturbance. They are best raised from seeds grown on in small pots and planted out into suitable positions when large enough. The soil should be well drained and contain plenty of grit with some broken limestone added to it. Among the best kinds are *Æ. armenum* from Armenia, with long racemes of pale pink flowers on branching stems about 6 ins. high; *Æ. coridifolium*, "Lebanon Candytuft," forming small tufted plants 6 ins. high with rosy pink flowers; *Æ. grandiflorum*, from Persia, very handsome, forming small bushes of wiry stems 1 ft. high or more, clothed with glaucous leaves, and producing during June and July long, slender racemes of large, rosy pink flowers; and *Æ. ibericum*, low-growing, being only a few inches high, with white or lilac-tinted flowers in early summer. *Æthionema pulchellum*, forms small bushy plants with twiggy branches, covered with glaucous leaves and producing in spring racemes of pale rosy purple flowers. It is a native of Armenia, and is a hardy perennial if planted in a sufficiently well drained and sunny position. A choice little plant is Warley Pink, apparently a hybrid of *Æ. armenum* and one of the other species. It is of very dwarf bushy habit, covered in spring with charming rosy pink flowers.—S.

A FINE "ARALIA."

THAT popular Japanese evergreen shrub generally known as *Aralia Sieboldii* is frequently erroneously called the Castor Oil Plant; it is



FATSIA JAPONICA OUTDOORS IN SCOTLAND.

now officially named *Fatsia japonica*. It is a favourite room plant and is highly suitable for indoor decoration. Nicholson describes it as "half-hardy, height 3 ft. to 5 ft." I have come across several specimens of from 3 ft. to 4 ft. in height which have proved hardy in sheltered spots in Edinburgh and surrounding district, but it was only the other day that I was introduced to a specimen 9 ft. high, with a spread of the same dimension, in the back garden of Mr. A. Cherry, Eskside, Musselburgh. It has flowered several times and it has doubled in size since Mr. Cherry

first occupied the house seven years ago. A former occupier knocked it out of its pot about the year 1909 and without thought stuck it into the ground in the back garden. I am sending you a photograph of the plant, which I hope may be suitable for reproduction, as I do not think the plant has an equal—in the East of Scotland, at any rate.—CHARLES COMFORT.

PLANT CLEMATISES NOW

THE great masses of Clematis flowers which now open day by day make us fully realise what a valuable addition these climbers are to the garden, both in town and country. There is no need to devote a bed or border to them; we can get hundreds of flowers from a plant in a small portion of space and, if well tended, these will be large, decorative and distinct.

It is usual, and certainly best, to purchase plants established in pots, but, should these be pot-bound, the roots should be carefully disentangled and spread out when planting. It is advisable to get the plants well established a considerable time before cold weather arrives, and the latter end of September will be found none too soon, especially in districts where the soil is cold and of a heavy nature. As pot plants they are most interesting to cultivate and when in flower a well grown specimen is really magnificent. I do not advise liquid manure to be given to pot-grown plants. I have always found that this arrests the growth. It is far better, therefore, to apply a top-dressing of material from an old hotbed to the top of the pot, which always gives excellent results. A little bonfire ash should be mixed with the compost and is most helpful to the plants.

When planted in the open ground the plants delight in a good silky loam, with which should be incorporated a certain proportion of burnt vegetable matter, a little chalk and some well decayed manure from an old hotbed. Clematises enjoy good living, and when in the open ground delight in an occasional dose of liquid manure.

When planting at the foot of a wall, whether house or other, it is advisable to dig the soil deeply, considerably more deeply, in fact, than the roots of the plant are set, and if the soil is poor—as is generally the case in such positions—remove a couple of barrow-loads of it and replace with better and richer compost. The extra labour is well worth while, for when once planted we hope to have the plants in being for years, and there will never again all through their lives be an opportunity of introducing fresh soil well underneath them; henceforth, a top-dressing is all they are likely to receive. When filling in the new soil before planting, tread it well down. Failure with newly established plants is frequently due to neglect of this small attention. Clematises are admittedly capricious, and it is well to find out what they like and endeavour to please them, and then they will repay with a marvellous display of flower.

The Clematis may be put to a great number of uses. The one we are most familiar with is as a climber for the house wall. We often see it, too, as a covering for arches, but there is an even more pleasing way than this of growing them, and that is in allowing them to cover old tree stumps. They can also be used with fine effect to "face" a raised bed if properly trained to supports.

In a large garden the Clematis can even be used as a permanent bedding plant, when some wonderful effects can be obtained. Wires should be stretched over the bed at a height of 2 ft. from the soil, and on these the plants should be trained. One bed like this I saw last year had the little white early-flowering *C. montana grandiflora*, *C. Jackmanni superba* and the double-flowered Countess of Lovelace. From a little distance the effect was splendid, and I do not think I have seen another planting to surpass it. With a proper selection of varieties we can have the Clematis with us early and late, and yielding flowers from May till the end of October.

Even the wild *C. Vitalba* is very pretty in flower, and its beauty does not fade when the blooms die, for the silvery tangle of the seed vessels is also very lovely. If there is an out-of-the-way corner in the garden, this Traveller's Joy should be given a place. When used in combination with the Ivy, charming effects may be obtained for the winter garden. The pergola also claims its meed of Clematises quite as much as Roses. What plants associate better together than the deep purple Clematis Jackmanni and that glorious old Rose Gloire de Dijon. They should be allowed to grow together; they will do one another no injury and they naturally flower together.

A very beautiful but uncommon species is *Clematis alpina*. It can be made good use of in the rock garden, climbing over some old tree stump or over the rockwork. The flowers are of a delicate lilac tint. It requires a deep root-run and, if possible, a silky loam with mortar rubble added. As all acknowledge, the Clematis is very beautiful on walls and buildings, but it is not really so effective as when grown to cover trees or shrubs. To see *C. Jackmanni superba* in the branches of a tree with its masses of intense blue purple is a wonderful sight and frequently gives that touch of character to a garden that is so often lacking.

To name just a few good modern garden varieties, among violets having a good deal of red we have Marcel Moser and King Edward VII, while Queen Alexandra is lavender, shaded mauve-purple at the base of the petals. Then among the delicate pale lavender blues mention should be made of W. E. Gladstone, Venus Victrix and Belle Nantaise. Two beautiful whites are Mrs. George Jackman and alba magna. Still, all these beautiful colours notwithstanding, we associate the deep blue-purple of Jackmanni superba with the Clematis, and for any extensive planting I should certainly use this characteristic colouring as the "back-bone." F. H.

FORTHCOMING EVENTS.

September 18.—Royal Horticultural Society's Fortnightly Meeting.—Winchester Horticultural Society's Meeting.

September 20.—National Rose Society's Autumn Show, to be held at the Royal Horticultural Society's Hall (two days).

October 2.—Royal Horticultural Society's Great Autumn Show at Holland Park Hall (three days).

INSECTIVOROUS PLANTS—II

Drosera and Dionaea.

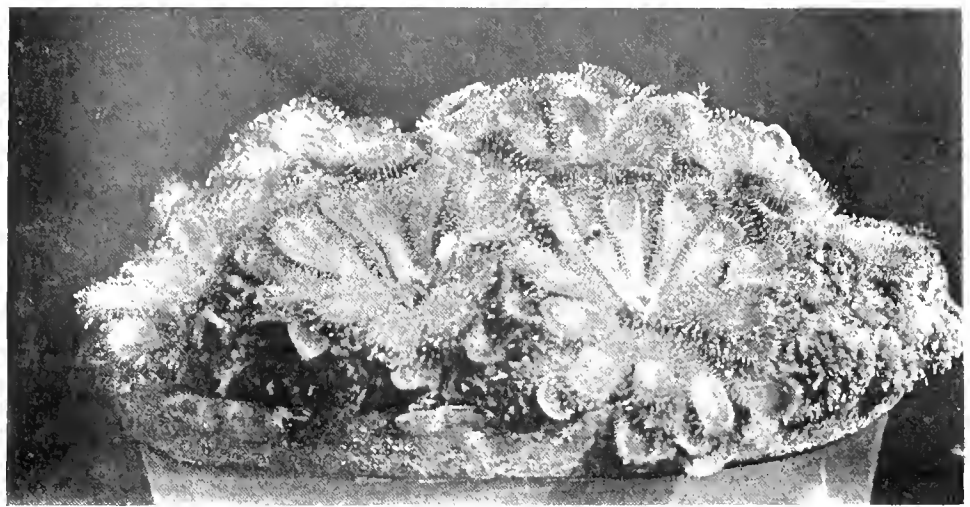
AS we have a British representative of the Sundews that is not uncommon in boggy places, it seems fitting that we should deal with this among the first of our carnivorous plants. The British species is, it is true, only annual in duration and is also quite a small representative of its race, but there are several other and larger and handsomer perennial species which are sometimes met with in our greenhouses. *D. rotundifolia*, our native form, is rosette-like in its arrangement of the foliage, the leaves being round and the whole disc thickly beset with red inflexed hairs, each of which carries its drop of delusive sticky secretion that looks so amazingly tempting if you are a nectar-loving fly. From the centre of this rosette of leaves rises a slender stem which bears its white flowers in July and August, followed by the wee seeds which are to produce the following year's crop of *Drosera*.

If one would grow this under cultivation, it must, of course, be done either in the open air or a cold frame, not on any account in a greenhouse where the temperature would rise too high for its health and happiness. With this exception and the fact that you must keep up your stock by means of annual seed sowing, it responds to identical soil and other conditions to the foreign varieties. Indeed, culture is quite a simple matter, and their happiness is ensured by well drained shallow pans which are filled with a compost of living sphagnum, charcoal and a little peat. These pans should be mounded up slightly towards the centre, somewhat like a pie, and when sown or planted should be stood in saucers that are kept filled with water so as to ensure those boggy conditions which are so congenial. The fullest possible exposure to light at all times is another essential. If you are sowing seeds of our native variety, do not fail to do this as soon as possible after they are ripe—for that is Nature's way.

Drosera linearis is the species from abroad which is usually met with under cultivation, and with this you have three alternative methods of increasing and maintaining stock. Firstly seed, then division and lastly root cuttings. The latter is especially successful, and all that is necessary is to cut the roots into pieces about half an inch long and lay these on a shallow seed pan partly filled with peaty soil, afterwards covering the cuttings by a further half inch of similar compost. Place the pans under a bell-glass in a warm greenhouse and keep them close and moist. In a very short time small swellings begin to appear on the surface of the cuttings, and these gradually increase in length until they push their way through to the surface and begin to put out leaves like those of the adult plants. When they have grown sufficiently, they may be lifted and potted up singly, and soon make excellent plants. There is quite a number of species of these Sundews from various parts of the world, a specially remarkable one being the Australian Sundew. This reverses most of the features with which we are familiar in that it makes its home in very dry places and, to meet the difficulty of lack of rainfall, forms a thick bulbous root which acts as a reservoir to store enough moisture to carry the plant through the times of drought. The South African *Drosera capensis* is an extremely beautiful plant, forming dense rosettes of long, narrow leaves of which the margins are densely covered with glandular hairs, each one of which carries its bead of deception, so like (in appear-

ance) a drop of glistening honey. It is but a slender chance, indeed, for any insect so unlucky as to be snared upon those fearsome globules, for a touch of the finger will show that those sparkling drops are not only extremely sticky, but that the juice of which they are composed is extremely elastic, and thus the more the creature struggles the more hopelessly it becomes enmeshed.

Dionaea muscipula—more familiarly known as Venus's Fly Trap—is in many ways the most elaborate insect-eating plant that exists. It adopts the rosette formation, with more or less prostrate leaves round the base of the flower-stalk. It is these leaves that constitute the wonder of the plant, for they consist of a spoon-shaped stalk which is constructed at the mid-rib



A PAN OF THE AUSTRALIAN SUNDEW, *DROSERA SPATHULATA*.

and armed with the most marvellously elaborate catching mechanism it is possible to imagine. These leaves broaden towards the end into a blade, the two halves of which close upon each other exactly in the same way as a book with a spring back-hinge. Along either margin of the leaf are rows of teeth that fit into one another when the leaf closes, just like a rat trap. The surface of the leaf at the centre possesses numerous digestive glands, capable—when a meal is offered—of pouring forth the acid digestive juice.

Even yet, however, we have not reached the heart of the *Dionaea's* secret. On looking very closely one sees that on each half of the leaf blade there are three thin hairs. These, like the antennae of a butterfly, are the sensitive point, and the merest touch upon these—if the touch is that of a nitrogenous insect—immediately sets the whole mechanism in operation. Note how the hairs rise obliquely when nothing is upon them; now imagine that a small fly has alighted and just touched one of the hairs. Immediately everything is fevered activity. The hairs fold flat, the leaf begins to close, those terrible teeth interlock, and within eight or ten seconds are tightly closed and a protuse secretion from the digestive glands takes place. There is one little fly less in the world and the *Dionaea* has gathered its nitrogen. The digestive process occupies some time and then the leaf expands again. The plant cannot be accused of greediness, however, for, after "eating," the leaf remains torpid for some time and refuses

to respond to the stimulus of further nitrogen when offered.

As a greenhouse plant this "miracle of nature," as Linnaeus has so aptly termed it, is very easily cultivated. Use the same flat pans as have been recommended for the Sundew and fill them with a mixture of charcoal, peat, leaf-soil and living sphagnum moss. A very important point is free drainage, for stagnant moisture is quickly fatal. During the period that the plant is in active growth free supplies of moisture must be provided, but keep drier during the autumn and winter. As the pans cannot be stood in saucers of water as advised for the Sundews owing to this detestation of stagnant moisture, it is best to place a bell-glass over the plants, as this checks too rapid evaporation. The plants bear white flowers in June and, to ensure a supply of seed for raising further plants, these should be cross-fertilised so as to ensure their setting their seeds freely. The small black seeds ripen in about a month, and should then be sown at once on the surface

of a pan filled with similar compost to that advised for the plants. Keep moist and cover with a bell-glass.
H. W. CANNING-WRIGHT.

DIPELTA FLORIBUNDA

AMONG the recent very numerous discoveries in China are four species of the interesting group called *Dipelta*. Allied to the Honey-suckles, and perhaps still more closely to the *Diervillas*, they are remarkably distinct from both in their fruits, which have attached to them two shield-like discs of the same texture as the wings of Elm seeds. This beautiful species was introduced by Wilson from Central China in 1902, and has flowered annually in May and June during the last few years. The blossoms are funnel-shaped, 1 inch to 1½ inches long, dividing at the mouth into five rounded divisions and measuring there 1 inch across; they are pale pink, stained with yellow in the throat, and have a charming fragrance. We have not yet seen this shrub at its best. Wilson thought so highly of it that, not being able at first to obtain seed, he sent home living plants to Coombe Wood. It is deciduous and described as being 10ft. to 15ft. high in a wild state, the bark of the stem and older branches peeling off in thin flakes. The two discs which shield the fruit are three-quarters of an inch across. It is a shrub that likes generous treatment at the root, and may be propagated by cuttings.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—The spring-sown crop must be lifted immediately it is ready, otherwise the bulbs may start into growth again. Storing Onions satisfactorily seems a difficult problem to many people. A cool, dry shed should, if possible, be chosen, and they should be arranged thinly over the floor, tied up in small bunches and suspended, or made secure to sticks. The bulbs must be well ripened before placing them in store, and any that have long necks should be used up in the near future. Cold weather will not harm Onions and plenty of ventilation is necessary.

Herbs.—Young plants of many herbs give the best results. The different forms of Thyme and Sage may be increased from cuttings at this season. A sandy soil is needed, and the side shoots, about 4ins. in length, will readily form roots either in a cold frame or the open border. They should be transferred to their permanent quarters next spring.

Potatoes.—Many of these have completed their growth, and where such is the case they should be lifted and placed in the store shed. There is no need to wait till the haulm has died down, for when the tubers are fully developed they are better out of the soil and placed where they are less likely to be attacked with disease.

Cabbage.—The old bed that has been producing a crop of "sprouts" since the spring may be destroyed and the ground trenched and well manured when an opportunity occurs. If labour is available, it always pays to trench the ground deeply, but some gardens in this district have the solid rock so near the surface that this is impossible. In such cases all the old potting compost and any other soil available is wisely added to the garden.

The Flower Garden.

Paths.—The various walks in the pleasure grounds and gardens should be clipped with the edging shears and kept free from moss and weeds. There are several weed killers on the market, and as a rule it pays better to employ these than to resort to a home-made article.

Sweet Peas.—It is usual to sow the seeds in the spring and, where glass is available, in pots for early flowering, but there is no reason why a sowing should not be made in the open during the next few weeks. A piece of ground that was well manured for a previous crop should be chosen and the seeds should be sown rather more thickly than is usual. It is not advisable to sow expensive varieties, because slugs are often troublesome and, if the winter is very wet, the seedlings may perish. In spite of this, however, the flowers from an autumn sowing are very acceptable; they are earlier than those from the spring sowing, and are strong and of fine substance.

Liliums.—Most of the really hardy Lilies can be planted now or directly the bulbs are available. Good border Lilies include candidum, croceum, chalcedonicum, Henryi and the various forms of the Tiger Lily. They will succeed in any good garden soil and should be planted from 3ins. to 6ins. deep. Surround each bulb with a layer of sand and, if the soil is heavy and wet during the winter months, a few pieces of peat at the base of the bulb will help to prevent the roots from decaying. Lilies require plenty of moisture when growing and, if they are planted among shrubs, it may be necessary to afford them water during a dry season.

Bulb Planting.—The planting of Daffodils, etc., should be proceeded with, as they enjoy a long season of growth.

The Hardy Fruit Garden.

Bush Fruits.—After a time such fruits as Currants and Gooseberries deteriorate and it becomes necessary to renew the bushes, but to maintain a supply, only a portion of the fruit quarters should be dealt with in one season. Old trees should be uprooted and burnt and the ground be cleared of weeds, manured and trenched. Both Gooseberries and Currants may be planted 4ft. apart. White Currants should be included, although for most gardens a few bushes will suffice. The best varieties are White Dutch and White Transparent. Among red kinds, Fay's Proline is a valuable variety, and other good sorts include La Versailles (a heavy cropper) and Ruby Castle. Of Black Currants, the best are Baldwin's Black, Boskoop Giant and Ogden's Black. The number of varieties of Gooseberries

found in fruit catalogues must bewilder the beginner, but he confines himself to one kind. Whinham's Industry should be chosen. Other useful sorts are Langley Beauty, Broom Girl, Duff's Mistake and Warrington.

Strawberries.—Where the plants are still producing runners it will be necessary to remove them as they appear, or the parent plants will be weakened. Keep the bed free from weeds.

Fruits Under Glass.

Vines.—In many vineries there will be a number of ripe bunches and, in order to keep them in good condition, it will be necessary to examine the berries occasionally and remove any that may be damaged or showing signs of decay. This is most important, for if these are allowed to remain, the whole bunch will be rendered unfit for use. Wasps are often troublesome and destructive, so it may be necessary to fix wasp-proof netting or muslin over the ventilators. Lateral growths should be pinched to prevent the obstruction of light to the rods.

Pot Fruit Trees.—Any trees that produced a late crop should be given attention in regard to potting, either placing them in larger receptacles, or pricking out a quantity of the old soil and replacing it with good quality loam. After being disturbed the trees should be syringed two or three times each day if the weather is hot. Do not let the roots suffer for lack of moisture, a remark which applies to all fruit trees, especially those in pots.

T. W. BRISCOE.

(Gardener to W. R. Lysaght, Esq.)

Castelford, Cheltenham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Celery, unless planted rather late, should now be ready for a second earthing up. Less check is given to the plants when several light earthings are given than when only two or three at the most are given. Break the soil fine before working it in among the plants, taking care that none of it gets into the hearts. As stated in this column previously, if clean sand is easily procurable and is used among and immediately around the plants, beautifully clean sticks of Celery will be the result.

Potatoes.—Any second earlies which are still undug should, as the haulms ripen, be lifted and pitted. Sufficient second-size tubers should be selected for seed and be arranged on a hard surface to green for a fortnight, after which they should be arranged thinly in a cool, airy structure. Should the dreaded disease *Phytophthora infestans* appear among the late varieties, spray promptly either with any of the prepared sprays on the market or prepare a spray as follows: four parts of sulphate of copper and quicklime to 100 parts of water.

Spinach.—Those who took the precaution of raising and planting a stock of New Zealand Spinach will have been reaping the benefit for some time past, and will continue to do so until sowings made at the beginning of August turn in or until the plants are damaged by an early frost, for New Zealand Spinach is far from hardy. Those who did not take the above precaution will be able to fall back for an occasional dish on Spinach Beet or, better still, on the leaves of Seakale Beet.

Fruits Under Glass.

The Orchard House.—The bulk of the orchard house trees will, ere this, have ripened their fruits and have been denuded of them, and should now be in the open air. The present is a fitting time to overhaul the entire stock and give the trees whatever attention they may require. First attention should be given to any trees requiring repotting so that they may be able to lay hold of the new soil before winter sets in. It is always safer to underpot than to overpot. Good sound loam with the addition of some bone-meal will suit any of them, but Figs, especially, will be benefited by the addition of some old mortar. Prick the ball with a wooden peg and, in the case of trees which are occupying the maximum size of pot, reduce the ball a bit by the same means. In the case of trees only requiring top-dressing, remove about 2ins. of the surface soil with the aid of the wooden peg, and then apply a top-dressing similar to that recommended for repotting but with double the amount of bone-meal. Do not apply any concentrated fertilisers at present. If the drainage has in any instance gone wrong,

knock the ball out of the pot and put matters right. Plunge the pots in coal ashes to prevent injury later on either to pots or roots by frost. Delay pruning for a little.

Peaches and Nectarines.—Trees from which the fruit has been picked and of which the foliage is decaying should have the process of defoliation accelerated by passing a new birch broom rather lightly over the trees, the movement to be from the centre to the circumference; this will give the wood a better chance of ripening. In the case of trees ripening off their fruits, see that they are provided with a catch-net to prevent damage to falling fruit, giving attention also to picking the fruits as they fully ripen.

Vines.—In houses where fruit is hanging, maintain a dry, buoyant atmosphere, and attend to cutting out any decaying berries or they will be the means of damaging others. Pot Vines which have shed their leaves should be top-dressed or repotted as circumstances require.

Melons ripening off their fruits will require rather more fire-heat, especially should sunless weather occur. Admit a moderate amount of fresh air on all favourable occasions and maintain rather dry conditions at the root.

Vegetables Under Glass.

Tomatoes.—Second crops will now be ripening off their fruits and must receive all possible assistance. Apply sufficient fire-heat to maintain a buoyant atmosphere, ventilating cautiously on all favourable occasions. Do not hesitate to remove a moderate amount of foliage where it is intercepting the light, a factor for which there is no substitute.

Cucumbers.—Maintain a brisk temperature, see that the plants are well supplied with moisture at the roots and, although a moist atmosphere is still necessary, less water will be needed to maintain it, as evaporation is now taking place more slowly. Thin out the growths rather more severely now to ensure the admission of sufficient light. Stop all shoots at one joint beyond the fruit. Cut fruits will now keep good for a considerable time in a cool place.

The Flower Garden.

Sweet Peas.—Another fortnight will finish the Sweet Pea season. It is not worth while applying further stimulants, and the most that can be done for them is promptly to cut away all spent blooms. A sowing should now be made in 3½in. pots for early outdoor supplies next year. Plain loam plus a little sand forms a suitable rooting medium, as the object is to build up firm, short-jointed plants. Place the pots in a cold frame and keep close until germination takes place, after which ventilate freely.

Phloxes.—Unless new stock is raised every few years, the quality of the flowers will deteriorate. Propagation can be carried out by division, but plants raised from cuttings are superior to those raised by division. Cuttings taken now can be rooted alongside Pentstemons.

The Bulb Order.—If not already attended to, the bulb order should be placed without delay. The size and character of the order must depend upon two considerations: first, upon the cultivator's plans; and, secondly, upon the state of the funds, for although much can still be done with a modest outlay, the fact remains that bulbs cost nearly double what they did in pre-war times. For bold masses dependence must be put upon Daffodils, Tulips and Bulbous Irises, also to a smaller extent upon Hyacinths. Lilies have always a fascination for the lover of flowers, and a number of them of much merit are still moderate in price. These include the Madonna Lily, the Nankeen Lily, the Scarlet Turk's Cap and the Leopard-spotted Lily. If not already possessed, the merits of the following should not be overlooked: Iris reticulata, Sisyrinchium grandiflorum, Dog's Tooth Violets, Chionodoxa and Scilla sibirica and sardensis.

CHARLES COMFORT.

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Lilium longiflorum.—The first consignments of this Lily are now on hand. Immediately the bulbs are received they should be potted up, as Lily bulbs soon suffer from exposure to the air. They may, according to the size of the bulbs, be placed three or four in 6in. or 7in. pots, leaving plenty of room for a good top-dressing when the plants are in growth. They should be stood in cold frames until well rooted. No attempt should be made to force them until the pots are full of roots.

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Pot Roses that have been placed outdoors during the summer should now be taken in hand and, if necessary, repotted. Use a good loam for this purpose, adding a 6in. potful of boned-up to every bushel of soil and enough clean coarse sand to ensure free drainage. For their size, Roses require fairly large pots, and plants in small pots may have a shift into a larger size. For example, dwarf Polyantha Roses that were flowered in 5in. pots should now be moved into those of 7in. size, in which they should make fine specimens and remain in flower for a long time. This class of Rose is very useful and dependable for pot work. If a batch of cuttings was put in outdoors last autumn, they should now have made nice plants, which next month may be lifted and placed in 5in. pots. Such plants will get well established at the root and can be used for the greenhouse next spring. Towards the end of October or beginning of November another batch of cuttings should be put in outdoors to keep up the supply. *Jessie, Orleans, Red Orleans, Mrs. Cutbush, Catherine Zeimet and Coral Cluster* are all excellent for this purpose.

Established Roses that are in large enough pots and are in good condition at the root will merely require some of the surface soil taken away and replaced with a good top-dressing. Climbing varieties should be carefully secured to suitable stakes. After overhauling they should be plunged in an ash-bed outdoors until such time as they are required for forcing.

Irises.—Many of the small bulbous or tuberous-rooted Irises are very useful for growing in pots or pans. They are specially useful for the small unheated greenhouse, as they only require the shelter of a cold frame until they come into flower, when they may be removed to the house and their beauty enjoyed in comfort. Some of the species and varieties suitable for this purpose are *H. alata, Bakeriana, Danfordiae, orchoides* (and varieties), *Vartan, Histro* and *persica*, together with the sweet-scented *Iris reticulata* and its varieties. *Iris tingitana* is also very fine, but requires larger pots than most of the others mentioned, the 6in. or 7in. size being best for this species, placing four or five bulbs in a pot. The many fine varieties of Spanish and English Iris may also be grown in pots or, if required in quantity for cut flowers, in boxes.

Iris unguicularis (better known as *I. stylosa*) and its varieties flower during the winter and spring, and although they are hardy in warm situations in the south and west, slight frosts damage the flowers. It has always been surprising to me that this beautiful sweet-scented Iris is not largely grown in cold frames, especially in our colder districts where it is a failure outdoors. It is a native of Algeria, and requires a hot, sunny position with not too rich a soil. When growing thriftily it usually blossoms profusely, and is then ideal for giving a supply of cut flowers. These are best cut when just opening. They develop perfectly indoors.

Royal Botanic Gardens, Kew.

J. COURTS.

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HOW TO EXCEL WITH ROSES

MR. GIFFARD WOOLLEY is to be congratulated on having written a really excellent little book* on Roses. In the short compass of 92 pages he gives chapters on the making and planting of rose gardens, including the preparation of the ground and the planting and after-care of the Roses; on pruning, on propagation, on Roses under glass and on exhibiting; also on the different classes of Roses and the purposes for which they are specially appropriate. There is a chapter which, alas! is a very necessary one, on "Rose Pests and How to Combat Them," and another on "Roses Under Glass." The remainder of the book is taken up with a list of the "Best Roses at Present in Commerce," and with a short but adequate Index.

The making of small rose gardens has at the moment very special interest. In driving about the country one is confronted everywhere with newly built houses, varying in size from the workman's cottage to the small villa in the garden city or the larger villa standing in, possibly, half an acre of its own grounds. The houses for the most part are not very beautiful, though they compare favourably in appearance with such houses built, say, fifty years ago; but they all have their little plot of ground, the development of which may be a source of much happiness and interest to their owners. A few hints as to how best to plan a little rose garden, therefore, are most timely. Mr. Giffard Woolley, in his chapter on "The Rose Garden" gives several plans suitable for really small gardens. The most satisfactory way to make a rose garden, whether large or small, is to cut beds or borders out of the turf, for nothing makes so good a setting for the brilliant and varying tints of Roses as grass. The garden should generally be somewhat formal and the beds large enough to hold at least nine to a dozen Roses; if possible, these should be all of one variety. Where the owner of the garden is anxious to have as little mowing as possible, he could not do better than copy the illustration (Fig. 2) of a garden of 24ft. in width which has two borders surrounding it with a break at each end admitting to a narrow path and small central bed. This garden, as Mr. Woolley suggests, could either have grass or stone paths. It is very simple, and it allows the cultivator to get at his Roses from either side. This is important, for Roses require a great deal of attention from the time when they are pruned in the spring right through the season. I am entirely in agreement with the author in recommending that bulbs should be planted between the Roses to give some bloom in spring, and that an edging of *Violas* is also a welcome addition to the rose garden. I know that many rosarians utterly condemn this practice. We have adopted it in our own garden for many years with some success, and I should be indeed sorry to see our numerous rose beds and borders devoid of flowers all through March, April and May, which they would be if no bulbs were allowed between them. In planting *Violas* among the Roses it is well to consider the colours, as they bloom at the same time. The soft mauve tints of *Maggie Mott* and *Kitty Bell* blend well with most Roses, but we have found that with the rather strong, crude crimson of some of the Polyantha Pompons a white or cream *Viola* is more harmonious.

In writing of the different classes of Roses, Mr. Woolley uses the expression "Butt-holed

Roses" where Decorative or Bedding Roses would, I think, better express his meaning.

The "Notes on Exhibiting" will be very useful to beginners (though the only way to learn to exhibit is to do it!) and also to those who, like myself, have been exhibiting decorative Roses for many years. Next summer I shall certainly try what to me is a new idea, namely, to leave the sprays of decorative Roses wrapped up in tissue paper till they are actually wanted for arrangement at the show rather than, as we have hitherto done, to unpack them all as quickly as possible and put them into water to wait till such time as we can give them attention.

A book on Roses is not complete without mention of the Rose species, which certainly in gardens of fair size are not only interesting and decorative, but also prolong the Rose season, for they usually are at their best in May, before the Teas and Hybrid Teas have come into flower. In the short chapter devoted to the species, Mr. Woolley does not include *R. rubra*, a delightful little sweet-scented variety from North America with shiny dark green leaves which in autumn change to brilliant scarlet and are followed by bright red berries. This is a dwarf variety and looks its best if the old wood is cut right away. *Rosa serotina* is a species well worth an isolated bed on the lawn, where its soft glaucous, almost downy foliage and tenderly tinted pale pink blossoms always call forth admiration. The foliage is specially lovely after rain; it seems to catch and retain the crystal raindrops in a way peculiar to itself. *Rosa rubella*, the crimson-fruited hybrid of *R. spinosissima*, makes a charming compact bush with abundant deep rosy flowers, which comes into bloom early in May and usually flowers again in the autumn.

There is one indispensable quality in the Rose which is hardly given so much prominence in this little book as it deserves. In the list of "best Roses," though fragrance is sometimes mentioned, it is omitted altogether in the description of such varieties as *Augustine Gumboussau*, *Hugh Dickson*, *Mrs. A. E. Coxhead* and *Zephyrine Drouhin*, whose attraction lies, surely, not least in their surpassingly sweet scent.

This little book is bound in white card-board, is well printed, is light to hold, and has several useful illustrations. Amateurs wishing to learn how to excel in Rose-growing will be well advised to invest half-a-crown in its purchase. WHITE LADY.

Answers to Correspondents

FLOWER GARDEN.

TREATMENT OF OLD LAVENDER HEDGE (Miss N. M. J.).—The only way to deal with the old plants is to cut back the branches as soon as possible to ensure new growth before winter comes. If this work is not done before the middle of September it would be advisable to leave the pruning back till late in March next. Cuttings will root in the autumn if inserted, with a small heel attached, in sandy soil made firm; or younger shoots in similar soil in frame in spring.

ROOF GARDEN.

PLANTS FOR ROOF GARDEN (Miss A. W.).—The Pansies that would do best in our correspondent's case would be those raised from seeds sown early in spring. The same applies in the case of *Violas*, but the following bedding-out varieties would succeed if planted in April: *Ardrie Grant*, indigo blue; *Bullion*, golden yellow; *Kitty Bell*, lavender; *Moseley Perfection*, bright yellow; and *Crimson Bedder*, a plumetum. *Saxifraga muscoides densa*, *S. m. Rhei superba*, *S. Rose Beauty*, *S. apiculata* and *S. Wallacei* would thrive. It is too late to sow Canterbury Bells for flowering well next year; purchase plants raised in June. *Auricularias* would succeed fairly well in the position referred to. The greatest general success would follow spring planting.

NAMES OF PLANTS.—J. S. Hayling Island.—The *Fedolium* is an abnormal form of *T. resupinatum*, due to the growing out of the inflorescence beyond the normal one.—J. M. D.—1. *Potentilla argyrophylla* Gilson; 2. *P. nevadensis*; 3. *Hypericum hookerianum*.—H. D. Ryde. *Genista tinctoria*.—W. S. M. 3. *Gaultheria shallon*; 4. *Prunus laurocerasus*, "Portugal Laurel"; 5. *Junus montana*; 1 and 2 not sent.

* "Roses and How to Excel with Them" by R. V. Giffard Woolley. Published by *Country Life*, Limited, 20, Finsbury Street, Covent Garden, W.C.2. Price, paper cover, 2s. 6d. net; cloth boards, 3s. 6d. net.

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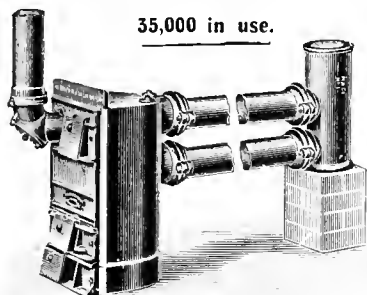
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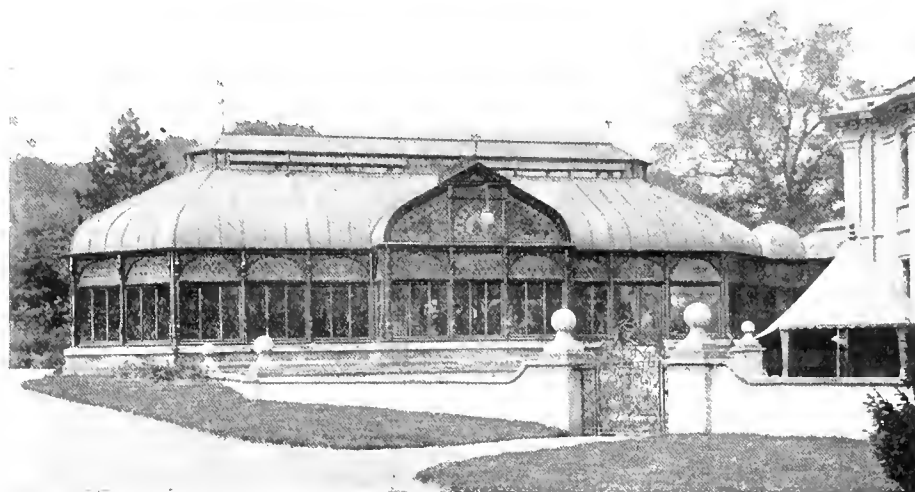
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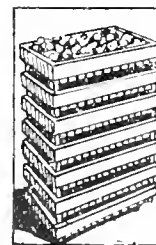
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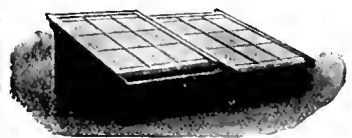
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No. 2705.—VOL. LXXXVII.]

[SEPTEMBER 22, 1923.]

FLOWERING CLIMBING PLANTS

C LIMBING plants which produce permanent effect are, in the nature of things, shrubby. Such an admirable climber as the Flame Flower, *Tropæolum speciosum*, while, under suitable climatic and other conditions, it renews itself each year, is unreliable for anything approaching permanent effect. The annual climbers of various kinds—*Tropæolum*, *Ipomœa* and so forth—are only mentioned here as being useful to fill gaps on house walls and such-like until the permanent kinds can make something of a show.

Few plants are more abused in the garden than these permanent climbers. How often does one see their tortured growths strained evenly over some monstrous "rustic" wooden erection which is enough in itself to send any sensitive person who had to live with it distracted! How frequently, too—though this is certainly a lesser evil—do we see climbers so "barbered" upon walls that they produce only a meagre show of blossom.

Excluding certain Roses—of which the beautiful Musk Rose, *Rosa moschata*, of which a form is illustrated below, is one—there can be no question that the most beautiful genus of really hardy British climbers is that of *Wistaria*. The growth of the plant, the grace of the hanging racemes in lilac mauve or white and the pleasing but comparatively scanty foliage, all make both the principal species—*sinensis* and *multijuga*—unrivalled for house walls or pergolas.

The genus *Clematis* must come a good second to the *Wistarias*, and here we have a wide selection for various purposes. For ample spaces on walls of no architectural beauty the forms of *C. montana* are ideal, while they are equally at home in the tree tops. The typical species flowers towards the end of May, while *C. montana rubens*, a variety with pinkish red new growth, purplish foliage and rosy red blossoms is a fortnight later. The variety *Wilsoni* with white blossoms rather larger than the type flowers in high summer. *C. montana rubens* is apt to be disappointing on red brick walls. It is admirable against stone or, of course out in the open garden.

Other vigorous climbing Clematises suitable for wandering over small trees or shrubs include *CC. Rehderiana*, *Vitalba* (Traveller's Joy), *orientalis* and, in favoured localities, *calycina* and *Armandi*.

C. Rehderiana, often listed and grown as *Clematis nutans*, has pinnate foliage of some size, each leaf usually consisting of from seven to nine leaflets. The flowers are primrose yellow and bell shaped with the points of the floral envelope (sepals in the *Clematis*) turned back for perhaps $\frac{1}{2}$ in. This is a beautiful but not showy species and the flowers are fragrant.

The Traveller's Joy needs no description, but it is a very useful and beautiful plant for the wild garden or the wilder parts of the pleasure grounds.

Clematis orientalis seems now to cover the plant long known in gardens as *C. graveolens*. Both the typical plant and the form known as *graveolens* have yellow flowers some 2 ins. across and produced in August and September, and pinnate foliage. *C. o. akebioides* (or better perhaps *C. glauca akebioides*) has blossoms deep orange yellow in colour and produced in October. This is a fine vigorous plant which should become popular.

Clematis calycina is an evergreen species which, except in favoured localities, should either have the shelter of a wall or a tree to itself on the western side of sheltered woodland. It flowers in midwinter, and the blossoms are yellowish white, spotted reddish purple. The foliage at the flowering season is very handsome, for it takes on bronzy purple tones in winter.

Clematis Armandi is another evergreen species also requiring shelter except in very favoured localities. The foliage is particularly substantial and handsome and the white blossoms are of some size (2 ins. to 2 $\frac{1}{2}$ ins. across) and produced in axillary clusters in April. This is one of the most striking new plants of recent introduction.

The large-flowered garden hybrid Clematises belonging to the Jack-mami, Lanuginose, Azure and Floride sections are also very charming rambling over large shrubs or in the branches of small trees. The variety illustrated on page 486, *Lady Lonsborough*, silvery grey in colour with paler bars, is a typical variety of the spring-blossoming Azure type and, like all the members of that section, should have a somewhat westerly exposure. The essential requirement for Clematises is shade for the roots and lower part of the growth. This applies to all except perhaps the forms of *C. montana*, which seem to succeed under almost any reasonable conditions of soil and climate.

Only by courtesy can the various species of *Ceanothus* be considered climbers, but many of them are only



A FINE FORM OF ROSA MOSCHATA, R. M. MACULATA.

hardy, especially in specially favoured districts against a wall, and they are well adapted for cultivation against house walls. *Ceanothus thyrsiflorus* (Californian Lilac), which is illustrated here, is mounted splendidly against a house, is quite one of the best for the purpose and, incidentally, one of the hardiest. The clustered blossoms are pale blue. The variety *griseus* has larger foliage and lilac flowers. Less hardy than the type, this too is splendid for a wall. The bright blue *C. Lobbianus*, often known as *dentatus* in gardens, is related to *thyrsiflorus*, being perhaps a hybrid between that species and the true *C. dentatus*. This latter has small, neat foliage and bright blue flower-heads; an excellent wall plant.

Ceanothus azureus, the parent of the splendid range of garden hybrids which includes *C. Gloire de Versailles*, forms a rounded deciduous bush about 6 ft. tall, but will grow taller on a wall. It is, however, hardy in dry situations in many English counties, and is most effective in the open. *Ceanothus rigidus* is a beautiful evergreen shrub with closely packed small foliage and deep purplish blue flowers. It is, unfortunately, very tender, and even against a house wall should be given a particularly sheltered corner. *C. Verticillatus* is probably a hybrid form, but, in any case, an interesting evergreen shrub with bright deep blue trusses of blossom. It is relatively hardy.

In a race consisting mainly of rampant herbaceous plants, *Polygonum baldschianicum* distinguishes itself as an admirable quick-growing shrubby climber which, when in flower, gives the effect of masses of white or palest pink foam. This is an invaluable plant where unsightly objects need covering quickly.

Honeysuckle everyone knows and nearly everyone grows, but the selection cultivated is usually unnecessarily meagre. The wild Honeysuckle of our hedgerows is *Lonicera Periclymenum*. Closely allied to it, but easily distinguished by the uppermost leaves being united at their bases to a stem-clasping cup, is *L. Capritolium*. It is equally as fragrant as *L. Periclymenum*. Later flowering is *L. etrusca*, which has more brightly coloured blossoms. This species, however, though quite hardy, is only really satisfactory outdoors in the South. *Lonicera italica*, said to be a natural hybrid between *L. Capritolium* and *L. etrusca*, is perhaps the most effective Honeysuckle we have. There are several excellent forms in cultivation, notably var. *atrosanguinea* with deep reddish purple flowers.

Of the forms of *Periclymenum* itself, the most notable are var. *belgica*, usually known as Dutch Honeysuckle, and var. *serotina*, valuable as an especially late and profuse flowerer.

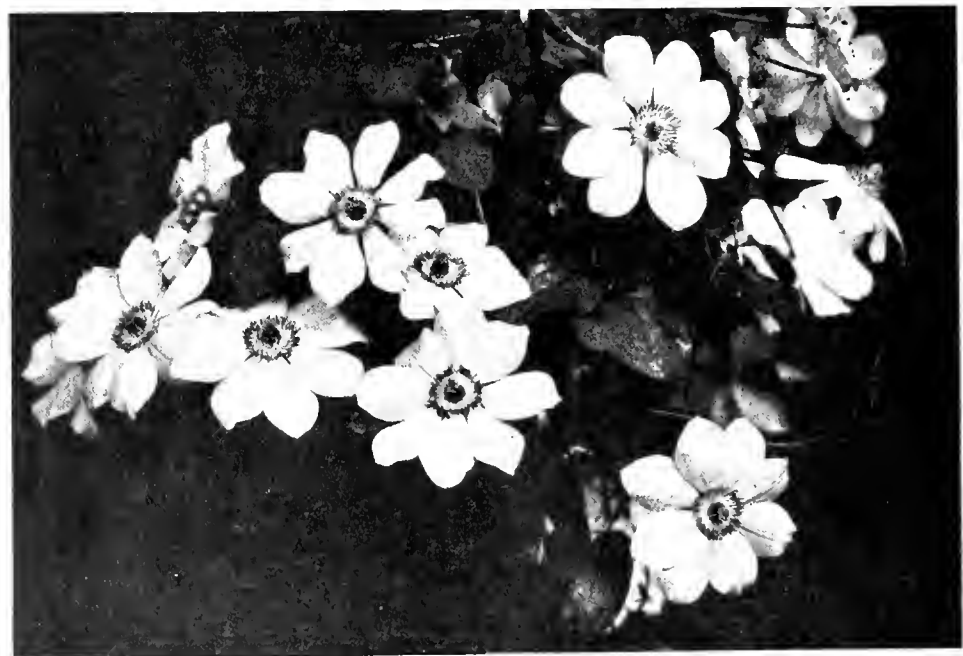
Lonicera sempervirens (Trumpet Honeysuckle) stands outdoors only in favoured localities, but *L. Heckrottii*, *planchensis*, and *pumila* all feature it in habit and appearance. The flowers of all of them are bright pink to scarlet outside, yellow within and all three well worth growing.

Quite another race of Honeysuckles is typified by *L. japonica*, a strong growing evergreen climber with flowers red and white (var. *flexosa*) or white, changing to yellow (var. *Hidiana*). Variety *reticulata* with handsome foliage with the veins picked out in gold is more commonly grown than the others. The red or purple flowered species *Henryi*, *Gualteri* and *discolor* all belong to this section.

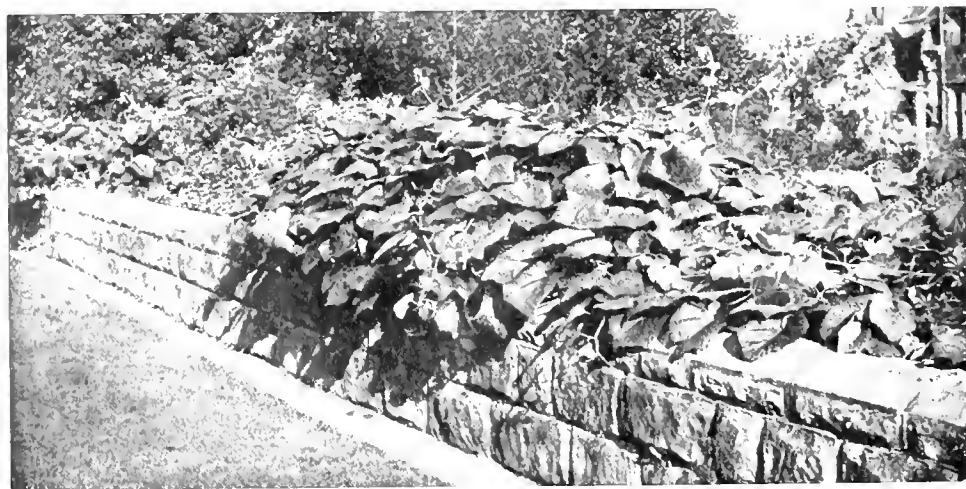
There are many forms of the tree-climbing Musk Rose, but unfortunately, some of them are not hardy. The one grown in *P. Brunoni* is the one generally cultivated outdoors, but *neapolensis* with pale yellow flowers and *P. ardens* with pink-tinged blossoms are quite distinct. The hybrid *The Garland* is also fine.



THE BLUE-FLOWERED "CALIFORNIAN LILAC," *CEANOTHUS THYRSIFLORUS*.



A BEAUTIFUL AZURE CLEMATIS—LADY LONDESBOROUGH.



THE HANDSOME *VITIS COIGNETIAE* ON A WALL AT GRAVETYE.

NOTES ON TULIPS

"R. S." ON TULIP SELECTIONS.

IN THE GARDEN for September 1, R. S. says my selections in the past were rather out of date (anachronistic is the word he uses), and my descriptions and remarks "wordy," quite, in fact, in the style of what *he* says of John Ruskin. What with one thing and another I am afraid he is hard to please and a bit like the "Three Young Maids of Lee," whose fate was sad like that of R. S., who has only left himself eight varieties wherewith to ornament his garden, *and one of these is too dear!!* and one is . . . !! etc., etc. I expect my selections in my article in the same number of THE GARDEN are just as bad as my old ones, and so I hope some one else will send some matter-of-fact lists with no verbal embellishments—no, not even use the word blue to trap the unwary, as R. S. himself might do! "La Fleur Merveilleuse" of Miguel Zamacois has sported and transformed itself into many strange colours and shapes, but, so far, it has not managed to appear in blue, or even anything admissible as blue.

AN OLD HINT AND A NEW MEANING.

I am very fond of turning over the pages of old gardening periodicals when I have an odd hour to spare. They almost always put a match to one's thoughts, and off one goes into visions of the past or daydreams of the future, or perhaps one gets a bit of interesting historical information, as, for example, that Cliveden was one of the gardens in which spring gardening was first instituted, or, it may be, we get a wrinkle of which one may make immediate use. A case in point occurred when I was recently turning over the pages of *The Florist, Fruitist and Garden Miscellany* for 1858. On p. 320 in the calendar for October, under the sub-heading of Tulips, we read: "The beds should be kept dry in readiness for planting early in November. Keep the soil frequently stirred to sweeten, *and see there is no green-fly on the bulbs.*" The italics are not in the original; they are now used because it is the green-fly note that I want to talk about. On more than one occasion within the last year suggestions have been made in the pages of THE GARDEN that there is some connexion between the "breaking" of Tulips and what is called mosaic disease. This is said to be conveyed from one plant to another by bites of insects, commonly if not exclusively; hence it would follow that if a garden or a field could be freed from those particular pests which delight in Tulip juice, we should probably never be worried with these unwelcome changes in the Tulip's wardrobe. A friend recently told me that infection could in all probability be conveyed from a dry bulb of which the flowers had become striped to the dry bulb of another which previously had only produced self-coloured flowers, and that, when next it bloomed, the flowers would be striped. This theory certainly sounds reasonable. Why should it not be so? If it is, *it behoves us to be very particular about the appearance of green-fly on our bulbs before they are planted.* Very likely others, like myself, have never thought much about it, except that the bulbs were made very sticky, and frequently, if not always, covered, when the skin was off or loose, with tiny red-looking dots. We must now be more particular and deal with the green-fly as we would do if the enemy were rats or mice.

Where the green-fly comes from, and how it comes are mysteries, but come it will almost certainly to any decent-sized collection of bulbs when they are stored in open trays or boxes previous to their being planted. All I can say is, we must be continually on the watch, for if the beasts have not arrived yesterday, they may come to-day and will certainly be with us to-morrow. Why was the

warning about green-fly given in *The Florist*? Was it a fortuitous anticipation? Now is it possible that there may be some connexion between the waywardness of the markings of broken Tulips and the infection conveyed by these insect bites? Generations of florists have wept over this inconsistency and have tried to overcome it. Sir Daniel Hall, in his introductory remarks in the R.H.S. Tulip Book, hits the nail on the head when he says (page 7). "Unfortunately, as yet, only a few varieties mark truly from year to year." Flies have in the past dealt (all unknown to anyone) death to horses and mankind; and they have been conquered. Now, Wisley, here's a chance for you



MAY-FLOWERING TULIPS AT SEDGWICK PARK.

to immortalise yourself by the unravelling of a problem which has been waiting for a solution ever since Western gardens received this great and glorious flower from the gorgeous parterres of Paradise and the East. Just think!! Clara Batts which never "break"; Annie McGregors which always feather; Samuel Barlows yearly richly pencilled with a brilliant red-brown; and Beau Brummell and Marksman for ever selfs. Tell us, Wisley, what "breaking" is. Tell us if the green-fly is a carrier of infection. If we knew, might not our day-dreams come true?

SOWING TULIP SEED.

As far as my experience goes, seed is best sown from August to October. I have sown in pans, in

loose soil in small cold frames, and in the open ground. I have never managed to have any success when I sowed in frames. Almost invariably "something happened, with the result that nothing happened." Never a solitary bulb did I secure. It was almost certain that it was the result of not giving proper ventilation or air that was the trouble.

In the open ground I make a channel an inch deep, the bottom of which I line with silver sand, as it is a great help in finding the tiny bulbs when they are lifted. Seed may be sown fairly thickly if the young seedlings are taken up the following June. This is always desirable, if it may not be called a necessity, because after the first year 90 per cent. will make droppers during their second year's growth. These droppers are the bugbear of the

seedling raiser, owing to the double difficulty of keeping them attached to the little parent, and also to the almost certainty of them getting mixed with one another if they are close together. This is why one-year-old bulbs should be lifted. I remember very well the late Mr. Walter Ware telling me what a job he had with his seedling beds in picking out all the bulbs of one kind. Droppers in either the second or third year were at the bottom of it. Hence, if seed be sown in 1923, the seedlings should be all lifted in 1924. It is then (1924) a question whether to plant them very thinly, say, 3 ins. or 4 ins. apart, again marking each bulb with silver sand; or putting each one in a small 3 in. pot and sinking the pot in the ground. Any dodge will do that will keep the parent bulb and its droppers together. The same principles hold good if seed be sown in pans. These should be placed in a cold frame of fair size, where plenty of air can be given. Both in the open and in pans a top dressing of fibre or something similar should be given to prevent the soil getting too severely

frosted. The young seedlings will stand some frost, but how much I do not know.

BAD SEEDS.

In the seed pods there are always, I find, a goodly number of husks mixed with the good seed. All should be carefully examined and, if there is any doubt, the seed in question should be held up to the light, when the flat opaque kernel is readily seen. I feel there is a very great future before those who raise hybrid Tulips. There are a great many species in addition to the huge number of those which are said to have come from *suaveolens* and the mythical *Gesneriana*. There is a great chance for a young and knowledgeable match-maker.

JOSEPH JACOB.

THE BEST LATE HEATHS

AMONG the Heathers which are in full bloom from about the first week in September (earlier in the South) I think *Erica ciliaris*, our own Dorset Heath, must be given first place. This, not only on account of its long spikes of very large bells in a cheerful rosy-lilac, but also because of

help-out the later days of summer with its whorls of pink and creamy-white, but the big, bushy masses of colour, which this species ultimately yields, one has learned to associate with the days of the retreating sun and we look to them to accompany the season to the brink of winter. The best varieties of *E. vagans* in general use are



THE WHITE CORNISH HEATH, *ERICA VAGANS ALBA*.

the beauty of its elegant and slightly downy, emerald green foliage which seems to have been especially designed by the god of gardens to entrap the first dew-heads of autumn and to present them to us in a setting of unsurpassed loveliness.

E. ciliaris is, perhaps, rather more impatient of drought than most of its kin. That is to say, it cannot be relied upon to do so well in such parched, sharply-drained loam as *E. cinerea* will put up with. It is also a trifle tender for a native, and dislikes wind. It may, nevertheless, be successfully grown in any average loam which suits other Heaths, given that little preferential treatment which it so richly deserves.

There is only one recognised native variety of *E. ciliaris* and that is the pure white form, a most exquisite thing. This is odd, since the Heaths indigenous to this country usually vary very considerably, giving us a wide range of colours. There is, of course, *E. Mawcana*, which is said to be a Portuguese form of *ciliaris*, a very handsome plant, but hardly, I think, so graceful in habit as our own. Then we have *E. Watsoni*, which claims *E. ciliaris* and *Tetralix* as its parents and which is a pretty, rather dwarf Heath which, with most commendable taste, displays the best qualities of both the species responsible for it. *E. Mackayi* also betrays no little suspicion of *ciliaris* blood, but opinions differ as to its origin. The clear rose and white blossoms of the double form of this variety are distinctly attractive and are usually to be found among the latest of our autumn-flowering *Ericas*.

The Cornish Heath (*E. vagans*) is essentially an autumn bloomer. True, it may often come in to

grandiflora, with long spikes in a full-toned rose-pink, and *rubra*, the flowers of which are of a deeper shade, approaching crimson. All forms of *vagans* have, however, been eclipsed by the variety known as *St. Keverne*, which, in addition to a constitution no less robust than that enjoyed by the type, has foliage of a rather darker green and enormous spikes of very large blossoms of a peculiarly attractive shade of salmon-rose. This will probably prove to be the most valuable hardy Heath introduced for many years.

In the *Calluna* group are several varieties which may be expected to flower well into October in many localities. The white, *Serlei*, is one of these, a very beautiful form with a free, branching habit and fine spikes of a good pure white. For some years this has held the field among others of its kind and colour, but, if report be true, *Serlei elatior*, which certainly promises favourably here, is likely to prove a serious rival to its original namesake. So it is, too, with that other and distinct white, known as *gracilis*. There is a new form of this offered which, in the length and elegance of its blossom sprays, no less than in its superior vigour, may mean the undoing of the older one. Of this, again, I only speak, however, from a comparatively brief experience.

Of the coloured varieties of *Calluna* which are still in full flower, and which will continue to be for some weeks, *C. vulgaris flore pleno* may be given premier place. This double Heath has the true colour of the moorland Ling at its best, that is, a fresh rosy-lilac, and since each blossom is perfectly double and very much larger than those of the single, the crowded spikes present a very

busy, well furnished appearance. This variety grows to about 3 ft. in height in good loam that is not too dry, the habit is open and eminently graceful and the flowering sprays are long and freely branched. It is, perhaps, not generally realised what a very attractive and long-lasting plant this double Heath can be when used as a cut flower for indoor decoration.

The deep crimson *C. v. var. Alportii* is also a late flowerer here, in some seasons not coming into full bloom until September, and the same may be said of the varieties *cuprea*, *argentea* and *aurea*, which, however, would not be worth growing were it not for their foliage.

Some young plants of the new *E. Williamsii* opened their first flowers the first week in September and they will doubtless be still giving colour when October is well in. This Heath is believed to be a natural hybrid between *EE. Tetralix* and *vagans* and was discovered growing at the Lizard by Mr. P. D. Williams. It has a strong leaning towards *Tetralix* in leafage and habit and its umbels of rosy-pink flowers are distinct and pretty.

The Corsican Heath (*E. stricta*) is in a class by itself, for not only is it the last to flower—often bridging the gap between the summer-autumn bloomers and the colouring of *darleyensis* which opens the winter season—but it is quite unlike any other Heath. Though a tall species, attaining a stature of 6 ft. to 7 ft., and reputed rather tender, it has stood some severe tests here without injury, and it is quite hardy at Kew. Perhaps the most noticeable feature of *E. stricta* is its foliage, which is of a peculiarly lively green and the leaves, being rather long and slender and closely set in whorls on the somewhat stiff, upright branches, give the shrub a curiously fuzzy appearance. The blossoms, borne in terminal umbels, are a vivid rose-pink. They usually appear at the end of September or early in October and continue, as I have said, almost into winter, when the dead corollas assume a warm, foxy brown tint which is by no means unattractive against the fresh green foliage. When it does well

and it will prosper in any warm loam that is lime-free—*E. stricta* will make a very desirable ornamental hedge that will be a pleasing object at any season.

N. WALES.

A FINE HYBRID BROOM

Away up on the slopes of the Maritime Alps, especially behind Mentone, there is found (although it is now extremely rare) a dwarf Broom known to botanists as *Cytisus Ardoini*. Its rarity is not due to any delicacy of constitution, but is said to be caused by the plants being eaten over by grazing animals before the seeds are able to ripen and scatter. However, it is now fairly well established in gardens, and as it grows only 4 inches or 5 inches high is admirably adapted for the rock garden, being covered with golden yellow flowers in April and May. Under cultivation it crosses readily with other Brooms, and at Kew about half a dozen hybrids have been raised, the best of which are *C. kewensis* and *C. Beanii*. The latter, obtained in 1900, appeared in a batch of seedlings of *C. Ardoini*, the other parent being undoubtedly *C. purgans*, a very handsome Broom about 3 feet high with deep golden yellow flowers. The hybrid grows from 12 inches to 18 inches high; its habit is semi-prostrate, a single plant becoming 3 feet to 4 feet across. In a young state especially it is very pleasing in its wealth of golden yellow flowers. It does not need a rich soil, and is easily increased by cuttings made in August and dibbled in under a bell-glass in some sheltered spot. *C. kewensis* is a quite prostrate Broom with creamy white flowers, raised from *C. Ardoini* and *C. albus*.

PERPETUAL-FLOWERING PINKS

PERPETUAL-FLOWERING Pinks may be divided broadly into two classes, classified by the Carnation Society as, respectively, *Herbertii* and *Allwoodii*.

The former are more upright in growth and have flowers of better quality, the latter are freer to flower. The *Herbertii* are most easily propagated by layering, the *Allwoodii* have only to be pulled apart. The cuttings will root even in the open border. Again, Mr. Herbert's Pinks favour the Border Carnation in that they like to settle down and establish themselves, whereas the product of Messrs. Allwood's Wivelsfield Nursery are short-lived unless divided, and on most soils are best divided up each year.

The first Perpetual Pink of the *Herbertii* strain was produced from a pod of seed of a laced pink called Arthur Brown, which had been fertilised with pollen from another laced variety named, if memory serves, Robert Houlgrave. If there was any Carnation blood in the variety, it is hard to see how it got there, and from this first perpetual variety, named Progress, we have now a whole series of fragrant, brightly coloured, handsome varieties. Theoretically at least, then, Mr. Herbert's varieties have no Carnation blood, whereas those of Messrs. Allwood are frankly Pink \times Carnation. Yet the *Herbertii* resemble the Carnation much more closely than do the *Allwoodii*, which, indeed, have some of the insouciance of the Indian Pinks in their make-up.

The weakness of Progress was its colour—a not too pleasing lilac-mauve with a purple zone. The failing of the first *Allwoodii* was in regard to form, which, from a florist's point of view,

was non-existent. The lapse of time, combined with careful work by the respective raisers, has given a variety of beautiful shades to the *Herbertii*, and has improved almost beyond belief the form and texture of the *Allwoodii*—yet the two plants remain entirely distinct.

The *Allwoodii* are still, primarily, plants for massing, though the last of them are quite charming for indoor decoration. They lack, however, the dignity of Mr. Herbert's varieties, for these last have, in the writer's opinion, the touch of quality which no fancier's laced Pink ever possessed.

Not everyone will agree as to what places a flower in that small but select class which includes the best Lilies and Roses. Some of the best and most richly coloured of the Bearded Irises would surely be eligible to enter. *Iris sibirica*, *I. unguicularis*, some of the *Kempferi* and English Irises and quite a number of other *Iris* species might also be included, so might the Snakeshead, *Fritillaria Meleagris* (alone of its family), and among *Gladioli*, *G. primulinus* and the best of its hybrids, *G. tristis* and the better *Colvilei* forms and hybrids, and the Carnation. Those to whom the foregoing represent the veritable aristocrats of the plant-world will gladly welcome—if and when they know them—Mr. Herbert's Pinks to the select company.

There are those who prefer the Delphinium to the Lily, the Lupin to the Iris; not, be it noted, as effective border plants, but as flowers—for themselves alone. They, naturally, may not place these Pinks upon so high a plane. Everything, after all, depends upon the point of view. Messrs. Allwood's productions cannot aspire to

inclusion with stars of the first magnitude. They are but work-a-day garden flowers, as suitable for the backyard of a London "semi-detached" as for the garden of broad acres, and out of place in neither. Being for the most part of a dwarf and not too diffuse habit of growth, they make capital edging plants.

It is unnecessary to dwell upon the cultivation of either strain. The secret of success with *Allwoodii* is to divide them frequently and to procure good sturdy plants in the first instance. Some of the stuff offered nowadays at very low prices has had its constitution destroyed by propagation in high temperatures, often from unsuitable stock. The *Herbertii* succeed best when treated precisely as one would treat Border Carnations. They may be planted out in spring or in autumn. Autumn planting is good on soils where young Carnations winter well, otherwise spring planting is desirable. A thoroughly well cultivated, well enriched soil, but sweet withal and with a fair percentage of lime, is ideal for them. They may, of course, be grown under glass just as the fanciers cultivate the Border Carnation.

Now as to varieties. The following are a few of the very best *Herbertii* to date. In crimsons we have The Imp, black-crimson, and Victory, bright rich crimson. Both have fully double, well poised flowers, and both are delightfully fragrant; the blossoms are of useful size, but small compared with some of the giants in pink and rose shades. The best pink varieties to date are Bridesmaid, Mrs. Giffard Woolley, Queen Mary, Mrs. G. Walker, May Queen and Model. All these have something in common, yet all are absolutely distinct. Model is remarkable for perfection of form judged from a florist's



DELICATE 'ALMONY BLUSH'; DIANTHUS (HERBERTII) BRIDESMAID.



THE BRIGHTLY COLOURED DIANTHUS (HERBERTII) FIRE KING.

THE STRAWBERRY TREES

standpoint—the colouring is soft rose pink with a deep red base. Bridesmaid is a much larger flower, but lightly built and of a delicate salmon flesh tone with deeper colouring at the base. Queen Mary and Mrs. G. Walker, though different in appearance, are both rose pinks, without any hint of mauve and with richer colouring at the base. May Queen is a bright pink self. These last three are all of large size. Mrs. Cardinal Woolley is a very large fully double flower of the colouring of Enchantress Supreme Carnation, but with a deeper tone of colour at the base which, owing to the fullness of the flower is hardly seen, but which serves to give an effect of solidity and to redeem the general colouring from any suggestion of insipidity.

In other tones of colour there are Negress, rich plum colour; Comedy, rosy mauve with deeper base—an improved Progress; Simplicity, cherry red with dark base markings; Red Indian, of deep rosy lavender shading; Fire King, a brilliant cerise with deeper base colouring; and Lord Lambourne, of a velvety carmine tone and of great size.

The recent improvement in *Allwoodii* has been, as previously noted, considerable. One of the most notable of these new varieties is the rich crimson purple Hugh, a self-coloured flower of good form and well carried. The deep salmon rose Marion, the pretty shrimp pink Joyce, the pale salmon self-coloured Lottie and, above all, the semi-double, nicely shaped Sybil with delicate flesh pink blossoms are noteworthy among pink shades. Alfred is the best pure white to date. [It may be mentioned that there is, as yet, no pure white *Herbertii*.] Barbara, a new fringed crimson, is an excellent doer and of good habit. These are only a few selected from a range of about forty varieties, a good number of which have “contrasty” flowers in white or some pale shade and maroon.

It is quite safe to say that neither *Herbertii* nor *Allwoodii* are used in gardens to anything like the extent which their merits deserve. As far as Mr. Herbert's Pinks are concerned, they do not seem nearly as well known as they should be; while cheap, spoiled stocks of *Allwoodii* have, in some quarters, hindered the popularity of the flower.

CORNUS KOUSA

There is a remarkable, if not very large, group of Cornels represented in gardens by this species, *C. Nuttallii*, *C. florida* and *C. capitata*, the beauty of the inflorescence of which is imparted by four or more large bracts, not by the flowers themselves. Of these Cornels, the one most amenable to cultivation is the Japanese species *Cornus Kousa*. The real flowers are very tiny and crowded into small dark cones, each of which is surrounded by four beautiful spreading bracts. Each bract is 1 inch to 1½ inches long, and creamy white. This devious small tree or shrub is at its best in June, when the inflorescences (“flowers” one usually terms them) are fully expanded and stand erect in rows along the branches. It then presents an aspect of striking beauty. The fruit is a fleshy strawberry-like mass in which the seeds are embedded, and is really a development of the little cone on which the flowers are set. The leaves are about 3 inches long, with undulated margins and conspicuous parallel veins. The real drawback to the success of this Cornel in gardens is the mild, soft weather, of which our normal winters contain so much. The tree is thereby often excited into prematurely active growth, only to be injured by later frost. Otherwise it is very hardy. It thrives best in rather elevated districts. Young plants are usually imported from Japan

THE most familiar of that small group of Ericaceous plants known as the Strawberry Trees is *Arbutus Unedo*, a native of the Mediterranean coasts and of the extreme south-west of Ireland. This handsome evergreen is the hardiest of its kind, and one that will attain a height of 30 ft.

as those of *A. Unedo*, the greenish white blossoms being followed by fruits which are barely ½ in. in diameter and of a bright orange. The most remarkable feature, however, of this species is the bark, which is a bright lettuce green on the young wood and a warm cinnamon brown on the old. Every autumn this bark sheds its skin, this peeling off



A SPRAY OF *ARBUTUS UNEDO* AT THIS SEASON.

and more almost anywhere in our more genial counties. The leaves of *A. Unedo* are strong and leathery, narrowly oval, finely indented and of a rich glossy green. The young shoots, which are hairy, are usually tinted with red, as are the mid-ribs and stems of the leaves, and the rough bark, especially in old trees, is a rusty brown.

It is in mid-autumn that *A. Unedo* appears at its best, for then the large, strawberry-like fruits of the previous autumn's flowers assume their well known orange and crimson colours, and the tree is at the same time bearing its crop of blossom for fruiting the succeeding year. These blossoms are borne in loose, drooping panicles about 3 ins. long, the individual flowers being pitcher-shaped and of an ivory white which is sometimes shaded with pink. There are several forms of *A. Unedo*, the variety *rubra*, with rosy flowers and a dwarf, bush-like habit, being one of the most distinct.

The much more uncommon *A. Menziesii* (procera) introduced from California by Douglas over a century ago is a still more beautiful tree than the above. It must, indeed, be regarded as quite the best of the genus, and one of the most distinctive and attractive trees of the Heath family. In this country it attains about the same stature as *A. Unedo*, but it is a faster grower and, being rather more tender, its unripened tips are apt to be injured by frost and cold winds save in our westerly counties.

A. Menziesii differs from the commoner species in having longer and broader leaves, and these are a fresher, more highly glossed green, while their undersides are distinctly glaucous. The flowers are borne in spring in pendulous, terminal clusters, which are three or four times as large

in thin rolls, leaving the trunk of the tree and main branches so smooth and clean that they look as if they had been modelled in terra-cotta.

A. Menziesii, the Madroña of the Pacific Slope of North America, grows abundantly not only in the fertile inland valleys of California, but on the rocky cliffs and islands of the northerly parts of that State and into Oregon and British Columbia. There, where the trees get little shelter from ocean winds, they often assume extraordinary shapes, the thick stems being quite out of proportion to the umbrella-shaped heads or to the strangely distorted branches, of which the padded foliage looks as if it had been swept all one way by some persistent wind—which is in reality precisely what has happened to it.

A. Andrachne is a native of South-East Europe, and it is usually seen as a good-sized, spreading shrub some 10 ft. in height. This species comes nearer to *A. Unedo* than the foregoing, but may be distinguished from it by the smoother fruits and rather broader leaves which, when fully grown, have untoothed margins. As I have indicated, *A. Andrachne* is also of a more compact habit than either of the other species mentioned.

Midway between *AA. Andrachne* and *Unedo* comes the well known offspring of these two *A. hybrida* (*andrachnoides*). This is an extremely variable shrub, or small tree, since it may possess a fair share of the principal features of both its parents or bear a much closer resemblance either to one or the other. Generally speaking, the medium-sized leaves are slightly glaucous beneath and indented at the margins. The white flowers, borne in terminal panicles and pitcher-shaped like those of the others, are produced in autumn

or spring, sometimes at both those seasons, and the globular fruits are somewhat like those of *A. Unedo*, but hardly so rough.

Those I have mentioned are the only members of the genus *Arbutus* that can safely be considered

hardy enough for outdoor culture in the milder regions of this country. They are good seaside plants, but do better in sheltered valleys within the sea influence. All will prosper in any well drained loam. They are good drought resisters,

and one of them at least, viz., *A. Unedo*, will grow in limy soil. There is a Chilean species, *A. furcans*, with bristly leaves and wine red fruits, which is said to be hardy in the most favoured parts of the south-west. J.

DECORATIVE DAHLIAS

ALL good Dahlias, no doubt, are decorative, except the exhibition Cactus sorts and, perhaps, the old-fashioned Show and Fancy varieties, though even these are usually decorative enough in the garden. Technically speaking, however, "Decorative" as applied to a Dahlia bears a special meaning. All those double Dahlias which have neither the globular form of the Show Dahlia nor the spidery loveliness of the Cactus type were formerly lumped together as Decorative. In practice, however, the Decorative Dahlia has evolved a form of its own, a form well shewn by the pictures below and which was originally made noteworthy by that huge and brilliant garden variety *Souvenir de Gustav Douzan*.

The National Dahlia Society decided last year—very wisely so most people will think—to make a separate classification for the smaller Decoratives of the type which are now very aptly called Camellia-flowered. Both the large Decoratives and those composing this new class are almost purely garden Dahlias, though either may be used effectively for filling large vases in halls or elsewhere.

At first sight it is not obvious why these Decorative and Camellia-flowered varieties should so

outweigh the Cactus, Show and even Peony-flowered types in the garden. One has only to see them side by side, however, at once to realise the difference. Most of the Cactus-flowered varieties absolutely hide the blossoms in the foliage. The Peony-flowered certainly carry their flowers higher, but these are weak-necked and "shy," and though very useful for some purposes, they never give the bold colour effects afforded by the Decorative varieties.

Both classes of Decoratives are largely used nowadays in public parks and gardens throughout the country, and the attention which these displays receive from amateur gardeners of all classes must make for their extended popularity.

The two brand-new Decoratives illustrated herewith are both novelties of Messrs. Stredwick and Son, St. Leonards, famous the world over for their splendid Cactus varieties. Both hold their flowers rigidly parallel to the stiff, tall stems. Mrs. E. G. Cant has blooms of a soft yet bright yellow and some 7 ins. or 8 ins. across. Gloria is bright crimson—almost scarlet crimson—and the flowers are of immense size; the colouring is richer but less penetrating than that of that "father" of present-day Decoratives, *Souvenir de*

Gustav Douzan. A few other excellent large Decoratives of this type include Mrs. Sturdy, yellow, shaded amber; Lady Seeley, coppery orange; H. C. Drussellius, pink; Hon. Mrs. Clive Pearson, scarlet; Kingswood Beauty, pale primrose yellow; Dragoon, crimson; Yellow Colosse, deep yellow; and Orange King, deep orange. Brentwood Yellow, a most excellent dwarf bedding variety, is rather different in type.

Of the Camellia-flowered class the outstanding variety is undoubtedly *Crimson Flag*, which probably shares with that dazzling Mignon variety *Coltness Gem* the distinction of being the most popular Dahlia at the moment. Other good ones are *Reginald Cory*, crimson, tipped white; *Barlow's Bedder*, scarlet; *Cheal's White*, pure white; and *Dobbie's Bedder*, creamy yellow.

These Decorative Dahlias, however described, may be used advantageously in association with the single forms classed as "Stars" and with the no less useful Mignon Dahlias which might almost be called compact-habited Stars. Even the more free-flowering exhibition singles are useful with these Decoratives. An excellent colour combination is the Camellia-flowered *Crimson Flag* used with the yellow Mignon Dahlia *Pembroke*.



NEW SOFT CLEAR YELLOW DAHLIA MRS. E. G. CANT.



RICH CRIMSON DECORATIVE DAHLIA GLORIA.

GLASGOW GREAT SHOW

GLASGOW again—it seems but a few weeks since we were all here last year admiring the great International Flower Show, organised and carried to a successful issue by that model public body, the Glasgow Corporation, an incorporation, indeed, of enterprise and "go." The present display, too, had the imprint of success all over it and it is safe to predict that the Second City has now settled down to an annual floral fête of great dimensions.

As was so last year, what might be termed the city's own exhibit was a leading feature of the Show. Mr. E. Matthews, the Director of Parks, gave free scope to his powers in arranging a 300ft. double border along the main avenue of Kelvin Hall. The pathway between the borders ran under an imposing length of pergola clothed with scandent Roses and other plants, and half-way down its length was placed a sundial, very neat in design. The borders themselves, backed by specimen shrubs in almost endless variety, were ablaze with colour, in which flowers of all the summer weeks were represented—Poppies, Delphiniums, Pentstemons, Astilbes, Hollyhocks, Nicotianas, Heaths, Sunflowers and Michaelmas Daisies well to the fore. Terminating this long vista was a large circular pond animated by many fountain jets and beautifully lit up at night with numerous tiny coloured electric lamps.

Two hundred years of business have not staled the efforts of Messrs. Austin and McAslan, the oldest firm of seed-men and nurserymen in Britain. No fewer than four separate exhibits were staged by them. Close to the main entrance they had a very extensive show of vegetables, as well grown as any we have seen this season, and, to amehorate the severity and utilitarian aspect of the stand, it was backed by numerous spikes of very lovely Gladioli in tall vases. Further on they had a large group of young trees, including some nice specimen samples of *Abies pungens glauca*, *Cedrus atlantica glauca*, *Retinosporas* and *Andromedas*. Some very prim and proper looking examples of clever topiary work were also shewn. This versatile Glasgow firm staged Roses, too, and Roses grown in such a way as to give the impression that these flowers were the main motif of the business. Their fourth space was taken up by garden sundries and apriary appliances.

Messrs. Dobbie and Co. of Edinburgh did not disappoint those who look for great things from the "east-windy, west-endy" city. Over a length of 90ft. of staging were banked magnificent drifts of Roses, Sweet Peas, Dahlias and other flowers of summer and autumn. The Sweet Peas were a feast for the eye of the epicure, and however bad the summer may have been in the North, the climate most certainly paints the Sweet Pea with a freshness and delicacy of beauty seldom seen in the South. The Roses, too, were remarkable for their high colour and freshness, most notably Queen Alexandra Rose and Betty Uprichard.

The best floor group, which gained the Corporation's cup and a very generous first prize in cash for a display of stove and greenhouse plants, was arranged by Mr. W. A. Holmes of Chesterfield, second and third places being secured by Mr. J. M. Patch of Bradford, and the head gardener to Mr. W. H. Gads, of Paisley.

Messrs. Russell of Richmond staged a splendid group of hot-house plants, including a specimen of *Aristolochia Sturtevantii*, that weird looking and monstrous flower which attracted a lot of attention last year at Vincent Square. The bloom is some 10ins. long by 5ins. wide and apart from its rich, but sombre colouring, its chief function seems

to be the distribution of a powerfully offensive odour.

Phloxes and Pentstemons in well arranged groups made up the bulk of Messrs. Forbes big display from Hawick, some of the most notable of the Phloxes being Marvel (blue), Eliz. Campbell (salmon), Minerva (pink), and Ringstroom (crimson).

Alongside, Messrs. Lowe and Gibson had a splendid assortment of their well known Gladioli, including many spikes of their own pedigree seedlings. This group was tastefully arranged with Ferns in variety, placed among the flower vases.

From Merstham, Messrs. Wells took a well selected lot of herbaceous plants which made up a fine colour effect.

A noted Scottish firm, Messrs. Thyne and Son of Dundee, had a most tastefully arranged group of hardy plants with the colours shrewdly placed to best advantage.

Carnations are always a strong feature at this Show, even the Border varieties, long since past their best in Southern parts, were shown in their prime. Messrs. Engleman had the best group of Perpetuals, and Messrs. Torrance and Hopkins staged the most beautiful group of "Borders" we have seen for a long time. In the competitive classes for the same flowers many exquisite blooms were staged, the new yellow variety, Mary Murray, taking a very prominent place. White Fox was also shown in perfection.

Very restful to the eye is a stand such as Messrs. Ellison's of West Bromwich put up, composed to a large extent of Ferns and Palms, with a beautiful bordering of *Saxifraga sarmentosa tricolor*. Over a hundred varieties of exotic Ferns were employed.

One of the most popular stagings in the hall was that of Messrs. Blackmore and Langdon, who shewed Begonias and Delphiniums in their own peculiarly thorough fashion. The pure colour tones of the huge Begonias appealed strongly to visitors, especially varieties such as Queen of the Belgians (pink), General Joffre (brilliant scarlet), Mrs. W. L. Ainslie (rich yellow), Lucy V. Toner (rose), and Lord Lambourne (apricot).

A word must be said about the competitive classes of cut flowers which were of the highest

excellence. In the Gladioli classes Messrs. Mair of Prestwick shewed enormous spikes of bloom of the highest quality. Another Prestwick exhibitor, Mr. Wm. Rae, had entries of almost equal excellence, shewing that the mild and damp atmosphere of the Ayrshire coast, coupled with its sandy soil, provides ideal conditions for the growth of these irids. One of the classes in Gladioli was led by Mr. D. Whitelaw of Laureneekirk, and these particular spikes were the best in the Show and were actually the grandest specimens that ever came under our notice.

The Border Carnation classes also brought out some exceptionally well grown flowers, particularly those of Mr. Wm. Muir of Darvel, Mrs. Smith of the same town, and Mr. David Carlaw of Glasgow.

The Sweet Peas shewn in the competitive classes were the best we have seen this season, the high colours being extremely bright and the more delicate tones so fresh and dainty that we must frankly admit the fact that Scottish-grown Sweet Peas are equal at least to any the world produces.

Some representative groups of fruit were staged, but though the entries for decorated fruit tables, which were really a handsome feature of the Show, contained many perfect samples of high-class products, they were obviously hot-house grown, and the general results obtained from orchards shew the disadvantage of the less sunny climate than that enjoyed by the large English fruit growers.

A CHARMING ANDROSACE

ONE of the most easily grown and most charming of Androsaces is *A. lactea*. Its glossy, dark green mats of foliage fear neither fog nor winter wet and its pearly-white blossoms are lightly and informally arranged in the looses of corymbs. This Androsace (to shew the scale of a picture), generally attains a height of from 7ins. to 10ins. to the topmost blossoms. Although it belongs to the same section as *A. carnea*, this species is not a peat-lover, indeed, it is rather partial to lime, but always succeeds in the sunny moraine or even in a deeply cultivated stony pocket. It must not be confused with the annual (or biennial) *A. lactiflora*.



THE PEARLY WHITE ANDROSACE LACTEA.

CORRESPONDENCE

A FINE PLANT OF THALICTRUM DIPTEROCARPUM.

IT may be interesting to record that I have grown a plant of *Thalictrum dipterocarpum* in my garden here which has attained a height of 7ft. 10ins. I have enquired of many professional gardeners and none has been able to say that he has seen or heard of one reaching such a height, which seems to shew that it is unusual. The previous year I had one that grew to 5ft. 10ins., but others have not exceeded 2ft. to 3ft. I am enclosing a photograph.—Jno. F. E. CUDMORE, *Ingham, Lincoln.*

[Unfortunately the photograph is unsuitable for reproduction.—ED.]

THE CULTIVATION OF STRAWBERRIES.

SO the "great Strawberry controversy" has started again. May I explain my method, which I have found very successful over a number of years. Runners are taken from one year old plants during mid-June and pegged into "60's," these plants are also carrying a heavy crop of fruit, but I never have any difficulty of finding runners nor are they in any way deficient in strength. Beyond rain, no water is given; they are cut off about mid-July, stand on boards and are well watered until the first week in August, when they are planted out at a distance of 2ft. 6ins. between the rows and 1ft. between the plants in the rows. After the first crop of fruit is taken off, each alternate plant in the rows is cut out, and the remainder stay for two more seasons, three in all. I find it pays to keep them three years, as by this method the season is greatly prolonged. The one year old plants fruit from seven to ten days before the two year olds, which in their turn beat the three year olds by three or four days. As for being worn out, this season I counted six average plants, each of which had well over 250 fruits on, and this was on three year old stools. Also, by taking runners off one year old fruiting crowns, I do not have to find room for a lot of plants grown specially for runners. In regard to quality, we have picked fruit up to 3oz. in weight without any thinning. I do not suppose these few remarks will cause the Rev. Engleheart to alter his procedure, but I do claim to get both good fruit and good runners off the same plants, where he grows two lots of plants for the same end.—W. P. WOOD, *Benington Lordship, Herts.*

[No doubt different soils and climatic conditions—to say nothing of varieties—make an appreciable difference to the production of Strawberry runners, but those gardeners who find a difficulty in getting good, early runners, and there are many such, should adopt Rev. G. H. Engleheart's method of growing maiden plants especially for runner production.—ED.]

ABOUT ALPINE LILIES.

ALLOW me to add a few words to the lines of Mr. Hadden in *THE GARDEN* for Sept. 8, page 470. *Lilium pomponium* is really such a beauty that no one can resist its charm when seen in the natural state. I set out my views on the matter on a previous occasion (*THE GARDEN*, December 30, 1922). Since last year, however, I am able to state the great distribution of the plant in the eastern parts of the Maritime Alps, and particularly about the Roya Valley. As Mr. Hadden says, the Lily grows plentifully about St. Martin Vesubie. There, however, it grows as a rule on inaccessible rocks, and its bulbs are deep down among the stones and difficult to get out. If one would exercise the necessary patience to get any, one must be prepared to spend hours and hours about

it. If, on the other hand, one commissions the inhabitants or peasants to send some when the bulbs are ripe, they send on *Lilium croceum* instead of the right plant. This I found out by sad



GENTIANA FARRERI GROWING ALMOST LIKE A WEED.

experience last year, and I am in some doubt whether we sent out to all our customers the right species. Certainly some of those I procured in this way proved wrong when they flowered in the nursery. In order to get it true, it is therefore necessary to go there and to dig it up oneself. Last summer we found in some valleys at a considerable elevation in the Roya region, large fields of the right species, and the plants there were much better than in the Var Valley. Some of them bore seven flowers on the stem! They grow there under quite dissimilar conditions to those in the western part of the Alps. They spring up among the grass on very steep slopes and seem to flourish the more the steeper the slope. I was surprised to note this, because *L. carnioleum*, which is very near to *pomponium*, grows—at least as I have seen it—in flat meadows. Here, in the Roya district, *pomponium* is only found on precipitous slopes and deep in the soil, but it is easier to lift than in the rocky slopes of the Var Valley. I know, of course, that it is very abundant on the tops of the mountains above Grasse and Nice, but there, too, it is difficult to get. A very curious station for it is at 6 kilometres from Nice in the Val Roguet (an extraordinary place hollowed by the water through the rocks), where our Lily hangs from the cliff in quite inaccessible places. Now that I have seen the rich meadows of the Roya Valley—they are easy to reach from

Fontan—I think that *Lilium pomponium* should be grown, as Mr. Dillistone says, in shady places; or that, at least, the bulbs of it should be in shade. The thick grass there covers all the lower part of the plants, and it is certainly the reason for their luxuriance. May I add that in some woods of the little Rattery Valley above Colmars-des-Alpes I found fields of the common Martagon with nearly a hundred flowers! There are places where that species forms dense colouring and is the only plant covering the ground. These places are an hour's journey from Colmars and in the re-afforested area on slopes which were, fifty years ago, barren and as dry as the desert. The re-afforestation of the country and the prohibition of grazing—no goats or sheep may be grazed there—produced this beautiful result!—H. CORREYON, *Geneva.*

A FINE BATCH OF GENTIANA FARRERI.

I ENCLOSE two photographs shewing *Gentiana Farreri* growing in my garden at Glendevon, Perthshire. The *Lilium* growing behind the *Gentiana* is *philippinense* var. *formosanum*. These *Gentianas* were raised from seed three years ago; you will see the plants have made good growth. I think one reason some people have difficulty in growing *G. Farreri* is that their plants have been propagated from cuttings; such plants are not nearly so healthy as those raised

from seed. My plants ripen seed every year, which, if sown in the spring and planted out in July, flower the following year.—A. H.

[The picture not given herewith shewed a considerably greater number of plants, but was less suitable for reproduction.—ED.]

ROSE BETTY UPRICHARD.

IN the south-west of Scotland this lovely Rose has done well this season, and has been much favoured wherever seen. It is one of those which looks as if it might hold its ground when many others have passed into oblivion. Its glorious flowers of vivid carmine and orange have been very good indeed.—S. A.

THE OLYMPIAN MULLEIN.

SEVEN to eight feet branched spikes of that giant Mullein, *Verbascum olympicum*, are most effective in a flower garden, especially when seen against a background of taller-growing shrubs. We have it here against some *Bambusos*. Ordinary unmanured ground suits this *Verbascum* well, while such positions as open spaces between shrubs or sunny sites in the woodland offer happy stations for its home. In addition to its noble flower head, this plant, in its young stage, has a handsome rosette of greyish-green leaves. As it often runs into the third year before some of the roots flower,

seedlings. It did be encouraged to follow on regularly in succession, to avoid gaps in the display. As good a way as any to do this is to let a plant or two ripen and disperse its seed, afterwards transplanting the plants where required. A near relative of this Mullein is *Celsia cretica* (the Cretan Mullein), also a splendid border or shrubby plant, but *V. olympicum* bears larger flowers of a deeper shade of yellow and an imposing branched inflorescence, as against the single 4ft. spike or so of the *Celsia*. C. TURNER, *Amphill Park Gardens, Amphill*.

A PERGOLA AT GRAVETYE.

PERGOLAS are often erected without any justification and which lead nowhere in particular; indeed after traversing them, one often comes to a dead end, which is, to say the least, disappointing. So important and, if properly designed, so beautiful a structure should either lead to a beautiful view, to place of rest or, best of all, to some feature of architectural interest. The pergola of which I send a picture, after ascending a flight of steps from the stone-paved flower garden, leads along a paved pathway to the bowling green. Modest in design—the pillars being of brick and the bearings and battens of oak—it has the pillars and also the retaining wall at the upper end which supports an intersecting path coming from the opposite direction, whitened. When the climbers are in full leaf the whitened pillars have a pleasing effect. The Japanese Wistaria, Roses, Clematises, Honey-suckles and Climbing Knot Weed (*Polygonum baldschuanicum*), are its chief occupants. The flight of steps in the foreground is planted with Dwarf Phloxes, Gypsophilas, Harebells, Thrift, Bell Gentians, Thymes, the silvery Lavender Cotton (*Santolina Chamæcyparissus squarrosa*) and that indispensable little New Zealander, *Helichrysum bellidioides*. Along the sides the snake-like growths of *Tropæolum polyphyllum* are falling over the foot-high stones which support the higher ground. No special preparation was made for the plants which are seen in the steps; the flagstones were slightly raised and the roots just pushed under them. E. MARKHAM.

[The whitening of the piers at Gravetye is justified on the score of lighting. It is not usually necessary. ED.]

THE "VIOLETTAS."

AS one who had some correspondence with the late Dr. Charles Stuart, of Chirnside, the raiser of the original *Viola* called *Violetta*, and though having from time to time been sent by him blooms of his newer varieties, I have been long interested

in the *Violettas*. They seem to be going largely out of fashion, their place being taken by some of the less formal *Violas*, such as the *gracilis* varieties and hybrids. Yet it would be a pity were the *Violettas* lost sight of. Mr. Crane used to keep a good variety, but one may look through a considerable number of catalogues without finding even the name of the first and, still in my estimation, the best, the original *Violetta*. I was struck by this after seeing a lovely bed filled with it as a carpeter for China Roses in a pretty garden I visited the other day. To those who know it not I may say that *Violetta* is a miniature *Viola* of perfect form and of a delightful creamy-white and possessing a distinct and delightful perfume. It is a free grower and a gem for the rock garden, edgings or small beds. The other varieties, of which there were all colours in the gamut of colouring in the *Viola* race, were excellent also, yet, as already indicated, I do not consider them of



FROM FLOWER GARDEN TO BOWLING GREEN.

equal value to *Violetta* itself. It is as easily grown as any border *Viola*.—S. ARNOTT.

ANEMONE CYLINDRICA.

SHOULD anyone see *Anemone cylindrica* offered in any list, I would advise them to pass it by on the other side. It is a worthless thing, with long stems and cylindrical-shaped flowers of a dull greenish white. It is the poorest plant that I know among the Windflowers. I once obtained it many years ago as a novelty and grew it for a few seasons hoping against hope that it might improve as it became larger, but it had ultimately to be discarded as a plant not worth its room. I see that the late Mr. Reginald Farrer had a similar opinion of it. S.

STORING HARDY FRUITS

HARDY fruits are not as plentiful this year as last, with possible exceptions in some districts in certain counties. Naturally, more care will be taken in the manner of storing. In seasons of plenty, unfortunately, there is much wasted fruit in this country, which should not be. Only scarcity seems to have the effect of making cultivators appreciate the value of good Apples and Pears during the winter and early spring months.

These notes are not written for the benefit of experienced cultivators, who also possess ideal fruit-rooms, but for amateurs who have not had much experience and do not possess specially-built structures.

The proper gathering of the fruits has a direct bearing on their keeping properties. If gathered before they are ripe, there is too much shrivelling when the sugar in them begins to coagulate; this condition is best brought about to a considerable extent while the fruits are on the trees. Take, for example, fruits of Cox's Orange Pippin; those gathered before they readily part from the branches rarely keep fresh longer than Christmas. Probably this premature gathering is mainly responsible for the fact that tons of Cox's are regarded as being past their season at Christmas. A very large retail and wholesale dealer once told the writer that Cox's were, practically speaking, over by that date, yet I have had no difficulty in storing the fruits in nice fresh condition till March, and there are many other growers who also succeed in doing so. I like to leave the Apples on the branches till they part from them with a very light pressure and it is this late gathering that has such a beneficial effect on their keeping properties.

In the case of Pears, these fruits should part readily from the stem or branch when gently raised to a horizontal position. Furthermore, the very careful handling of the individual fruits at all stages is very essential to their good keeping.

The storeroom is, generally speaking, only partly devoted to fruits; it is exceptional for it to be wholly given up to them. In any case the place must be clean, dry and cool, but frostproof. All fruits should be laid in single layers on shelves, or in shallow wooden trays. Painted shelves are neither necessary nor desirable; unpainted, clean, open-lathed ones are the best. I do not use straw when such shelves are available. The fruits should not be wiped. They should be placed very gently on the shelves—the Apples in the coolest part of the room and the Pears in the warmest, if there is any difference in this respect. Very close inspection at storing time, and once weekly afterwards to detect and remove any specimens shewing signs of decay, must be the rule to prevent more than the absolute minimum of loss. Ventilators, low down, provided with perforated zinc sheeting if possible, and half the amount of these inlets just above the highest layer of fruits, will ensure perfect ventilation. A skylight may be useful occasionally, but is not absolutely necessary.

Storing under primitive conditions sometimes answers quite well in the case of late Apples. One of the best stores the writer ever saw was a very old lean-to shed facing north-west; it was so low that one had to stoop to enter and inspect the contents. The atmosphere was not really damp, but it always struck one as being so on entering. The Apples were laid several deep on straw placed on shelves and the whole of the remaining space between the shelves was filled with straw, all in a perfectly dry condition. In this case there was no ventilation beyond that afforded by the door, yet

the Apples retained their firmness and soundness till the following April and May. I have seen them do so heaped on a plot of high ground and covered with several cartloads of tree leaves freshly gathered. Quinces should be stored in single layers

like Pears and Medlars, "eye" downwards on layers of clean sand. Nuts keep very well in glass or earthenware jars, the latter being buried under sand in any ordinary cellar or similar cool structure.

GEORGE GARNER.

INSECTIVOROUS PLANTS—III

Cephalotus, Darlingtonia and Sarracenia

UNDER the above heading we come to a consideration of three of the genus of insect-capturing plants which accomplish their work by means of pits or tubes, from which, if the insect can be induced to enter, there is but little chance of a return. Let us take them in the order of the heading, the first of which is *Cephalotus follicularis* or, as it is sometimes called, the New Holland Pitcher Plant. This is, in its duration, a herbaceous perennial, dwarf and compact in habit and with small globular pitchers which are rather variable in their colour, though usually dark green tinged with reddish crimson. Colour is not entirely absent, however, for the lid which stands semi-erect over each pitcher is netted in a very attractive manner with pink veins.

Culturally it is an easy plant to grow, provided its few requirements are understood and supplied. The usual soil, chopped living sphagnum, rough sandy peat and a little charcoal, is suitable as a potting medium. It is extremely important to ensure free drainage and to see that the soil is in a thoroughly porous condition for the roots. During summer, while growth is in an active condition, the plant does best when covered by a bell glass so as to retain a humid atmosphere, but in winter this should be removed as the plants then require drier conditions both at the roots and in the atmosphere.

Propagation may be effected either by a division of the roots or by seeds and the best time to divide is just before new growth pushes up in spring. This, too, is the most suitable time to re-pot, even if division is not contemplated. After potting or division, extra care in watering the plants should be used or they will die; the best plan is one thorough watering immediately after potting is completed, then no more for several days. Always take care, when potting, to mound the pile of compost a little so that the plants are slightly elevated above the rim of the pots, as in this way there is less risk of stagnant water around the crown of the plant.

There is a great difference in the colour of the pitchers according to the degree of light to which they are exposed, but this does not mean that they will appreciate full sunlight. Far from it! They must be shaded from the mid-day sun, though, at the same time, they should receive plenty of light when the sun is not shining directly upon them. Another thing is to avoid excessive heat. The impression that these insect eaters are all tropical plants is entirely false.

The *Dionæa*, *Cephalotus*, *Darlingtonia* and various *Sarracénias* can all be grown in a winter temperature between 45° and 50° and therefore are well within the range of the ordinary greenhouse owner.

The *Darlingtonias* are American and annually produce a rosette of leaves, each one of which is modified into a tall hollow upright pitcher of striking and beautiful appearance and attractive colouring. Each leaf is from 3 ins. to 30 ins. long, according to vigour and variety, and spirally twisted, ending in a hood or crest in the front. Now, observe the device to make the leaf more

flower-like and attractive! The mid rib of the leaf curves over in a rounded form so as to form an orifice and from this hangs a curious little appendage that is coloured in the most vivid crimson and green. Lest the insect should not find this to be sufficient attraction, the exterior of the pitcher bears several honey glands, a free advertisement of the greater joys (?) to be discovered within that delectable-looking tube. Tempted on and on, the insect crawls within and, slipping upon the glossy surface of the tube, falls down. Not right down at first, perhaps, but escape is quite impossible, for there is an array of downward-pointing hairs which makes a return by the way the insect came absolutely impossible. Digestion of the prey is accomplished by means of a liquid excreted from the wall of the pitcher, the result of this digestive process being absorbed through the thin wall of the lower part. Insect capturing is very active in early summer and by midsummer it is not at all uncommon for the pitchers to be filled to a depth of 4 ins. to 6 ins. with decaying remains.

Potting is best done in early July and established plants only need this once in every two or three years. An excellent compost consists of two-thirds of osmunda fibre, with all the dust shaken out, to one-third of sphagnum and plenty of coarse sand. The plants should be covered by a bell glass, for it is most important to maintain a moist atmosphere round them as well as in the soil. Indeed, they are such lovers of a "squishy" soil that it is an excellent plan to cork the drainage hole at the bottom of the pan in which they are grown, then stand this inside another pan slightly larger and pack the space between them with sphagnum that is kept well moist. *Darlingtonia californica* has "pitchers" which are slender at the base and gradually swell outwards until they terminate in a hood bent over at the top. The ground colour of these pitchers is bright green, the upper part and the throat being beautifully mottled with white through which run pink veins. April is the flowering season and the flowers are very large, 4 ins. in diameter. The sepals are white, the petals yellowish-green marked with red veins.

Seeds follow the flowers, but these do not germinate easily. The best method to adopt is to fill a pot to within an inch of the rim with chopped sphagnum moss and fibrous peat in equal proportions, coating the surface with living sphagnum tips. Scatter the seeds on this, cover with a bell glass and place the pots in a shaded position in a cool greenhouse. If the seedlings are going to grow, they will appear in five or six weeks and—when strong enough—they should be pricked off into pans and transferred to shaded cold frames for the summer.

In the Huntsman's Cup or *Sarracenia*, we find a genus that, in addition to its natural species, has been considerably enriched by the labours of the hybridist, resulting in many most interesting and beautiful forms. To gain a general idea of the plants, we cannot do better than describe *Sarracenia purpurea*. This makes leaves 4 ins. to 6 ins. long, blood red in colour and inflated in the middle, contracting again at the mouth; over this pitcher stands an erect kidney-shaped lid that is

plentifully netted with purple veins. This, though by no means reliably hardy, is the hardiest of all the *Sarracénias* and makes a splendid pot plant for the cool or cold greenhouse. Flowers are few in number, purple in colour and borne in early summer on stems 1 ft. high.

If one wants seed from these, note the style at the centre of the flower. This is dilated into a five angled disc, something like an umbrella, with five radiating nerves and it is upon the tips of these that the fertilising pollen must be dusted. Directly the seed is ripe, sow it on the surface of a pan filled with the usual compost and keep cool, shaded and moist. Another way in which further plants can be procured is by careful division of older clumps in early spring, although it is best not to attempt this until fairly large plants have been obtained.

Let us now return again to the pitchers for a few moments and examine these in greater detail in order to discover how they continue to obtain such a giant "bag" of game. That prettily veined lid corresponds to the blade of an ordinary leaf and, in addition to being so beautifully netted and coloured, is furnished on the inner surface with a number of more or less bristling hairs, which once again point downwards, making it fatally easy to descend, but impossible to return. Towards the bottom of the pitcher is a strong rim and this again is barricaded with similar hairs. Tempted further and further by the sugary secretion, the insects find that exit into the happy world of sunlight is unattainable and it is not infrequent to find that the pitchers are nearly filled by the accumulated bodies. Eventually the pitcher dies and falls over, depositing its load of nitrogen just above the roots, ready for them to assimilate.

H. W. CANNING-WRIGHT.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Beet.—During the next week or two the main-crop may be lifted and stored in a cool shed, where the roots should be covered with ashes or dry sand. In order that the crop may remain in good condition, lift very carefully, avoid breaking the tap root, and screw off the leaves instead of cutting them. If seed was sown in July, the roots can remain in the ground a few more weeks.

Carrots.—Where the roots are large enough they may be lifted and stored in a similar way to the Beet. Late-sown Carrots are growing freely and the young roots are proving useful as a change of vegetable. These are always appreciated, and if a cold frame is available a sowing of a stump-rooted variety may be made with a view to having tender young roots later on.

Radishes.—These may also be sown in cold frames, but a rich soil is not required.

Leeks.—An occasional application of liquid manure or a sprinkling of some fertiliser will benefit this crop. Where Leeks are grown in trenches a little earth should be placed around the base. Keep the space between the lines free from weeds by the use of the hoe at intervals.

General Work.—At this period of the year the garden should be kept as free from weeds as possible, and this can only be done by frequent use of the hoe. If the weather prove wet, all large weeds should be collected and buried in a trench. It is not advisable to take them off the ground, and this remark applies to decaying leaves from Brussels Sprouts and other winter greens which ought to be collected and buried on any vacant piece of land. All vegetable crops should be removed directly they cease to be productive. Tops of Spinach, Pea and Bean haulm and such-like may be placed in a heap to decay, when they may be dug in. Old pea sticks first used this season may be saved for another year, unless they happen to be Birch, when it is policy to burn them. All quarters cleared should be hoed and raked free from weeds; this will prevent any

reaching seeding size. The plot can then remain until an opportunity occurs to dig or trench it.

The Flower Garden.

Delphiniums.—Among plants for the herbaceous borders these occupy a foremost position, and no doubt the best effect is produced by planting them in bold clumps. Although they may be planted at any time during the dormant season, I like to plant either about this date or in early spring. Unless, however, the plants have become unduly large and thereby exhausted the soil, they should be left alone, for frequent disturbance of the roots is not advisable. The ground for Delphiniums should be well prepared by being trenched, a liberal quantity of manure being incorporated at the same time. This is necessary because they should not require lifting again for several years. Strong-growing varieties should be placed 3 ft. apart. Make the soil firm and, if it is dry, give a soaking of water. Slugs are the chief cause of failure, and when growth begins and, in fact, throughout the winter, war must be waged against these marauders. Sharp fine pieces of elms from the stovehole fire if sprinkled around and among the clumps will often hold these pests in check. Seedling Delphiniums require extra care if slugs are not to devour them.

Heucheras.—These form a group of graceful plants for either rock garden or border. Cuttings can now be taken and, if the root-stocks of old plants are exposed they may be top-dressed with a layer of leaf-mould and loam.

Gladioli.—When these have well passed the flowering stage they may be lifted with their growths attached, tied in bundles and then suspended in a shed to dry off. A few weeks later they should be overhauled, the dried growths removed, and the bulbs stored in a dry place until planting-time next year.

The Hardy Fruit Garden.

Grease Bands.—Fruit trees should be banded during the next week or two in order to catch the wingless females of the winter moth. First remove any loose or rough bark from the trunk where it is intended to apply the band of "paraffin" paper, then fix the band by tying it both at the bottom and top with string. Some sticky substance is then smeared on the bands. "Moth Grip," applied with a stiff paint brush, is very reliable, and will remain in a sticky condition for several months. It is, however, necessary to collect the moths from time to time to prevent others from creeping over them. If tree stakes are employed, they will also require a band. Both "Moth Grip" and bands may be purchased from the local nurseryman.

Damsons.—The fruit known as the Langley Bullace is well worth growing. It is the product of a cross between Black Orleans Plum and the Farleigh Damson. It is a valuable addition to the stone fruits, of excellent flavour and a remarkably good cropper. Damson The Merryweather should also be included. The fruit is large and of the true damson flavour. These are both fine fruits for preserving purposes.

Fruits Under Glass.

New Trees.—The planting of fruit trees under glass is not such a task as in the open, but if only one specimen is required, it should be carefully dealt with. Rough specimens with but few fibrous roots should be rejected, for they are rarely satisfactory. The depth at which to plant a tree can be ascertained by an examination of the stem. The soil line can easily be seen, and proves a useful guide to the planter. An important item, especially with Peaches, Nectarines and Cherries, is the cutting back of damaged roots to a sound part. Finish off with a clean cut made with a sharp knife. The roots should be spread out near the surface and the soil worked between, making it moderately firm as the operation proceeds. Give a good watering and do not tie the branches to the wires for a few weeks.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castletord, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beetroot.—It is too soon yet to lift the tap-rooted Beet, but if the globe or turnip-rooted varieties are fully developed, they should be lifted and placed in the root cellar. In harvesting Beet, care should always be taken, in order to prevent bleeding, not to break the roots. For the same reason the leaves should not be cut,

but should be wrenched off, leaving about 2 ins. of leafstalk attached to the root.

Leeks.—The Leek crop should get a final dressing of some fertiliser of a nitrogenous nature. Those who possess dry fowl or pigeon droppings will find them an efficacious and cheap fertiliser. Pass the droppings through a fine sieve or pound them until fine between two hard substances. Run the Dutch hoe between the crops after applying the fertiliser and a few days later hand-weed the rows if necessary.

Peas.—As the season draws to a close the birds are often very persistent in their attacks upon their favourite vegetable. If stout stakes, higher than the Peas, are driven firmly in at the ends of the rows and a fine wire is stretched taut between them, bunches of feathers or strips of paper can be suspended from the wire, and this will probably scare the marauders away for the short period that the crop has to run.

General Remarks.—All the refuse of harvested crops should be cleared away, and the quarters entirely freed from weeds so that they may be in readiness to be manured, trenched or dug a little later on. The walks, too, should be thoroughly cleaned, after which they should give no further trouble this season.

Edgings.—Box and other edgings requiring replanting may be taken in hand now with advantage, so that the plants may take fresh root before winter sets in. For the kitchen garden Box is undoubtedly the most suitable edging plant and, although relaying it entails a good deal of labour, if trimmed annually it only requires replanting at long periods.

The Hardy Fruit Garden.

Apples.—Most of the early varieties will now be ready for picking. When garnering, care should be taken not to bruise the fruits, as much damage is often done through careless handling. Store the Apples in the fruit-room, which should have been thoroughly cleaned, as previously advised in this column. These early varieties should be used first, as most of them, being rather soft, do not keep well.

Root-Pruning.—Following up the hints on this subject given here a fortnight ago, I now give the *modus operandi*. It is, of course, understood that only one-half of the root area is dealt with the first year. Dig a trench round the area to be operated on, 2 ft. from the trunk of the tree, sever any thick bare roots with a mattock. Excavate right under the tree, cutting all thick roots. Having done this, proceed to trim the cuts clean with a sharp knife. If some maiden loam is available, fill up the entire excavated space with it. Failing this, use the top spit of good garden soil with some old mortar rubble intermixed. Pack the soil firmly as it is being filled in and the operation is complete. If several trees are to be dealt with, prune them all on the same side, east or west as the case may be, and make a note of the fact, as memory is not always to be trusted.

The Rock Garden.

Propagation.—A good many plants may now be propagated by cuttings and rooted in a cold frame. Among soft-wooded plants the following may be dealt with: *Viola cornuta* and *V. gracilis*, including the white variety; varieties of *Phlox frondosa*, *Aubrietias*, *Dianthus*, *Alyssums*, *Campanulas* and *Cheiranthuses*. Among hard-wooded plants for similar treatment are *Hypericums*, *Muehlenbeckias*, *Veronicas*, *Rhododendrons* (dwarf and prostrate species), *Daphnes* and *Skimmia japonica*.

General Remarks.—A general clean-up should now be given. This will include the cutting away of all spent flowers and decayed stems, the removal of decayed leaves and the uprooting of all weeds. Any pockets that show signs of sourness should have some of the surface soil removed and replaced by a fresh compost of a more porous nature. Other pockets shewing a baked surface will be benefited by being pricked over with the handfork.

The Flower Garden.

Carnations.—Those who have to deal with heavy retentive soils and therefore find it expedient to practise spring planting should lift the layers and pot them up into 3 in. pots. Place them in a cold frame on a layer of coal ashes, but do not put on the sashes for a few weeks. When these are put on, an abundance of air must be admitted at all times, as any tendency to coddling will weaken the plants. Keep a sharp look-out for mice, as they are very fond of Carnations.

Montbretias.—The general advice with regard to these beautiful autumn flowers is to lift the

corms as soon as the foliage has ripened and to dry them off under cover, planting them out again in spring. I have not tested the hardness of some of the finer varieties, but I have left such varieties as *Etoile de Feu*, *Pottsi*, *Rayon d'Or* and *Vulcan* in position for a second year with good results, and any of the varieties will come safely through the winter if they are lifted and "sheathed in" in a sheltered spot and protected by a few leaves or any kind of dry litter. Treated thus there is less danger of any of the corms dying than when they are lifted and dried off.

Schizostylis coccinea, familiarly known as the Kafir Lily, is an attractive little bulbous plant, its bright red flowers being very welcome during the dull days of autumn, when outdoor flowers have become scarce. It is all but absolutely hardy, though a native of the Cape. It is certainly quite hardy when planted in rather light soil in a sheltered position. It increases rapidly, and should be lifted and divided every second or third year.

Lilium candidum.—The Madonna Lily is probably the most popular member of the whole genus, its fragrant flowers of purest white, freely produced, appealing to every lover of flowers. It is easy of culture, but there is one condition which must be observed. It is essential to replant (or purchase and plant) the bulbs immediately after the foliage has died down, for delay may probably mean disaster.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Sweet Peas.—Where it is desired to grow Sweet Peas in pots, the seed should be sown towards the end of the month or during October. Early sowing is not desirable, as it is no advantage to have them too forward for the winter. Where only small quantities are required, it is best to sow about five seeds in each 48-sized pot. The young plants can remain in these pots through the dark days and be potted on early in the New Year. Where large quantities are required, the seeds may be sown in pans or boxes and the plantlets be afterwards transferred to pots. Before sowing, the seeds should be dressed with red lead to prevent mice attacking them. Where this is not done the seed pots or pans should be covered with pieces of glass until germination takes place. The seed pots should be stood in cold frames, and after germination the young plants should be given plenty of air. Remove the lights entirely on every favourable occasion, as it is essential that the plants be kept strong and sturdy. A sharp look-out should be kept for slugs. Sparrows, too, are very fond of them and often prove troublesome, and it may be necessary to protect them in some way.

Bulbs for Forcing.—As they come to hand all bulbs intended for forcing should, as already advised, be potted up without delay. Darwin Tulips are very useful for this purpose, their long stems rendering them specially valuable where a supply of cut flowers is required. They are, however, by no means so easily managed as the early-flowering varieties, as they will not stand the same amount of forcing. I feel sure that when they are intended for conservatory decoration failures are often due to growing them in too small pots. I find, indeed, that the best results are obtained by growing five or six bulbs in each 5 in. pot.

Campanula pyramidalis.—Plants raised from seed sown early in the year should now be ready for potting into 7 in. pots. They are best wintered in cold frames, leaving the lights off on every possible occasion. If frames are not available, the plants can be safely wintered at the foot of a wall, plunging the pots to the rims in ashes. In the South at least they are hardy, and fine plants can be obtained by growing them outdoors and lifting them at this time from the open ground, or they may be left until next spring before they are lifted and potted up.

Asclepias curassavica.—This plant is very useful for conservatory decoration, and is usually sown during the spring for flowering during the summer months. It is so useful a plant that it is a good plan to sow some seed at this time for flowering next spring and early summer. It succeeds quite well in an ordinary greenhouse. As this *Asclepias* is of slender growth, the best results are obtained by putting four or five plants in a 6 in. pot. Although generally treated as an annual, it may be grown on for a second year, when the plants will send up a number of shoots from the base.

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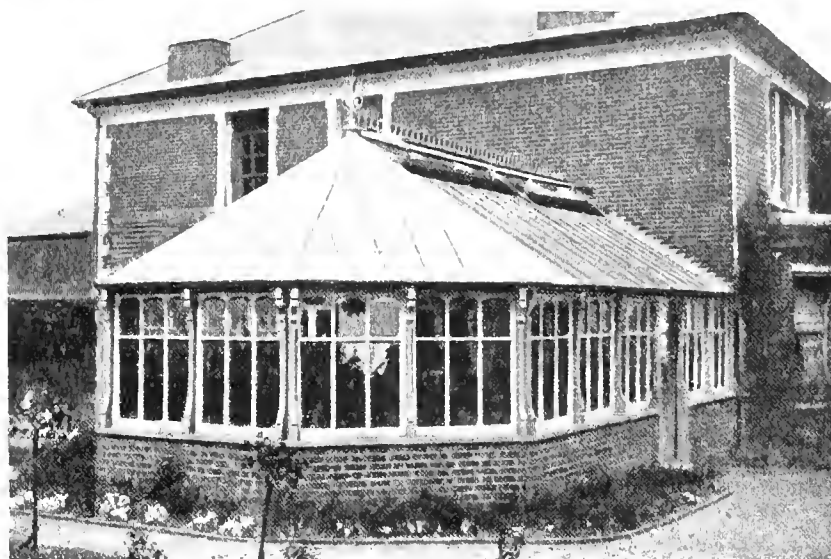
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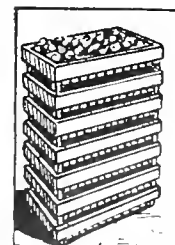
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Chrysanthemum frutescens var. Mrs. F. Sander. This fine double-flowered variety is very useful for decorative work. For flowering early next summer, plants should be rooted at this time. Good cuttings are often difficult to obtain, but may usually be provided by partly cutting back a few plants and placing them in a fairly close house a few weeks before the cuttings are required.

Brodiaeas are seldom seen in gardens at the present day, and although fairly hardy in warm situations, they are worthy of more general attention for pot culture. They are especially useful for the unheated greenhouse. Their successful cultivation presents no difficulty, as they grow quite well in any ordinary potting compost, planting five or six bulbs together in a 6-in. pot. There are several species that can be used for this purpose, notably *B. capitata*, *coccinea*, *grandiflora*, *Howellii*, *ixioides*, *multiflora* and *vulgaris*.

Origanum hybridum. This plant, although hardy outdoors in the South, is very pretty and useful for greenhouse decoration in September, during which month it is always difficult to get an interesting variety of plants for the conservatory. If cuttings are inserted at this time, they will make good plants for next year. Good examples can be grown in 48-sized pots, in which size they are very useful for decorative work. The light elegant sprays are also very useful for cutting. It grows freely in any ordinary potting compost and requires perfectly cool treatment at all stages of its cultivation. When in flower it should be freely exposed to sun and air, as the rosy red colour of the bracts is then intensified.

Azaleas of the indicum section, although they will stand a few degrees of frost without injury, should now be got indoors. They are best in a perfectly cool house, where they can be kept quiescent until such time as they are required for forcing. For early forcing the earliest-flowering varieties should be selected. Having been used for this purpose last season, their growth, naturally, was completed early, and they are thus in good condition for early forcing. After they have been brought indoors the house should be kept fairly moist for a time, otherwise in the drier atmosphere they are apt to lose a lot of their foliage.

Zonal Pelargoniums grown for winter flowering should now be allowed to develop their flowers in successional batches according to requirements. They enjoy a warm, dry atmosphere with a little fire-heat during dull weather. During such dull spells watering should be very carefully done, as they are very impatient of excessive moisture. In the immediate neighbourhood of London they are very uncertain during the winter. One night's fog is sufficient to spoil them. Under such circumstances it is best to get them in flower during October and early November, before there is much danger of fogs.

Royal Botanic Gardens, Kew.

J. COUTTS.

A Pretty Bindweed.—The slender-growing *Convolvulus althaeoides*, with silvery leaves and large, rose-coloured flowers, is little known and, consequently, seldom found in gardens. It shares to some degree the roaming propensities of its allies, but is not quite so much given to spreading in the outrageous fashion some of the other *Convolvuli* affect. It is not a tall grower and the best place for it is by the side of a slender shrub over which it can grow without doing it any material injury. It is hardy and likes a sunny place in light soil, where it will thrive and give its pretty flowers annually in summer.

A Fine Form of Aster alpinus. Only those of us who knew *Aster alpinus* when our choice was confined to the four older forms, *A. alpinus* itself, *A. a. albus*, the white variety, and *A. a. roseus*, and then the bigger one, *A. a. superbus*, can fully appreciate the larger varieties. We have watched this advance with interest and it is pleasant to see that contemporaneously with this progress a new interest has been taken in the flower by lovers of rock gardens. Several notable examples of the new varieties have been seen in London of late years, and at the last Chelsea Show some magnificent forms were exhibited. Among these we noted the Wargrave variety, shown by Messrs. Waterer, Sons and Crisp, a variety of high excellence some 6 ins. high with (for an *A. alpinus*) immense flowers of a fine purple blue. It deserves the consideration

of those about to add varieties of *A. alpinus* to their gardens.

Michaelmas Daisy Snowball. Good white Michaelmas Daisies are always appreciated and there is likely to be a demand for that named Snowball, sent out a year or two ago, when it becomes better known. For the small garden its moderate height—2 ft.—is a recommendation, while its double flowers appeal to a good many, although some have not yet overcome their objections to the doubling of the blooms of the Starworts. Yet these double flowers seem to stand the weather well and to last a good while in bloom. In Snowball they are of good doubleness, and open pure white. The only drawback—and this is common to practically the whole of the white Michaelmas Daisies—is that they pass off pink with age. However, we cannot have everything we wish and Aster Snowball is really a variety worth growing in the garden.

The Common Barberry.—Notwithstanding the many novelties of great merit which have been introduced within recent times the Common Barberry (*Berberis vulgaris*) can still claim a place among the best. This familiar native shrub, often to be seen in hedgerows and waste places in some localities, is a deciduous species with very spiny branches, soft green leaves and a stature up to 10 ft. It is very charming in spring, when its comparatively large and conspicuous racemes of yellow hang from the elegant branches, but its most notable feature is the crop of scarlet fruits which it bears so generously, usually with unfailing regularity every year. These fruits are almost cylindrical, sometimes egg-shaped, and begin to colour in August or earlier. Yet they do not reach their fullest splendour until touched by the first frosts of autumn, when they assume a brilliance not excelled, perhaps not equalled, by those of any other member of the genus. Moreover, being very acid, these fruits are disliked by birds, so that they may often be seen on the branches through the greater part of the winter. Their tartness, however, is by no means unpleasant and they are still used in country places as a substitute for capers, as a candied fruit and as a commendable addition to the jar of home-made pickles and chutneys. *B. vulgaris* is one of the most accommodating of shrubs, doing well almost anywhere, without complaint. It makes a handsome specimen bush, an impenetrable and highly attractive hedge and is useful for grouping in rough, stony corners where most shrubs of equal merit would fail to succeed. There are many varieties, chiefly differing in the colours of their fruits and leaves. The best of these is probably *purpurea*, a form which is precisely like the type in all but the foliage which is a warm plum purple tending to crimson on the young wood. Though a handsome shrub, this variety is hardly so attractive when in fruit as the type.

Trial of Delphiniums at Wisley. The Royal Horticultural Society will carry out during the coming season a trial of Delphiniums in their gardens at Wisley. Three plants of each variety should be sent so as to reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey (goods to Horsley Station, Southern Railway) on or before October 30. The necessary entry forms may be obtained on application to him.

FORTHCOMING EVENTS.

September 26. Mitcham, Tooting and District Horticultural Society's Meeting.

September 27. Royal Botanic Society's Meeting, Wargrave and District Gardeners' Society's Meeting.

September 29. Finchley Chrysanthemum Society's Exhibition.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

PREPARING FOR ROSES ("Roses," Wores).—Certainly from what our correspondent states, cow dung would be preferable to horse droppings as a fertiliser. A early liberal sprinkling of both such bones would also be helpful, and it would be of immense benefit if some really good turfy loam could be introduced. Deep cultivation is, of course, essential.

FRUITS UNDER GLASS.

POT VINES WITH FLATTENED CANES (O. W.).—Several causes conduce to the growth of flat canes, namely: potting in a too rich, retentive soil and not ramming the soil sufficiently firmly; a too damp atmosphere and lack of ventilation during the growing stages. Firm potting in fibrous, porous soil, ample ventilation and full exposure to light (an essential consolidating agent), mean short-jointed, round-stemmed Vines.

VINES AND PEACHES UNSATISFACTORY (J. M.).—Over dryness of the soil, or a very wet, stagnant condition would cause mildew to appear on the vine leaves and bunches. Undoubtedly the roots were too dry during the early part of the summer. Improper regulation of the ventilation is another cause. The winds were very cold throughout the spring and early summer time and undue exposure of the tender leaves to cold draughts would favour the rapid spread of mildew. The bunches of Grapes are quite useless; cut and burn them, then thoroughly syringe the vines with "Abol," carefully following the instructions. When the Vines are duly pruned, burn the prunings and paint the rods—all except the young bud—with a paste of flowers of sulphur. The work done to the roots by the gardener would not cause the mildew. The soil around the roots of the Peach trees was also too dry; it should not be allowed to become dry throughout the year; a bad attack of red spider would hasten the falling of the leaves.

FRUIT GARDEN.

PEAR FOLIAGE BLIGHTED (D. H. S.-S.).—The foliage of the Pear tree has been attacked by the larvae of the pear sawfly, *Eriocampa liliaceana*. The pest passes the winter in the top 3 ins. of soil. Early in June the winged insects appear and lay eggs in the leaves. From these eggs come the small green "slugs" which do the damage. During the winter the top ins. of soil around the tree should be removed and burned in order to destroy the hibernating larva. Early in June a watch should be kept for the "slugs," and if any appear they should be poisoned by spraying with "Katakilla."

PLUMS FOR PLANTING ON A NORTH WALL (Felsed).—Yes, our correspondent may safely plant the varieties of Plums on a north wall. The variety River's Early Prolific flowers early and would be more likely to escape late frosts in a north aspect.

KITCHEN GARDEN.

CUCUMBER FAILING (J. R., North Wales).—The Cucumbers are troubled with what is often known as "canker." The stem decays at the junction with the root. This is encouraged by sour soil and we suspect this is the existing cause of the trouble. The roots have not developed well at any time apparently and we recommend that the whole of the soil should be removed and replaced with fresh of a less sour nature.

MISCELLANEOUS.

VARIOUS QUESTIONS (G. G., Bas-sacks).—Our correspondent will do right to cut out the decayed limb to sound wood in the case of the Mulberry tree and dress it as suggested. First, however, wash the wound with a strong salt solution. Reput the Stocks and Canterbury Bells at once, using 6-in. pots. To prevent damping off of the latter simply water and ventilate with ordinary care, especially in foggy weather. We have asked Mr. George Garner, who first discovered the soot treatment, for silver-leaf, to let us have notes on the treatment to date. He replies as follows: "Your correspondent must begin the treatment at the end of September. Procure some fresh soot, mix with water till it is of the consistency of mortar, then spread out the mixture thickly on the surface and over a wide enough space to cover the roots of the tree. Generally, I find an ordinary bucketful sufficient for one dressing. At least three—better five—applications should be given from October to March at stated intervals. Once each week the soot should be washed in thoroughly, using clear water applied through a rosed watering-can. Repeat a second winter, and in summer syringe the foliage occasionally with clear soot-water while the green fruits are swelling. Badly affected branches should be cut out now and burned, the wounds being dressed with painters' "knotting" or styptic. Orchard Plums and other trees, inside and out, should be treated similarly."

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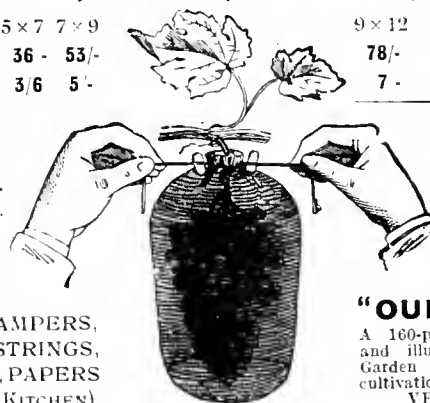
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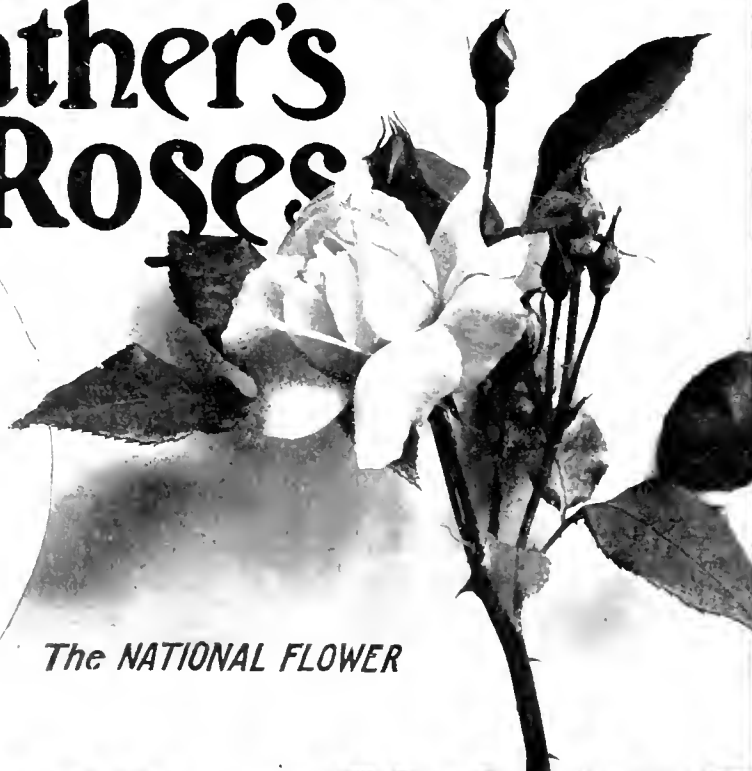
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The NATIONAL FLOWER





No. 2706.—VOL. LXXXVII.]

[SEPTEMBER 29, 1923.]

SOME ORNAMENTAL CHERRIES

THE Cherry is a lime-loving tree and most species do best on marly soils, yet no soil, except, perhaps, a cold, heavy clay, is unfitted for their culture and one of our native species, the Gean, *Prunus Avium*, may be seen flourishing in woodland in practically all parts of the country. Even the hungry Sussex forests grow fine specimens. The double-flowered form of this tree is very beautiful and worthy of a place in all gardens of any size. A Cherry orchard when in flower is a wonderful sight and many people who have small expectation of gathering any considerable crop, owing to feathered depredators, grow standard trees of the fruiting Cherries almost entirely for their decorative value.

This notwithstanding, almost all the Cherries which are really beautiful when in flower are of Oriental origin, and as the planting season is now upon us, it may seem fitting to describe some of the best. This is the more necessary owing to the confusion which exists as to nomenclature. No doubt the botanists have good reasons for collecting together into one great genus all the Almonds, Peaches, Cherries, Plums, Apricots, Bird Cherries and Cherry Laurels, but this kind of classification is the reverse of helpful to the gardener. It is with the true Cherries that we are concerned in these notes.

The principal types of the Japanese Cherries are *Prunus serrulata* and PP. *Launesiana* and *subhirtella*. The best single form of *P. serrulata* is var. *sachalinensis*, of which some splendid trees exist in Japan, but *P. serrulata* as grown in our gardens is double, there being pure white and pretty rose forms. There are several double forms of *P. s. sachalinensis*, one fairly often met with in English gardens being *Shirofugen*, also known as *albo-rosea*, which latter name is satisfactorily colour-descriptive. Other good forms on the authority of that great traveller, Mr. E. H. Wilson, now of the Arnold Arboretum, are *Kirin*, *Horinji*, *Ichiyo*, *Fugenzo* and the late-flowering *Sekiyama* or *Kanzan*. Which of these, if any, are procurable at the present time in Britain it would be difficult to say, but *Fugenzo* is variously listed

here as *Benifugen*, *Veitchiana* and *James H. Veitch*. *P. serrulata spontanea*, with single white flowers and foliage glaucous beneath, is now listed and is a very beautiful free-growing Cherry. Apparently the double *Hisakura* or *New Red* is a form of *P. serrulata sachalinensis*. This has double flowers of so deep a rose as almost to merit its English name and foliage which at blossoming time is a lovely deep bronze. This is one of the most vigorous-growing of double Oriental Cherries and should be in every collection. *P. Launesiana* var. *albida*, says Wilson, is "not so hardy as the

varieties of *serrulata*, nor so long lived, though of rapid growth." In this country it is usually sold as *P. japonica alba simplex*. Some of the best varieties of this plant are apparently not in cultivation here, but *Ojochin* is procurable with large double white flowers, so are *Amanogawa*, also known as *Apple Blossom*, which is a very upright grower with blush pink blossoms and late to flower; *Senriko* (*Mount Fuji*), said to be the finest of the semi-double whites; and *Ukon* or *Asagi*, with pale greenish-yellow flowers. *Ukon*, as grown in this country, seems to have fewer petals than the semi-double form listed as *lutea flore pleno*, which is otherwise identical with it.

P. Sieboldii, with pubescent twigs and foliage, is usually represented in gardens by the tree known as *Watereri*, which has large semi-double clear rose coloured flowers. This, again, is generally regarded as synonymous with *Naden*, but, as we have seen the latter growing in some collections, it is almost single and rather paler in hue, though obviously a form of the same species. Both are good plants.

The Rosebud Cherries are very distinct in appearance and according to our classification belong to three species, PP. *subhirtella*, *pendula* and *microlepis*, but Wilson considers them all to be forms of one species. They are, at any rate, sufficiently distinct to reproduce themselves true from seed. *P. subhirtella*, as grown in this country, forms a small tree which is exceedingly floriferous. What is no doubt the typical species is known as var. *ascendens*, which attains the dimensions of a forest tree and is now, perhaps, procurable in this country.

P. pendula (*P. sinensis pendula rosea* of some catalogues and *P. subhirtella pendula* of others), is, as we know it in this country, a particularly graceful weeping tree, which has frequently been illustrated in *THE GARDEN*. When smothered with rosy buds and just expanding blossoms, it is a sight worth going far to see, yet does it not compare with fine old specimens of the same species as seen in Japan. We have in gardens a tree known as variety *carnea* of this. Similar in most respects, it differs notably in that the flowers are borne on longer stalked corymbs and in the presence of several bracts where



ONE OF THE BEST FORMS OF PRUNUS LANNESIANA, UKON, WITH GREENISH YELLOW BLOSSOMS.

the midrib of the flower-stalk join the stalk, carrying the corolla. The third species of Rosebud Cherry is *P. amoenum* of Koehne, which Wilson prefers to *P. subhirtella* var. *autumnalis* and which in England is often grown and known as *P. Miqueliana*. *P. Miqueliana* of Maximowicz it is not. This tree was introduced to British gardens by the firm of T. Smith of Newry about 1911. It has semi-double flowers and is remarkable for coming into flower in late autumn, usually in November.

The Rosebud Cherries form together a very interesting species or group of species, whichever way one regards them. They are very distinct from the other Japanese species such as *serrulata*, *Pseudo-cerasus*, *Lannesiana* or *Sieboldii*. Their slender, whip-like growths and rather small pinkish flowers, always bright rose in the bud stage, make them easily recognisable. There is no difficulty in raising them from seeds, and any seedlings which proved inferior as regards colouring or floriferousness might well be utilised as stocks for the better forms.

Quick growing and handsome is the Tokio Cherry, *P. yedoensis* (also listed as *Yoshino Zakurai*), with white or blush-coloured flowers. This might well be utilised anywhere where a large tree would be desirable and might replace the double Gean on occasion.

P. Maximowiczii is perhaps more interesting than beautiful. The small flowers are dull greenish white and produced six or ten together. The racemes are more notable, however, for the large leafy bracts than for the flowers themselves.

P. nersa, the Pigmy Cherry of Japan, is now procurable in this country. It is a small grower in stature about the size of *Cotoneaster frigida* as a rule, but quite one of the most attractive species. The blossoms are white or pale rose and the stamens are red, which adds a great deal of life to the flowers. The sepals also are ruddy.

P. Pseudo-cerasus is often taken as typical of the Japanese Cherries, being confused with *P. serrulata*. *P. Pseudo-cerasus* is much less effective and less hardy and is very seldom seen in this country outside Botanic Gardens. It is doubtful if it is at present in commerce.

This about concludes the list of Asiatic species at present in commerce in Britain, but there are several European species and varieties which are worth a place in every extensive garden. Some are as beautiful as the Oriental kinds.

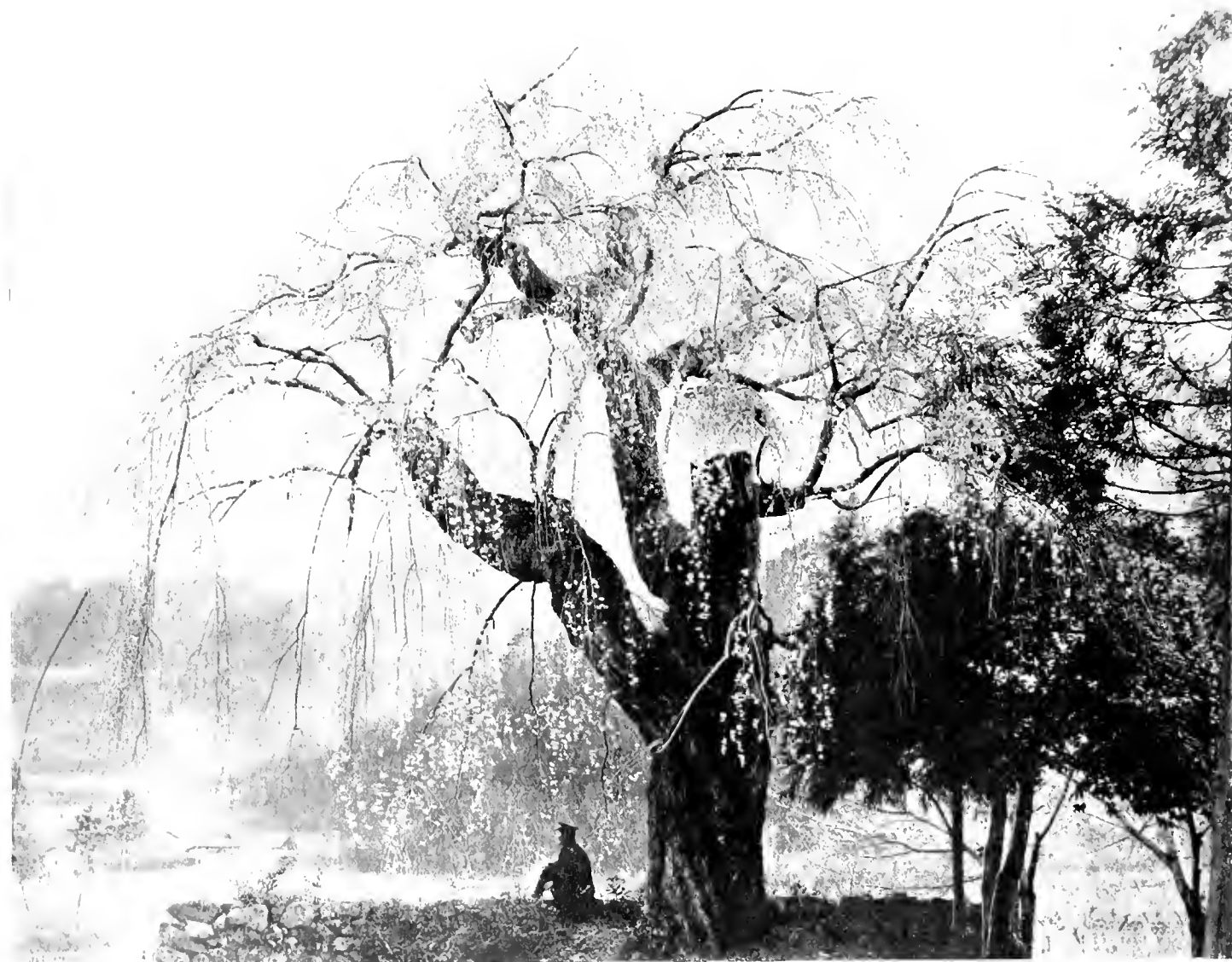
The All Saints' Cherry, *P. alba semperflorans*, is a remarkable variety which bears white flowers on the leafless branches in April, but not very freely. It flowers again, remarkably enough, from the young wood, in June and continues to do so

until September, so that very often there are flowers and fruits on the tree at the same time. This may be grown as a large bush or, grafted on the head, as a small round-headed lawn tree. The fruits are acid, but quite edible.

The St. Lucie Cherry, *Cerasus Mahaleb*, again, is a very beautiful tree and particularly suitable for sandy soils, upon which it grows more thriftily and flowers more freely than upon fertile loams. Like all the European Cherries the blossoms are white. The best form of the tree for pleasure-ground planting is called *pendula*. Not strikingly pendulous this is sufficiently so to give it added grace.

The Double Morello, *P. Cerasus flore pleno*, also known as *Rhexi* and *ramunculiflora*, is quite the best small-growing double white Cherry we have. The flowers are good white, rûms. across and very double. It is a more compact grower than *P. Avium flore pleno*.

It is nowadays easier to obtain the Oriental Cherries grafted on suitable stocks than was the case until recently. It is very true that Japanese Cherries, forms of *serrulata* or *Lannesiana*, may be seen twenty or thirty years old and still living and flowering on *Avium* or *Cerasus* stocks. It stands to reason, however, that species so alien to the stocks cannot be expected to thrive as they would if budded or grafted on stocks of their own species.



A SPLENDID TREE OF THE WEEPING ROSEBUD CHERRY, *CERASUS PENDULA*, IN JAPAN.

By permission of the Arnold Arboretum.

AUTUMN AND ITS FLOWERS

SEPTEMBER rains and genial sun do much for the pastures and hedgerows, bringing a more lively green to the one and a few fresh Dog Roses and Honeysuckle clusters to the other. In the same way they induce many things of the garden to break into that second flowering which is always so delightful. Yet, though I say "always," it is not that I am unconscious of the fact that autumn blooms to some plants may mean a heavy mortgage on the latter's spring production. It is distressing, perhaps, to find certain Rhododendrons shewing colour now instead of in May. This notwithstanding, his is a cold heart which cannot share the common revival, transitory and beset with dangers as it may be, which this season brings, and rejoice that there is a youth that is still young enough in this old world to "swim on bladders" and take the consequences.

As a matter of fact, and omitting entirely the Roses, the appreciation and enthusiasm which are inspired by these autumn blooms are not to be accounted for solely because they, the latter, are comparatively few and therefore the more warmly greeted individually, but because they are so often finer and of a better colour than those of the earlier flowering were. A notable instance is afforded by the good old *Geranium grandiflorum*, of which the flowers to-day are larger and of a purer colour than those of the first blossoming. So much may also be said of *GG. Endressi* and *striatum*, of the dainty *cinereum* and *argenteum* and that splendid offshoot of *Traversii*, "*Russell Prichard*," which last, even now, shews few signs of failing vigour.

Then there is the wonderful blue of *Omphalodes cappadocica*, sprays of purest azure which gleam with a light even more intensely clear than that of its April blossoms, which is saying much, as those who know this lovely thing will admit. *O. cappadocica* is, with us, one of those plants of which the second flowering is no mere accident dependent upon the caprice of the weather. It comes with the Mushrooms and no less regularly, and outlives them, totally quenching the "ineffectual fires" of *Cynoglossum appeninum* and putting to shame sisters *nitida* and *verna*, which make no response to the sweet influences of September. Though one recognises the fact that the sun has lost the bleaching effect that it had on many blossoms, it is doubtless true that there is a quality in the light at this season which gives blue flowers, or any of those approaching that tint, a notable refinement of tone. It may even endow them with properties they do not actually possess. That adorable little *Viola*, *Lady Crisp*, such a reliable and prolific autumn bloomer, may have been described as a cool lavender two months ago; to-day it is very nearly blue, and the old *V. cornuta*, of which as much might have been said of its earlier flowers, is still bluer. The same subtle alchemist responsible for this also so transforms the blossoms of the Greater Periwinkle that one suddenly realises that there is such a colour as "periwinkle blue" after all. *Aster acris* could hardly at any other season make the same appeal that it does to-day, when the red is filtered from its shaggy rays, causing the blue to predominate

with such extraordinary intensity. Again, I should not like to say that the flowers of *Aster pyrenaicus*, or any other late bloomer of its peculiar tint, would approach so nearly the hue of *Agathaea celestis* at any other season but this. As for the lesser *Campanulas* one might mention a dozen whose few autumn blooms differ so greatly in tone from those of the same plants at midsummer that they might be taken to be distinct forms.

Among others which are making a generous response to these kindly September days is the prostrate *Rosemary*, which has burnished-up its lusty green and produced a fine crop of flowers. The shrubby *Potentillas*, again, notably *PP. Vilmoriniana* and *Farreri*, are blooming as heartily as they were in haytime, and so is *P. arbuscula*, with larger flowers than either of the above, and these in a golden yellow of the richest dye. A dwarfier and very charming member of the same household is *P. fruticosa nana argentea*, but whether it has any right to that name I shall not attempt to decide.



ONE OF EARLY AUTUMN'S MOST EFFECTIVE PLANTS, *ASTER ACRIS*.

Cistuses are not as a rule good "back-end" bloomers, but *C. corbariensis* is an exception, being practically perpetual here. *C. Hillierii* has been in flower all the month and looks like continuing for some time. There are buds breaking on *C. purpureus* as I write and these will doubtless produce flowers not less generous in size and colour than were the first to open. Another *Cistus* that cannot resist indulging in late blooms is the rosy-carmine variety "*Sunset*" of *C. crispus*. *CC. (Helianthemum) formosum* and *unicolor* are bright with their lovely yellow flowers every sunny morning, *alyssoides* has put up a fresh crop of colour and, if *H. umbellatum* is rather more shy at this season, the few milk-white cups which come to adorn its dark-green, yew-like foliage are too precious to be missed. The best of the yellow *Linums* for late-flowering here is *L. capitatum* and its citron yellow makes a bright patch of colour on the top of a retaining wall. This is

always a more certain autumn bloomer than *L. arboreum*, but *L. flavum*, under similar conditions, would probably be as good.

Always one of the most cheerful plants in the rock garden throughout this season is *Mesembryanthemum uncinatum*. This is quite hardy here, being probably the hardiest of its kind, and it makes a neat, branching shrublet about roins high which it covers with a galaxy of bright little crimson and white stars. We have never known this species to be injured by frost. Others among these sun-worshippers which are tolerably hardy, often living for years unprotected in the gritty soil of a rock garden ledge, are the very attractive *Brownii*, *crassulaceum*, *luteum*, *turbinatum* and the glowing violet *violaceum*.

Having been held back by drought the shell-pink, waxen trumpets of *Putoria calabrica*, which grow in clusters like those of *Daphne Cneorum* at the ends of their little branches, have come to join these autumnal efforts, but they are none the less welcome for being late. This tiny bushling from the sunny cliffs of Southern Europe appears to need a warm, dry crevice, yet not too dry lest

its blooming, as I have suggested, may be thrown far into autumn. Like a good many other things it probably enjoys summer moisture, but needs to be shielded from excessive wet at other seasons.

P. calabrica, however, is not the only plant of which the flowering date is decided by the whims of the weather. In days like ours when every urchin knows all about gardening from his collection of cigarette cards, I suppose one ought to be able to overcome such irregularities as plants commit, and insist on punctuality, implicit obedience and the rest. But there it is. *P. calabrica* lies in a dog's sleep all summer. *Polygonum sino-capitatum* pleases itself whether it blooms in July or the end of September, and *P. vacinifolium* will this year not be in full flower until towards the end of September. This last, perhaps the most beautiful of its race, may plead that it never pretended to be anything else but an autumn-flowerer. Even so, some glorious masses grown in full sun in

wet soil and toppling over the rocky margin of a pond, were last year among the most beautiful objects of a neighbour's garden as early as July.

Origanum Dictamnus, the Cretan Marjoram, is much more faithful to its appointed hour, seldom displaying its hop-like flower clusters until the days grow perceptibly shorter. This is not a plant that can lay claim to much merit, but it is one which has a quiet, unobtrusive way of winning one's affections. After all, there is something very attractive about those nodding, lumpy flower heads, ticked with rosy-lilac, and the silky leaves where grey-green is suffused with the same stain of ruby-crimson that adorns the flower bracts. Then I suppose the fact that *O. Dictamnus* is by no means really hardy makes a certain appeal to one's sympathies. *Origanum pulchrum*, having smoother foliage, is probably more robust than the Cretan plant, but in other respects, if my identification fails not, it is much like the latter. A good word must be put in here for *Oxalis*

floribunda alba, which has maintained such a worthy succession of blossoms all summer and which promises a continuance until the very end of autumn. Certainly, to be just, *O. lutea* is equally productive, but in a garden where the latter grows with the profusion of a ramping weed, one is apt to under-estimate its good qualities. The best really late-flowering species of this tribe in bloom here at the time of writing is *O. Depperi*. The handsome trefoil leaves of this Wood Sorrel, often 2 ins. across, are a beautiful apple-green, with crescentic markings in maroon, and the flowers, borne in clusters at the head of 8 in. stems, are a warm red—just the colour for an autumn garden. Is this, by the way, the same *O. Depperi* which, according to an old gardening book by me, is a Mexican species introduced in 1827? The same book goes on to explain at considerable length the culture of *O. Depperi* as a vegetable and gives various methods of cooking and serving the bulbs as well as the leaves, the latter in salads! NORTH WALES.

THE CULTURE OF THE PERSIAN CYCLAMEN

THE beautiful Cyclamen is especially a plant for everyone and, happily, those giant, well-leaved plants, furnished with dozens of flowers and buds, are not difficult of attainment. One point, and one only, must be kept in the forefront of the mind, right from the day when the seed is sown to the time when they are grouped in the greenhouse or conservatory, *i.e.*, steady and continuous growth. A non-stop run from the seed pan to the flowering stage can scarcely result in failure; it is from those checked plants in which the swelling corns become skin-bound that stunted leafage and sparse flowering almost inevitably result. With so important a flower, it is scarcely necessary to insist upon the importance of a good strain of seed, whether this be named or mixed.

Now to the practical work of sowing and raising the plants. Make up a compost of equal parts of good fibrous loam, thoroughly rotted hot-bed

manure and silver sand, taking care that this is thoroughly mixed and then put it into well drained pans or boxes, to a depth of about 3 ins., making the surface smooth and level.

Upon opening the packet one finds (especially if the varieties are mixed), that the seeds vary considerably in size. The best way to distribute them is by going over the surface of the pan and dibbling small holes with the end of a match at distances of 1 in. apart and ½ in. deep. Into each of these holes drop a single seed and make the holes slightly shallower for the smaller seeds, so that they are not buried too deeply. Press down the surface of the soil gently, water through a fine rosed can and cover each box with a pane of glass. These pans should be stood in a house where the minimum temperature does not fall below 55°. Here they will require but little watering, for it is only necessary to keep the soil just moist until the wee plantlets appear. The glass should

then be withdrawn and the pans placed in a good light near the glass, so as to prevent the little plants becoming drawn and to keep the growth sturdy. By sowing at the above distance, it will not be necessary to transplant until early February, by which time they will have advanced sufficiently for transfer to small pots. Through the winter a steady temperature of 50° to 60° suits them admirably and care should be taken never to allow the atmosphere to become dry, a very vital point in successful cultivation. If one wants to save labour, it is a good plan to lift the plants from the boxes or pans in which they were sown and transfer to further boxes, 3 ins. apart each way, as it is far simpler to attend to their wants in the direction of watering and so forth where a quantity of plants are contained in a box than when the same quantity are distributed over an equal number of pots.

Do not overlook the fact that we often get spells of bright sunshine in early spring and that newly boxed plants need shading until the roots are working freely again. Even then, although Cyclamens enjoy abundant light, direct sunshine should be screened. About the time the plantlets make their fifth leaf is an excellent period to choose for placing in the first pots, for simultaneously with this they begin to push out strong feeding roots from the base of the corns. Perfectly clean, well drained 4 in. pots are a suitable size to use. Make up a heap of similar soil and run this through a coarse sieve so as to divide it into two heaps, the finer for the actual potting, the coarser to be used for putting over the drainage holes and crocks. Half fill the pots with compost, then lift a seedling from the box with as much soil as possible adhering to the roots, drop it into the pot and fill in round the edge with further soil. One should be careful to press this down very lightly with the fingers for the Cyclamen loves a loose soil through which the roots can run very easily, and anything like hard potting brings the growth to an immediate standstill. Unlike most corns or tubers the Cyclamen should not be buried beneath the earth, but "sit" upon the top of it with the soil sloping away on all sides to the rim of the pot. When, therefore, one lifts the plants from the seed boxes, plant them in the pots at such a level that about one-third of the depth of the corn is below the surface and the other two-thirds above it.

Place the pots in a warmer temperature for a short time, shade from sunlight, use tepid water for moistening the soil and damp overhead twice a day and the plants will continue growing without the slightest pause. As the natural temperature increases, more and more air may be admitted, but care should be taken that this is not allowed to become dry or pests will begin to prove troublesome. After the lapse of about eight weeks, the plants will be fit for a further shift into 6 in. flowering pots. By this time they should have built up good sized healthy corns, well furnished with leaves and roots and therefore in a condition to absorb stronger food. Use a similar compost, but reduce the amount of sand and do not sift the soil. Equal care should be taken not to make the soil too firm and they should be returned to the same position and identical cultural conditions carried on, except that they should be kept a little closer for a few days. Through August, which is usually the most trying period of their lives, because of the heat, every possible endeavour should be exerted to keep them moist and cool and no better spot can be found than in cold frames facing north. The frames should have an ash bottom and plants should be well spaced out. The ash bed is particularly to be recommended for this is of the greatest assistance in preserving a moist atmosphere and also prevents worms from entering the pots through the drainage hole.



THE SALMON PINK-FLOWERED FRILLED CYCLAMEN MRS. BUCKSTON.



CYCLAMEN BLACKMORE AND LANGDON'S GIANT WHITE.

By the beginning of October the plants will probably begin to shew flower buds, which is one of the great advantages of sowing at the present time, for the plants thus become true winter flowerers, a period when they are most valuable. Unless it is desired to retard the flowering, preparations should be made in late September or early in October for housing the plants. This may, however, be deferred by allowing them to remain in the frames for a few weeks longer, but care must be taken that they do not become frosted during an exceptionally cold night. When housing, give the plants a good light place in an airy greenhouse, if possible on a bed of ashes or shingle. Do not allow the temperature to run too high at first. Remember they have been in cold frames for an extended period and so any sudden rise is likely to be injurious.

Once they have become acclimatised to their new quarters, feeding with liquid manure may begin

and may be varied from time to time with a pinch of artificial or chemical fertiliser. Be sure, however, that these are always used under normal strength, lest the roots be burned. Take care, when either dead leaves or flowers are removed, that this is done by pulling and not cutting off. Cutting leaves a tag of the old stem attached to the corm which is apt to rot and may spread the decay to other stems or even to the corm itself. Watering, too, is a matter that needs care. To guard against decay, the water should always be poured upon the soil at the side and in small quantities at a time, so that it never floods the centre of the corm. All watering should be performed early in the day so as to give the plants as good a chance as possible to dry before night. After the plants have been housed in autumn, shading may usually be dispensed with, until after flowering is over. The weak autumn sunlight proves beneficial to the health of the plants and buds.

BULBIST.

THE GENTIANELLA

WITH all due deference to the late Mr. Reginald Farrer, I cannot bring myself to accept the name of *GENTIANA GENTIANELLA* for this old favourite of our gardens. Also, after many years of experience with this plant, I cannot agree that a soil rich in lime is essential to its well-being or free flowering. Personally, I incline to the view that the presence of certain soil bacteria is really the essential factor in flower production. As far as I can see, the plant lives well enough in almost any garden, but in some districts, and especially in town gardens, where the air is impure and where probably considerable quantities of sulphuric acid are precipitated with the rainfall, the plant produces nothing but empty calyces, whatever the blandishments (in the way of special soil mixtures) used by the anxious cultivator.

The only effective remedy for this non-flowering so far as I know, has been the introduction of soil from a garden where this Gentian flowered

freely. This resulted, in practically every case, in the production of at least a few flowers during the first year after this soil, presumably full of the necessary bacteria, was introduced. In some gardens where the air was tolerably pure the good effect has continued, but in others the plants reverted to "blindness" after the rainfalls of the winter, charged heavily with impurities, had most probably put an end to the beneficent activities of the bacteria I presume to have been present in the soil introduced.

Anyone at all well acquainted with the R.H.S. gardens at Wisley must have seen this Gentian flowering profusely in the almost lime-free soil there; in fact, the authorities at Wisley will be almost certain to attribute this freedom of flowering to the absence of lime. On the other hand, at Stevenage, from whence I write this note, this Gentian flowers every bit as freely in a soil so full of lime that Rhododendrons are impossible in the district. Again, in a garden at Caterham, well known to me for many years, this plant is

marvellously free on a stiff, clayey soil charged with chalk and freely enriched with leaf-mould. Fourthly, I know of a garden at East Grinstead, on the Lower Greensand formation, where Heathers thrive, and here again the Gentian flowers well without any special preparation or feeding of the soil. I could continue to quote further instances of the thriving and flowering of this plant with lime or without, but I believe enough has been said to prove that my contention is at least worthy of further consideration and trial by those who have hitherto failed to flower this singularly attractive plant.

Now for the name! *Gentiana acaulis* of Linnæ appears to cover several closely allied plants, and the nomenclature of these various forms is at least confusing. Mr. Farrer tackled this confusion manfully, but he has not succeeded in making his final ruling acceptable to me. For instance, his assumption that this plant might possibly be a hybrid seems to be bad. The plant, as I have proved on several occasions, reproduces absolutely true to type from seed. This, one would scarcely expect from a plant of hybrid origin, although this might be the "exception that proves the rule." The name *G. acaulis*, L., covers among others *G. excisa*, Presl., and *G. Kochiana*, Perr. et Song. Now *G. excisa* in nature is generally found upon non-calcareous formations. Moreover, it is the form that descends into the valleys, which should show certain powers of adaptability and help materially to make it easier of cultivation in our lowland gardens. Lastly, a fact of some importance, I have seen, in the course of my wanderings, plants of this species which I was assured were collected upon moorlands in Northern Germany and in what used to be, and is now at last again, Denmark. I hunted through one of these localities, alas! in vain, but I did find *Anemone vernalis* in quantity, a congener of our plant in its mountain home. Finally, I found that the plant was well known to the Low German-speaking peasantry, who, judging by their gardens, could scarcely be called gardeners. However, they knew the plant at sight from illustrations, and offered to point out places where they had seen what they called "Hamborger Mützen." This seemed to prove to my mind the existence of a lowland form of *G. excisa*, and this I believe to be the true origin of our garden plant which Mr. Farrer would wish to be known as *Gentiana Gentianella*, a name I hold to be particularly unsuitable, as in most Latin tongues the suffix "ella" implies a diminutive, whereas our plant produces one of the largest flowers found in the genus and is by no means the least in stature. I believe the majority of gardeners will be with me in wishing to continue to call this plant by its well known garden name of *Gentiana acaulis*, which, after all, appears to be a collective designation, and if they wish to call it by a more or less anglicised name, use the name "Gentianella" as such, unless they prefer to call the plant the "Stemless Gentian," which, if inaccurate, is quite as usual nowadays in my experience.

In conclusion, I do not wish to imply that this Gentian may not do better in many gardens with liberal feeding. Crushed bone and fish guano, shoddy and old hot-bed manure incorporated with the soil are acceptable to the plant, while full exposure to the sun and free applications of the watering-pot during dry spells in summer are of undoubted assistance. Very firm planting is absolutely necessary and, as the plant has a habit of growing out of the soil and exposing a neck, a top-dressing carefully worked into the tufts and well watered in in the autumn is advisable. I firmly believe that people who have failed to flower this Gentian so far will achieve

at least a temporary success by importing a sack of soil from a locality where the plant is known to flower freely, and either mixing such soil to the extent of 50 per cent. with the soil of their own gardens or, in very smoky districts, by entirely filling a small bed with the purchased soil, enriching the same in the manner indicated by all means, and so making assurance doubly sure.

W. F. TH. INGWERSEN.

No botanist is infallible, and the late Reginald Farrer would have been one of the last to claim infallibility for his deductions, and it is quite

likely that he was less thoroughly acquainted with *Gentiana exisa* than with the other species lumped together by Linnaeus—also far from infallible!—as *G. acaulis*. Mr. Ingwersen's theory of the origin of the plant is very feasible, and it would be well if the matter could be satisfactorily cleared up once and for all. It seems to us that the plant would then be best described as *Gentiana exisa* var. *Gentianella*. Certainly it seems undesirable from a botanical standpoint to revert to the name *acaulis* which formerly introduced so much confusion. (Ed.)

THE GREAT AUTUMN ROSE SHOW

THE Autumn Show of the National Rose Society, held on September 20 and 21 at the Royal Horticultural Hall, was, in the opinion of some good judges, the best show ever put up by the Society, and therefore in all probability the best ever set up in any country. It was certainly an immense improvement upon the Summer Show, which, it will be remembered, had very adverse conditions to contend against. The Hall in Vincent Square was on the first day of the Show altogether too small to contain in comfort the crowd of enthusiasts that almost fought its way into it, and many of the visitors could have received only a few confused impressions of a magnificent exhibition. It is plainly evident that the Society will have seriously to consider the question of a more commodious venue for the corresponding meeting next year.

The "representative groups" of Roses were more popular than ever with the trade growers,

who have fully realised their immense value in shewing off the possibilities as well as characteristics of the different varieties. The principal class was so well patronised that the whole length of the hall could not accommodate the exhibits, and there was an overflow into the body of the hall.

This magnificent array of the finest Roses the world can produce at this season made a memorable display. It seemed almost as though the exhibitors had entered into an agreement to co-ordinate their arrangements so that a pleasant uniformity, without monotony, should be obtained. There were half a dozen of these large exhibits along the wall space and, while no two were alike, each blended harmoniously into its neighbour.

The judges had no enviable task, and if they had recourse to pointing, half points must have been employed, because the merits of the principal collections were remarkably even. There was a certain similarity in the method employed by

the two most successful exhibitors, and it seemed that the first prize was won by Mr. T. Robinson on account of the extra lightness in his arrangement, though, as we have already remarked, the merits were remarkably even. Both collections were exceedingly fresh and bright. In Mr. Robinson's group the tall stands of Emma Wright, Ophelia and Golden Emblem were excellent in this respect. Though filled with very good blooms and in generous quantity, the stands of Colonel Oswald Fitzgerald, and K. of K., while splendid in themselves made dark patches which just prevented the group being ideal. His smaller masses of Christine, Elegante and the deliciously fragrant Walter C. Clarke were also very delightful.

In the second prize group of Messrs. S. McGredy and Son the blooms were also exceedingly fresh and perfectly timed and pre-eminent in their colour associations. The stand of The Queen Alexandra Rose, for example, was vividly beautiful and in perfect harmony with Lady Pirrie and Golden Emblem. The last named and Christine were most beautifully coloured; while Isobel, Admiration and Los Angeles were also of great merit. Messrs. A. J. and C. Allen were third, and they had a very pleasant style of arrangement. The colours of the large stands of Independence Day and of Padre were magnificent. Arches of Ophelia, Mrs. Henry Bowles and K. of K. associated with sprays of Rosa Willmottiae and R. sericea pterantha in the collection of Messrs. Chaplin Brothers were very effective. Besides good vases of Mrs. Henry Stevens, Los Angeles and Edith Cavell they had a small vase of the uncommon green-flowered Rosa viridiflora. Messrs. Alex. Dickson and Sons well illustrated the great



REMARKABLY COLOURED—ROSE SHOT SILK.



THE GOLDEN YELLOW BETTY HULTON.

decorative value of their varieties Betty Uprichard and Lady Inchiquin, of which they had magnificent stands. Messrs. Bees had a large massed arrangement of their Independence Day of glorious colouring.

NEW ROSES.

There was no shortage of new Roses and almost all the varieties put up for award seemed desirable garden varieties. We took the opportunity of looking over the new varieties at leisure on the morning of the second day and it must be confessed some of the varieties took on new qualities when thus seen under more natural conditions—for buds and blown flowers were then to be seen—and, of course, the Rose is really a morning flower.

Shot Silk.—This variety was shown at Regent's Park last summer, when its glowing colouring was commented upon. It is a rather loosely made, rounded bloom carried well on stiff stalks. The colour is orange rose with a golden yellow base. Gold medal. Shown by Messrs. Alex. Dickson and Sons.

Betty Hulton (H.T.).—A rich yellow Rose of long shape and rather loosely made, shewing a good deal of Tea blood. There is a suggestion of pale orange in the heart of the blooms. The foliage is good, but it is not at all stout of petal. Gold medal. Shown by Messrs. Alex. Dickson and Sons.

Aurora.—In many ways this is a good primrose yellow counterpart to Nur Mahal, for it belongs to the same section (Hybrid Musk) and is also free flowering. Certificate of merit. Shown by the Rev. J. H. Pemberton.

Earl Beatty.—In quantity, as this Hybrid Tea Rose was staged, it is quite effective. The closely made, fully double flowers are of crimson colour. Shown by Messrs. Chaplin Brothers.

Nur Mahal.—This semi-double free-flowering Hybrid Musk variety has been on view regularly throughout the year, when many have admired its bright colouring. It had previously been awarded the certificate of merit. Shown by the Rev. J. H. Pemberton.

Richard E. West.—A useful yellow Hybrid Tea variety bearing medium-sized blooms on good stems. Shown by Messrs. Alex. Dickson and Sons.

Victor Waddilove.—A good double Hybrid Tea variety of rich pink colouring. The foliage is quite small, very clean and of a good green. It should prove to be a good variety for all purposes and is wonderfully fragrant. Certificate of merit. Shown by Messrs. S. McGredy and Sons.

June Boyd.—A most charming Hybrid Tea variety of good size and form. The delicate golden buff colour is lightly overlaid with rose purple. The blooms are fully double and the broad petals are substantial. It has small, clean, purplish foliage. Shown by Messrs. S. McGredy and Sons.

Mrs. J. Heath.—A lovely creamy yellow Hybrid Tea Rose flushed with pink, especially in the heart of the bloom. It should be a good garden Rose. Shown by Messrs. S. McGredy and Sons.

Margaret McGredy.—This may well be termed The Queen Alexandra Rose of more scarlet colour and without, or with very little, golden yellow. Consequently it is a bright and showy variety. Many thought that if any gold medals were awarded this should have had one. Certificate of merit. Shown by Messrs. S. McGredy and Sons.

Mrs. S. Paton.—A charming, richly coloured rose pink Hybrid Tea variety with a suggestion of golden yellow in the reverse of the petals. The buds are of perfect shape, but it becomes a flattened bloom when fully expanded. Shown by Messrs. S. McGredy and Sons.

Joan Waddilove.—A small and rather thin, but very striking Hybrid Tea Rose. The golden reverse

is very prominent and sets off the light flushing of rosy-purple. Shown by Messrs. S. McGredy and Sons.

Mrs. C. W. Edwards.—A splendid, large Hybrid Tea Rose, with broad, substantial petals which rolled back gracefully. The colour is a deep rose and the stems and foliage are very good. Shown by Messrs. S. McGredy and Sons.

Lady Sackville.—The darkest of the new Roses. The rather small rounded blooms have a lumpy appearance and are only moderately fragrant. Shown by Messrs. S. McGredy and Sons.

Sadie.—A vigorous Hybrid Tea variety bearing well formed, slightly fragrant blooms of creamy orange colour, lightly shaded with apricot. The foliage is clean and good. Shown by Mr. George Prince.

Fanny Oppenheimer.—The most brilliant Rose in the whole Show. The form is not first-class, but it would be showy in the garden and a very telling variety in the classes for decorative Roses. The buds are of good shape, but they open loosely, though the petals are substantial. The brilliant cardinal-coloured blooms are lightened by a golden base. Certificate of Merit. Shown by Messrs. S. McGredy and Sons.

Phyllis Bide.—This is a quaintly beautiful perpetual-flowering Rose. It bears quantities of small, loosely made, almost double flowers of pale golden yellow, broadly tipped with pale rose. The foliage is very good and altogether it is a charming and uncommon variety. Certificate of merit. Shown by Messrs. S. Bide and Sons.

Lady Charmion.—A rosy-cerise Hybrid Tea Rose of medium size, apparently very free and would be effective in the garden. Shown by Messrs. Bees, Limited.

Etoile d'Hollande.—This very meritorious Hybrid Tea Rose was sent out in 1921, but is not yet in general cultivation. The very fragrant blooms are of moderate shape, medium size and rich crimson maroon colour, with lighter tips. The foliage is substantial and it appears to be a variety that would shew up well during adverse weather. It is worth growing for its fragrance alone. Shown by Messrs. H. Morse and Sons.

Mabel Turner.—A very good Hybrid Tea variety, fully double and of long pointed shape. The broad petals are a medium pink shade and have silvery reverses. The foliage is clean and good. Certificate of merit. Shown by Messrs. Hugh Dickson, Limited.

Oliver Meer.—A Hybrid Tea Rose recommended for the garden and for exhibiting. It is a medium-sized, shapely bloom, flushed with peach pink on dull white ground. Certificate of merit. Shown by Messrs. Hugh Dickson, Limited.

Alice.—A pretty dwarf Polyantha variety of fair size and old-fashioned rose-pink colouring.

It appears to be very free and should prove to be a useful bedding variety. Shown by Messrs. D. Prior and Sons.

Treversa.—A deep pink Hybrid Tea variety, fully double and of long shape. It is said to be



THE DELIGHTFULLY COLOURED JOAN WADDILOVE.

very free flowering. Shown by Messrs. D. Prior and Sons.

Mussolini.—A very beautiful Hybrid Tea variety of rounded form. It is recommended as an all-purposes Rose and is said to be of vigorous habit. The fully double flowers which are prettily flushed with peach-pink have a golden buff reverse. Shown by Messrs. D. Prior and Sons.

F. J. Looymans.—An excellent Hybrid Tea variety. The shapely blooms are fully double, of bright orange colouring with a hint of apricot, and are borne on long straight stems. The neat foliage is a shining green. Shown by Messrs. D. Prior and Sons.

Elvira Aramayo.—A small, showy, vigorous garden Hybrid Tea Rose of India red colour, with a suggestion of cerise. Shown by Messrs. D. Prior and Sons.

Allen Chandler.—The Cory Cup, which is offered for the best new Climbing Rose of the year and has been open for competition at all three shows of the Society, was awarded to this variety, shown by Mr. George Prince. It is a very attractive and free-growing climber, producing plenty of trusses of semi-double flowers of bright scarlet colour, slightly suffused with velvety maroon and about 2 ins. across. It is very pleasantly fragrant.

The conclusion of the report of this great Show with pictures of some others of the New Roses exhibited will appear in our next issue.

HARDY FLOWERS AT VINCENT SQUARE

THAT autumn, close upon us, was fully evident from the flowers which predominated at the Royal Horticultural Society's Hall, Westminster, on September 18 last. As on a fortnight ago, Dahlias filled large spaces and Gladioli were numerous, while chief among general border flowers were Kniphofias, Michaelmas Daisies and perennial Sunflowers. Carnations, including the useful *Dianthus Allwoodii*, were displayed in their wonted quantities and quality. Orchids increased a little and, in anticipation of the Autumn Show, two days later, Roses were set up in generous quantities. But as this flower will then "hold the stage," we content ourselves with mentioning their presence. Dahlias had their great day a fortnight ago and the new varieties are described below. Mr. H. J. Jones, however, annexed a gold medal for these flowers with a brilliant exhibit in which the only fault was a certain sense of disconnection between the towering pillars of the background and the vases in front. Mr. Cobb's exhibit was composed of novelties of his own raising, prominent among which were *Vive la France*, which was selected for trial a fortnight ago. Mr. J. B. Kiding had an interesting group with some very pretty stands of the small Decorative sorts. Messrs. Carter Page again had a good show; so had Messrs. Cheal.

Violas were again shewn very well indeed by Mr. H. Yandell and also by Messrs. Artindale and Co., who included some particularly good Gladioli

and a brilliant Kniphofia named *The Rocket*. Kniphofias were especially effective as a background to the group arranged by Mr. M. Prichard who, along the front, had several good garden Pinks. The double-flowered B. O. Prichard and the singles Schuman and Rosette Cense were very desirable.

Although by no means new or rare, a large vase of *Liatris pycnostachya* was very effective in an exhibit by Mr. W. Wells, Junr., while near by Messrs. Harkness and Sons included the yellow *Guilfordia* E. T. Auderton in a particularly effective group. Many of the named *Pentstemons* set up by Messrs. Wm. Curbush and Sons were well worth growing.

In the annexe Mr. E. R. Russell had a pretty little group of *Clematises* and, besides the large-flowered garden varieties, he shewed *Clematis tangutica*, which bears such uncommon rich yellow pendulous little flowers. In the corner by the annexe Messrs. Carter and Co. were very successful with their arrangement of some splendidly grown pot plants of *Lilium speciosum* and its varieties.

Pentstemon Kellermanii, associated with the purple foliage of *Prunus cerasifera* Pissardi made a restful and pleasing vase in the collection of Mr. F. J. Wood, who also shewed long growths of *Physalis Francheti*. Mr. S. Morris shewed splendid spikes of *Montbretias*, but some excellent new ones were under seedling numbers.

A welcome addition to the general exhibits at the Hall were the magnificent pot fruits shewn by

Messrs. T. Rivers and Son and Mr. J. C. Allgrove. Both were models of expert cultivation and of fruitful little trees. In Messrs. Rivers' group the fruits of such Plums as *Coe's Golden Drop*, *Late Orange* and *Coe's Violet* had a very tempting appearance, while their Peaches included *Princess of Wales*, *Lady Palmerston* and *Sea Eagle*, which fruits so well out of doors in the western counties.

Chief among Mr. Allgrove's collection were the trees of Allgrove's *Superb Plum*, which may be termed a coloured *Jefferson*, as it is otherwise similar to that fine variety. He also shewed *Early Transparent Gage*, *Crimson Galarde Peach* and heavily-fruited sprays of *Rubus lauratus*.

Messrs. Daniels Bros. again shewed their September *Black Currant* and the large fruits were as firm and plump as a fortnight ago, thus well illustrating the great value of their variety. They also staged a few dishes of Apples and Pears.

From the Guild of Blind Gardeners came a most praiseworthy collection of seasonable vegetables, with a few flowers. The vegetables were tully equal to the prize-winning examples at many country shows and included Potatoes, Beet, Onions, French and Runner Beans and Vegetable Marrows.

NEW AND RARE PLANTS.

Kniphofia Royal Standard.—This is a graceful and effective "Red-hot Poker Flower." The spike is of medium size and the bright coral of the upper two-thirds, which is composed of unopened



A STUDY IN ORANGE AND YELLOW, THE VERY EFFECTIVE NEW MONTBRETIA JESSIE



THE REMARKABLY LATE AND FINE BLACK CURRANT DANIEL'S SEPTEMBER BLACK.

flower buds in various stages of development, contrasts well with the primrose yellow of the fully open flowers below. Award of merit. Shewn by Mr. M. Prichard.

Montbretia Jessie.—A beautiful variety of these popular plants. It is a rather more than medium-sized flower, nearly round and of yellow ground colour, evenly stippled with orange yellow on two-thirds of the petals, giving the appearance of a yellow zone. Award of merit. Shewn by Mr. S. Morris.

Montbretia The Princess.—This variety is of similar type to the foregoing and differs in its richer colour and in the petals having a crimson lake blotch at the base, within the yellow zone. The outer colour is a deep orange. In both varieties the outer surfaces of the petals are heavily flushed. Award of merit. Shewn by Mr. S. Morris.

Pyrus earlhamensis.—The committee must have been in generous mood when they recommended the award to this tree. To all garden intents and purposes it is a poor imitation Cider Apple. We have just recently seen hundreds of Cider Apple trees in Devonshire of superior garden value. The orchard trees were of much more graceful habit, bearing more freely equally highly-coloured fruits. Award of merit. Shewn by Mr. S. Morris.

Cypripedium Godefroyæ var. Len-cochilum.—This is a very beautiful variety of this well known "Lady's Slipper Orchid." Like the type it is of sturdy compact habit and has green leaves. The substantial flowers are the colour of old ivory, freely spotted with bright chocolate. Award of merit. Shewn by Messrs. Cowan and Co.

Lælio-Cattleya Aureole var. Renown.—A strikingly handsome Orchid. The sepals and petals are of rich yellow colour which continues part way along the lip. The frontal portion of the expanded lip is of rosy purple colour lined with gold towards the throat. Award of merit. Shewn by Mr. Pantia Ralli.

Vuylstekeara medea.—This member of the recently constituted group is a cross between *Odontioda Zenobia* and *Miltonia Charlesworthii*. The sepals and petals are of rosy crimson colour lightly flushed with maroon. The basal half of the distinct lip has the same colouring while the broadened and slightly waved outer half is prettily mottled. Award of merit. Shewn by Messrs. Charlesworth and Co.

NEW DAHLIAS.

At their meeting the Joint Dahlia Committee found an almost embarrassing number of novelties before them, and, of these, selected the following for trial at Wisley. Dahlia raisers seem to have short memories, for, again, several of the novelties have to be re-christened. It was made clear that unless the raisers guaranteed to send plants to Wisley next spring their novelties would not be considered.

Reading Star.—An exceedingly showy Star Dahlia of bright crimson colour, prettily tipped with maroon. Shewn from the University College Gardens, Reading.

Lydia.—Another valuable Star Dahlia. It is rather larger than most of this type and of good yellow colour. Shewn by Mr. Chas. Turner.

Snowdrift.—A large, perfectly formed show Cactus Dahlia. When first open it is a good white, but the blooms seem soon to discolour. This and the two following were shewn by Mr. H. Shoemith.

Lenny.—A medium-sized Decorative variety of

Beacon.—Although described as being a Decorative variety this is much like a coarse Cactus Dahlia. The colour is crimson-magenta.

Vera.—A medium-sized Decorative of compact habit and pointed florets. The colour is scarlet flushed with crimson, except at the white tips.



THE BRIGHT VELVETY CRIMSON MINIATURE PÆONY-FLOWERED DAHLIA VIVE LA FRANCE.

rather thin texture. The pale yellow ground flowers, flushed with rosy-purple are, however, very pretty.

Winnie Hardy.—This is a very decorative Cactus variety of medium size. The rolled florets incurve and are of deep rosy-mauve colour tipped with gold.

Polar Bear.—A large, shapely Decorative variety of high merit. It is a well formed, pure white variety. Shewn by Hon. Vicary Gibbs.

Thursa.—A pretty Miniature Decorative variety with pointed florets of bright scarlet colour. This and the four following were shewn by Messrs. J. Burrell and Sons.

Gwynne.—A small Pæony-flowered variety of rich velvety crimson colour, which is a deeper shade in the centre of the flower.

Violetta.—A Pæony-flowered variety of rather more than average size and bright mauve colour.

Emblem.—A well formed Decorative of rosy-mauve colour with an occasional gold line and golden at the tips.

Sylph.—A large Pæony-flowered bloom of sparkling texture and flushed with lavender.

Rocket.—A large exhibition Cactus with rolled florets. The colour is rosy mauve with a paler centre. This and the following were shewn by Messrs. J. Stredwick and Son.

Dot.—A pretty little Collarette. The white florets have a deep crimson line running up each side towards the tip and the crimson quills alternate with white.

Maggie.—A broad-petalled Decorative of velvety crimson colour, lightly tipped with white.

Phosphorous.—A very large yellow single Dahlia.

Rector.—A mauve-flushed Decorative with a few chocolate spots.

L. Hancock.—A large, flattish Decorative, well-set-up and of pale scarlet colour, lightly flushed with crimson.

Mrs. E. G. Cant.—A large Decorative of pale orange-buff colour, which becomes flushed with rose. It is somewhat star-shaped.

Lucien.—A good primrose-yellow Decorative of large size.

Nero.—A perfectly formed rich crimson-maroon Pompon variety. Shewn by Messrs. J. Cheal and Sons.

NEW FRUIT.

Apple George Neal.—This seedling Apple was shewn last year, when an award of merit was recommended, conditional on the tree passing an inspection by the Sub-Committee, which now reports that it is of good habit and growth and a fine cropper, so the award becomes substantive. The dish of fruits submitted to the Committee did not survive the ordeal, so we may conclude that the flavour is satisfactory. As we remember it, the new Apple is in size and shape much like Lane's Prince Albert and of attractive appearance. It is recommended both for the dessert table and for kitchen use. Shewn by Messrs. R. Neal and Sons.

FORTHCOMING EVENTS.

October 2.—Royal Horticultural Society's Great Autumn Show, to be held at Holland Park Hall, Shepherd's Bush (three days).—Royal Caledonian Horticultural Society's Meeting.

October 3.—Lewes Horticultural Society's Meeting.

CORRESPONDENCE

IRIS PRICES.

WHETHER prices are too high depends on whether they are fixed by supply and demand—as "Siri" considers—or are arbitrarily inflated—as I do. As to supply, I cannot believe that there is any appreciable number of varieties ten years old, and upwards, of which an individual grower could not supply fifty plants if he expected that that number would be required. That it can be done is shown by the fact that Continental growers quote prices per ten varieties only one or two years in commerce, and per 100 of older varieties, even of expensive sorts, such as *Souv. de Mme. Gaudichau*. Either I have been fortunate in my experience of Continental plants, or "Siri" has been unfortunate. For the past three seasons I can supply the following comparison. Varieties obtained from Continental growers, 39; flowered first season, 32 = 80 per cent. Varieties obtained from English growers, 27; flowered first season, 7 = 25 per cent. I have omitted one set of Continental plants which were delayed eight weeks in transit and suffered accordingly, and some *Ricardii* hybrids planted late this spring.—B. R. LONG.

AUCUBA SEEDLINGS AND OTHERS.

MANY years ago I had some of the first berries ever produced in the United Kingdom, from the celebrated garden of Mr. W. E. Gumbleton, and therefrom I got two fine varieties, one I call Golden King, the other Green Queen. The former has a very fine robust habit and I have many bushes of it, the other bears fruits, but its growth is very poor. I have also (from Swiss berries) some other distinct varieties, as in that climate seedlings come in quantities round and about the parent plant, while here I never get one. Another seedling, very far removed, is *Asparagus*, which appeared at the foot of a *Gooseberry* bush, quite rooyds. from the *Asparagus* bed. It passed through some misadventures and now has become a giant! Last year's growth was 8 ft., and to-day's measurement is 8 ft. 9 ins., and we ate some early growths as well. This success is all due to salt, as one day I got strong pickle from the meat butt, and said, "Kill or cure, I'll try it." The success of this big dose is astonishing and points to the impossibility of giving too much salt.—J. H. POE, Capt., *Riverston, Nenagh, Tipperary*.

GALANTHUS CILICICUS.

IT is pleasant to observe that this autumn-flowering *Snowdrop* is again offered. I do not remember to have seen it catalogued for some time. It is, I have found, the most reliable of the autumn-flowering *Snowdrops*, though with me, after the first year of importation, it did not flower until November, and in some seasons even as late as early December. It is quite a pretty little *Snowdrop*, not, of course, superior in beauty to our own *G. nivalis*, but quite welcome in the rock garden or the front of the border, though rather too precious for any place where it would run any risk of destruction by careless hands or the encroachments of rampant plants.—S. ARNOTT.

THE TULIP IN SUBURBIA.

THE accompanying photograph, taken in my own garden, shews, I think, that Darwin and May-flowering Tulips can be grown fairly well in a small suburban garden under certain conditions. To get the best results, however, when growing them in the same confined space year after year, as I have done for seventeen years, it is essential that the soil should be annually replenished by the addition of good fibrous loam. Tulips are "gross

feeders," so stable manure should be incorporated with the soil, but placed well down so that the bases of the bulbs do not touch it when planted. Failing stable manure—now difficult to obtain—I find



PART OF A GARDEN OF TULIPS.

basic slag and bone meal a good substitute, but there is no real substitute for stable manure. Towards the end of October is a good time for planting, when the soil is in a nice friable condition. If planted early they come through too soon and severe March winds somewhat batter the foliage, but they are quite hardy and will survive even Arctic weather.

The man with a "tablecloth" garden desires to cultivate a little of everything, with the result, I am afraid, that he rarely produces anything of outstanding merit. In my own case I grow Tulips between rows of *Roses*, *Phloxes*, etc., so that when the Tulips are over in mid-May there is still something to come in the summer months. The bulbs should be lifted in July, when the foliage has decayed, dried and stored for replanting. This is a slow process requiring patience, but the amateur gardener has his *quantum* of patience!—W. F. S., S.W.17.

STRAWBERRY CULTURE.

I HAVE read carefully the comments of Mr. Engleheart respecting my notes upon Strawberry cultivation. His method differs from mine. That his method is successful is evident by the results achieved, but I claim that the method of culture I advocated on page 442 has proved successful too. We are thus brought face to face with the well known fact that success in horticultural practice can be achieved in more ways than one. I hope, therefore, that Mr. Engleheart will pardon me for explaining my system of propagation in greater detail. I advocate that runners should be taken from one year old plants because such plants still possess the vitality of youth. It seems but logical to assume that young stock raised in this manner will partake of the vitality of their parents. So far Mr. Engleheart and myself may be in agreement. At this stage, however, a difference in practice arises. He propagates from yearlings

which have not been permitted to fruit. I propagate from yearlings which have fruited. I do so with the object of reducing the number of "blind" or sterile plants in the plantation. That such sterility is hereditary in some cases I have proved by experiment. As fertility or sterility can only be proved

by growth, it seems more in accord with reason to reject the runner of the sterile plant. My difficulty in embracing Mr. Engleheart's system is this: I cannot see how the naturally sterile plant is to be discovered when all are artificially made sterile. It may some day be my pleasure to introduce to Mr. Engleheart growers who do not fruit their Strawberries the first year after planting. Some of them are worthy exponents of the ancient craft of horticulture. As I previously stated disagreement with this particular phase of their practice I am not now called upon to defend it. Neither do I regard seriously Mr. Engleheart's criticism of the compost recommended for potting the runners. The runners are only in the pots for a very short period, and any type of sweet soil would meet their requirements. I advocated a light soil because roots are usually emitted freely in such a compost.—GEO. H. COPLEY.

[It is not easy to follow our correspondent's point about sterility. Surely, if one removes the blossom trusses from a plant one knows that it is fertile, and it would be perfectly easy to grub up and destroy plants which never shewed blossom. No doubt "blindness" is a specific disease or a condition brought about by disease; It is certainly transmissible to the "runners."—Ed.]

IRIS CRISTATA.

FEW of the dwarf rhizomatous Irises are so delightful and satisfactory as *Iris cristata*, from the mountains of Kentucky, Virginia and Carolina. Where it succeeds well, as it does in most places, it increases into a spreading mass of short, broad leaves and stems, 4 ins. to 6 ins. or so high, bearing wonderfully large flowers of a charming lilac or violet shade, decorated with a conspicuous crest, one of the features of the *Evansia* section, to which it belongs. It thrives specially well in some gardens and in these it is an object of great beauty

in summer. It appears to like a gritty soil with a fair amount of moisture underneath, but the latter does not appear always to be essential. I have never found it difficult to cultivate, except that slugs were inclined to be troublesome and to crop the

plant to the ground in early spring. It is easily increased by division. It is a comparatively inexpensive plant, but the rather scarce white variety, *I. cristata alba*, is higher in price.—S. ARNOTT.

SELF - SOWN BIENNIALS

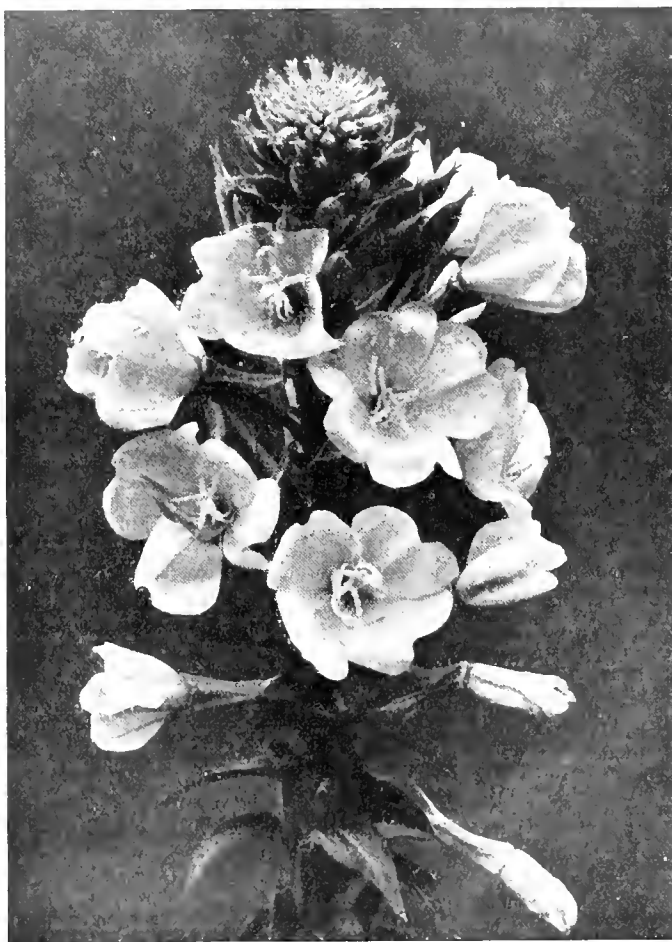
TO every amateur who works with his own ten digits and not by the proxy of a professional gardener there comes a time, I fancy, soon or late, when his spontaneous energy is less than it once was, and the passion for muscular toil sensibly abates; when, in short, he is disposed, in respect of garden work, to accept the advice of Mr. Squeers to "moderate his transports." It is then one learns to regard with a preference—half gratitude, half affection—those easy plants which give little trouble—bulbs which come up year after year without abating a jot of their beanty, herbaceous plants which require neither annual manuring nor periodic transplanting, shrubs that want nothing for their well-being but abundance of space, and things, annual or biennial, that see to their own propagation and require on your part nothing more arduous than judicious thinning with the hoe. About these last a word may be permitted by way of suggesting to brother gardeners, whose vertebral column is possibly not the elastic thing it once was, one or two plants of this easy class which will well repay the little trouble of growing them; not so much about annuals, however, as about some half-dozen biennials which are worth while and which require only a first foothold to become permanent denizens of the garden. Though, if it comes to that, there is no lack of desirable annuals with this same valuable quality of permanency; for, however tender and beautiful an annual may be, there is somewhere a country where it sows itself one year to come up the next, where, in other words, it is a weed. *Nigella*, *Centaurea*, *Iberis*, *Nemophila*, *Limnanthes*, *Platystemon*, *Clarkia*, *Alyssum* are weeds in the country of their nativity and may become weeds in any British garden where slugs permit. A biennial, however, is another thing, being, as a rule, of larger stature and more stately habit, and requiring, in consequence, two years to build up its system and complete the cycle of its growth. Two of these valuable biennials, the Foxglove and the Olympic Mullein, have been dealt with lately in *THE GARDEN*, and need now only be mentioned. A third biennial of large size and imposing appearance, which I never sow and yet which I am never without, is the tall Evening Primrose (*Oenothera biennis*). This beautiful and interesting flower has been a standing feature in my garden for ten years and more. It comes up here and there in the borders in unexpected places—often, of course, where it is not wanted, but often also, I must do it the justice to say, precisely where I should have wished it to be if I had thought the matter out. In any case, if it should come where you do not wish it to be, a touch of the hoe is sufficient. On the other hand, should you wish to have it in any spot where it has not chosen to come, few things are so easy to transplant. The endurance of the plant is wonderful. Dry weather or moist, your transplanted *Oenothera*, after wilting for a day or two, will brace up and look as lively as if it had sown itself where you had placed it. The beauty of the Evening Primrose is sufficient to recommend it if it had nothing else, but, for me, one of its attractions is its evident delight in life and growth. I had rather see, for my part, a Dock or a Thistle grow as if it enjoyed life, than the most precious stove or alpine treasure that lingers out

a coddled existence; though, for all that, I do not deny the satisfaction there is in coaxing a sick plant back to vigorous life. Every hospital nurse knows this kind of triumph. But there is no room for coaxing or coddling with *Oenothera biennis*. Wet does not harm it, neither does drought; it seems to prefer exactly the conditions of soil and weather it happens to get. It is subject to no parasites, blights or diseases that I have ever seen. It stands erect without support; or if the wind does happen to twist off a branch or two, these are not missed—there are so many left. But, after all, the distinction of this, as of all Evening Primroses, is that it is a flower of the dusk, one of the far from numerous vespertine group which wake to full activity only when Marigolds, Daisies and other drowsy composites are folding their petals to rest. Night moths, which are so drawn to light in darkness, must certainly frequent the flower, though I do not know which they are. In the latter days of August, when the evenings begin sensibly to lengthen, and the air has an eager tang, which, though pleasant, is a premonition of something more nipping and less pleasant yet to come, my own otherwise modest garden becomes for a time almost flamboyant, lit up as it is from end to end

with Chinese lanterns—that is to say, with lingering blooms of many-coloured single Hollyhocks swinging on their wands to the wind, but chiefly with the vesper lamps of *Oenothera biennis*, which flop open one by one while the light is waning, as if fairy Mrs. Gamp were unfurling their umbrellas. Those who grow these *Oenotheras* must have observed how punctiliously they observe their times and seasons—how, in opening their first blooms, the various plants synchronise (there is no other word) as regards not merely the hour, but the day and the month, possibly even the minute. Scattered plants, separated possibly by considerable distances in a large garden, will burst into bloom with a wonderful unanimity, at the same hour of the same day of the three hundred and sixty-five. Finally, to complete its tale of virtues, this flower has a pleasant fragrance—not obtrusive, but faint and elusive rather, as befits the crepuscular hour, yet sufficient sometimes to cloy the air a little, for the perfume is of the rich exotic kind which we associate with such things as Orange Blossom, Jasmine and Stephanotis. There are, I understand, two strains of *Oenothera biennis*—a good and a less good. I do not know which mine is, but it is good enough for me.

Another fine biennial which may be trusted, when once introduced, to hold its own, is the Giant Sea Holly (*Eryngium giganteum*). I suppose we must regard all the Sea Hollies as unbellifers. But to eyes like mine, which look to the appearances of things rather than to their hidden affinities, this *Eryngium* has the Thistle attributes raised to a high power, except stature, perhaps, for I do not suppose that the height even of luxuriant specimens is much over 3 ft. But the completeness of its holly-like apparatus for self-defence, its mathe-

matical grace and symmetry of shape, and the veined silver of its leaves seem to assign it a place among those things which "none may molest with impunity." One must not, however, in this biennial, look for the steel-blue which is the conspicuous beauty of stem and flower in so many *Eryngiums*. Silver is its metal, not steel, simulation of frosty silver being its outstanding feature, the most successful mimicry of the metal known to me among many silvery plants. I have spoken, erroneously perhaps, of this flower as a biennial, since it might possibly be more correctly described as a triennial. Grown under exceptionally favourable conditions, the Giant *Eryngium* may flower the second year from germination, but I do not think many of mine, if any, do so. In this, the third year of one batch, there has been a great display of flowering heads—leaving many, however, for next year, which, when they come, will, properly speaking, I suppose, be quadrennials. I should not wonder if even these were to leave some flowerless



THE EVENING PRIMROSE, *OENOTHERA BIENNIS*.

plants behind them, to become, in their turn, quinquennials!

No one, I hope, will despise another thistle-like plant which is, however, no Thistle—the Teasel (*Dipsacus sylvestris*): at least, no one will who knows a good thing when he sees it. Years ago I found, on the edge of a neighbouring field, an interesting rosette of prickly leaves, the basement storey of an unrecognised plant, which I thereupon transferred to my garden. In time it grew into a handsome Teasel and became an object of interest to visitors, who would stand before it, absorbed, and propound questions which I could not always answer. They wanted to know how exactly the *fullones* (the cloth-fullers) used it, and I could not tell them, because I did not know myself. Particularly they wondered what use the plant made of those pools of water which collected in the little

cisterns formed by the junction of each pair of stem-embracing leaves, which seemed never to be replenished and yet to be always full. I could only suggest that the Teasel imbibed the liquid secretly and renewed supplies in the night, in allusion to which thirsty propensity, no doubt, the naturalists of antiquity had named it *Dipsacus*. The Teasel is an exceedingly handsome plant and a desirable object in any garden landscape; but to me it has the added value of being an inducement to goldfinches to visit the garden. On that same transplanted Teasel I used to see as many as seven goldfinches at one time, each on a seed cone, head downwards.

SOMERS.

Dipsacus sylvestris is not the Fuller's Teasel, which is *D. Fullonum*. Both are British plants. *D. Fullonum* differs from *D. sylvestris* in that the scales of the receptacle are hooked at the tips.—*Enl.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—Plants growing in the open should be watched closely. When the fruit is approaching the ripening stage it may be gathered and placed in a warm room or greenhouse to finish. Remove any foliage that may unduly obstruct the sunlight from the fruit and make preparations to prevent damage to the plants from early frosts. This is a good season to pick green fruits for chutney and other purposes.

Mint.—A portion of the Mint bed may be cut down to the ground-level. After a few weeks the roots should be lifted, placed in boxes and stood in a warm greenhouse to produce young shoots for the kitchen. If larger quantities are required, a hot-bed will be necessary. After preparing this hot-bed, when the rank heat has escaped, a layer of soil is placed thereon. It is then ready for the Mint roots, which should be covered to the depth of in. with fine soil.

Lettuce.—Winter salads are often in demand, and while it is an easy matter to keep up a supply of Mustard and Cress, the same cannot be said of Lettuce. There are now plenty of plants from the August and early September sowings, and they will require transplanting into frames and on to sheltered borders. Those in frames will need all the air possible, removing the lights on all favourable occasions, but taking care to prevent heavy rains from entering the frames. Damp is the cause of many failures, so it will be necessary from time to time to remove decayed leaves and to keep the soil stirred between the plants. Those planted outside should be about one foot apart. During the next week or two a sowing of Bath Cos, Continuity, All the Year Round and Hammer-smith may be made to produce plants for next spring.

Peas.—These should be examined occasionally for thrips and mildew, and if either are present the haulm should be sprayed with a mixture of Gishurst Compound. If the weather is dry, a thorough soaking of water should be afforded and, where the growths have reached the top of the sticks, the centre of the shoots can be pinched out, which will help the pods to develop.

The Flower Garden.

Spring Bedding Plants.—Such kinds as Wall-flowers, *Myosotis*, *Polyanthus*, *Arabis*, *Cheiranthus*, *Allioni* and other plants are making headway in the reserve garden. They should be kept free from weeds, and the hoe should be in use at frequent intervals. If the Wall-flowers are making a lot of sappy growth, cut round each plant with a spade a few inches from the stem.

Pæonies. The herbaceous varieties are well worth growing, and where beds are devoted to them it may be advisable to lift, divide and replant them. When the soil has become exhausted the plants do not flower freely, so it is intended to grow them again in the same beds the soil should be trenched and liberally manured. The roots must be divided carefully to prevent injury to the crowns, and each piece after division should possess at least four eyes or growing points. Allow ample space between the plants. Here, we usually plant *Gladioli* between, which furnishes a display later on when the Pæonies are finished. Frequent disturbance is not advised, and this

operation ought only to be resorted to when the plants cease to give a good account of themselves.

Cuttings.—If a quantity of cuttings were inserted in cold frames as advised in a previous note, the majority will have formed roots and, in consequence, more air may be admitted. Keep the soil just moist, remove all weeds and any dead leaves to check any tendency towards damping off.

The Hardy Fruit Garden.

Plums.—These fruits are not grown in small gardens to the extent their merits deserve. They are invaluable for culinary purposes, for preserving and as dessert. A few varieties, no doubt, require a wall to bring them to perfection, but the majority can be successfully grown in orchard or garden. When planted against a wall the Plum is not particular as to aspect, and by judicious planting a succession of fruit may be obtained for dessert. Good drainage is essential, and if the soil is poor, a quantity of loam and a sprinkling of lime may be added. A few good Plums for walls embrace *Coe's Golden Drop*, *Jefferson*, *Green Gage*, *Kirke's*, *Lawson's Golden Gage*, *Denniston's Superb* and *Reine Claude de Bavay*. Fan-trained trees give excellent results. For planting in the open, standard trees are recommended, and suitable varieties are *Czar*, *Victoria*, *Pond's Seedling*, *Early Orleans* and *Monarch*.

Wall Trees.—Any trees, such as Peaches and Nectarines, that may be required for replacing old specimens or inferior varieties should be chosen and planted as soon as possible. Early planting while the soil is still warm is a great advantage, and there is less danger of the trees failing.

Fruits Under Glass.

Cucumbers.—Plants put out for producing a winter crop are making headway, and every endeavour should be made to destroy white fly and other pests, or progress will be retarded. A special preparation for white fly ought to be used for fumigating to keep this difficult pest in check. Sturdy short-jointed growth is desirable, and this can be brought about by careful ventilation and by maintaining a buoyant atmosphere not too heavily charged with moisture. The temperature should be about 65° at night with a rise of 10° during the day. Pinch the growths frequently and do not overcrop the plants. Afford light top-dressings of soil as the roots come to the surface, and never allow them to suffer from drought. If mildew appears, dust the leaves with sulphur.

Fruit Houses.—In many gardens it is necessary to utilise these for *Chrysanthemums*, etc., during the autumn and winter months, and often the leaves of Peach and Nectarine trees are removed prematurely in consequence. This should be avoided and boards or planks should be placed over the borders on which to stand any plants so housed.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Late Potatoes.—As soon as the green disappears from the foliage of late varieties of Potatoes they will be better lifted, as disease may attack them even at that advanced stage. Grade the tubers as ware, seconds and chits. Select sufficient seed

from the seconds and expose them for a week or two before storing them in trays or regular seed boxes in a cool, airy structure. Take care, however, that the tubers while exposed are not damaged by an early frost. Pitting is quite the best method of storing "ware," as table Potatoes are called by the trade, but the top of the pit must be left exposed, save for the straw lining, until the tubers have "sweated out." Remove and burn the haulms promptly. Left on the ground, they tend to perpetuate the spores of the common potato disease.

Mushrooms.—Mushrooms have been abundant in the open of late, in localities favourable to their development; reliance must now, however, be placed on artificial cultivation. Collect sufficient horse droppings as they become available. Throw them into a conical heap and when fermentation becomes active, re-form them into another heap, similar in shape, and repeat the procedure yet again. When the materials have fermented the third time, arrange them in a layer, which remains 1 ft. deep after it has been beaten firm with the back of a fork. Insert pieces of the Mushroom spawn at regular distances and coat the bed with a thin layer of fresh, sifted loam. Cover the whole with a layer of straw to conserve the moisture. Should drying winds prevail, syringe the walls and floor occasionally. In this writing, I am thinking of a regular Mushroom house, but Mushrooms can be successfully grown in any structure from which light is excluded and where a close atmosphere is maintained.

Brussels Sprouts.—Plants resulting from an autumn sowing, or an early sowing under glass will now be turning in for use. The whole crop should be overhauled and all decayed and semi-decayed leaves removed, also any leaves towards the base, even though healthy. This will allow the admission of an additional amount of light and air, to the benefit of the swelling Sprouts.

Fruits Under Glass.

Early Vines.—Vines which it is intended to start before the end of the year should—if they have become defoliated and the wood ripened—be pruned without further delay, cutting the laterals back to within two buds of their base. The house should then be thrown open night and day; this will send the Vines to rest for a time, after which they will the more readily respond to a little pressure when forcing commences.

Late Vines.—In houses where fruit is hanging, every precaution should be taken to prevent the deterioration of the crop. A comfortable buoyant atmosphere should be maintained by judicious ventilation and the application of fire heat. These conditions cannot be obtained where—as is too often the case—the house is almost filled with *Chrysanthemums*. A moderate quantity of rooted *Geranium* cuttings in boxes is a different thing. It should be remembered that next to perfect flavour, the great desideratum in a bunch of grapes is perfect "bloom," and this is only obtainable under ideal conditions.

Melons.—The season for Melons is now all but over and little can be hoped from fruits that are not approaching a state of ripeness. Keep up a brisk temperature and admit a very little air on all favourable occasions. Should the weather prove wet and unless, it will be advisable to cut any fruits that are nearly ripe and to place them in a warm room to finish off.

Vegetables Under Glass.

Cucumbers.—See that the shoots are well thinned out so that plants and fruits may get as much as possible of the now decreasing light. Less moisture will now have to be applied both at the root and in the atmosphere, still there must be no drying-off, as stem, leaf and fruit are largely composed of water, and a dry-eating Cucumber is not worth having.

Tomatoes.—Late crops will now be ripening off. Do not apply any more stimulants, as the aim should be to arrest growth. With this end in view, give only sufficient water to keep the plants from flagging. As the fruits approach a state of ripeness, it will be advisable to pick them and place them in a warm room (the kitchen for choice) to finish off.

The Flower Garden.

Bedding Geraniums (Zonal Pelargoniums) will now be rooted and the boxes of cuttings should be moved under glass; the fruit of an early vinery or peach house suits them admirably. Be very sparing with the watering can, giving no more water than will suffice to keep the stems plump. Promptly remove any decaying foliage and if growth has set in and the leaves are crowded, thin them out a little as a preventive against damping, the only enemy to be feared.



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Violas.—If sufficient stock was not secured a few weeks ago, there is still plenty of time to propagate these accommodating flowers. As I stated here previously, the best rooting medium is sifted fibrous loam, parts, clean sharp sand, 1 part. Place the rough sittings at the bottom of the boxes, or of the frame, as the case may be.

Sweet Peas. The season now being over the plants should be cleared away and the supports carefully stored ready for another season.

Herbaceous Flowers. As the stems die down these should be cut over; the more woody stems should be retained as they are useful for protecting any plants of doubtful hardiness during the winter; moreover some of them will prove useful for giving young Sweet Peas a start next season, until they are able to reach the full-size stakes.

Sweet Violets. Continue to remove all runners as soon as they appear. Run the hoe among plants which are to be left to flower in the open. Hand weed, if necessary, plants in frames, and see that they do not suffer from lack of water; ventilate the frames freely, as any coddling tends to weaken the plants and so reduce their capacity for producing good flowers.

Roses.—If it is intended to plant Roses next month (the correct season), orders should be placed now to prevent disappointment in the event of certain varieties running short. The selection of varieties must depend chiefly on individual taste, but also to some extent on the use to which they are to be put; if for bedding or massing, then reliance should be placed on such "good doers" as General McArthur, Caroline Testout, Richmond, Frau Karl Druschki, Golden Emblem, Lady Pirrie and Mme. Abel Chateau. The following half dozen are mildew-proof: Christine, Crimson Emblem, Lady Plymouth, Ophelia, Red Letter Day, and Mrs. Wemyss Quin.

CHAS. COMFORT.

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Desfontainea spinosa.—This beautiful holly-like shrub with tubular red and yellow flowers is a native of Chili, and although hardy in the West, is a fine plant for the conservatory, especially if it can be planted out, for it is not long happy under pot cultivation. It grows freely in a well-drained border, in any good loam, with the addition of a little fibrous peat. It may be propagated at this time by means of twiggv, half-ripened shoots inserted in pots containing sandy soil, standing the pots under a bell-glass in a cool greenhouse.

Crocuses for Pots.—The large, named varieties of *Crocus vernus*, grown in pots or pans are very useful for the small, unheated greenhouse. The corms should be potted up as soon as they are received, placing them fairly thick in the pots or pans. After potting, stand them outdoors at the foot of a wall and cover them with well weathered ashes until they are well rooted and showing signs of growth. At this stage they should be removed from the ashes and stood in cold frames, giving them plenty of air on all favourable occasions. A sharp outlook should be kept for mice at all times as they are very fond of the corms. There must be no attempt to force these Crocuses or they will go blind and the flowers fail to develop. They are also very suitable for growing in bowls of fibre. The many beautiful species of spring-flowering Crocuses are also very charming plants for the small unheated greenhouse. For this purpose they are best grown in small, shallow pans. They require the same cultural conditions as advised for the large garden varieties. Some of the species are scarce and expensive, but most of the following are cheap and quite readily procured. CC. alaticus, aureus, banaticus, Imperati, biflorus, Sieberi, chrysanthus, versicolor and Tommasianus. Many of the species mentioned have quite a number of varieties.

Veronica Hulseana.—This beautiful New Zealand Veronica is very effective when grown in pots for the cool conservatory. Plants that have been stood outdoors for the summer months should now be removed to a cool, airy house. This plant very much resents coddling and should be given plenty of air on all possible occasions. V. Hulseana is of a somewhat straggling habit so it should be kept neatly staked and tied. Although usually propagated by means of cuttings during the spring, it is a good plan to propagate a batch at this time, as this will give a good start for next year. The more slender twiggy shoots should be selected for cuttings, inserting them in pots containing sandy soil and standing them under a bell glass in a cool house.

Clerodendron fallax is generally given stove treatment, but it is an excellent plant for the conservatory during late summer and autumn, and has now been in flower for some two months. Where it has been grown for the conservatory a number of plants should be kept for seed, as they are by no means easily procured at present. This plant can also be readily propagated by means of cuttings and if this method is preferred a number of stock plants should be kept for this purpose, wintering them in a house with a temperature of 55° to 60°. Early in the New Year cuttings should be secured if the plants are to be grown for summer flowering. The cuttings root readily in a warm propagating case.

Clerodendron ugandense is a fine, blue-flowered species which flowers during the summer and autumn. It is seen to best advantage when planted out and is very suitable for training up a pillar or the back wall of a greenhouse. It is easily propagated at any time by means of cuttings, selecting for this purpose the more slender twiggy shoots, which root readily in a case with slight bottom heat. If rooted at this time they will make good plants for next year.

Clerodendron Thomsonæ.—Specimen plants that have done duty in the conservatory should now be kept on the dry side and wintered in a house with an intermediate temperature.

Heliotropes that have been grown outdoors in cold frames for winter flowering should now be removed to a warm, airy greenhouse. When grown in pots they require liberal feeding. They are probably seen at their best when planted out and trained up the back wall of a greenhouse, and in such positions they will live for many years and flower in great profusion. Where standards are required for next winter, the cuttings should now be inserted, potting them off singly when rooted and training up a single shoot to the required height before it is stopped. Such plants may be kept going for several years by reducing the balls during spring and repotting them in fresh compost. Large bush or pyramid plants may be treated in the same way, but if rooted at this time and grown steadily on, they make fine large plants the first year.

Royal Botanic Gardens, Kew.

J. COULT.

BOOKS

HAMPTON COURT GARDENS.

SIR ERNEST LAW is generally recognised as an authority on antiquities, and particularly upon Hampton Court Palace, but he seems somewhat out of his element when dealing with plants. The little guide now published* proves that either he has no intimate acquaintanceship with the names of plants or was singularly remiss in the reading of the proofs. On a single page (page 42) giving a list of the trees, shrubs and flowers in the "King's Privy Garden," there are forty-seven mistakes of nomenclature, besides innumerable errors of punctuation and many instances where the name given does not correspond with the one used in the "Index Kewensis." Where English names are given the "man in the street" is left in utter ignorance as to which of the two adjacent Latin names it belongs to, if either. As we have dealt with one particular page, we will use it again for instances of this fault, but they abound on other pages as well. Extract 1: "Olearia, Haesti Group.—'Sweet Bay.' *Laurus nobilis*." Extract 2: "*Potentilla fruticosa*. P., tomentosa group.—Red Thorn." *Cratægea, punicea plena*." Extract 3: "*Magnolia stellata* group. 'Spanish Broom.' *Cytisus (sic ?) præcox*." In extracts 1 and 2, leaving aside the extraordinary "spilling" of commas and full-points, it will be seen that the English name does actually apply to the botanical name following; in extract 3 neither botanical name applies! The whole effect is made more wretched by the introduction in "impossible" ways of block caps, small caps and italics, so that either we are to understand that

* "The Flower-Lover's Guide to the Gardens of Hampton Court Palace," by Sir Ernest Law, C.B.; 48 pages, illustrated. George Bell and Sons, York House, Portugal Street, W.C.2; 2s. net.

the *Berberis Wilsoni* (!) group includes *Tamarix*, *Olearia*, *Laurus*, etc., or that the *Philadelphus* species mentioned are additional to the Mock Oranges! Take these *Philadelphus* species, again. This is how it reads: "*Philadelphus, microphylla* (sic!), *LEMOINEI coronarius*" (!), so that *Philadelphus* and *microphyllus* are presumably two Mock Oranges and *coronarius* a form of a genus "*Lemoinei*."

Sir Ernest Law says in his preface "the lists of flowers here presented are necessarily, to a certain extent, tentative, to be developed and improved, it is hoped, with comments and notes, another year." It is certainly to be hoped that they will be corrected at the first opportunity.

In other respects, though it lacks inspiration, the guide is well enough. R. V. G. W.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

TREATMENT OF JAPANESE LILIES AFTER FLOWERING (F. W. H.).—After flowering, the plants should not be dried off too severely, else the bulbs will suffer. First remove the pots to a cool outside border shaded from bright sunshine and plunge them to their rims in sand, ashes or light soil. Directly the foliage is faded, remove the pots to a cold frame for the winter months. Early in spring either remove the surface soil and top-dress with good compost or repot altogether. The crown of the bulb should be about 2 ins. below the surface. Treat the small plants in a similar way.

ABOUT PERENNIALS AND ROSES (M. K., Oxon).—The *Gentians* may be moved in spring. They like a nice, sandy and peaty rooting-medium. Also it is advisable to sow seeds every year. The *Primulas* and *Auriculas* would not be injured if some old mortar rubble were mixed with the soil; in fact, the plants would benefit. The new mortar would not be in sufficient bulk to do harm. Yes, *Rose Trier* in good soil would attain to a height of 7 ft.; it is a vigorous-growing sort.

ROSE GARDEN.

THE TREATMENT OF CLIMBING ROSES (T. B.).—As the trees have made such free growth they would break freely if a number of shoots were cut hard back to within a few inches of the base. Some of the younger shoots should be left their full length. *Rose Mme. Alfred Carrière* should be treated in a similar way in October.

MISCELLANEOUS.

ABOUT ANTS, ALSO WEEDS IN WATER LILY POND (G. H. W.).—Our correspondent should use powdered borax and Santal powder, which will free the pots from ants, without injury to the plants. The only effective way to get rid of the weeds in the lily pond is to empty the latter and uproot the weeds. As the pond has been emptied twice for this purpose, it is a pity that the roots of the weeds were not removed, as the raking done would be useless, only breaking off, and ensuring the clearing off, the top portion.

TO REMOVE WORMS FROM LAWNS (H. W.).—Dissolve half an ounce of corrosive sublimate (bichloride of mercury) in 15 gallons of water and apply to the lawn through a rosed watering-can. Care should be taken to sweep up the worms, otherwise fowls or other birds or animals eating them would be poisoned. Water lightly the first time, then give another light application in the course of a few minutes. A peck of quicklime dissolved in 25 gallons of water, allowed to settle and used in a clear state, will answer too. The remedy our correspondent refers to is drastic but costly.

TREATMENT OF SOIL FOR ROSES AND FRUIT TREES (R. M. A.).—As rotted manure cannot be obtained, the ground should be deeply dug and the soil thoroughly broken up. For the *Tulips* use freely Wakeley's Hop Manure and leaf-mould; these can be obtained from local sources—nurserymen, etc. The same humus-containing ingredients and good turfy loam in which the grass has perished will answer for the *Pelargoniums* (*Geraniums*). For the *Roses* dig in half a pound of basic slag per square yard, and surface dress in the winter with half that quantity per square yard. Do not use artificial manures in the case of newly planted fruit trees. Add basic slag to the soil and top-dress in winter as stated above. In the spring, surface dress with 3 oz. of superphosphate of lime per square yard. Always surface mulch on poor soil. The hop manure and any decayed garden refuse would answer in your case.

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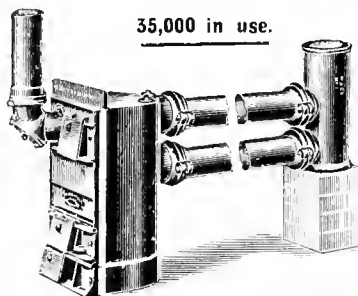
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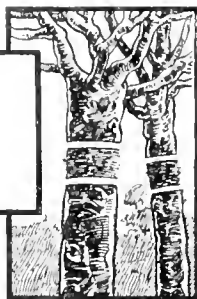
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NORWICH.**



No. 2707.—VOL. LXXXVII.]

[OCTOBER 6, 1923.]

THE TORCH LILIES

THE Torch Lilies, or Flame Flowers as they are sometimes called, are among the most handsome and striking of summer and autumn flowering plants. The genus *Kniphofia* is an extensive one, consisting of over fifty species, the majority being found in South Africa, with a few members extending into Central Africa and Abyssinia. The various species differ to a considerable extent, from the grassy-leaved *K. breviflora* with narrow leaves and slender stems about 2ft. high to the handsome and broad-leaved forms of *K. aloides*, some of which have stems up to 8ft. high. In addition to the wild species there are numerous seedling varieties which have been raised in recent years, and which, as well as being of robust growth, are a great improvement on the older kinds. The majority lose all their foliage and die down in the winter, some exceptions being *K. caulescens* and *K. Tysoni*, which form stout stems 1ft. or more high crowned with a tuft of evergreen foliage. In spite of their evergreen character these two are quite hardy, but have less handsome heads of flowers than many of the other species.

The numerous forms of *K. aloides* lend themselves admirably for planting in large irregular groups in open sunny spots or on the borders of ponds or streams. Here they provide a brilliant effect during the late summer and autumn, and once established in a deep, well drained loamy soil they require little attention beyond a top-dressing of rich soil or well rotted manure occasionally. When in full flower a large mass of Torch Lilies is very effective both near at hand and from a distance, so that these plants are of great value for grouping on lawns, in the open woodland, and on banks near water. The larger-growing kinds, including all the numerous forms and hybrids of *K. aloides*, are well adapted for associating with such plants as Bamboos, Pampas Grass and similar things, for a suitable background much enhances their beauty. All the hardy kinds are readily increased by means of division in the spring, as well as by seed, which is freely

produced in favourable seasons. They all grow well in a deep loamy soil of a rich nature, but thoroughly well drained. Anything in the way of stagnant moisture is fatal to their well being. Unfortunately, some kinds are liable to injury by frost during severe winters, and consequently should have a good covering of ashes or dry leaves to protect the crowns from harm.

Somewhere about thirty species have been or are at present in cultivation, some of the best of which are given below:

K. ALOIDES.—This, which is called *Tritoma*

Uvaria in many gardens, is one of the oldest species in cultivation, as well as one of the most handsome. It is an excellent border plant, and will flourish in any good soil, coming into flower in late summer and lasting in perfection for several weeks. One of the finest forms of this species is the variety *nobilis*, a robust and noble plant, with stems reaching a height of from 6ft. to 8ft., and bearing long heads of flowers varying in colour from scarlet to orange red. It blooms throughout the month of August. Other forms are variety *grandiflora*, with rich orange scarlet and yellow flowers in July; and variety *Saundersii*, a very free-flowering and beautiful sort with rich coral red flowers in September. Other handsome garden forms vary in colour from pale yellow to orange and red. The species is native to South Africa.

K. BREVIFLORA.—This is a dwarf kind from the Orange River Colony with tufts of grass-like foliage and slender stems about 2ft. high. They bear spikes of short yellow flowers closely clustered together from July to October. This species has been crossed with *K. Macowani*, resulting in two distinct forms, one having red flowers much like those of *Macowani*, while the other has spikes of rich yellow flowers each 1in. long. The yellow kind has been named *K. × Irvingii* and makes a good garden plant.

K. BURCHELII is closely allied to *K. aloides*, with large heads of flowers, red at the top and yellow below.

K. CAULESCENS.—This much resembles a *Yucca* in growth, with stout stems and broad glaucous leaves with a slight keel. The red and yellow flowers are produced in July in dense heads about 6ins. in length. It has been grown in gardens since the year 1862, and is one of the best known.

K. CHRYSANTHA.—A robust plant growing 5ft. high, this has heads of canary yellow flowers in August and September.

K. COMOSA.—A native of Abyssinia, this is one of the species that requires protection during the winter. It has flower-heads 4ins. long and 2½ins. broad of rich yellow flowers, from



THE REMARKABLE INFLORESCENCE OF *KNIPHOFIA ERECTA*.

K. robusta.—A very attractive appearance, but the flowers are small and trailing, and the plant is not of great height, from 4 ft. to 5 ft. The principal spikes of this species are very long, and the secondary spike often spreading below the main one. It lasts in flower from August to October. *K. Lechtman* is very like this species, but has more cylindrical spikes. In both species the upper flowers open first.

K. coccinea.—This is a hybrid between *K. Macowani* and *K. alodes*, about 2 ft. tall, with brilliant scarlet flowers, shading to orange in September.

K. densiflora.—A strong-growing species with glaucous foliage of a stiff nature and stout stems 3 ft. high, bearing dense heads of yellow flowers, the upper being tinged with red.

K. trixera.—This is a remarkable plant of garden origin in which all the flowers in time assume an erect position on the spike. The flowers are orange-scarlet in colour, and last in good condition for a long time. It is an excellent tree-flowering plant.

K. foliosa (syn. *K. Quartiniana*).—A native of Abyssinia, this does best against a warm south wall. It has long leaves and stems 4 ft. to 5 ft. high, bearing dense cylindrical heads of yellow flowers sometimes tinged with red in autumn.

K. Macowani.—A dwarf tree-flowering plant with grassy foliage and stems 2 ft. high, with richly tinted orange-scarlet flowers in July and August. It is a native of South Africa and one of the best of the dwarf kinds.

K. modesta.—A native of Natal, this charming species requires the protection of a warm south wall. It has long grassy leaves, and long spikes of white flowers in September and October. This plant has improved under cultivation, being much more floriferous than in its wild state with longer heads of flowers.

K. multiflora.—When first introduced into this country some twenty years ago this interesting and distinct species was treated as a cool greenhouse plant, which treatment was justified owing to its not flowering till the middle of November, a time of the year when few plants look happy in bloom outside. It has, however, proved quite hardy and flowered well outside in mild seasons. The stems reach a height of 6 ft. and bear a long spike of yellowish white flowers. Its home is in the swamps on the summit of the Drakensburg range of mountains in Natal. It is more of a plant for the warmer parts of the country.

K. natalensis.—A very variable plant from Natal with stiff, green leaves and flower stems up to 3 ft. high in summer. The flowers vary from coral red to yellow and are borne on long spikes.

K. Nelsoni.—In the way of *K. Macowani*, but much taller, often reaching a height of 4 ft. The 1½ in. long coral red flowers are borne on spikes up to a foot in length. It is a very elegant plant, quite hardy and easily grown. A native of the Orange River Colony, it flowers in August and September.

K. Noronhai.—One of the caulescent group, with evergreen glaucous leaves on short thick stems. The leaves are very broad and have no colour on the underside. The flowers are borne on long spikes up to 4 ft. in length, the upper ones being white, the lower ones yellow. This handsome species was introduced from South Africa in 1875. It is hardy very freely, and the tree plant is covered with it.

K. laurifolia.—This species from Natal has very grassy leaves and a flowered, one-sided spike of coral red flowers in July.

K. pectinosa.—A dwarf tree-flowering South African species near *K. alodes*, which has been in cultivation since 1874. The flowers



THE YUCCA-LIKE KNIPHOFIA TYSONI.



ONE OF THE EARLIEST FLOWERING, KNIPHOFIA RUFA



THE QUAIN YELLOW-FLOWERED KNIPHOFIA COMOSA.

are orange red, becoming yellow with age and are borne on densely crowded spikes in May.

K. ROOPERI.—Also like the above in habit, with red and yellow flowers in November. South Africa.

K. RUFA.—One of the earliest species to flower, this is a slender-growing plant with grassy foliage and flower-stems 3ft. high. The spike is lax, with yellow flowers below and red tinged ones above. It is one of Max Leichtlin's introductions from Natal, and has been freely used for crossing. Several elegant garden forms are in cultivation.

K. SNOWDENI.—This is a new species from Mount Elgon in Uganda. It was there found by Mr. Snowden, after whom it was named, growing in short grass and bush at about 9,000ft. elevation. The leaves are slightly glaucous, about 3ft. long, while the stout stems reach a height of 6ft. In colour the curved pubescent flowers, 1½ins. long, vary from yellow to red, some spikes being all

red, others all yellow. The flower-spikes are lax in comparison with many other species, and are produced in October. It has proved hardy so far, but it has not yet been tested in a severe winter.

K. TUCKER.—This is a comparatively new species to cultivation, having been introduced just before the end of the last century. It is a native of Cape Colony, at about 4,000ft. above sea-level, and was found by Mr. Tuck, after whom it was named. Of tufted habit, the leaves are stiff and tapering, while the stout flower-stems reach a height of nearly 5ft. Borne in a dense spike in May, the flowers are red at first, changing to yellow with age. It is quite hardy and more or less caulescent.

K. TYSONI.—Very close in habit to the above, with the same coloured flowers, which are, however, produced in September and October instead of May. The glaucous leaves also have a more distinct keel than *K. caulescens*, which it also much resembles in its caulescent habit and foliage.

K. TRICOLOR MAJOR.—This is a garden hybrid, probably of *K. Tysoni* and one of the *abouides* group. It is of robust habit, with glaucous leaves and stout spikes of flowers which vary in colour from dull red at the top to pale greenish yellow at the bottom of the spike. It flowers in September and October.

As the Torch Lilies are deep-rooting plants, the ground should be trenched to a depth of 2ft. or 3ft. before they are planted, and if at all heavy or wet a good layer of broken bricks should be placed at the bottom. In planting, the crowns should be 4ins. below the surface, and all the fleshy roots should be spread out horizontally, and not straight down in a bunch. The best time for replanting *Kniphofias* is in the spring, just before they start into growth. They will then make good growth during the same season, but will not flower very freely till well established. W. L.

TRIAL OF DAHLIAS AT WISLEY

THE Annual Trial of Dahlias in the gardens of the Royal Horticultural Society at Wisley, instituted a few years ago as a result of the operations of the Joint Floral Committee composed of members of that Society and the National Dahlia Society, is now producing most excellent results.

The chief object of these annual trials is to determine the fitness of the selected varieties for garden embellishment. The Joint Floral Committee meet on several occasions each year during the flowering season at the Royal Horticultural Society's Hall, Vincent Square, and from among the large number of novelties submitted for its adjudication, varieties of promise are selected for trial at Wisley the following year.

Prior to the institution of these annual trials, it was customary for awards of merit to be made to new varieties, and their value was determined solely by the character and quality of the flowers exhibited. Many beautiful varieties received awards in this way and raisers were only too pleased to record in their catalogues that such sorts had received an award of merit or some other recognition. It was quite impossible when adjudicating upon novelties submitted in this manner to determine the usefulness or otherwise of the different varieties. Habit, constitution and other essential factors were practically ignored, and it was only after the trial of such varieties in the gardens of those who purchased and grew the plants, that their real value in the garden could be ascertained. This state of affairs was considered by many growers to be most unsatisfactory. Complaints were rife that many varieties which had gained some coveted distinction were not in the least suited for garden embellishment; they were useful only for exhibition purposes. The large, handsome flowers of exhibition varieties were often found hidden away among the foliage of the plants and in consequence such varieties had no attraction for the garden lover. Not seldom, too, the flowers of novelties were placed before the joint committee arranged on wire or other supports and in this way their weak stems were not disclosed. Fortunately, all this is now changed and no variety is adjudicated upon unless it is submitted to the Joint Floral Committee without any artificial support.

During the last two or three seasons quite a large number of novelties have been placed before the Joint Committee, and the majority of these have been represented by flowers, borne on stout, or wiry, straight flower-stalks which hold the flowers well up, so that their real beauty is seen at a glance.

A Dahlia with an erect flower-stalk is a great desideratum, but even this factor in a flower does not necessarily prove the variety to be a real acquisition in the garden. Only by testing the



DAHLIA DORKING STAR, SILVERY MAUVE AND CRIMSON.

plants in a well organised trial can their real worth in the garden be determined, and such a trial the Royal Horticultural Society annually imposes upon itself, in order to test the worth of the new varieties which the Joint Committee has selected for trial from among the very large number of novelties that are each year submitted to it. Hitherto only a very few of the attractive Cactus-flowered varieties have been sent for trial at Wisley, but it is understood that all the varieties selected by the Joint Committee will in future be grown in the trial of the succeeding year.

Much credit is due to those responsible for carrying out these trials of Dahlias at Wisley. Anyone who is privileged carefully to inspect the work of the garden staff in this connexion must acknowledge how well the task is done. The trial of the present season is exceptionally satisfactory and Dahlia growers are indebted to the director of the garden and to those working under his

authority for the splendid results achieved. The trial was visited by the Joint Dahlia Committee on September 12 last, on which occasion the plants generally, were flowering in profusion and gave convincing proof of their garden value in early autumn. The warmer tones of colour appeared to predominate and in the autumn sun they were highly attractive and very showy. Only in the very few instances were the plants really unduly tall; in most cases they were from 3ft. or rather less, to about 5ft. in height and the character of their growth was generally sturdy and branching. At intervals in the rows of plants there were planted standard sorts of other season's selection. This enabled comparison to be made with the results previously obtained and this was a distinct advantage. It is customary in these trials of Dahlias to plant out three plants of each variety in triangular form, thus in this way it was possible to see and appreciate the points of the varieties quite satisfactorily. A fact which struck most of the visitors was the advance that each successive season appears to bring. Not only were the plants flowering most profusely, but in the majority of cases the flowers stood out well above the foliage on long, strong stems, proving that these flowers are ideal for use as cut flower.

Almost every type of the Dahlia is to be seen in this trial. The large-flowered Decorative, large Pæony-flowered and the small-flowered examples of the same types predominate; Mignon, Garden Singles, Star and Pompon types of the flower are each represented by the newer varieties and a few other standard sorts at present in cultivation. Altogether sixteen varieties received an award of merit and seven varieties were highly commended. No one can charge the Joint Committee with being over generous; a high standard was adopted and so long as this is maintained, the best interests of Dahlia growers will be served, provided growers give credence to the adjudications of the Joint Committee, as determined by the awards that it makes.

A brief note on some of the varieties to which awards were made may not be out of place. An exhibition single sort that received an award of merit is Mamie, maroon and rose, of good form; the well known Mignon Single, Coltness Gem, rich crimson, very dwarf, also received an award of merit. A similar award was made to each of the undermentioned varieties. Miniature Pæony-flowered: Peach, delicate rose suffusing to a cream base; Mac, very free, salmon pink, height 5ft.; Denys, a rich scarlet-crimson, and Crimson Glow, rich deep crimson. Miniature

Decorative Cactus, and a fine little Kade copper cactus, a cactus like form, in stems. Type, brilliant scarlet, very free and constant; the same, with deep crimson, very free. Jeweller, small flower with shell-like petals of soft pink colour. A few of the large-flowered kinds were seen. Peony-flowered, glowing scarlet; Jhr. v. E. Van Fets, a garden Cactus of fine form, on erect stems, pure white. Wake Up, a beautiful bicolor, cream and white. A charming white small flowered Cactus, named Snowdrift, is highly decorative, not unlike Chrysanthemum White. O. J. Quintus, Gattin Star, Dorking Star and Crimson Star were each recipients of honours, the first mentioned gained an award of merit and the other two sorts were highly commended. The pretty little Pompon variety Glow, of a pale coral colour, also gained an award of merit. Garden

Singles are splendid for the garden, a variety named E. Graham Bird, colour brilliant scarlet, is especially noteworthy and obtained an award of merit, and Nanno is another highly decorative variety of the same type; the latter was highly commended. The list concludes with a dainty variety of the Miniature Peony-flowered type named Leonie Cobb, a mauve-pink sort, and Leonie, a bright carmine flower shading at the tips to rose and of the same type.

The varieties enumerated above, having been selected for awards from among the large number of plants sent for trial, may be regarded as the best sorts of the past season's introduction. The prospects for next season are promising, as the Joint Committee has already selected for trial quite a good number of novel and beautiful varieties.

D. B. CRANE.

late and open pink or rosy pink flowers several together at end of the shoots in May.

R. campyloogynum is a dwarf bushy evergreen up to about 1 ft. high, with leathery leaves $\frac{1}{2}$ in. to 1 in. long and half as wide. The purplish violet flowers are bell-shaped, averaging about 1 in. long, borne two or three together at the ends of the shoots. A native of Yunnan and Tibet, it was first discovered by the Abbé Delavay, but for its introduction we are indebted to Mr. G. Forrest, who collected seeds at varying elevations from 11,000 ft. to 16,000 ft. in 1904 and 1906.

R. CEPHALANTHUM is said to grow up to 5 ft. in height, but our plants at present suggest a very much less pretentious shrub. The collectors describe it as growing in exposed positions at 10,000 ft. to 11,000 ft. elevation. Coupled with the fact that the Edinburgh plants flowered before those in Cornwall, this gives us the suggestion that this is a *Rhododendron* for the rock garden. The leaves are up to 1 in. long and half as wide; the white flowers are clustered six to ten or more together at the ends of the shoots. It is a native of Szechuen and Yunnan, and was first found by the Abbé Delavay in 1884, later by Mr. G. Forrest in 1909 and 1913-14, and by Mr. E. H. Wilson in 1908.

R. CHRYSÆUM may be described as a dwarf

DWARF RHODODENDRONS FOR THE ROCK GARDEN

UNTIL the last two decades the culture of *Rhododendrons* in the rock and alpine garden was mostly confined to several species and varieties from the Alps. These are of somewhat similar habit, and do not provide much scope for the embellishment of a rock garden. To-day, the enthusiast is very well supplied with a variety of plants differing in habit, leaf and flower, the season of flowering and favourable position for planting. While a number thrive in open, sunny positions, others are partial to some shelter from the midday sun. This may be largely due to the cooler conditions and more plentiful moisture thus afforded. These alpine *Rhododendrons* like plenty of rock or stone in the soil, which affords a source of moisture for the fine roots.

A very important consideration with the dwarf-growing *Rhododendrons* is their value and suitability for small gardens. The habit of growth permits of a large number being cultivated successfully in a small area and, what is equally important, most of them thrive in the varying shelter which is inevitable in many gardens restricted for space.

Most of the dwarf *Rhododendrons* can be propagated by cuttings in a cold frame, or under hand-lights and cloches at the foot of a west wall. Use very sandy soil as a rooting medium. Seeds also in numerous instances are available. The dwarf spreading habit of most rock-garden *Rhododendrons* makes their increase by layering very simple, a mulch of leaf-mould and coarse sand being frequently all that is needed. Even if not required elsewhere, it is quite worth while layering the outside shoots. There are many more roots to supply nourishment, and should anything happen to the parent plant the surrounding offspring will be self-supporting.

In the matter of soil the important point is that it must contain very little, if any, lime for the majority of *Rhododendrons*. A very good mixture would be equal parts of peat, leaf-mould, coarse sand and lime-free loam. In selecting stations for planting, avoid those which readily dry up. We read of the dwarf *Rhododendrons* thriving in open pasture and exposed ledges on the hill-sides, but in such places there must be a supply of moisture for the fine *Rhododendron* roots. Mulching is a most important item in the culture of *Rhododendrons*. This may take the form of flaky leaf-mould or spent manure and leaves from an old hot-bed; anything, in fact, to keep the surface moist and provide a little nourishment for the plants.

For reference it will be easiest to describe the species in alphabetical order, referring in more



THE LILAC-FLOWERED RHODODENDRON INTRICATUM.

detail to the most useful to select when only a few can be accommodated.

R. CALOSTROTUM is one of the late Mr. Reginald Farrer's introductions. It is his No. 1045, described as a dwarf shrub on high open alpine pasture at 12,000 ft. to 13,000 ft. It has small, scaly

form of the now very well known *R. flavidum*. It was collected on the Tibeto-Yunnan frontier at 13,000 ft. to 15,000 ft. elevation by Mr. Kingdon Ward in 1912 and again in 1913. The primrose-yellow flowers open in May a little later than those of *R. flavidum*.

R. EUCROUM is a dwarf spreading shrub described by Mr. Kingdon Ward as 1½ ft. to 2 ft. high growing in damp shady positions among Bamboos in Upper Burma at 10,000 ft. elevation. For a dwarf *Rhododendron* it has quite large leathery leaves up to 3 ins. long, with a lax cluster of three to five brick-red flowers. Coming from that district and in shade, this is a *Rhododendron* which we must protect with bracken or a cloche in winter and early spring in addition to giving it the coolest available position.

R. FERRUGINEUM, the Rose des Alpes or Alpen Rose, was first introduced in 1752. Wild plants cover thousands of acres on the higher European Alps, providing a gorgeous display of colour in June and July. Though ultimately 3 ft. to 4½ ft. high, the plants are slow in growth and are many years old before attaining this size. Wedged between the boulders in the rock garden the dwarf spreading evergreen shrubs in happy surroundings form dense masses of growths. The typical form has rosy scarlet or deep rose blossoms. There are quite a number of varieties, the name usually indicating the difference from the type, thus *album*, white; *atro sanguineum*, deep scarlet; *myrtifolium*, with smaller leaves; *variegatum*, the edge of the leaf creamy white; and *major*, with larger foliage and flowers.

R. FLAVIDUM and *R. PRIMULIUM* are now regarded by most botanists as synonymous. The plants form sturdy little evergreen bushes up to about 2 ft. high with small, scaly leaves ½ in. to 1 in. long. In April and often again in autumn the plants produce freely the primrose-yellow blossoms from which the name is derived. Mr. E. H. Wilson first introduced this charming *Rhododendron* from Western Szechuen in 1905. Give it a place facing west and nicely sheltered in case of late spring frosts and wind during the flowering period.

R. HALENSE is a hybrid between *R. ferrugineum* and *R. hirsutum* and, in common with many hybrids, is more free in growth and generally amenable to garden culture than either parent. Hence it is not only a good rock garden evergreen, but a valuable front row plant to group along the front of a shrubbery, giving masses of deep rose-coloured flowers. It is readily increased by cuttings.

R. HIRSUTUM is the hairy form of the Rose des Alpes. It is also a native of the European Alps but is found on limestone formation, hence, other conditions being suitable, *R. hirsutum* should thrive in rock gardens built with any stone. As a matter of fact, it is not so often seen in good condition under cultivation as is *R. ferrugineum* and varieties. Do not, however, let me discourage the planter, as in happy surroundings it is a charming rock garden shrub.

R. HYPOLEPIDOTUM forms a dwarf spreading evergreen bush 2 ft. to 4 ft. high with scaly aromatic leaves up to 1½ ins. long. Seeds collected by Mr. G. Forrest on the Mekong-Salwin divide at 11,000 ft. to 13,000 ft. germinated very freely. The small open yellow flowers are of quite a dainty nature, the plant being very pretty when flowering freely.

R. IMPEDITUM I should place first on the list of dwarf *Rhododendrons* for the rock and alpine garden. It is also valuable for small beds and massing in the pleasure grounds under similar conditions to that afforded the dwarf *Ericas* and *Callunas*. *R. impeditum* is quite as easy to cultivate, being readily and freely raised from seeds, cuttings and layers, thriving in similar soils and positions. The plant is a native of Western China and was first introduced by Mr. G. Forrest in 1911. Within eighteen months of sowing the seeds, some of the small plants, though out of season, were producing the first violet

purple or lilac-purple blossoms. The plant was first named *R. fastigiatum*, and plants are still grown under this name, but the latter differs from the species under consideration in the grey hoary appearance of the leaves and the lepidote corolla outside, that of *R. impeditum* being eplidote. A dwarf evergreen, growing in low, dense tufts up to 1 ft. or more in height and correspondingly wider, the dainty blossoms are freely produced in late April and May. The seedlings vary in colour from pale mauve to deep violet-purple.

R. INTRICATUM was the first of the dainty dwarf mauve or lilac coloured *Rhododendrons* introduced from China. It was introduced by Mr. E. H. Wilson from Szechuen in Western China when collecting on behalf of Messrs. Veitch in 1904. Growing at 11,000 ft. to 15,000 ft. elevation, it is quite hardy, but as the flowers are produced in April, they are liable to damage by spring frosts. Hence, spots sheltered from the morning sun should be utilised when selecting the planting site. In addition to the season of flowering several botanical differences readily separate *R. intricatum* and *R. impeditum*, the one we usually investigate being the long protruding stamens which mark *R. impeditum*. In *R. intricatum* the stamens are short and set in the corolla tube.

R. KAMTSCHATICUM is one of the most remarkable and distinct *Rhododendrons*. It is a low-growing deciduous shrub a few inches high, increasing by means of thick fleshy roots spreading underground and producing suckers. It is a moisture-loving species, and our best success with the plant has been by placing the bottom part of a hand-light over it and mulching with sphagnum moss which is kept moist in dry weather. The rosy crimson flowers usually produced solitarily, but sometimes in pairs, open in June. It is a native of North-East Asia, and though first introduced in 1799, is still rare.

R. LEPIDOTUM is a native of Nepal and Sikkim, and more recently Mr. G. Forrest found plants on the Tali and Lichiang Ranges at 8,000 ft. to 11,000 ft. elevation. We have perhaps grown the Himalayan plant more because of its very distinct characters than for its floral beauty. Mr. Forrest's description of the Chinese form as a dwarf shrub 6 ins. to 10 ins. high with rich crimson-rose flowers suggests that this will prove a superior garden plant if hardy enough for general cultivation.

R. PROSTRATUM, as the name suggests, is a spreading shrublet introduced by Mr. G. Forrest. He found it at varying elevations between 11,000 ft. and 16,000 ft. on the Lichiang Range in 1906 and 1910, also on the Tali Range, North-West Yunnan, in 1912-13. It appeals to me as the most desirable and choicest of all the dwarf species. Picture a dwarf plant with broadly funnel-shaped flowers, rich crimson in colour, often solitary, but, again, sometimes in pairs. This is certainly one of Mr. Forrest's most striking introductions.

R. RUPICOLUM is another species introduced by Mr. Forrest. He collected it in the Lichiang Range in 1910 at 14,000 ft. elevation. It is a dwarf, much branched shrub, its most notable characteristic being the broadly funnel-shaped flowers, which are deep rich plum-purple in colour.

R. SARGENTIANUM is a much branched, compact shrub 6 ins. to 1 ft. in height, more, no doubt, when old. The leaves average only ½ in. long, the small pale yellow flowers clustering six to eight or more together at the ends of the shoots. Mr. Wilson introduced the plant from Western Szechuen, collecting it during 1903, 1904 and 1908.

R. SCINTILLANS is one of the lavender or purple-blue flowered species, taller in growth than either *R. intricatum* or *R. impeditum*. The plant forms a much branched twiggy shrub of free

growth up to 2 ft. or more in height. It has rich purple-blue flowers with long stalked styles and stamens.

R. WILLIAMIANUM is said to grow up to 5 ft. high as a wild plant, but with us it is a dwarf shrub of spreading habit less than 6 ins. high. In Cornwall I saw plants approaching 1 ft. high. It has leathery rounded leaves ½ in. to 1 ins. long and broad. The rose-coloured flowers are bell-shaped 1 in. to 1½ ins. long and broad, borne two or three, rarely more, together at the ends of the shoots. One of the daintiest species of the genus, the plant thrives best when given a position affording some shade and moisture, also, as young growth starts rather early, protection from spring frosts. With a mulching of leaf-mould the branches spread freely and root readily, providing an easy means of increase. A. O.

THE BREAKING OF TULIPS

EVER since the International Potato Conference of 1921, when the experts were all agreed that such diseases as mosaic, curl and leaf-roll are conveyed from plant to plant by sucking insects, such as green flies, I have felt inclined to believe that the breaking of Tulips is a disease which is communicated to healthy bulbs by the insects which settle on them, especially when they are out of the ground in the summer. Within the last year I have suggested this explanation to more than one scientist, but I am not sure that anyone has yet set out to prove or disprove it. It has been a matter of great regret to me that I have now no time to carry out research work of this kind, but I hope it will be taken up.

My impression is that it is not a green fly that is the cause of the mischief, but rather a white or grey fly which settles on the bulbs after they are lifted and stored and which then multiplies rapidly. In the last fifteen years I have lifted many thousands of Tulip bulbs with my own hands, and I never remember finding flies already settled on them. They have always appeared some weeks later when the bulbs were lying on open trays in my bulb-shed. For the last few years I have tried to store all my Tulips in paper bags as soon as they have dried and been cleaned and, when I have done this, they seem to escape attack by the insects.

One curious fact is that wild species of Tulip seem much less liable to break than garden hybrids. It may be that the skins of the wild species are much harder and more persistent than those of the hybrids, which are thin and apt to peel off and leave the naked bulbs exposed. The insects are therefore attracted rather to the hybrids than to the species.

Even if this explanation is ultimately proved to be correct, and even if we discover what is the particular form of infection conveyed from bulb to bulb by the flies, it hardly likely, as Mr. Jacob seems to suppose (*THE GARDEN*, September 22, page 487), that we shall be able to ensure that diseased or broken bulbs are always equally sick or disfigured to the same extent. Annie McGregor will still be fickle, and vary from year to year just as every invalid has his good and bad days. It may be possible to prevent *Marksmen* or *Scarlet Emperor* from producing striped flowers of scarlet and yellow by keeping the bulbs protected from attack by the flies, but once they succumb to an attack no one can foretell the extent to which the disease will disfigure the flowers.

What a cruel and unjust imposition that will kill the disease in the bulbs, for no bulb seems able to recover unaided. The disease is seldom fatal and is chronic.

Anyone who sets out to raise Tulips from seed must have patience, for it will be five years at least before he sees a flower. A Tulip is, unfortunately, one of those bulbs which send out a crop of root fibres in the autumn and no fresh crop during that growing season. An Onion, for instance, and the corn of a *Gladiolus* stem, however capable of making almost continuous growth,

and a *Gladiolus* seed sown under glass early in the year will produce a flowering plant by the early autumn. Seedling Tulips refuse to allow themselves to be hurried. They are, I think, much more manageable in pots than in the open ground for the first two years of their existence, even if their objectionable habit of making droppers leads eventually to some confusion and to the appearance of examples of the same Tulip in several parts of the seedling-bed. My own practice has always been to leave the pots plunged to the rim in the open until the young plants shew through

and in the spring. That is the time when the protection of a frame or of an unheated house is most valuable, for the foliage is able to develop and ripen instead of being cut off by unseasonable weather.

When the seedlings come at last into full flower in their seventh year, the reward is great. They are an amazingly interesting study, and the more one studies them the more difficult it often is to decide to destroy any one of them. Few seedling Tulips are frankly ugly.

W. R. DYKES.

MORE ABOUT THE GREAT AUTUMN ROSE SHOW

(Continued from page 503)

IN the open class for a smaller, but still large, collection the judges also felt constrained to award extra prizes, and even then some really good efforts were unrewarded. Mr. George Prince was first with a superb group, including Los Angeles, Souvenir de Claudius Pernet and Mrs. George Sawyer. Mr. Walter Easlea, who was second, gave especial prominence to Melody, James Walley, Hoosier Beauty and Mrs. Henry Morse. Mr. F. G. Edwards was third.

The class for thirty-six varieties of miscellaneous Roses was cancelled, but there very many exhibits of eighteen varieties, and here Messrs. A. Warner and Son were first with excellent vases of Padre, Golden Ophelia, C. V. Haworth and Independence Day. Mr. F. Spooner, who was second, included

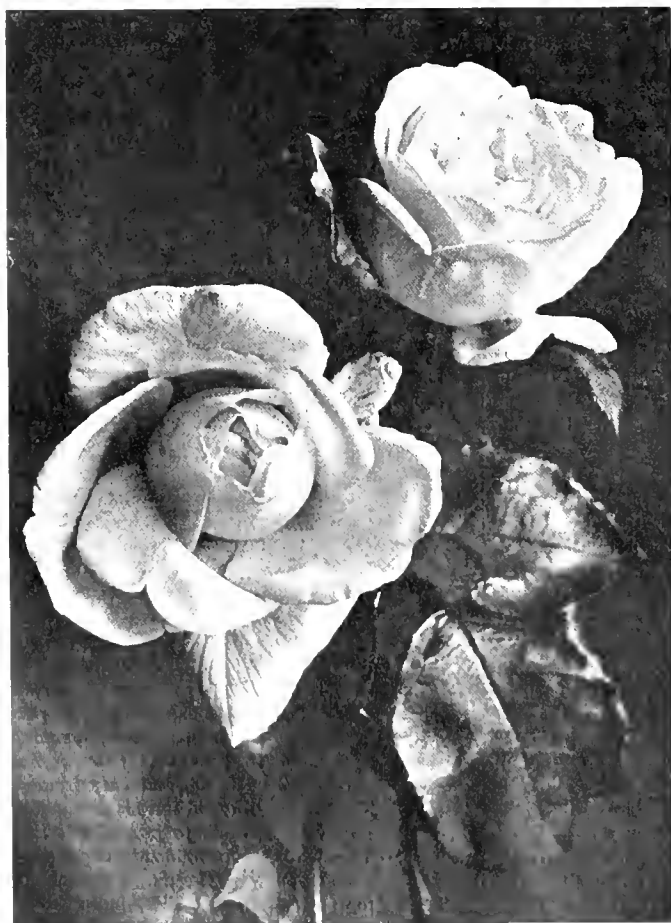
Golden Emblem, Golden Ophelia, Severine and Ophelia. Messrs. J. Jeffries and Son were third.

In the first prize collection of twenty-four varieties of decorative Roses were to be found the most deliciously fragrant Roses in the Show. These were a vase of Mr. George Lilley's Marcia Standhope, a pure white variety said to be a seedling from Frau Karl Druschka, though its appearance does not suggest that parentage. It is quite distinct in shape and not so rampant in habit, yet very free-flowering. Mr. Lilley also shewed his new pink variety Mrs. E. J. Hudson. Mr. J. Mattock was second with excellent vases of Lady Pirie, Padre and Hadley.

As usual, the baskets of Roses were numerous and exceedingly beautiful. The best three of

exhibition Roses were those of J. G. Glassford, Marjorie Bulkeley and W. E. Wallace, shewn by Messrs. Hugh Dickson, Limited. Mr. C. Gregory was a good second. Messrs. Alex. Dickson and Sons, shewing glowing baskets of Betty Upchurch, Lady Pirie and Lady Inchquin, were first in the class for three baskets of decorative varieties. Their dwarf Polyantha Roses in baskets were also very charming examples, and here the best three were of Mrs. W. H. Cutbush, Jessie and Orleans, shewn by Messrs. Lane Brothers.

The exhibition Roses, shewn on boards, were mostly very bright and fresh, but nearly all the blooms were so overdressed that their characteristics were destroyed. In the first prize twenty-four varieties, shewn by Messrs. Hugh Dickson,



THE VERY USEFUL NEW YELLOW ROSE RICHARD E. WEST.



THE SCARLET AND BUFF ROSE MARGARET MCGREDY.



THE PRIMROSE YELLOW HYBRID MUSK ROSE AURORA.

the very best were Capt. Kilbee Stewart, H. V. Machin, Lady Alice Stanley, George Dickson and Molly Bligh. The second prize set of Messrs. D. Prior and Sons were a trifle larger, but their blooms lacked the colour of the premier exhibit. The best were George Dickson, Mrs. J. H. Welch, J. G. Glassford and Mrs. George Norwood.

In the second class, which required eighteen blooms, the quality was very high and Mr. George Prince won chief honours with a splendid collection, which included Chas. E. Shea, George Dickson, Admiration, Golden Emblem, and Martha Drew of great merit. A bloom of Gorgeous in the second prize collection of Messrs. F. Smith and Sons was certainly the best in the trade classes and well merited the silver medal which was awarded to it. Other especially good blooms were His Majesty and Augustus Hartmann.

In the trade classes the Tea and Noisette Roses were rather poor and, as was the case at the Regent's Park Show in the summer, were distinctly inferior to those shewn in the amateurs' section. Mr. George Prince had the best trade collection, while Messrs. D. Prior and Sons were second.

AMATEURS' ROSES.

Competition was particularly keen in this section, which was also responsible for many really excellent blooms. As we remarked above, the Tea and Noisette varieties outshone those staged by the trade. The first prize nine blooms, shewn by that regular and enthusiastic exhibitor, the Rev. F. R. Burnside, Great Stanbridge, reached a high standard of excellence. The varieties included Alex. Hill Gray and Mrs. Foley Hobbs. In the succeeding class the six Teas staged by Dr. Hayes, Dunster, excelled them and were of really magnificent

quality in every respect. He included perfect specimens of Mrs. E. Mawley, Maman Cochet, White Maman Cochet and W. R. Smith.

Exhibition Roses were also of great value and the classes induced strong competition. The first prize, twelve distinct varieties, were shewn by Dr. Turnbull, Colchester, who had beautiful examples of E. M. Burnett, Constance Casson and Rev. F. Page Roberts. Mr. G. Spreight, Market Harborough, was a good second and he shewed, in a magnificent example of George Dickson, the best bloom in the amateurs' section. Mr. F. H. Fieldgate, Colchester, shewing splendid blooms of such as George Dickson, Augustus Hartmann and Mrs. Charles Huster, won the first prize for nine blooms. The best six, in the class for growers of fewer than 500 plants, were

bowl of Ros. Mrs. R. D. Ruff, Sharnbrook, was a good second in the dinner-table class.

In the open section the first prize dinner-table was arranged by Mrs. Tisdall, Woodford Green, who used Melody very successfully. Miss Muriel Cant was second. The best bowl in this section was of Golden Emblem, arranged by Mr. W. R. Appleton.

THE PERIWINKLES

PLANTS of the small-leaved species, *Vinca minor*, are very widely grown in gardens. The Vincas are very accommodating plants and among the most useful, as in most gardens and pleasure grounds there are positions where neat-looking plants will not thrive, and in such places weeds soon take the lead and become a nuisance. Under such trees as Cedars, especially under the Cedar of Lebanon, it is a difficult task to induce a nice green undergrowth, but I have found no difficulty when employing *Vinca major*. The plants soon formed a dense green carpet which, speckled with the lovely blue flowers, during a part of April and throughout May and June made a charming picture. I once had occasion to carpet a quite open border—the front portion—with this variety, and the plants grew so rapidly in the mixture of soil, old lime rubble and leaf-mould that at one end, adjoining a wall, the shoots grew up the latter several feet and were then assisted by neat supports, the effect being very pleasing, as the position was one near to a door leading through the wall from a shrubbery to a walled-in garden. Propagation is quite easy. G. G.



RICH PINK AND FRAGRANT, ROSE VICTOR WADDILOVE.

THE CODLING MOTH

(*Cydia pomonella*, Linn.)

BY HERBERT W. MILES, B.Sc., Biologist, Kirtton Agricultural Institute.

DURING the heavy gales which swept over England during the latter part of August much loss occurred to growers in East Anglia as a result of windfalls. Apples and Pears fell in great numbers, and the fact that there were so many on the ground at once drew attention to

the very considerable amount of injury to the fruit by codling moth caterpillars.

Usually, "wormy" Apples fall a few at a time, and the extent of the injury and loss due to the pest is often underestimated. No definite figures are available as to the actual loss in this country, but in America it is estimated that the loss due to codling is about \$12,800,000



THE CODLING MOTH.
(Enlarged.)



YOUNG FRUITS

Showing, on the left, calyx open, indicating right stage for spraying; to the right, calyx closed, stage too late for spraying.

per annum, and a further \$3,200,000 per annum are spent in control measures, making a total of \$16,000,000, or approximately £3,000,000 sterling. In 1921 "codling" damage was reported as serious in at least sixteen different counties, and it probably occurred in many others to a less noticeable extent.

The injury caused by this pest is very well known, especially to the housewife. Brown tunnels through the flesh of the fruit, entrance and exit holes with adhering frass or excrement, partially or entirely destroyed pips, and the presence of a pinkish white, active caterpillar with a dark head either in the core or in a tunnel are characteristic and unmistakable signs of codling attack. Fruits attacked in this way fall prematurely and are very little use commercially, though they can be utilised for home consumption and are quite suitable for jelly-making.

The insect responsible for wormy Apples is the codling moth (*Cydia pomonella*, Linn.). This moth is from half to three-quarters of an inch across the fore wings, which are rather greyish and bear transverse wavy lines and streaks. The borders are slightly darker in colour and towards the tips of the wings there are brownish or golden red metallic patches. The hind wings vary slightly, but slaty grey is the usual colour. These moths are to be found on the wing at twilight in early June, soon after the fruits of the Apple have set. After mating takes place the females deposit small, rather flattened, translucent eggs about the young fruits or on the leaves and stems near them. The duration of the egg stage varies with the temperature and other climatic conditions. American observers state that they noticed the moths flitting about the plantations for a period of six weeks before any eggs were laid owing to the low temperature which continued

during that period. The eggs usually hatch in from a week to a fortnight, and the caterpillars usually make their way to the calyx end of the fruitlet, where they tunnel their way inside and feed on the flesh of the Apple or on the pips. The newly hatched caterpillar is minute and white, and has a prominent black head. Within the Apple, where growth and development take place, it gradually assumes a pinkish tint. The body is covered with scattered, whitish hairs and has sooty spots about the segments.

At maturity, when the caterpillars measure upwards of half an inch in length, they leave the fruit by means of characteristic exit holes, and may crawl to some shelter or crevice about the tree or lower themselves to a branch or to the ground by means of a silken thread. For pupation a protected site is chosen, and the grub gnaws out a cavity, spins the fragments into a cocoon with silk, and changes into the pupa state, from which, by about the middle of August, a second brood of moths emerge. These proceed to lay eggs, which give rise to the brood of caterpillars, which in this country frequently cause serious damage from towards the end of August to the middle of September. When mature these caterpillars spin up about the trees, on fencing stakes, or the supports of very young trees, and remain in this condition until the following spring. Should Apples containing caterpillars fall to the ground, the caterpillars usually ascend the trees to find sites for winter quarters.

It is important that growers fully grasp the details of the life-history of this pest, because knowledge of this is essential if control measures are to be successfully carried out.

For control of the codling moth, measures take the following forms: (1) Spraying, (2) Banding, (3) Clean Cultivation.

SPRAYING.—It is stated by American workers that some knowledge of the seasonal history of the pest, a reasonably efficient spraying outfit in good working order, a willingness to observe

and take time to be thorough in the application of the spray are the essential factors in the successful control of the codling moth. The spray to employ is lead arsenate at the rate of 4lb. of paste to 100 gallons of water, and to this should be added 5lb. of soft soap (if hard water is used more soap will be required). This spray must be applied after the fruit has set and when the calyx is still open. It is important that the spray be lodged in the calyx cup so that when the young larvæ reach it and commence feeding they are destroyed by the poison. As the fruit develops the calyx closes and retains the poison which kills any grubs endeavouring to enter the fruitlet.

Since the second brood of larvæ are likely to enter the sides of the fruit and may feed on the leaf tissue for a short while before attacking the fruit, it is obvious that another spraying is necessary. The same formula is used, and this time the entire tree is covered. The correct time at which to apply the second spray varies, and a few days may make all the difference between success and failure as regards controlling the pest. To fix definitely the time to spray, it is found that the best method is to gather a few infested Apples, cut some open, collect the caterpillars and place them with the other Apples in a small wooden box covered with a sheet of glass which fits closely so as to prevent the insects from escaping. The box should be placed where it can be observed every morning without any special effort. Inside, the caterpillars will finish their feeding, will change into pupæ, and finally the moths will emerge. The correct time to spray is indicated by the presence of moths in the box.

BANDING.—In addition to spraying, it is advisable, in cases of severe infestation, to band the trees with sacking or corrugated paper, and thus afford a readily available winter shelter. This is an old method of control and very useful for reducing the number of codling maggots. Miss Ormerod ("Manual of Injurious Insects") quotes the following from an Australian publication dated 1886: "*Banding the trees*: For this purpose old sacks, old clothes (if woollen all the better), or brown paper may be used, but the latter is not so good. These should be cut into strips about eight inches in width and of a sufficient length



APPLES ATTACKED BY CATERPILLARS OF THE CODLING MOTH.

Left, shows exit hole. Right, interior of attacked fruit, showing caterpillars and damage.

to go round the trees. Each strip should be folded in half and the folded edge again turned down, so as to make a double fold about an inch and a half wide. The band will then be about two and a half inches wide. Insert a piece of cord, or what is better, wire, in the double fold, and tie round the trunk of the tree about six inches from the ground, taking care that the folds are at the top and the second fold placed next the tree." When the larvæ have spun up in them, the bands are removed and burned with the cocoons in and about them.

CLEAN CULTIVATION.—As general measures

orchard refuse, prunings, hedge brushings and the like should be burnt. The windfalls in infested orchards should be collected and used or fed to pigs so as to prevent the caterpillars escaping. Poultry, when allowed to run in orchards, do much good by destroying caterpillars on the ground or about the lower parts of the tree trunks. Winter washing with caustic soda at the rate of 5lb. to 25 gallons of water may do some good by destroying any cocoons with which it comes in contact.

It is probable that the greatest freedom from codling moth injury will be secured by a judicious combination of the methods above indicated.

A CHOICE MEADOW RUE.

I CAN only recollect meeting *Thalictrum Chelidonium* in a nurseryman's exhibit once, and it seems exceedingly rare in private gardens. It is sure to please the most fastidious plant-lover devoted to dwarf plants. Its height is just about the maximum some of the ultra-keen growers of choice alpine would put as their standard—6ins. Then it has lovely, finely divided foliage, one of the favourite features of these Meadow Rues. From this there rise little spirelets of flowers with rosy-lilac sepals and soft yellow stamens. It is but rarely that the height of 6ins. is exceeded, but I do not know that it is a disadvantage in many places to have it a little taller, as the flowers are large for the Meadow Rues. One must speak with considerable reserve of the cultural needs of this plant from the high Himalayas. It certainly ought not to have a stiff or wet soil with us, but should succeed in a well drained one with plenty of stone in it and made rather firm. It has come so rarely into cultivation, however, that comparative experience is difficult to obtain, and each one who tries it may have to learn for himself. Some suggest practically moraine treatment with lots of water in spring, but almost perfect dryness below in winter.—S. ARNOTT.

CORRESPONDENCE

A GLADIOLUS SOCIETY?

MAY I ask you to insert a paragraph to the effect that I should like to hear from anyone interested in forming a Gladiolus Society. I think the time has come to form such a society if only for the purpose of registering and classifying the ever-increasing list of new varieties.—A. PAYNE, 135, Olive Road, E.13.

GENTIANA FARRERI.

HOW is it that we see so little in gardening papers of the beauty of this autumn-flowering Gentian? And yet I doubt if there is any Gentian in spring that equals it in colour. One reason occurs to me is that it is a plant which succeeds best in northern gardens where the moisture of the soil is more constant, and another is that it has never been shewn in full beauty of colouring at any show in Vincent Square. It is a pathetic thought that perhaps the flowery extravagances of Reginald Farrer's language in describing it has tempted gardeners to believe his description exaggerated. I am truly glad to say that *no description* can exaggerate the beauty of this flower when grown to perfection. A fortnight ago I had a bloom or two sent me from a garden in Wensleydale, which so surprised me by their beauty, size and brilliant colouring that I sent on to other horticultural friends to know if my description was correct, or if by chance it were an exceptional variety. This is my description. "A fine, bold flower, quite as large as the well known *Gentianella* of spring gardens, but with *pure* turquoise blue petals prettily reflexing. The throat *pure white* and a little deep purple shading at the entrance of the throat. The outside of the tube is prettily striped with chocolate." Could anyone desire a more lovely thing? and the best bloom remained in beauty for five days in water. The answer came, "*Your description is quite accurate.*" I know no flower of such exquisite colouring. Many people love their spring garden; this flower makes the autumnal garden still more exquisite.—EDWARD H. WOODALL.

REFERRING to A. H.'s note on *Gentiana Farreri* in your last issue, it would be interesting to know how A. H. procures ripened seed. In these parts the plant blooms from September onwards, but the seed never ripens, and we have therefore to propagate by division in the spring. Old clumps weaken and cease to bloom, they also get the "yellows." We are on the carboniferous limestone formation; perhaps the plant dislikes lime. Mine are planted in leaf-mould, but no doubt the lime gets in somehow. The weakening may be caused by poverty, for every spike seems to have a separate root and all massed together in a clump. Perhaps A. H. will be kind enough to write a further note.—H. M. N. R., Yorks.

EUCOMIS PUNCTATA AS A WINDOW PLANT.

THE genus *Eucomis*, with its five or six species, seems to get less attention from cultivators generally than its merits deserve. The plants are



EUCOMIS PUNCTATA, GROWN IN A HOUSE-WINDOW.

natives of the Cape, so they are obviously half-hardy, a fact which doubtless militates against their popularity. I have grown *E. punctata* as a cool greenhouse plant, which environment suits it admirably. It was only the other day, however, that I was strongly convinced of its suitability as a window plant, having been attracted by it in a window of a Portobello villa. I send you a photograph of the plant. Its channelled, lanceolate leaves are very attractive and when these are surmounted by a half dozen or so of its white flower spikes, slightly tinged with pale green, they complete a very pleasing picture; its culture is of the easiest and it increases rapidly by offsets.—CALEDONIA.

THE FLORIDAN LILY.

LILIAM CATESBÆI is very rarely seen in this country and though I myself have grown Lilies for many years I have never yet seen it in the "flesh." It appears that the few plants that do get to this country rapidly die out, but I am hoping in the near future to be able to distribute one or two bulbs to my Lily-loving friends. The following letter sent to me by an old and valued entomological correspondent, will, I hope, clear up some little points in the method of growing and cultivating this really fascinating Will-o'-the-Wisp.

"... Very few of the Lily seeds sent me have grown; those of last year that survive are small, averaging 2 sq. in. of foliage apiece. I do not think that Florida conditions are favourable to most Liliiums, though I have heard of successful *L. regale* in the state.

"A week ago, August 30th, I took some of my Scouts to a Scout Camp about 15 miles from this place and on a 'Nature Hike' along an abandoned railway embankment, I found a bog where *Lilium Catesbæi* was in bloom. Yesterday I made a special trip to get bulbs of it for you and found altogether 27 plants on an area of some acres. I took along a stout chisel and got up solid chunks of the earth with the plants; they grew solitary in a sort of turf of low sedges and weeds in very open pine woods (*Pinus caribæa*, very similar to the *P. maritima* of S. Europe); the soil is sand and sour leaf-mould. The 27 were all I could find. Doubtless there were seedling plants not in bloom, but it would be almost impossible to find them in the

herbage is not in flower. All that were ready to fade I brought home with pods attached and will try to raise some seed for you. The land where they grow is low and nearly level, with pools of water standing wherever there are slight depressions. I do not think this sort of land is ever dry, though water may, at times, be as much as a foot below the surface. Characteristic plants are *Platanthera* among Orchids, *Liatris* spp., small patches of *Sphagnum* and *Lycopodium*, many Sedges, Pipeworts, depauperated Saw Palmetto and ericaceous plants on the higher knolls, and bog plants in general, though the soil is firm and tough with sedge roots.

Each Lily plant had a tuft of leaves alongside the flowering bulb to replace it for next season, so

THE TEASEL.

THE points noted by the Editor last week (page 508) were present to my mind, but I think he will find that some authorities at least regard *D. Fullonum*, not as a species, but as a cultivated variety of *D. sylvestris*, the hook to the scale being induced by cultivation in rich soil. It is true that my Teasels have not the hooked scale and would not therefore be regarded favourably by fullers, but all the same they suggest the question how a fuller would use the hooked plant for his purposes. I have little skill in machinery, but I believe the flower-cone of the Teasel was split into four segments and that these were affixed somehow to a revolving cylinder, which raised the nap of the cloth to the extent and in the direction required. Authoritative information on this point would be interesting.—SOMERS.

THE JAPANESE BANANA.

THE Banana plant is not grown very much in the open in this country except in favoured places, and evidently one of those places must be Oxted. The illustration shews a good specimen of *Musa japonica* which was planted here about twenty years ago and grown under normal conditions at the foot of a bank facing south. It has attained a height of about 15ft., with leaves 6ft. long and 20ins. wide. Flowers are produced and fruit is formed, but the latter never really matures or attains any size. The plant is protected by a thatched roof in winter, but apart from that receives no other attention. *Musa japonica* is the hardiest species of Banana. Other kinds are mostly grown for greenhouse decoration. *Musa Ensete*, a native of Abyssinia, is used for summer bedding. *Musa*



MUSA JAPONICA OUTDOORS AT OXTED.

I have planted them in a couple of seed pans to mature—all but five, which I put in my *Caladium* garden where the soil looks exactly like that adhering to their roots and is nearly as wet. Apparently they seed freely so it is odd that they should be so solitary—rarely nearer than 20ft. to 50ft. apart. I am putting the seedpans in a shallow tank in my greenhouse, a little above the water level, but with *Sphagnum* underneath to give water from below and hope to mature the bulbs for you. In summer the sashes are removed from my greenhouse, and late-spring admits the summer rains, supplemented by overhead spray supplied from a nearby pond in a gasoline pump. . . ."

The spots such as my correspondent describes can be easily made in the swamp garden. The description is lucid and such as a lifelong trained field worker alone could give. I place this letter on record as an indication of the natural conditions under which this *Lilium* grows.—J. HENRY WATSON, F.E.S., *Withington, Manchester.*

Cavendishii from China and *Musa sapientum* from the Tropics are stove plants.—R. C. JOLIFFE.

LING CHANGING COLOUR?

I HAVE, on a rocky knoll in my garden, some forty Heather plants (kindly left to me by the drought of 1921, which killed as many more). When I first came here, these were all pink, so, in order to introduce some variation, I bought three white ones. I have noticed since that there were, after all, an odd white or two, and last year several more appeared. This year they are all white, with the exception of a few seedlings (of which there are a great number scattered about), and this applies not only to the ordinary wild ones but to several ericaceous and other garden varieties, the names of which, however, I do not know. The soil is very poor, has an acid reaction to litmus paper, and contains practically no lime. I would be very glad to know if above is merely a passing phase and whether there is any chance of the plants becoming pink

again, and also what is the cause of the sudden change. I should be very glad if some correspondent could enlighten me on the subject—H. LINDEY, *Windermere.*

THE OENOTHERAS

PALÉ primrose yellows, those of deeper tone, rich golden yellows and orange yellow, all are unmistakably associated with the Evening Primroses (*Oenothera*).

During a dull afternoon or evening, and when the weather is inclined to be showery, hundreds of flowers expand on quite a few established plants. These, together with the white flowers of *Nicotiana glauca*, are sufficient to attract one into the damp garden on such occasions, when otherwise one would not feel inclined to wander forth. From June to early October the *Oenotheras* never fail to flower during the latter part of every day.

For many years it was my duty to plant out nearly thirty thousand bedding plants for the embellishment of a large flower garden, and in this garden the *Oenotheras*—permanent occupants—stood out conspicuously in the midst of a profusion of blossom. Towards the latter part of the summer Lilies added their fragrance to that of the *Nicotiana* and to that also emanating from a large border filled entirely with sweet-scented foliage plants, such as scented *Geraniums*, lemon-scented *Verbena*, *Eucalyptus*, etc. The *Oenothera*, to me, personally, seems to fill a gap which cannot be adequately filled by any other flowering plant.

Ordinary specimens may be grown in quite common garden soil, but fine ones, possessing flowers of intense colour and much substance are grown when a really rich loam is used as a rooting medium. The worst position for these plants is one in a border too close to the roots of shrubs, as the annual growth is poor and the flowers puny.

I refer, of course, especially to the hardy herbaceous perennial *Oenotheras* and not to the annual and biennial ones. Old plants are difficult to transplant with success, as their fleshy roots ramble away several feet from the central stem. I have found it advisable in such cases to dig right round the plant in spring and remove all the roots beyond, approximately, 9ins. to 1ft. from the stem, then fill in the small trench with rich loam and a small quantity of leaf-soil. The following spring these plants, so treated, may be shifted without the slightest check, as many new, small roots will have taken possession of the special compost during the year. Young plants are easily transplanted, but sometimes one wishes to retain old favourites too. Both transplanting and division are best done in spring. There is one attention these plants always need, that is, the daily removal of the fading flowers during the summer months, as if left on they give to the plants a neglected appearance.

Some good varieties include *Oenothera macrocarpa*, yellow; *O. taraxacifolia*, white; *O. Fraseri*, orange yellow; *O. biennis grandiflora*, pale yellow, very fine; *O. fruticosa Fraseri*, rich golden yellow; *O. punila*, small, yellow flowers borne on a dwarf-growing plant; *O. riparia*, another dwarf-growing plant with flowers borne on short stems; *O. ovata*, dwarf, bright yellow, suitable for a rockery or similar border. Two other varieties suitable for a rockery are *O. brachycarpa*, orange yellow, and *O. eximiae*, bearing large white flowers. *O. missouriensis*, with deep yellow flowers, is suitable for planting near the edge of a raised border. GEO. GARNER

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—Continue to earth up the main crop of Celery, and bear in mind that large quantities of soil at one time are likely to cover the heart of the plant and thereby check the growth. Remove all side growths, weeds and decaying leaves, and, if the roots are dry, give them a thorough soaking of water the day previous to earthing up. Choose fine weather for the operation, and the leaves may be tied up with raffia, which will greatly facilitate the work.

Winter Salads.—In some establishments these are very important, and Lettuces in particular are eagerly sought after during the winter months. If seeds have been sown at frequent intervals, there will be no lack of plants at the present time, and a cold frame should be filled, placing the seedlings 1ft. apart and about 15ins. from the glass. Old potting compost mixed with ordinary garden soil will make a suitable rooting medium. Most gardens possess a sheltered border, and here Lettuce will succeed during an average winter. Keep them free from weeds, and use the Dutch hoe at intervals. Mustard and Cress should be sown about every fortnight and the boxes placed in a warm greenhouse. Endive, where it is appreciated, may be planted in frames, allowing 15ins. between the plants.

Winter Greens.—Owing to the dry conditions prevailing some weeks ago, these have not made such headway as in former years except where plenty of water could be afforded. Keep the plants free from weeds and the late planted can be hoed occasionally. The decaying leaves among Brussels Sprouts, etc., should be collected and buried in a trench.

Trenching.—Such work is often left till later on, but where the necessary labour is available the work may be taken in hand at once. It is a great help if as much as possible is completed before the New Year. The depth to which the ground is trenched depends on the district and the grower. Here we are fortunate if we can go two spits deep. A liberal quantity of manure, a sprinkling of lime, and any ash from the rubbish fire may be incorporated.

The Flower Garden.

Rose Cuttings.—Some of the stronger-growing Roses and the Rambler section will succeed on their own roots, and now is a suitable time to insert cuttings. Select well ripened wood and cut into pieces 6ins. to 8ins. in length, use a sharp knife, and trim each cutting back to a bud. A well drained border should be chosen, and the cuttings planted in lines 15ins. apart, with 6ins. between each cutting. A little sharp sand will be helpful, and the soil should be made firm by treading along the row when it is completed.

Anchusa.—The Opal and Dropmore varieties of Anchusa are splendid border plants, and the stock can be increased by root cuttings during the next month or so. Lift an old plant, select the best of the roots and cut them into 5in. or 6in. lengths. The cuttings should be inserted in boxes containing sandy soil and covered to the depth of half an inch. Place them in a cold frame or in a sheltered spot, and in due course growing points will form, which eventually will develop into fine plants. The plants should be transferred to their flowering quarters in the spring.

Anemones.—The tuberous-rooted Anemones are worthy of being grown in quantity, as they are excellent for beds and borders besides being useful for cutting. They should be planted 2ins. or 3ins. deep and from 4ins. to 6ins. apart. The planting season extends from now till March, and in heavy soils it is best to leave choice named varieties until the New Year. When making a selection, a few of the scarlet *A. fulgens* should be included, and, if planted early, flowers will appear soon after Christmas if the weather is favourable. The coronaria varieties and a good strain of the St. Brigid type are also to be recommended.

The Hardy Fruit Garden.

Autumn Fruiting Raspberries.—From various sources I learn that these are not such a success as they might be, very few canes showing signs of fruit. Now this is not entirely caused by a dry season, and the fault lies in the fact that they have been left undisturbed at the root for too long a period. With these varieties replanting annually is advised, or at least every second year, and the

work should be carried out during the autumn months. Perhaps readers will give their experience.

Raspberries.—If not already done, the old canes of the summer fruiting kinds should be removed without further delay and the weaker of the new canes cut out. These have made excellent progress this season, and care should be taken not to overcrowd them. New plantations may be made during the next few weeks, and Pyne's Royal will be found an acquisition, while the new Lloyd George is giving a good account of itself in several gardens.

Fruits Under Glass.

Peaches.—The earliest trees of both Peaches and Nectarines have ripened up their new growth and the leaves are falling, but the litter made notwithstanding, these ought not to be pulled from the trees. Syringing may cease, but the roots should not be allowed to become dry or the buds will suffer and fail to develop next year. The houses should be ventilated freely both night and day, and when an opportunity occurs any necessary pruning may be carried out.

Strawberries. Plants that were potted a few weeks ago are rooting freely, and if the weather is fine they will require water occasionally to keep the roots moist. If we get a spell of very wet weather, it will be advisable to place the plants in cold frames where they can be protected from heavy rain, otherwise they should be fully exposed.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.).

Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery should now be ready for the final earthing up. Draw the soil up as far as is practicable, that is, just short of smothering the tips of the central growths, and bring it up to a sharp ridge, after which beat it smooth with the back of the spade in order to throw off the winter rains. Where both red and white varieties are grown the white should be used first, as it does not keep in such good condition as the red.

Beet.—The entire crop of Beet should now be lifted and stored in ashes. Great care should be taken not to break the roots, as Beet bleeds freely when any part of the root is cut or broken. For the same reason the leaves should be wrenched off (not cut) about 2ins. above the root.

Jerusalem Artichokes.—If the stems have matured, they should be cut over a little above the ground and cleared away. It is not advisable to lift and store this crop, as the tubers are in best condition when freshly lifted.

Digging and Trenching.—As these relatively big operations have to be carried through concurrently with a number of lesser ones, the sooner a commencement is made with them the better. It is advisable either to trench or double dig (bastard trench) one-third of the whole cropping area annually, so now is the time to decide what portions are to be treated in either of the ways indicated. Ground that has been treated on the above system may be trenched or double dug at pleasure, but ground that has been somewhat neglected should be double dug for a time or two until the underspit has been improved by aeration and the introduction of organic manure.

The Hardy Fruit Garden.

Fruit Picking.—Most varieties of Apples and Pears will now be fit for picking. The work of harvesting Pears has been a light one this season, as among a general shortage of hardy fruits they have been the most disappointing. Fruit should only be picked when thoroughly dry. The fruit-room, which as a rule should not be freely ventilated, may have a little more ventilation for a week or two at present until the freshly picked fruits have "sweated out."

Strawberries.—Whatever portion of the stock is to be discarded should now be trenched down. When thus treated the decaying plants do not interfere with the succeeding crop, and they help to aerate and otherwise improve the underspit. If weeds have made their appearance among the recently planted stock, they should be removed with the aid of the Dutch hoe, selecting a dry, sunny day for the operation.

Black Currants.—The pruning of small fruits may be commenced by taking the Black Currants in hand. Young, partially developed bushes require special treatment, the aim being to build up a vigorous, well balanced bush. First cut

away all weak and badly placed shoots, and if the growth is still too thick, remove a sufficient number of even normal shoots; after which cut 6ins. or 8ins. off the tip of the leading shoots. In the case of fully developed bushes cut away a proportion of the older leading shoots and encourage vigorous young ones to take their places.

The Flower Garden.

Gladioli.—The corns should be lifted and stored. If the foliage is not quite ripened off, cut away the flower-stems and lift the corns with the foliage attached and store them in boxes among a little sand or light soil, cleaning the corns later on when the foliage has entirely died down.

Hyacinthus candicans. Lift the bulbs and store them in dry sand, and if the foliage has not quite died down, treat them on the lines recommended for Gladioli.

Annuals.—All annuals should now be cleared off, including Antirrhinums and Sweet Peas. Pentstemons, too, should be cleared away. With regard to *P. Newbury Gem*, I have proved it to be practically hardy, and when left in position a second year it makes a magnificent display. If this course is to be taken, cut over the flower-stems, and should an extra cold spell occur during the course of the winter, give the plants some protection by means of a light covering with the decayed stems of herbaceous plants.

Bedding Plants.—The whole of the bedding plants should be cleared away and the beds dug in preparation for the reception of the spring bedders. It is not advisable to apply manure at this season; this should receive attention when the ground is being dug previous to planting out the summer bedding plants.

The Pleasure Grounds.

Lawns.—If not already done, the lawns should be mown for the last time this season; this will enable the grass to make a slight growth. It is not advisable to leave lawns extremely bare during winter, as the finer grasses in that case are apt to suffer during severe wintry weather.

General Work.—Clip all grass edgings. Leaves will now be falling, so a general weekly clean-up should be given with the aid of the rake and broom. Store, when dry, tennis nets and garden furniture generally. Thoroughly clean lawn mowers and smear bearings and knives with vaseline.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Gladioli of the nanus and ramosus sections are very useful for growing in pots for greenhouse decoration, also for furnishing a supply of cut flowers. As they are free-rooting plants, they require fairly large pots. Six or so of the corns should be placed in a 7in. pot. After potting, they should be stood in cold frames and kept shaded to save watering until they are well rooted and start to grow. Where they are required in quantity for cut flowers, they may be planted in boxes or even directly into cold frames.

Gladiolus Colvillei and its white variety, The Bride, are largely grown for market purposes, and they are equally useful for the private grower. There are many other fine varieties, such as Fire King, Apple Blossom, Blushing Bride, Ne Plus Ultra, Brilliant, Sappho and Fiery Knight.

Tritonia crocata has many varieties which are very beautiful plants for the cool greenhouse. They flower very freely and last for a long time. The flowers when cut are very useful for house and table decoration. *T. crocata* is a native of South Africa and requires the same cultural conditions as are accorded other South African bulbous plants, such as *Freesias* and *Lachenalias*. As the corns are very small, six or eight may be placed in a 48-sized pot. After potting, stand them in a cold frame, giving them exactly the same treatment as *Freesias*.

Ixias, of which there are so many beautiful varieties, should be potted this month, placing six or eight corns in a 48-sized pot. Afterwards stand them in cold frames, giving them exactly the same treatment as that advised for *Tritonias*. They may remain in the frames until they are coming into flower, when they should be removed to a cool, airy greenhouse. Considering how beautiful and useful they are for a supply of cut flowers, it is surprising they are not more generally grown. In the Southern Counties they can be grown outdoors in dry, warm borders, especially in front of warm walls, where during severe weather they may be given some protection. Covering them with branches answers the purpose.

Watsonia Meriana iridifolia. This beautiful white-flowered variety is very useful for the greenhouse. Four or five corms should be put in 7-in. pots, and they will grow quite well in any good potting compost. In common with most South African bulbous plants, they succeed in a cold frame until they are showing flower, when they require more head room, and at this stage should be removed to a cool greenhouse. Dry roots can generally be purchased during the winter, and should be potted up early in the New Year. There are several fine species, but they are not in cultivation at present.

Primulas of the sinensis varieties that have been growing in cold frames during the summer should now be removed to heated pits or in any greenhouse where a drier atmosphere and warmer temperature may be maintained. The most forward batches which are in their flowering pots and have filled them with roots will now benefit from weak applications of diluted liquid manure or soot water. If seed is sown at this time and the subsequent plants grown on for next year, they will make fine large specimens.

Cyclamens growing in cold frames should now be removed to a pit where they may be given a

hot heat during dull cold weather. They should be kept well up to the roof-glass and given plenty of air on all favourable occasions.

Cestrums are old favourites for greenhouse decoration, being specially useful for furnishing pillars or covering back walls. For this purpose they are best planted out in a well drained bed or border. As they are strong-growing plants, they are apt to get overrowed, and it is therefore necessary to cut out some of the older flowering wood from time to time and train in the young shoots. By this means a succession of flowers may be kept up. *C. elegans* and *Newellii* are the most common and best known species. Although not so well known, *C. aurantiacum* is equally beautiful, and probably the most useful of them all, as it succeeds better under pot cultivation than the others, and plants in 6-in. pots are now flowering for the second time this season. This species is also useful when planted out, as it makes a fine specimen, being of a more bushy and more freely branching habit than the others. These plants are easily propagated by means of cuttings of half-ripened side-shoots, which may be secured at almost any time. The plants are best stood outdoors during the summer.

Royal Botanic Gardens, Kew.

J. COULTS.

PERIODICALS

Silver-leaf Disease.—The current issue of the *Journal of Pomology** is, perhaps, exceptionally interesting. The paper on Silver-leaf Disease, in particular, will appeal to many amateurs, though to them the disease has not the life and death importance which it holds for the commercial grower. The paper is by F. T. Brooks, M.A. (University Lecturer in Botany, Cambridge), and H. H. Storey, B.A., and it represents the story of the research into peculiarities of the deadly fungus (*Stereum purpureum*) which causes so great a mortality among fruit trees. The investigators can now tell us in what lies the comparative immunity of certain varieties of Plum, for instance. The writers point out that recovery of trees infected with "Silver-leaf" is by no means uncommon and that, on several occasions it has been noticed that natural recovery from the disease has been most pronounced after a hot dry summer. They go on to say, "Pershire Plums, which readily develop silvery symptoms the first season after inoculation (with spores of *Stereum purpureum*), almost invariably recover later. Upon examination, Pershire and Victoria trees and Pear trees which have been unsuccessfully inoculated, all shew the same kind of reaction in the tissues. Where the fungus has spread appreciably in the wood there is the usual kind of discoloration, due to the type of gum which is pale in colour and takes up Delafield's hamatoxylin stain, but on the periphery is a narrow, much darker zone, containing gum of the other kind previously mentioned, which does not become stained with hamatoxylin. Sections through the invaded tissues shew hyphae, apparently dead, in the lighter discoloured zones, but not in the darker, peripheral region which has apparently formed an impenetrable barrier to the fungus. . . . It is not known how the darker gum in the outer zone is formed. . . . With the formation of a barrier of this nature, the victory of the host is complete and the diseased tissues are isolated like an island. One of the differences between the Pershire and the Victoria varieties of Plum lies in the more ready formation of this gum-barrier in the former, and with it is associated to a great extent the greater resistance of the Pershire variety to Silver-leaf disease."

They summarise treatment for this deadly malady thus: "There is no known cure for Silver-leaf disease, but every effort should be made to facilitate natural recovery of silvered trees by good cultivation and manuring. The disease can be prevented in great measure by the destruction of dead wood within and on the confines of fruit plantations on which *Stereum purpureum* might develop, by thinning and pruning fruit trees no more than is absolutely necessary and by covering exposed tissues immediately with an antiseptic such as gas tar."

Although it is disappointing to find that there is still no cure for the trouble, there are practical and helpful hints in the paper, and everyone having afflicted orchards should certainly obtain the *Journal*. Another very interesting paper is on "Red Plant" in Strawberries, by experts from the Research Station at Long Ashton. Briefly, it is shewn that "Red Plant" is caused by an eel worm, *Aphelenchus fragariae*, Ritz. Bos.

Notes on a trial of Gooseberries by the Editor, Mr. E. A. Bunyard, will also well repay study. "The Pears of New York," by U. P. Hedrick, is another paper and the book concludes with a review of a work on the Date Palm—"Dates and Date Cultivation of the Iraq," by V. H. W. Dowson. To finish as we began, it is an especially interesting number for the fruit grower.

* The *Journal of Pomology and Horticultural Science*, Vol. III, No. 3, September, 1923. Published by Hcadley Bros., 18, Devonshire Street, Bishopsgate, E.C.2, 15s. per annum, post free.

HARMONY IN THE FLOWER-BEDS

FIRST, a word as to the beds themselves. Where there is anything in the shape of a terrace harmonising with the design of the dwelling-house, some formal beds are admissible, but when we come to the sloping or undulating part of an English garden, formal beds, with the exception of circles, are not so pleasing to the eye. Indeed, to me, angular beds in such a position are an abomination. Yet we often see them. When, in the autumn, the leaves of the beautiful trees are "paling yellow or kindling into red," such beds especially mock the natural beauty.

A few flowering shrubs, Pampas Grass, Tritonias, clumps of Rambler Roses, etc., if judiciously placed, add beauty to the picture, but even this must not be overdone, for a good breadth of green-sward is a perpetual thing of beauty. Empty flower-beds in the winter are never, and full ones in the late autumn are seldom lovely. As for spring flowers, not many of them are adapted for geometrical designs. I have never yet seen spring gardening in formal beds worth looking at. I am a great lover of spring flowers, but not in regular lines or geometrical figures. Much as we deplore the forced economy in gardening matters, it is having a good effect in doing away with some of the attempts at this style of decoration.

But my principal aim in penning these notes just now is to condemn the inharmonious grouping of colours which we see in so many gardens during the summer months. Yellow *Calceolarias* and scarlet *Geraniums* seem to be an especially favourite mixture, not only in public parks and gardens of some pretensions, but also in villa gardens with only two or three beds. This is quite a savage mixture and ought not to be tolerated. Red, white and blue, although these are our national colours and are admissible at the end of a pole, have quite a harsh appearance in a flower-bed, though I do not object to these colours separately with a good breadth of green turf between them. But worse than all, which I am obliged to look on every day, is yellow and pink close together.

If people will have striking contrasts, there are several among bedding plants to choose from. I do not profess to be an artist and am open to correction, but I can tolerate purple and yellow, scarlet and purple, and even crimson and gold, though I generally prefer more moderate harmonies.

I was looking at a bed of dwarf single *Dahlias* in our beautiful Victoria Park. At first sight they appeared to be scarlet with yellow stamens,

and I wondered how it was that I enjoyed looking at them, when I came to the conclusion that the colour was too deep for scarlet and might be called crimson and the anthers were almost golden. The plants were only about a foot in height to the top of the flowers, and their name is *Coltness Gem*. There was a ring of variegated *Geraniums* round the *Dahlias* and an edging of blue *Lobelia*. Had there been an edging of the silver-leaved *Centaurea* instead of the *Geraniums* and *Lobelia*, the bed would have been perfect. Another bed which I liked from a distance, but was debarred from closely examining owing to a fence, had several plants of a large-leaved, golden-blotched *Abutilon* for a centre, single plants of *Perilla* at intervals, and was filled up with a mixture of *Begonias*, *Fuchsias* and other things. The harmony between the *Abutilon* and *Perilla* at the distance I saw it was very pleasing, but perhaps a crimson-leaved *Coleus* would have been quite as good.

Yet, not even the best of the flower-beds could approach the beauty of the trees, many of which are very large and others have striking colours. The brown, gnarled branches of an aged and large *Arbutus* is a wondrous sight, especially when the sun is shining on it. Two large trees of *Crataegus pruinifolia* are very conspicuous with their crimson leaves, especially when seen through the green leaves of the neighbouring trees. The Canadian Sugar Maple has leaves which at this time are almost the colour of old gold, and there are many other notable giants as well as dwarfs. The person who could not enjoy a ramble through this beautifully planned and well kept park is to be pitied.

The botanic garden, too, is in this park, and has a good collection of rock and other plants which are well cared for by Mr. Halliburton, and as far as I am a judge of the matter, there is not much fault to be found with the rockwork. I have never seen much of this style of gardening which satisfied me. Some years ago when visiting a well known garden, managed by one of the best men in our craft, I asked, "What are you doing with these stone heaps here?" "Stone heaps," was the reply, "this is her ladyship's special rock garden, where she spends a great deal of her time."

Stone heaps is the best name I can give to much that is called rockwork. Given a bank, the back of which is hidden so that one can imagine it is all rock behind, and it is not difficult to imitate nature to some extent, but an isolated heap of stones placed on the flat can deceive nobody.

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Genetics. The August issue of the *Journal of Genetics* (Vol. XIII, No. 2, August, 1923)* recently to hand, contains, as usual, much information of interest, alike to the student of heredity and to the amateur breeder. Perhaps it is unnecessary thus to make two classes, for the successful plant breeder must to-day be a student of heredity. The opening paper on "Inheritance of the Three Forms in Trimorphic Species," draws attention to a very interesting trait common in certain races of plants, but the conclusions on the inheritance of these diverse arrangements of the sexual organs are, so far, entirely negative. "Notes on *Fragaria*," in which the heredity of flavour in Strawberries is very fully discussed, are more practical and here certain conclusions have been reached, but the work is yet incomplete.

The most interesting paper to the plant breeder is, however, the one on the "Genetics of *Primula sinensis*," by Gregory, de Winton and Bateson. This brings information on the heredity of this plant, which has been studied so long and so usefully, quite up to date. The paper is lavishly illustrated in half-tone and colour and the very full account of the leaf variations makes exceptionally interesting reading.

TRIALS AT WISLEY

THE following awards have, we understand, been made, after trial at Wisley, by the Council of the Royal Horticultural Society.

SWEET PEAS.

Award of merit.—Elsie, sent by Messrs. Dobbie, and Anne Ireland, sent by Messrs. A. Dickson, bracketed as synonymous; Ryburgh Lemon Protee and Butterfly Spencer, both sent by Messrs. A. Stark; New Miriam Beaver, sent by Messrs. R. Veitch; Mrs. H. Richards and May Unwin, both sent by Mr. W. J. Unwin; John Ingman, sent by Messrs. Barr; Wild Rose, Charming and Liberty, all sent by Mr. J. Stevenson; George Shawyer, sent by Messrs. Dobbie; Pimpernel, sent by Messrs. E. W. King; Bunty, sent by Messrs. A. Ireland and Hitchcock; Illumination, sent by Mr. W. A. Burpee; Thos. Stevenson Improved, sent by Messrs. Morse; Gloriosa, sent by Messrs. Toogood, Messrs. R. Veitch and Messrs. Dobbie; Donald McNaughton, sent by Mr. C. Elliott; Mascott's Scarlet, sent by Messrs. R. Veitch, Messrs. Barr and Mr. Holmes; Hawlmark Scarlet, sent by Messrs. Cullen; Mrs. P. C. Tomlin, sent by Messrs. Nutting; The Cardinal, sent by Messrs. R. Veitch. (Mascott's Scarlet, Hawlmark Scarlet, Mrs. P. C. Tomlin and The Cardinal are considered synonymous.)

Highly commended.—Phyllis and John Porter, each sent by Messrs. A. Dickson and Sons and Messrs. Cullen; Mary Rose, sent by Messrs. Dobbie; Glitters, sent by Mr. W. A. Burpee; Tangerine Improved, sent by Messrs. A. Dickson, Messrs. R. Veitch, Messrs. A. Ireland and Hitchcock, and Messrs. Dobbie; Royal Salute, sent by Messrs. E. W. King and Messrs. J. K. King.

RUNNER BEANS.

Award of merit.—Bounteous, sent by Messrs. Dickson and Robinson; Prizewinner, sent by Messrs. Kelway; Colossal, sent by Messrs. Dickson and Robinson; Czar, sent by Messrs. Toogood.

Highly commended.—Scarlet Emperor, sent by Messrs. W. H. Simpson and Sons; Sir Douglas Haig, sent by Messrs. Kelway; Prizewinner, dark selection, sent by Mr. W. J. Unwin; Czar, sent by Messrs. Kelway and Messrs. W. H. Simpson and Sons; White Emperor, sent by Messrs. A. Dickson and Sons.

CLIMBERS.

Award of merit.—Blair's Prothie, Telegraph Rollison's, and Lavender, all sent by Messrs. Barr and Sons; Perfection Ridge (Ridge var.), sent by Messrs. Watkins and Simpson.

Highly commended.—Lockie's Perfection, sent by Messrs. Watkins and Simpson and Messrs. Barr; Ideal, sent by Messrs. Barr and Messrs. Dicks; Jasper Queen, sent by Messrs. G. Carpenter, Rybolt; Sensation (Ridge var.), sent by Messrs. Heinemann.

SPRING SOWN ONIONS.

Award of merit.—Silver Globe, sent by Messrs. Barr and Sons; Anglo-Spanish (sent as Giant Zittau), sent by Mr. Heinemann; Premier, sent by Messrs. Dickson and Robinson; Rousham Park Hero, sent by Messrs. Watkins and Simpson. Some eighteen varieties were highly commended or commended.

VEGETABLE MARROWS.

Highly commended.—First of All, sent by Messrs. Cooper Taber; Long Green Running, sent by Messrs. Watkins and Simpson; Green Bush (sent as Chusan Green), from Messrs. Barr and Sons; Green Bush, sent by Messrs. Nutting; Kings-Are-Cream, sent by Messrs. Barr and Sons; Moore's Cream Striped, sent by Messrs. Nutting; Rothschild Orange, sent by Messrs. W. H. Simpson and Sons.

CLIMBING FRENCH BEANS.

Award of merit.—Phenomena, sent by Messrs. Watkins and Simpson; July, sent by Messrs. Carter.

Highly commended.—Mont d'Or and Delicatessen, both sent by Messrs. Barr.

RED CURRANTS.

Award of merit.—Perfection, sent by Messrs. Laxton Bros.

Highly commended.—Comet, sent by Messrs. Laxton Bros. and Messrs. F. Harraway and Sons; Fox's New Red, sent by Messrs. Laxton Bros.

Commended.—Houghton Castle, sent by Messrs. F. Harraway; Southwell Red and Bridgetford Red, both sent by Messrs. Merryweather; Littlecroft Beauty, sent by Messrs. Whitelegg and Co. The award to Littlecroft Beauty is made for cropping qualities, but on the understanding that this variety is suited for growing only in sheltered places.

WHITE CURRANTS.

Award of merit.—White Versailles, entered by the Royal Horticultural Society.

BLACK CURRANTS.

Highly commended.—Hatton Grant, sent by Mr. H. Jones.

The Champion Potato of 1923.—Potato growers will doubtless recollect that last year Messrs. Sutton and Sons of Reading received from the Ormskirk Potato Society a certificate of merit for their early Potato Dunvegan. This was the highest award of the year, none of the varieties on trial being considered quite good enough to gain Lord Derby's gold medal offered for the finest new variety immune to the dreaded wart disease. This year, however, Messrs. Sutton have secured this supreme honour, the gold medal having been awarded to their new late Potato Ben Cinnamon (one of the Reading mm's "Ben" strain of immune varieties) in the face of keen competition from the leading Scottish and English Potato raisers. Ben Cinnamon is a very prolific white round Potato of excellent quality and is likely to be most widely grown throughout the country both for garden and field culture.

The Shortage of Roman Hyacinths.—White Roman Hyacinths, sad to relate, are extremely scarce this season. There is nothing to be done about it; the bulbs are simply non-existent. Fortunately, however, there is a good supply of the early Dutch prepared Hyacinths which make a very good substitute. They are very easily brought into bloom by January, and are much more reliable growers than the Roman Hyacinths. The best varieties of these to be had are as follows: L'Innocence (pure white), Lady Derby (rose pink), Moreno (bright pink), Gertrude (bright rose), Garibaldi (crimson), La Victoire (rosy crimson), Dr. Lieber (bright blue), Schotel (light blue), Marie (dark blue) and Yellow Hammer (yellow).

Bagatelle Rose Trials. We are informed by the Curator that a trial of new Roses will take place in the park at Bagatelle, Paris, in 1924-1925, as in previous years. New Roses should be sent to the Curator by nurserymen, together with the raiser's name, and he takes this opportunity to point out to those who think of entering that (1) The plants should, as far as possible, have been grown in pots, and several of each variety—five at least—must be sent to the Rosery at Bagatelle before April 30. A notice must be attached as to their origin and parentage, stating, if necessary, the special treatment required for the plants. (2) The plants sent will be put out in the open ground in the public Rosery immediately they reach Bagatelle. They will remain there until October of the second year so that the Jury may be able to study, through two seasons, their qualities of flower and foliage.

The Rose Trial Garden at Wisley.—The new rose trial-garden started at Wisley by the Royal Horticultural Society this year has made good progress, and plans for its further development are in hand. The director will be pleased to send entry forms for new varieties to raisers or introducers on receipt of a post-card stating the number required. The plants (six of each) should reach Wisley by November 30, and should be addressed to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (Horsley Station, Southern Railway).

FORTHCOMING EVENTS.

October 3.—United Horticultural Benefit and Provident Society's Meeting. Bath Gardeners' Society's Meeting.

October 9.—Jersey Gardeners' Society's Meeting.

October 10.—New Anglian Horticultural Society's Meeting.

October 11.—Wargrave and District Gardeners' Society's Meeting.

October 12.—Foots Cray Horticultural Society's Exhibition.

Answers to Correspondents

FLOWER GARDEN.

LILIUM CROCEUM UNSATISFACTORY (A. M. T. R.).

Some bulb mites were present and this pest may very well have caused the trouble. Subsequently, bacteria had carried on the decay. If the other bulbs are equally bad it is doubtful whether our correspondent can save them, but the mites might be killed by washing the bulbs in a solution made by dissolving 1oz. of liver of sulphur in 3 gallons of water. Our correspondent does not give details of cultural treatment. Did he have regard for the stem roots?

TREES AND SHRUBS.

SMALL-LEAVED ORNAMENTAL VINES (H. J. B.).

The following Vines are suitable for clothing oak posts: *Vitis heterophylla* and vars. *dissecta* and *humulifolia* (Turquoise Herioid Vine); *V. amata* var. *laevius* (acuminata); *V. acuminifolia*, *V. cuneilobes*, and *V. flexuosa* Wilson.

NAME OF PLANT. T. A. L. Rose Climbing Crete Brunel.

* "Journal of Genetics," Vol. XIII, No. 2, Cambridge University Press, Fetter Lane, E.C.4, price 15s. net.

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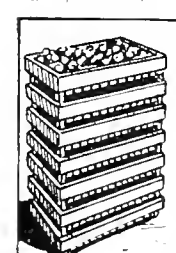
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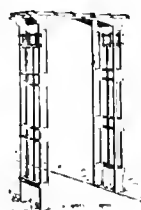
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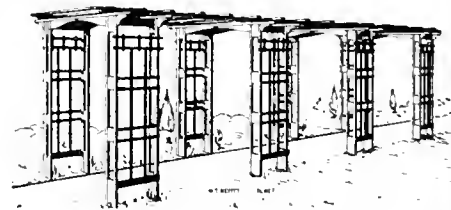
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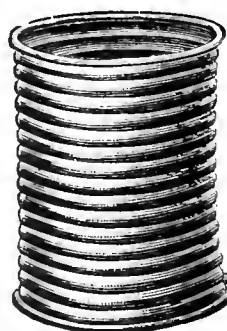
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Saturday, October 13, 1923

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No. 2708.—VOL. LXXXVII.]

[OCTOBER 13, 1923.]

THE EARLY-FLOWERING RHODODENDRONS

The introduction of many new species, and the raising of hybrids, has made it possible to have Rhododendrons in flower most of the year.

THE normal season of flowering with several Rhododendrons is midwinter, and the number increases as the days lengthen until, during March and April, there is a wealth of blossom on many bushes. Cornish gardens in particular, and others in the South and West provided with shelter and having a mild climate, have long been famous for the culture of early-flowering Rhododendrons. It is interesting to find Rhododendron flowers being used as an advertisement to emphasise the favourable nature of the Cornish climate. The Great Western Railway displays trusses of Rhododendron flowers in early spring at its offices in London, Manchester, Liverpool, Birmingham and elsewhere to draw attention to the mild climate of the locality which they have named the Cornish Riviera.

The increasing popularity of outdoor gardening coincides with the introduction of very many new plants from China. Among these the Rhododendrons are first in point of numbers. What is far more important, however, there are a large number of really valuable additions to the most beautiful race of evergreen shrubs cultivated in our gardens. Notable additions are among the earliest and latest flowering species. Though the majority of the plants are hardy, some of the newer introductions flower early, or our changeable climate excites early growth, with disastrous results when the bushes are fully exposed to spring frosts.

While the favourable climate may be the principal reason for the successful culture of early-flowering Rhododendrons in the South and West, those who garden there are fully alive to the value of shelter and aspect. Full use is made of valleys and sloping ground, with the abundant provision of shelter belts, hedges and screens. A sprinkling of tall forest trees is generally utilised to give slight shelter to the plants in summer from the fiercest rays of the midday sun. To accommodate the thousands of new Chinese seedlings, openings or

clearances are being made in the woodland, but it is very noticeable how carefully this is done so that all the shelter and protection desirable may be preserved.

In addition to being much less expensive to maintain than greenhouses and formal bedding, owners can take a much more active interest in the trees and shrubs of the pleasure-ground beds and borders and the woodland. Next to the provision of shelter comes the question of mulching.

Rhododendrons are surface-rooting plants, so that in providing a liberal mulching of leaves, old decayed manure, bracken, etc., we are supplying the plants with food as well as material to keep the ground moist.

R. arboreum in its many seedling varieties and hybrids is the predominant plant among the Rhododendrons of the South and West during the opening months of the year. With such a vast number from which to select it is only possible

to name a very few. The first of these must be Nobleanum (arboreum caucasicum), which sometimes opens its first flowers in November, is quite good on Christmas Day, and beautiful, if the weather is mild, during January and February. R. venustum (syn. Jacksoni) is the reverse cross, a dwarf bushy plant at its best during March with beautiful rose pink flowers. The variety cinnamomeum is one of the hardiest wild forms with smaller leaves, which are cinnamon beneath, the flowers white, or pink tinted, and spotted. Cunningham's Sulphur (caucasicum \times white arboreum) is a very free-flowering dwarf bush, sometimes opening as early as the end of January and in February, while if that period is frosty the buds may open as late as April. It also has a habit of opening flowers in autumn. Harrisii (Thomsoni \times arboreum) has rosy scarlet or crimson-scarlet flowers, which often make a good show during February and March. Cornish Early Red (ponticum \times arboreum) is one of the most widely cultivated Rhododendrons in Cornwall, and there are also large specimens in Welsh, Devon and Sussex gardens. Some of the oldest are 25ft. to 30ft. in height. The flowering season varies from February to April. Russelianum, Wellsianum, altaclarensense, Bodartianum, Handsworth Early Red, Cornubia and George Cunningham are others of special value.

R. præcox (ciliatum \times dauricum) opens its bright rosy purple flowers quite early in the year. Notably free blooming and with flowers 1in. to 1½ins. across, it is a lovely plant



THE WHITE-FLOWED RHODODENDRON PRÆVERNUM.

during February and March. *R. emasculum* is somewhat mid-winter in age, but its leaves are not so deep a green in colour, and the flowers are paler and possess no stamens nor stigma. Very early propagated by cuttings, this is a really free-flowering plant which might be largely grown under glass for floral work, the flowers opening that pale creamy tint which is in such demand for wreaths and crosses.

R. damianum, more or less deciduous, and the evergreen variety *atrovirens*, frequently give a good account of themselves from January to March. In the event of possible frost the flower-buds, it shewing the rosy purple colour, open quite well when cut and placed in water. The best form of this mid-winter *Rhododendron* is var. *micronulatum*, which during mild weather in January and February is a great success in sheltered positions.

Rosa Mundi and *Christmas Cheer* are bushy evergreen *Rhododendrons* derived, presumably, in part from *R. canescens*. The bluish or pink-tinted flowers sometimes open early in the year, but more often are produced very freely in March.

R. barbatum is a Himalayan species, more hardy perhaps than *R. arboreum*, but has not been used to anything like the extent of that species as a breeder. It is rather loose-limbed in habit, but has gorgeous blood red flowers opening in March or early April. Crossed with *R. Thomsoni*, the beautiful *Shilsoni* was raised at Fremough.

R. Thomsoni is another Himalayan species with blood red flowers which requires shelter because of its early flowering. Crossed with *Fortunei* this species produced *Luscombei*, while *Ascot Brilliant* is one of the best known *Thomsoni* hybrids. Rather earlier flowering is *R. fulgens* from Nepal and Sikkim, features of which are the rich red bell-shaped flowers and the crimson bracts of the young growths.

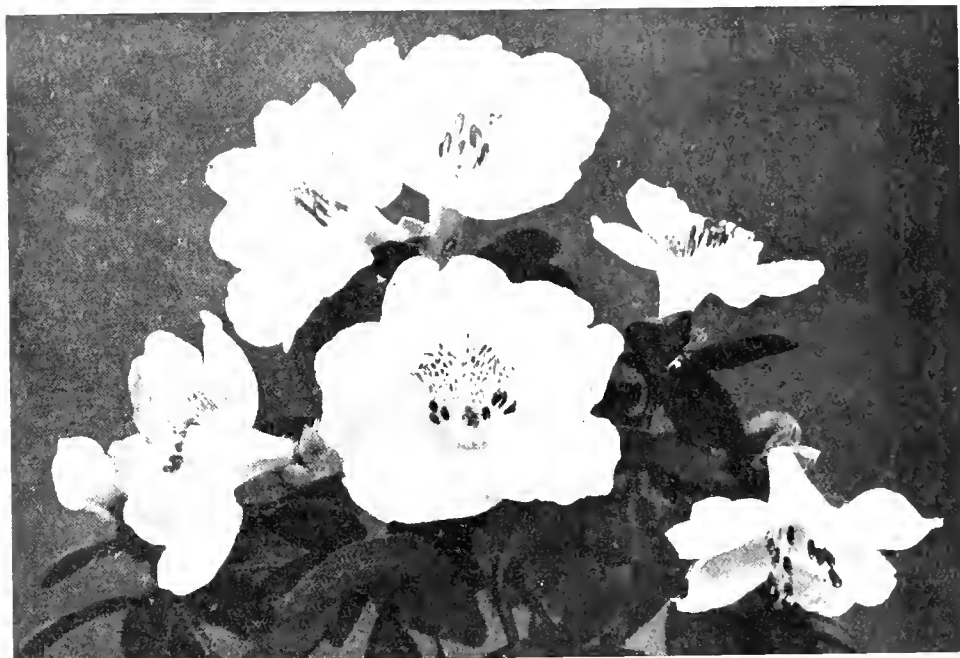
R. lutescens when first introduced from Tibet and Western China was grown in the open. It is, however, the first of the scaly-leaved evergreen section to flower and make new growth. Suffering damage by frost for several years, the plants did very little good. Recently, spells of mild weather in February and March have allowed the pale yellow blossoms to open under favourable conditions. Several Cornish growers speak well of the plant for cutting, and in the Himalayan House at Kew several bushes grow and flower freely each year. In the hands of the hybridist *R. lutescens* offers possibilities as the parent of a useful race of early-flowering *Rhododendrons* for greenhouse culture.

Among the newer Chinese species a considerable number flower during the early months of the year. *R. sutchuenense* is one of the most distinct with large evergreen leaves and bell-shaped rosy-like flowers $\frac{1}{2}$ in. across. The typical plant is figured in the *Botanical Magazine*, Vol. 8762, which flowered at Coombe Wood in March, 1910. Since that date numerous forms have flowered varying a little in the foliage and spotting, blotching, and colour or shading of the flowers. *R. averyanum* is more compact in habit with white clothed flowers. The variety *Graddy* is another form with a distinct blotch.

R. strigillosum is notable for the bristly character of the stems, leaves, and flower stalks. The best variety has rich red flowers, but other forms have rosy, pink, and white blossoms. Not quite so conspicuous, but *R. pachytrichum* has compact trusses of pure or pale rose blossoms. There are two forms of *R. neopaniculatum*, one with rose, the other with white spotted flowers. Mr. Oulson records this species as growing in the hollow trees. It is quite hardy, but, flowering in



THE STERILE AND RATHER PALLID RHODODENDRON EMASCULUM.



THE BEAUTIFUL WHITE FORM OF RHODODENDRON MOUPINENSE.



RHODODENDRON PRECON, A LOVELY PLANT IN FEBRUARY AND MARCH.

ABOUT AUTUMN PLANTING

February and March, should be planted in sheltered positions. The plants are evergreen, of a bushy dwarf habit of growth, and the flowers open wide, suggesting a greenhouse Azalea.

I always look on RR. Fargesii, Davidii, hamatocheilum and oreodoxa as a distinct group of evergreen species with some resemblance in habit, foliage and flower. The blossoms are in each case pale rose or purplish pink. Among the scaly-leaved section R. Augustinii is one of the first to flower. The seedlings vary in colour, the most distinct and desirable being a form that has flowers of a mauve or blue shade.

The question of fuel and other expenses in connexion with the upkeep of large greenhouses and conservatories filled with exotic plants is a present-day problem in many gardens. Instead

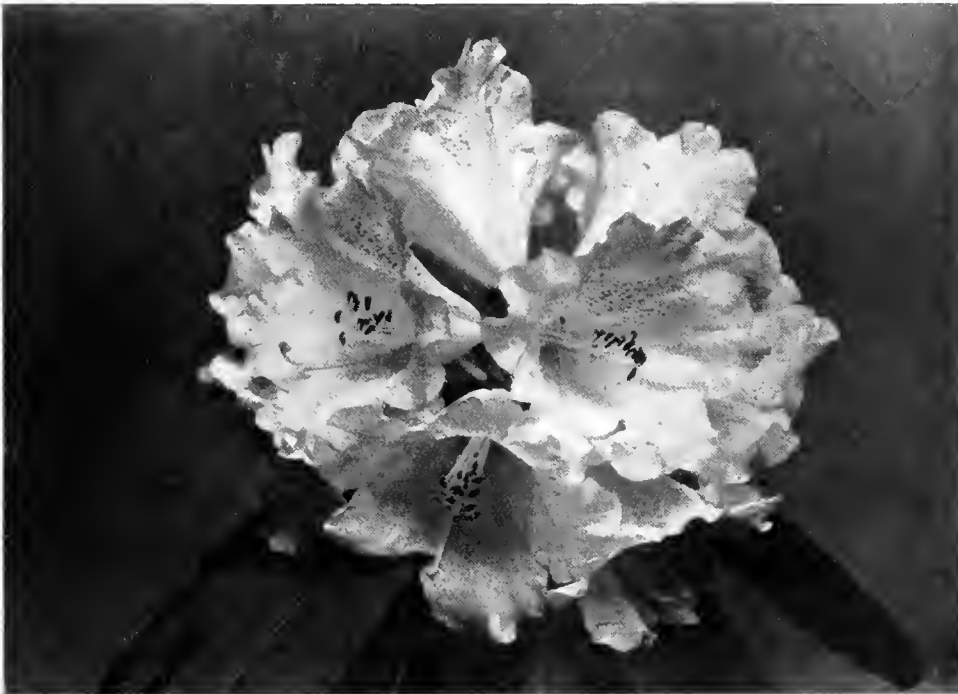
AUTUMN planting has many advantages. It is on the whole the best season of the year to remove anything of which the transplantation presents any difficulty. However, really well transplanted and grown nursery stock will, with a few negligible exceptions, move safely even in the dead of winter. The writer well remembers planting in January several hundred Hollies, not one of which failed to grow or even "looked back." The great advantage of the next three or four weeks as a planting season lies in the possibility of starting quite an involved piece of planting and carrying it straight through to completion.

Stock will develop at its own sweet will. Such a tree can always be told by the experienced gardener from the often more poorly coloured, but thrifty, stock which bears the marks of proper nursery treatment. Those unskilled in the signs of thrifty growth should buy their stock only from a house with a reputation, and beware of plants offered at "cut" prices. In the third place, stock may often be procured at relatively low prices from bleak regions where land is of small value. Only small stock should be bought from these firms; larger plants are apt to be unshapely owing to the buffetings of the weather. A fourth method of procuring stock cheaply is to attend an auction sale where stock is being sold under the hammer to clear ground. Sometimes a real reduction may be obtained in this way, but it is well to make sure that the plants offered have been properly transplanted right up to the time of sale.

One drawback to auction sales is a weakness of human nature which we men are apt to attribute specially to the ladies, though any nursery or farm will shew the sterner sex to be equally frail in this regard. The weakness referred to is a tendency to purchase plants or, indeed, other articles of commerce, because they are cheap, not because they are the ones wanted. No garden can be properly planned in which the planting depends, not upon the kinds suitable for the work in mind, but upon those which happen to be listed in the catalogue of an auction sale. The fitness of the place for the plant and the plant for the place is the very foundation of successful planting. These notes on cheap planting have been attached to evergreens, though, as a fact, they apply with greater or less force to all classes of plants, because evergreens in general, and conifers in particular, need more attention at the hands of the nurseryman than any other classes of stock.

We will suppose, however, that our evergreens have been ordered from a reliable firm and have just come to hand nicely packed, in a truckload if a quantity has been obtained, packed singly or in baskets or bundles if the order is smaller. They may, of course, have been delivered by road; if they have come by rail, however, have them carted away at the earliest possible moment. Open the sacking or other material which surrounds the roots of one or two typical specimens to see what conditions the roots are in as regards moisture. Supposing the roots not to be over-dry and that planting can be finished within a few days, lay them all in trenches not too far from the positions they are to occupy, with the sacking in place. If the roots are on the dry side, but not dusty dry, fill the trench so made with water before returning the soil around the roots. If, however, the balls are dried right through, it will be necessary to dip the trees (preferably tops as well) in a pond or trough. In such case, to prevent, as far as may be, the ball falling to pieces, it is usually well to secure the sacking, or whatever it is that holds the ball, yet more tightly about the roots with some strong tarred twine. When, after a few hours' soaking—overnight is not too long—the plants are removed from the water, lay them in a semi-recumbent position in a shallow trench and cover with soil. Planting in such case had better be postponed for three or four days to enable the ball of earth around the roots again to become homogenous before the sacking is finally removed and they are placed in their permanent quarters.

Where the roots on arrival are in good order but planting cannot all be done for some considerable time, unpack the roots of all which cannot



RHODODENDRON SUTCHUENENSE WITH RATHER BELL-SHAPED ROSY-LILAC FLOWERS.

of allowing such structures to remain empty and fall into disrepair, or removing them, as was done with the large conservatory at Chatsworth, many such houses might be utilised as shelters for the early-flowering Rhododendrons, and would be very suitable for the purpose. These Rhododendrons could be planted out permanently in beds and borders, or cultivated in large pots and tubs. The latter course would permit of their being taken outside in summer. The expense of upkeep without artificial heat would be comparatively small. The protection from spring frosts and cold winds afforded the flowers and young growths by the structures themselves would be sufficient under ordinary circumstances.

Some of the most important Rhododendrons for large structures include the many forms or varieties and hybrids of R. arboreum, together with RR. barbatum, Thomsoni, Falconeri, argenteum (which by some authorities includes R. grande), ciliatum, sutchuenense, lutescens, Nobleanum, dauricum and var. mucronulatum, campylocarpum, praecox, Griffithianum, moupinense, Schlippenbachii, Luscombei and Fargesii.

Attention may also be drawn to the value of the free-growing, early-flowering Rhododendrons for the heated greenhouse from Christmas onwards. Comparatively young flowering plants of most of the kinds mentioned can be accommodated in 10in. and 12in. pots at the outside. A. O.

The ground is still warm enough for conifers and other evergreen trees and shrubs to move well; the fall of the leaf is upon us, so that deciduous stuff may be lifted without danger; the bulk of herbaceous plants may now be put in place; there is still time to plant a great variety of spring-flowering bulbs; and last, but by no means least, one may still lift and relay turf with the consciousness that it will be re-established by winter. When considerable alterations are under way, it is an immense convenience to be able to carry through the work from start to finish without a break. It is proposed in the following notes to touch briefly upon the different classes of planting and to point out some of the stumbling blocks which often lead to failure.

As regards the Coniferae and other evergreen trees and shrubs, much of the ill-success which each year attends such planting is due to the purchase of "cheap," unsuitable stock in the first instance. Exceptionally low-priced stock can only come to be offered in one of four ways. In the first place, it may be of foreign, probably Dutch origin; Dutch stock usually grows, but their methods of "working" are not ours, and their plants are too often debarked by the stock upon which they are "worked" from attaining the characteristics which properly mark the species. Secondly, "cheap," showy stock may be readily produced by failing to transplant, and by letting the top

be planted in the ground within four or five days and set them in an upright position and not too thick on a piece of vacant ground, providing stake and string or other convenient means of support to prevent rocking during the period of their stay. It is surprising the amount of new roots such shrubs will make at this season in a fortnight's sojourn in the reserve ground. Care must, naturally, be taken not to damage these new roots when lifting and replanting these temporarily planted shrubs.

Take out a hole amply large enough for the specimen which is to go into it, and if there is a hard ball, take great care to see that it is nowhere left hollow. It is well to take out the hole rather deeper than would be necessary to bring the surface of the ball to the proper level and to set the ball upon a raised mound in the centre to lift it to the proper height. If the soil is then added little by little and worked with the feet under the ball and tramped and rammed firm as the work proceeds, there should be little doubt as to the success of the transplantation. Staking of shrubs which have a ball is not practicable. Three guy-wires to pegs driven into the ground at a little distance will, however, afford the necessary support. The stem should be carefully padded where these wires are attached, and the wires themselves should be detached next summer and, if necessary, be replaced. They are a necessary evil, but many shrubs are each year beheaded by wires or even string encircling their stems, and which had been forgotten.

One other important point arises in the planting of evergreens, namely, the treatment of shrubs the roots of which were lifted in a ball but of which the ball has become fissured. There is no doubt that in such case the ball is best entirely removed, since no method of filling the crevices satisfactorily with soil presents itself. Dip the broken ball into a vessel of water just about deep enough completely to cover the ball. Fix in an upright position and allow to soak awhile. Then with the hands (under water) gently liberate the soil from the roots. On no account lift the tree from the water until the soil is removed or many of the brittle roots will come away with lumps of water-logged soil. Plant at once and stake firmly.

Deciduous trees are much easier to manage. It is seldom that they present any real difficulty. As they have no ball, they may be soaked if at all on the dry side without difficulty, and they may be staked instead of "guyed" into place. Drive in the stake and secure the tree before filling in the hole. This ensures that the roots are not damaged when the stake is driven in. It is usually recommended to place the stake to windward of the tree. This is a good rule in the case of orchard planting, but in ornamental planting one wishes, naturally, to place the stake as far as possible in the background. Wrap the tree with two or three thicknesses of material where the tie is to come, and take care that the stake cannot chafe the tree anywhere else in its length.

If land to be planted with trees and shrubs is at present under turf, bastard-trench it and lay the turves, face downward of course and chopped sufficiently to be quite solid, in the bottom. Only in exceptional instances is it necessary to provide manure for newly planted shrubs.

Rose trees are never any the worse for having their wood plumped up before planting. It is a good plan, therefore, to leave them to soak, roots and tops, for an hour before planting them or laying them in. The importance of carefully laying in all classes of hard-wooded plants which cannot be planted forthwith cannot be over-estimated. A thoroughly enriched soil is desirable for Roses, and good turfy loam, half-rotted dung and crushed bones should all play their part in enriching the ground. Drainage, too, is most important. Plant Roses deeply so that the junction of scion and stock may be buried.

Practically all that need be said about fruit trees has already been set forth when writing of

deciduous trees and shrubs. Do not specially enrich the soil, for thrifty growth preceeds fruitfulness. Above all, and this applies to all classes of trees and shrubs with equal force, do not allow anyone, under the pretext of "making the tree firm," to lift the tree up and down when the soil has been partially filled in, thus drawing the roots up together. It will be noted that very little has been said about spreading out the roots, which with some people is a fetish. Arrange the roots of all deciduous trees and shrubs (and of such evergreens as come without a ball) just as they appear to have been in the nursery lines. Do not on any account attempt to twist the roots to make a better "balance."

BULBS AND HOW TO USE THEM

THE season has come when Japanese Lily bulbs should be with us in quantity, but we are still in some doubt as to what effect the disastrous earthquake and its *sequelæ* will have upon deliveries. Upon the uses of Lilies alone a long article might be written, but the matter has recently been dealt

the early-flowering Gladioli—G. Colvillei and the rest—which, if planted too soon, are apt to get their growths damaged by spring frosts.

The early-flowering Tulips are rather formal in effect, though less so than first or second size Hyacinths, and they look best when bedded quite formally in beds on the terraces or in other purely



CROCUS VERNUS NATURALISED AT WARLEY PLACE.

with at some length in these columns, and this opportunity is being taken for a final note upon the use and arrangement of spring-flowering bulbs.

There is still ample time to plant Tulips with every hope that they will give of their best and, as far as the May-flowering sections are concerned, if planted in suitable soil, leave a good stock for use in following years. Narcissi and, in particular, soft-bulbed kinds, such as Fritillaria, Scilla (the nutans section) and Erythronium should, ere this, have been recommitted to the earth, yet if the bulbs handle firmly and look sound, they should give excellent results next spring and be useful for permanent planting, though a certain shortage of flower in 1925 may indicate the abuse to which they were subjected this autumn. The end of this month or November is soon enough to plant

formal parts of the garden. Planted about 8ins. apart each way, they may well be underplanted with some dwarf-growing spring-bedding plant. Tulip Rose Griselin or Rose Luisante and Forget-me-not Sutton's Royal Blue form a deservedly popular combination, but Tulip Artus (or Proserpine) and white Arabis, and Tulip Chrysolora with white Polyanthes are equally good. Primrose Queen Tulip is also very effective above a thick planting of Royal Blue Forget-me-not, and even better associated with the purple old-fashioned Bedding Viola Bluebell.

The May-flowering Tulips are not nearly so stiff as the earlier-flowering ones, so that it is little wonder that gardeners lament their inability to naturalise them in turf, but, as this is impracticable, we can at least use them in comparatively

small, natural-looking clumps, where the beauty of the individual blossoms may be better admired than in the too usual straight rows and formal beds. A clump of six bulbs is almost large enough, but if we use six bulbs of each variety, we shall soon get an effect of monotony which will take from the natural grace of the flowers almost as much as if they were formally bedded. Flower-lovers with an eye for colour grouping have long realised the importance of a certain repetition of the main colour *motif* in a planting, just as a painter feels the need for it in his picture. In the garden this is not infrequently obtained by planting a relatively large group and a small one a little distance off to continue the "feeling." Two birds may, therefore, be killed with one stone if we plant a few of our more striking Tulips in appreciably larger groups, with one or two subsidiary groups of smaller size near at hand—so placed, in fact, that without any undue stretching of the imagination, a friend unacquainted with the habits of Tulips might think the original clump had seeded and reproduced itself at a little distance.

For this style of planting the clumps should not be circular, not even all of a shape, but, as in all good planting, the groupings should on an average be proportioned to the shape of the border, using narrow drifts for a long, relatively narrow border and more compact masses for a short "stubby" one. In no case should the lie of a group cross the general line of the planting. A group which is deeper from front to back than from left to right is wholly wrong in a border.

When we come to the bulbs which we are wont to naturalise, the Narcissus, Bluebell, Snakeshead, Dog's Tooth Violet, Camassia and such-like, the matter might seem simpler, but, in fact, the arrangement of groups in so-called natural planting is anything but easy. Were it otherwise we should see really satisfactory wild garden planting more frequently than is, in fact, the case.

A certain woodenness of the grouping, often noticed, can be readily overcome by scattering the bulbs from the hand and planting them where they fall, but this is really only a minor fault. The general grouping is usually unsatisfactory; indeed, there is often no grouping to criticise, the planting being continuous over a large area. This is perhaps allowable with the Bluebell in woodland planting, where the play of light and shade gives a natural and pleasing effect of grouping; it is far from beautiful where plantings of the Daffodil or Snakeshead are concerned. It may be urged that often a corner of a field is found entirely covered with a Lent Lily, Narcissus Pseudonarcissus, but beyond the attraction of the sheer mass of colour there is little real beauty in such a wild planting. It is towards the edges of such a station that we may sometimes find colonies so arranged as to form a really effective grouping. We are, after all, under no obligation to imitate the first natural arrangement we find; there is much grouping in nature that is not beautiful. It is our task, as reasoning beings, to select and imitate the most beautiful, rejecting everything that is less worthy.

Consider every such planting from several viewpoints as a painter's composition, study the fall of the lines so that the eye is led to the features of greatest interest rather than distracted by a bewildering mass of lines, some of which lead quite out of the picture. Plant to form the pictures the eye has visualised and the effect cannot be other than pleasing. Do not attempt in such planting to have too many varieties in flower at once, and plant in drifts rather than in clumps. These points, of course, follow from what has gone before, but perhaps it is as well to set them down. Do not be afraid to plant two varieties which flower at different seasons in association. This should ensure two displays where otherwise only one would be possible.

Early Daffodils and Snakesheads (*Fritillaria Meleagris*) or early "Duffs" and Poet's Narcissus come to mind in this connexion, while, if the turf be short and sweet, *Scilla sibirica* and Winter Aconites may be planted for a still earlier blossoming. Bold masses of *Crocus vernus*, too, may be grouped among the Narcissus, but not intermixed with them, for their flowering times overlap.

Neither Crocus nor Narcissus, nor any other bulb, should be planted in the level close-shaven lawn. Not only do the blossoms lose much in appearance in such a position, but the effect upon the grass, of the period of waiting while the bulb foliage withers, is very detrimental to the lawn. If the garden is small and there is no space for rough grass, preferably contoured, let the naturalising be restricted to a few drifts of Narcissus or Bluebells beneath a little grove of Nut bushes. The beauty of an effect depends rather upon its proportioning than upon its size.

THE CORSICAN HEATH

THE Ericas come to the garden lover with so many and varied charms that selection becomes a matter of real difficulty. Perhaps one's peat patch is rather confined, and therefore one has to be specially critical before admitting a new-comer. One will not be wrong in planting *Erica stricta*, the Corsican Heather, for there is no season in the year when it does not look attractive, though most of all when the ends of the shoots are decked with their pale red flowers in autumn. It is notable among Heaths as a very erect grower and, though of compact habit, capable in course of time of attaining a stature of 3 ft., or even considerably more. In addition to the flowering season, the plants are extremely decorative during summer when covered by the young foliage.



THE BEAUTIFUL NARCISSUS PALLIDUS PRÆCOX UNDER NUT BUSHES.

THE GREAT AUTUMN SHOW

The Great Autumn Show took place at Heriott and Sons' Garden, Heriott Park, Hill, on October 12 and 13, and must be accounted a great success despite the unfavourable weather. Even on the evening when the climatic conditions were at a bad as they well could be, there was a large number of people about the exhibits. The group of plants that could be suggested for a great autumn display is a better lighted list than, alas! so is not to be practical politics. The most noteworthy exhibits will be found listed below under their different sections.

TREES AND SHRUBS

If we except Roses and Clematises, which are in classes by themselves, it was certainly autumn tints that made the greatest appeal among the various collections of hardy trees and shrubs. The most vivid of this colouring was seen in the sprays of *Berberis Thunbergii splendens*, *Quercus pedunculata*, *Euonymus alatus* and *Parrotia persica* which Messrs. J. Cheal and Sons associated with the green of a few conifers and the soft yellow of *Koeleria paniculata*.

But the most brilliant colour of all was in the plants of *Berberis Sargentiana* which Mr. G. Kenthe had in his group. This was almost a startling blood red hue. *Euonymus campanulatus*, smaller in size, was also of rich colour, while several of the Japanese Maples in various

varieties seemed to be more highly coloured than most. The hanging bunches of berries on some bushes of *Viburnum theophrasti* were, in their shining scarlet colour, very decorative.

While such gorgeous hues "took the eye" and the space held it, it was realised that the deep green or evergreen species had quite as much to show. The satisfying restfulness of the ample foliage of such *Rhododendrons* as *Talcenti*, *extremum maximum* and *Hedgson* was evident in one large collection.

The massed green in the large group which Messrs. Hilber and Sons arranged was, when the light was fading and just before the electric lighting was switched on, almost black in its intensity. They had a valuable collection of young specimens of the newest Chinese Spruces and Silver Firs, so very interesting to the tree lover. A collection which was also of interest was set up by Messrs. A. Charlton and Sons, and among other valuable shrubs they had good specimens of *Kriobotrya japonica*.

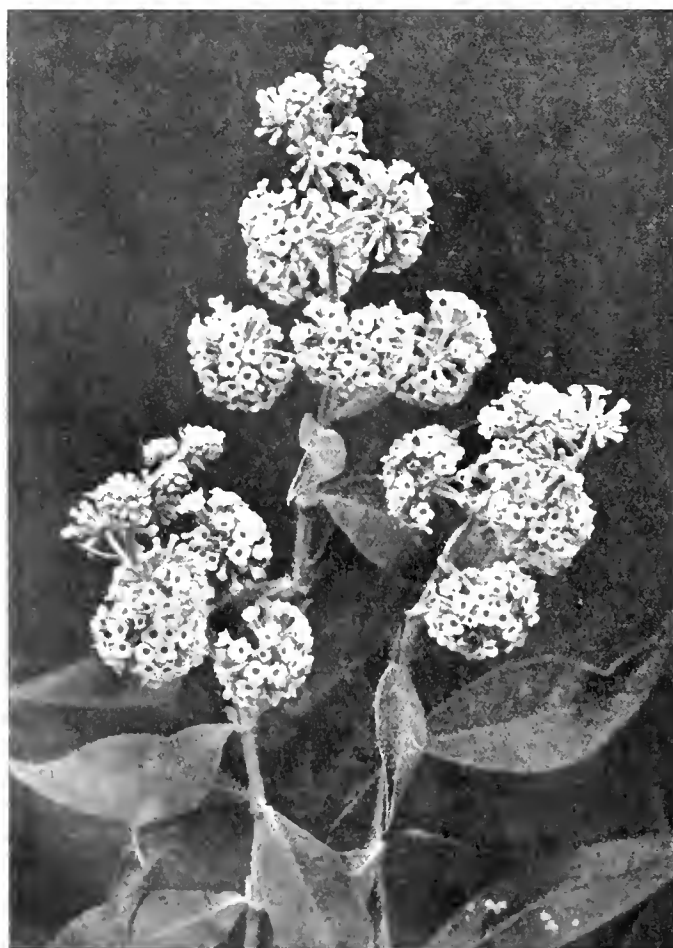
Not far away from the large circular group of Michaelmas Daisies which Mr. H. J. Jones arranged so well Messrs. R. and G. Cuthbert had a collection of trees and shrubs which included *Acer Negundo variegata*, *Hollies*, dwarf conifers and *Ceanothus Gloire de Plantières*.

The dwarf conifers which are so valuable for planting in the rock garden were to be seen in perfection in the exhibits of Mr. G. G. Whitelegg and Mr. Clarence Elliott, who shewed many Junipers of contrasting habits. There were

spreading little bushes which would mask a large boulder and give overhead shade to plants which require it, and there also were tiny little examples of the silvery green upright Irish Juniper, *Minutaria* Spruces of compact, almost congested, habit and often of perfect columnar form were also freely shown.

In a fascinating general group Messrs. Wallace and Co. had several young plants of *Cytisus prostratus* which, in their erect habit and grey-green foliage, were very valuable. They had various other shrubs, and margined the whole group with *Frica vagans* varieties and *Daboecia polifolia* interspersed with beautiful masses of *Colchicums*. They also shewed groups of various Dahlias, Gladioli and other flowers in generous quantities.

Clematises were grouped in quantity by Messrs. Lockman and Sons and Messrs. L. K. Russell, Limited, who, as was remarked by a veteran visitor, have entirely discarded the old method of training this shrub on to large balloon shapes and now shew them in a more natural and pleasing manner. From the gallery, under artificial light, the dozen or so plants of the white-flowered *Marie Boisselot* in Messrs. Russell's collection were especially effective, and illustrated the value of white flowers for the evening garden. *Princess of Wales*, silvery blue, and *Lady Betty Balfour*, shades of royal purple, provided a pretty colour scheme in this one flower. *Jackmanni rubra*, *Ville de Lyon* and *Gipsy Queen* were other beautiful varieties.



THE NEW BUDDLEIA 'MOONLIGHT' WITH CREAMY BELL FLOWERS.



A VERY ORNAMENTAL PRIVET, LIGUSTRUM QUIHOUT.

ROSES

Those who, on entering, turned to the right might well have thought that it was an Autumn Rose Show, for there were masses of most glorious Roses stretching along as far as the eye could reach. Mr. George Prince had a most beautiful collection, arranged with considerable skill. Columbia, Lady Plymouth, Covent Garden, Golden Emblem and Etoile de Hollande are the names of only a few of the excellent varieties he set up so well.

In an entirely distinct fashion Mr. E. J. Hicks shewed his Roses. He had full-sized arches of most beautiful Ophelia, Melody and Mine. Butterfly. There were also tall stands, like so many columns, of Golden Ophelia, Columbia, Hugh Dickson and Climbing Lady Hillingdon, as well as other sorts.

A well arranged collection was contributed by Messrs. B. K. Cant and Sons, who had Emma Wright of splendid colouring. Mrs. E. Powell, Modesty, Padre and Mrs. W. Christie Miller were also noteworthy. The Rev. J. H. Pemberton had, mostly, varieties of his own raising, and chief among them were Moonlight, Nur Mahal, Aurora and Mermaid.

Last year's new varieties, Lady Inchquin and Betty Uprichard, were set out on arches by Messrs. Alex. Dickson and Co., who also shewed Lady Pirrie, Sunstar, Betty Hulton (a good yellow colour) and the new Shot Silk, which had a fascinating sheen of peach pink. Their new pink Hybrid Tea was to be seen in a collection by Messrs. F. Cant and Co.

In most collections the garden variety Emma Wright was to be seen and of lovely colouring, but in none was it better than as shewn by Messrs. Chaplin Brothers. Golden Emblem, Mrs. Hy. Morse, Innocence, Red Letter Day and the deliciously fragrant Walter C. Clarke were also of excellent quality. Mr. John Mattock included Martha Drew, Souv. de Claudius Pernet and Margaret Dickson Hamill; while Messrs. Waterer, Sons and Crisp had such valuable sorts as Los Angeles, Lady Pirrie, K. of K., Ophelia and General McArthur.

It was very late in the season for Sweet Peas, but Messrs. Dobbie and Co. were able to set up



PART OF MESSRS. BUNYARD'S FINE EXHIBIT OF HARDY FRUITS.

goodly vases of Picture, Royal Scot, Royal Purple, Hawmark Pink, Constance Hinton and other sterling varieties.

FRUITS AND VEGETABLES

There were some excellent exhibits of fruits and two magnificent exhibits of vegetables. The last two were deservedly awarded the coveted "Gold," and the Hon. Vicary Gibbs, in addition to the gold medal, received the Coronation Cup for the most meritorious group in the Show. Messrs. George Bunyard and Co. received a gold medal for a splendid exhibit of fruit. The famous Maidstone firm, as usual, shewed some remarkably fine specimens, which were tastefully displayed in fancy baskets. Here were to be seen among the Apples St. Everard, Mabbott's Pearmain, Wealthy, Rev. W. Wilks, Red Victoria, Cox's Orange Pippin, Rival, Ellison's Orange and Old

Royal Russet. Among the Pears were Catillac, Doyenne du Comice and Pitmaston Duchess. The fruits were beautifully coloured and of the highest quality. The Barham Nurseries, Limited, were awarded a large silver cup for a very representative collection of Apples and Pears. We noted such excellent Apples as Cox's Pomona, Blenheim Orange, Cellini Pippin, Wealthy and King of the Pippins; while Pears Durrondan and Beurré Diel were well to the fore.

Messrs. Daniels Brothers, Limited, secured a small silver cup for a fine lot of fruit which had been gathered from two and three year old bushes and pyramids. Cox's Orange Pippin was shewn in good condition, as were such notable sorts as Blenheim Orange, Charles Ross, Worcester Pearmain and Norfolk Beauty. Pears Conference, Glou Morceau and Pitmaston Duchess were very prominent on this stand. Messrs. Daniels also shewed their now famous September Black Currant. A large and excellent exhibit was staged by the Orpington Nurseries, Limited. Here were to be seen such well known Apples as Cellini Pippin, James Grieve, Ben's Red (superbly coloured), King of the Pippins and Hoary Morning. Among the Pears, Conference was to the fore. Besides the Apples and Pears, the Orpington Nurseries shewed Nottingham Medlar and Orpington Prolific Gage.

Messrs. E. Spooner and Sons shewed some fine specimens of Apples. Those that "caught the eye" were Cellini Pippin, Cox's Orange Pippin, Wealthy, Lane's Prince Albert and Hounslow Wonder.

The Horticultural College, Swanley, sent up an excellent collection of Apples and Pears. Mr. E. R. Watts of Colchester shewed, besides Apples and Pears, several bunches of Grapes which had been grown in a cold house. Here also were to be seen Peaches, Medlars and Mulberries. From the Midlands came a praiseworthy and tastefully arranged collection of Apples and Pears. This fruit had been grown at the Studley Horticultural and Agricultural College for Women.

A magnificent collection of fruit trees in pots was exhibited by Mr. J. C. Allgrove, who had splendidly trained trees of Peach Merlm, Plums Coe's Golden Drop and President, Apples S. J. Wright and Ontario. It is not often that one sees the Parsley-leaved Blackberry grown in a pot, but Mr. Allgrove had a fine specimen which was laden with luscious fruits. By introducing into this group bold pillars of Rosa Moyessi and



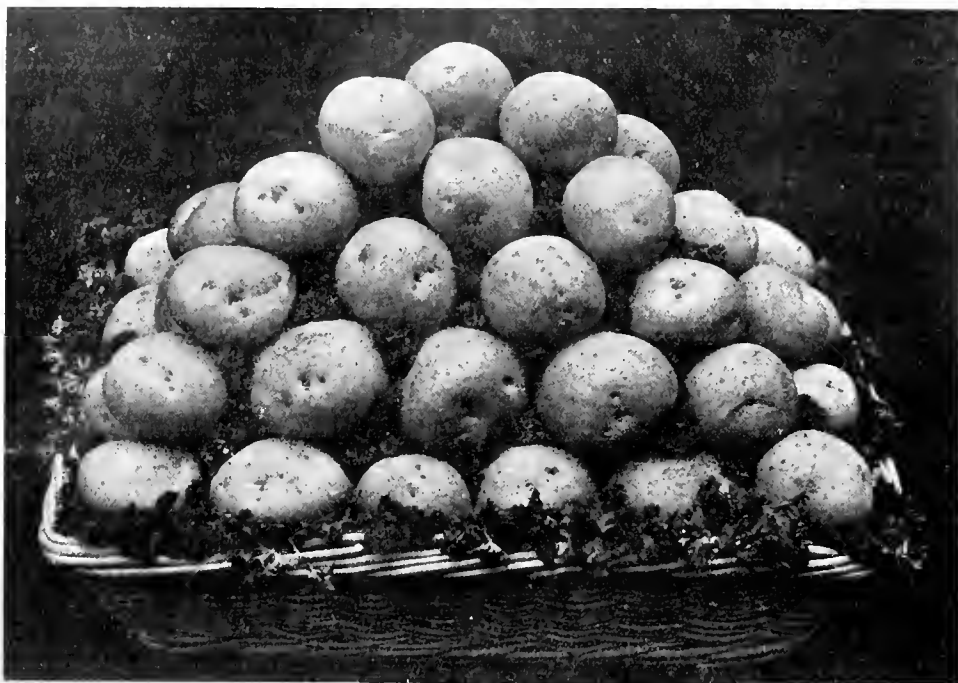
THE SPLENDID VEGETABLE EXHIBIT FROM ALDENHAM HOUSE.

R. Farquhar Mr. Allgrove made an exceptionally decorative and attractive exhibit. The Roses were laden with hips. Two other exhibits of outstanding interest were those of Messrs. T. Rivers and Son and Messrs. John Waterer, Sons and Crisp. Messrs. Rivers had some excellent pot trees of Grapes Gros Maroc, Gros Colmar, Black Alicante and Lady Hall. Here, too, were Apples Cox's Orange, of good size and excellent quality, Peasgood's Nonsuch and James Grieve. The exhibit of Messrs. John Waterer, Sons and Crisp contained trained trees of their new Apple John Waterer. The fruits, which are obviously "culinary," are of immense size. Excellent specimens of Apples Allington Pippin, Ribston

exceptional interest to many visitors were the Custard Marrows.

Messrs. Herbert Chapman, Limited, shewed several novelties. Tomato Blood Orange, a yellow fruit with a curious infiltration of red which makes the name a good one, is said to be of excellent flavour. Their new Capsicum Rother-side Mammoth evoked much interest. Vegetable Marrow Rother-side Orange is of proved value, and is becoming well known as the best-flavoured variety. Their new seedling climbing stringless French Bean No. 5 should also prove of value.

An extensive exhibit of Potatoes was staged by Messrs. Dobbie and Co. Here we saw their new early maincrop Lochiel. The tubers are of



MESSRS. SUTTON'S NEW POTATO BEN CRUACHEN.

and Rev. W. Wilks and Pear Doyenne du Comice were also shewn in a really noteworthy collection.

A truly remarkable exhibit of vegetables was staged by Messrs. Sutton and Sons. In all there were 225 dishes. Never before has such an extensive exhibit been staged by the famous Reading firm or anyone else. It struck the writer, when standing before this exhibit, it would be such a lengthy business to set down all the kinds included that it would be much easier to jot down the names of any not to be found in this display; yet, with all this catholicity, every specimen was of the highest quality. Here were Parsnips and Carrots of immense size, Celery, Leeks, Tomatoes (red and yellow), Runner Beans, Onions, Egg Plants, Chilies, Radishes, Brussels Sprouts and so on. A novelty in the centre of this exhibit was Potato Ben Cruachen, which was awarded Lord Derby's medal this year by the Ormskirk Potato Society for the best new immune Potato grown in competition at the Potato Festive Stakes at Ormskirk. One sometimes wonders where Messrs. Sutton keep all their trophies!

The other vegetable exhibit came from the Hon. Vicary Gibbs. Mr. Edwin Beckett, that past master of vegetable growing, is to be congratulated on placing before the horticultural world such a wonderful array of vegetables. Like the exhibit of Messrs. Sutton and Sons, it contained everything in the vegetable line. Of

good size, of a roundish stone shape and the skin smooth. We have not tried this variety, so cannot speak of its culinary value. However, one need have no fears of its being a "dud." Whatever comes from Edinburgh in the Potato line is good; our friend Mr. William Cuthbertson sees to that. Here, too, were such well known varieties as Immune Ashleaf, Majestic, Rhoderick Dhu, May Queen and Arran Rose.

In the competitive classes, both for fruit and vegetables, competition was not particularly keen in many classes. However, the specimens generally were of splendid quality. An excellent exhibit of vegetables was displayed by the Rev. J. Davies of Worcester, and he was deservedly awarded the Sutton Cup.

CHRYSANTHEMUMS

Chrysanthemums were not so extensively displayed as might have been expected, especially when it is remembered how flowers of the border varieties predominate in the florists' windows and in the baskets of the itinerant vendors. Messrs. Keith Luxford and Co. had a great many of these hardy varieties, mostly in the form of decorative sprays. Rose Chatillon, Verona, Polly and Harry Thorpe are excellent examples. So also are Bronze Normandy, Shrapnel, Dolores, Hesperus, Framfield Early White, September Glory and Roude Blanches, which Mr. William Randall staged so well.

HARDY BORDER FLOWERS

Viewing the Show from the galleries, Michaelmas Daisies seemed to dominate all the other hardy flowers. This impression was due quite as much to the method of displaying the flowers as to the fact that there were countless numbers of Sturges about the hall. The great central group of Mr. H. J. Jones was a very imposing affair. His series of tall columns made up of flowering branches was not at all a natural method, but inasmuch as it displayed to the full a great many varieties, it was very successful. The Ericoides section were well shewn as growing plants. The pillars of Rachael Ballard, Wonder of Colwall, Beauty of Ronsdorf and the new Snowdrift displayed excellent varieties.

A quite distinct method was adopted by Messrs. Dickson and Robinson, whose aim was to arrange the plants as naturally as possible, and this was a particularly happy inspiration which was also of great value to those who contemplated purchasing new varieties, for they could see at a glance the average as well as relative height of any of the many varieties. Walkden's Pink, Robinson V.C. and Calliope were very attractive, though Seedling No. 192, a deep rose pink, was the very best of all their plants, if not the best variety in the Show. It is a distinct advance towards the ideal really pink-flowered variety which raisers are striving for. The erect, free-flowering spike is very graceful and reminiscent of William Bowman, but an immense improvement on that popular variety. Until quite recently pink colouring in Michaelmas Daisies was confined to the variety just named and to Lil Fardel, but now there are plenty to choose from and of much better colouring. Pink Perfection—an unfortunate name, by the way, as the variety will certainly be superseded by a Super Pink Perfection—Autumn Glow, as shewn by Messrs. Dickson and Robinson. Rachael Ballard of deeper shade, as well as Walkden's Pink above named are quite good representatives. The largest-flowered variety in the hall was King George, a dwarf free-flowering mauve variety, also in the collection of Messrs. Dickson and Robinson.

Mr. E. Ballard, who has raised so many splendid varieties, set up his Michaelmas Daisies much after the style of a West Country hedge, which often spreads out at the base. Prominence was given to Grey Lady, a very pale lavender slightly rose flushed at the tips of the florets, which was delightful. Bee's Blush is of slighter brighter tone, while Countess is still deeper in shade of colour. His semi-double variety Little Boy Blue is of such a dark blue that it appeared almost black in the "dim religious light" of the hall.

The Gladioli season is nearing its close, but Messrs. Lowe and Gibson and Messrs. Kelway and Son are still able to put up presentable collections, and other growers associated Gladioli with general border flowers. Most of those staged by Messrs. Lowe and Gibson were unnamed seedling *Primulinus* hybrids of considerable beauty, but they also shewed large-flowered varieties, and of these White Glory and Titanic, rosy cardinal, were particularly good. Queen Mary, a shapely white flower which has crimson blotches on the lower segments, Golden Measure and d'Orsay, orange scarlet heavily splashed on white ground, were very charming in Kelway's collection.

A very good collection was also displayed by Messrs. R. H. Bath, Limited, whose Gladioli included Red Emperor, Pink Perfection, Halley, Le Maréchal Foch and Brillant. A number of Delphiniums with Michaelmas Daisies and other herbaceous flowers were shewn by Messrs. Blackmore and Langdon in conjunction with their plants.

of double-flowered tuberous Begonias which bore such immense blooms of beautiful colouring. John Mercer (orange yellow), Lady Cory (pale orange) and Hilda Langdon (soft pink) among the Begonias were especially handsome.

Excellent Delphiniums were also contributed by Mr. T. Carlile, who had a very large group of first-rate seasonable flowers. His herbaceous Phlox were also of much more than average merit: the trusses were exceptionally large for so late in the season, and the colours were very clean and good. He also included many valuable varieties of *Lupinus polyphyllus* and *Helenium*. *Clematis heracleaefolia* Columbine, one of the most effective herbaceous kinds we have seen, with quantities of mid-blue tubular flowers, was also included. Lupins, shown as "Regal Lupins" were massed by Messrs. Harkness and Sons in a large group. Named Pentstemons were the prominent feature of a collection by Mr. John Forbes.

The Astilbes (Spiraeas), which are useful for growing either in the general border or, preferably, in moist places, were shown by Messrs. Bakers, Limited. *Astilbe Granat* (deep pink), *A. Gunther* (pale pink) and *Beanty of Codsall* (creamy white) are three good sorts. Messrs. Isaac House and Sons staged a large collection of their perennial Scabions in named varieties, and in the gallery had many spikes of *Kniphofia* Mollender's Mount Etna, a valuable aloides (*Uvaria*) variety of bright coral pink colour.

Mr. E. Scaplehorn had an excellent general collection. At the corner, the reddish heads of *Sanguisorba rubra* flowers attracted a deal of attention, as also did the large vase of *Belladonna Lilies*.

A large group arranged by Mr. Amos Perry contained plants of *Monarda didyma*, hybrid Pentstemons and *Kniphofia*, set with considerable skill among the paler-flowered plants, particularly the Asters and *Heleniums*. He had a good patch of the dwarf *Solidago missouriensis*, which has much the appearance of a spreading, small-flowered yellow Michaelmas Daisy. In fact, the species was also shown by Mr. F. G. Wood under the name *Aster hybridus luteus*, the name under

which, only last year, it obtained an award of merit. Mr. Wood had various other interesting plants, such as *Physostegia altissima*, *Primula capitata Mooreana* and the dwarf blue *Campanula Bellardii* (pusilla).

The relatively large, shining purple fruits of the trailing little shrub *Billardiera longifolia* attracted a deal of curious attention in the exhibit of Messrs. W. H. Rogers and Son, where the shining scarlet berries on the dwarf plants of *Skimmia oblata nana* were highly decorative.

Chief among the comparatively few alpines in flower was a large pan of a very dark blue form of *Gentiana acaulis* shown by Mr. W. Wells, jun., who placed near it the dwarf *Gemma Borisii*, bearing plenty of orange-scarlet flowers. Mr. E. Dixon had a few plants of the dwarf *Campanula Spetchley* bearing white bell-shaped flowers, and Mr. A. J. Hall had a large batch of the small-flowered *Campanula Hallii*; while Messrs. Bowell and Skarratt included *Arabis rosea splendens* in their collection.

A very interesting collection of alpines in pots and pans was arranged by Mr. G. G. Whitelegg. Saxifrages were the most numerous, and these included some rare crusted and mossy varieties. He also had exceptionally good dwarf *Dianthus*es and *Primulas*. In a neat rockery Messrs. Maxwell and Beale planted a variety of dwarf *Ericas* with other appropriate plants.

Other exhibitors of hardy plants were Messrs. G. Gibson and Co., who had a large batch of Iceland Poppies of glowing orange yellow colour; Messrs. William Artindale and Sons; Messrs. Waterer, Crisp and Son, who displayed Michaelmas Daisies, *Gladioli*, etc., the Asters mostly, if not entirely, as growing; Messrs. B. Ladhams, Limited, who included such useful tall *Lobelias* as Mrs. Humbert (rose pink), *Salmon Queen*, *Purple King* and *Queen Victoria* (crimson); Messrs. William Cutbush and Sons, who had a large circular group of Michaelmas Daisies, Dahlias and Pentstemons; and Mr. Viger.

Mr. James MacDonald made another of his most fascinating grass gardens. The beds, shaped in rich green turf absolutely free from weeds, contained many elegantly graceful taller Grasses.

DAHLIAS

That losses by early frosts were not general is fully evident from the large collections of gorgeous Dahlias that many growers were able to arrange. These provided a wealth of colour that is not attainable by any other outdoor plant. The newer miniature Peony-flowered type which produces an abundance of bloom throughout the now long season was freely shown. These are all graceful flowers of good useful size and carried on sufficiently long stiff stems. The newest and best varieties are such as *Rainbow*, *Conspicua*, *Lovely*, *Neville* and *Dazzle*, which were seen in the fresh and bright display of Mr. J. T. West; while Mr. J. B. Roding included *Fairy*, *Rhoda*, *Glut*, *Halley* and *Glory of Stanhaus* in his representative exhibit of the autumn flower.

For those who prefer larger flowers of the same intense and varied colours there were the huge Decoratives and Peony-flowered varieties. Mr. Charles Turner set up noble stands of *Orange Boven*, *Phidias* and *Toreador*; while Messrs. William Treseder, Limited, illustrated the decorative value of such big blooms as *Roy Hay*, *Aglaia*, *Ebor*, *President Wilson* and *Mrs. Hay*.

A few years ago it was thought that the shapely Show and Fancy Dahlias were consigned to oblivion and would be no more seen, but it is evident that these varieties still have their admirers, for in addition to a good collection, shown in the time-honoured method on boards, Messrs. Dobbie and Co. shewed how valuable they are when tastefully arranged, a dozen or so together, in large vases with appropriate foliage. The varieties Mrs. Langtry, *Model* and *Warrior* were very fascinating in their regularity of form and beautiful colouring. The formal but dainty little Pompons also seem to be undergoing a revival, and for small vases and for such other purposes as dinner-table decorations these are especially valuable. There were charming little vases of *Bacchus*, *Mars*, *San Toy*, *Johnnie*, *Ideal* and *Censor* in Mr. Turner's collection, while other exhibitors also shewed very good varieties.



"MR. JAMES MACDONALD MADE ANOTHER OF HIS MOST FASCINATING GRASS GARDENS."

Among the group, Collarette varieties Mrs. Evans and Mrs. Perry, shown by Messrs. Treseder, Limited, stood out as being especially useful for filling small vases. The former is a round-shaped, scarlet crimson and the latter is a scarlet with a little white on some of the short quills. Such Collarettes, of the usual size, as Hussar, Strathmore, Arran and Glenoe were also well shown. Messrs. J. Cheal and Sons shewed many of their highly decorative Star varieties and some perfectly formed show Singles of charming colouring; while Messrs. Carter Page and Co. had a number of Cactus varieties which are good garden plants as well as furnishing exhibition blooms.

The centrepiece of Rose Supreme, a lovely, cosy mauve miniature Peony-flowered Dahlia, in a contribution by Messrs. Jarman and Co. was particularly successful, and near by they had a goodly number of Joyce Goddard, a larger bloom of yellow colour heavily flushed with orange scarlet.

CARNATIONS

Carnations in great beauty were attractively set out by Messrs. Allwood Brothers, who had a large stand of their new bluish salmon George Allwood near the vividly coloured Edward Allwood. Wivelsfield Claret, Maine Sunshine and Wivelsfield Apricot are also well worth especial attention. On a considerable floor space Messrs. Allwood Brothers made a pretty grass-bordered garden of uncommon design with their free-flowering *Dianthus Allwoodii*. There they tastefully massed Beatrice, rose madder coloured; Barbara, crimson; Brian, salmon pink; and Jeanne, bluish pink. To relieve the levelness they grouped some excellent perpetual Border varieties.

An imposing group of the Perpetual-flowering Carnations which may be relied upon to give a maximum quantity of good flowers were exhibited by Mr. C. Engelmann in great quantity. Among the brightly coloured sorts we noted Tarzan, Aviator and Belle Washburn. Those of pink shades included Dora, Delice, Luchantress Supreme and Laddie, while there were many others of white and various shades of colour.

Chief among the varieties shown by Messrs. Stuart Low and Co. were Red Ensign, Lord Lambourne, White Pearl and Eileen Low; while Messrs. Keith Luxford and Co. grouped Bona, salmon; Mrs. Walter Heims, pink; Cheerful, rosy crimson; and Tangerine.

STOVE and GREENHOUSE

Stove plants were very few and practically restricted to a group of such useful Palms as *Phoenix rupicola* and *Cocus flexuosa* with *Phoenix canariensis*, *Kentia Belmoreana* and *K. Fosteriana* displayed by Messrs. Robert Green, Limited, who also shewed in another place a large collection of Bay trees. Messrs. Stuart Low and Co. had pot plants of the fragrant *Bouvardia Humboldtii*, *Chiroma ixterea* interspersed with *Acacias*.

Other varieties of *Bouvardia*, associated with *Cyclamen persicum*, *Primula obconica*, Ferns and varieties of the shrubby *Veronica speciosa*, were staged by Mr. E. H. Canser; while Mr. R. J. Case had good trusses of single and double flowered *Zonal Pelargoniums*.

A very interesting collection of Cacti and other succulent plants was arranged by Mr. Sidney Smith. These were mostly in the form of the fascinating little plants one sees in shop windows, but he also had larger specimens of such genera as *Cereus*, *Opuntia* and *Euphorbia*. Among the smaller ones were *Mammillarias*, *Echeverias* and *Sempervivums*.

Fresh and sweet Violets in quantity were exhibited by Mr. B. Pinney and Mr. J. J. Kettle, while Mr. Ernest Dixon had an attractive model of a sunken garden with an adjoining rockery.

ORCHIDS

A gold medal was awarded to Messrs. Charlesworth and Co. for a very fine collection of Orchids. Orchids were also well shown by Messrs. Stuart Low and Co., Messrs. Flory and Black, and Messrs. Mansell and Hatcher.

NEW AND RARE PLANTS

The awards to novelties included awards of merit to *Chrysanthemums* Doreen Woolman, Minstrel, Mrs. Jack Pearson and Royal Salute, which received recognition on the previous day at the meeting of the National Chrysanthemum Society, and are described on the opposite page.

Aster Snowdrift.—A very useful variety of erect yet graceful habit of *Novi Belgii* type. It bears plenty of almost fully double white flowers with narrow florets. Award of merit. Shewn by Mr. E. Ballard.

Buddleia Golden Glow.—This is one of the comparatively recent hybrids between *B. globosa* and *B. variabilis*. The influence of the former

is well flushed. Award of merit. Shewn by Mr. W. Van de Weyer.

B. Moonlight.—This is a creamy-coloured counterpart of the above. Award of merit. Shewn by Mr. W. Van de Weyer.

Berberis Autumn Beauty.—A beautiful rubro-stilla variety which has small apple-shaped berries of creamy green colour which ripen to bright coral red. The tints of the various stages of development contrast well. Award of merit. Shewn from the R.H.S. Gardens, Wisley.

Gladiolus Palestine.—A very handsome large-flowered hybrid of creamy white colour with vivid crimson markings on the lower segments. Award of merit. Shewn by Messrs. Kelway and Sons.

Ligustrum Quihoui.—An uncommon and graceful Privet which produces very long, erect, spikes of white flowers. The stems are greyish and furnished with narrow dark green leaves. The fragrant flowers are followed by shining purplish fruits. It is a native of China. Shewn by the Hon. Vicary Gibbs.

Brasso-Cattleya maculata The Dell Variety.—A handsome flower bearing the large frilled lip associated with the *Brassovolas*. All the floral parts are substantial; the sepals and petals are a rich golden colour, the lip is veined with rose and the waved margin is lightly flushed with purple. Award of merit. Shewn by Baron Schröder.

Cattleya Aeneas var. Goliath.—The sepals and petals are a lovely golden buff colour. The lip is waisted and widens at the end. It is beautifully lined with carmine. Award of merit. Shewn by Messrs. Cowan and Co.

Laelio-Cattleya Marina var. majestica.—An exceedingly handsome bloom. The large, spreading sepals and petals are an uncommon and fascinating mauve purple. The broad lip has an unusual band of yellow midway and the outer portion is coloured a gorgeous velvety purple. First-class certificate. Shewn by Messrs. Cowan and Co.

Sophro-Laelio-Cattleya His Majesty.—The sepals and petals bright rosy mauve with gold shading, the petals banded with purple; the lip is a rich ruby, with a bright yellow disc. Award of merit. Shewn by Messrs. J. Charlesworth and Co.

Laelio-Cattleya Mrs. Medo var. Sovereign.—Of clear canary yellow colouring, which contrasts with a large velvety crimson labellum, of which the front is extended in a narrow lobe as in



MINIATURE PEONY-FLOWERED DAHLIA KITTY, ROSE MAUVE AND CRIMSON.

is seen in the round heads of flowers and the ovate lanceolate dark green foliage, which is silvery beneath. *B. variabilis* is apparent in the erect sprays of branched flowers and their fragrance. The colour of the little round blossoms is yellow with an orange eye. The unopened buds are

Cattleya Iris. Award of merit. Shewn by Messrs. Stuart Low and Co.

Cattleya Tagus var. Cupid.—A large and shapely flower of clear yellow colouring with a crimson lip. Award of merit. Shewn by Messrs. Flory and Black.

NEW DAHLIAS.

The Joint Dahlia Committee sat for the last time this season, and from fifteen seedlings selected the following for trial at Wisley next season.

Carine.—A small Decorative bloom of star-like form nearly approximating a Cactus variety with stiff straight florets. It is pale orange in colour and highly decorative.

Defoe.—A large Decorative variety of perfect shape and charming silky rose colouring.

Iona.—This is a brilliant medium-sized Decorative of brilliant scarlet colour with a yellow reverse. As there already is an Iona, the name is to be changed.

Kitty.—A pretty little miniature Paeony-flowered variety which is almost a roundish Star variety. The flowers are a bright rosy mauve with a rich crimson zone. All the above were shown by Messrs. Burrell and Co.

NEW

CHRYSANTHEMUMS.

The Floral Committee of the National Chrysanthemum Society met at the Holland Park Hall on Monday, October 1, and gave awards to the following new early-flowering varieties:

Doreen Woolman.—A very bright single-flowered variety of Mensa type and size and terra-cotta colour with a suggestion of apricot. First-class certificate.

Minstrel.—An attractive dwarf variety of especial value in the undisbudded state. The flattish, fully double flowers are of reddish crimson colour. First-class certificate.

Purple Amaranth.—An attractive flower of its name colour, with a dull silvery reverse. Card of commendation.

Purple Flag.—A quite dwarf variety of compact form. The colour is rich crimson, flushed with purple maroon. Card of commendation.

Royal Salute.—An exceedingly effective bright chestnut red variety which is equally suitable for disbudding or for growing naturally. The form and habit are very good. First-class certificate.

Shirley Terra-cotta.—A good single-flowered variety of good medium size and made up of plenty of narrow florets of deep terra-cotta colour. First-class certificate. All the above were shown by Mr. H. Woolman.

Mrs. Jack Pearson.—A most useful bright orange bronze coloured variety of dwarf habit which flowers from mid-July until cut by frosts. First-class certificate. Shown by Mr. Philip Ladds.

September Yellow.—A valuable sport from September White and, like that variety, is larger

than the average dwarf border Chrysanthemum and bears plenty of perfectly formed blooms. The colour is a soft yellow. First-class certificate. Shown by Mr. David Inghamells.

NEW FRUITS.

The Fruit and Vegetable Committee did not make any award to novelties but considered the



APPLE JOHN WATERER, WHICH IS SAID TO BE AN EXCELLENT CROPPER.

(Note the penny above to show comparative size.)

merits of several seedling Apples, a Strawberry, and Grapes.

Apple Comrade. shown by Mr. F. C. Stoop of West Hall, Byfleet, appeared to be the only variety entered for the Bunyard Cup, but the Committee, while recognising its merits, thought it too like James Grieve, and therefore no advance on older varieties.

Apple John Waterer.—This gigantic fruit, which in appearance strongly resembles a gigantic Lane's Prince Albert, being flattish in shape, but symmetrical and, as shown, of medium green colouring. The foliage is stout and healthy-looking. Apart from its extraordinary size it is, we understand, a very heavy cropper. Shown by Messrs. J. Waterer, Sons and Crisp.

Strawberry Boreal Giant is said to be a truly perpetual bearer, and is to be tried at Wisley. It is in flower and in fruit at the present time. The trusses are very large and the small, round fruits are dark red and of satisfactory flavour. Shown by Mr. Robert Holmes, Norwich.

Mrs. T. S. Hall, Criche St. Thomas, Chard, sent a bunch of Grapes which is somewhat like Mrs. Pince, and is to be asked to send cuttings to Wisley so that it may be tested there.

LIST OF AWARDS

CHALLENGE CUPS.

Coronation Cup.—The Hon. Vicary Gibbs (gardener, E. Beckett), for the most meritorious group.
Sutton Cup.—The Rev. J. Davies, for the best collection of vegetables.
R. H. S. Cup for Vegetables.—Mr. R. Chetwynd Stapylton, for the competitor who secures the greatest number of first prize points.
Affiliated Societies' Cup.—East Anglian Horticultural Club, for the best exhibit of fruit by an affiliated society.
Wagon Cup.—G. Prince, for the best exhibit of Roses.
George Monck Cup.—Mr. W. H. Thickett, for the best exhibit of Grapes by an amateur.

CHRYSANTHEMUMS AND DAHLIAS.

Large Silver Cup.—Hobbie and Co., for Dahlias.
Small Silver Cups.—K. Luxford and Co., for Chrysanthemums; C. Turner, for Dahlias.
Silver-gilt Flora Medals.—Carter Page and Co., J. B. Tiding, W. Tieseler, Limited, and J. F. West, for Dahlias.
Silver-gilt Banksian Medals.—Jarmen and Co. for Dahlias; William Vandell, for Chrysanthemums.
Silver Banksian Medal.—J. Cheal and Sons, for Dahlias.

GREENHOUSE FLOWERS, ETC.

Large Silver Cup.—C. Engelmann, for Carnations.
Small Silver Cups.—S. Smith, for Cacti; Blackmore and Langdon, for Begonias, etc.; L. B. Russell, Limited, for Clematis and stove plants.
Silver-gilt Flora Medals.—Allwood Brothers and Stuart Low and Co., for Carnations.
Silver-gilt Banksian Medal.—Allwood Brothers, for group of Carnations.
Silver Flora Medals.—E. H. Causser, for Cyclamens, Primulas, etc.; K. Luxford and Co., for Carnations.

SHRUBS.

Large Silver Cup.—Billier and Sons, for conifers, hardy trees, shrubs, etc.
Small Silver Cups.—J. Cheal and Sons, for ornamental shrubs; G. Renthle, for hardy plants; R. Wallace and Co., for shrubs.
Silver-gilt Flora Medal.—A. Charlton and Sons, for hardy trees and shrubs.
Silver-gilt Banksian Medals.—R. and G. Cuthbert, for conifers, flowering shrubs and Ericas; Clarence Elliott, Limited, for dwarf shrubs.
Silver Flora Medals.—Robert Green, Limited, for Palms and Bay trees; John Klinkert, for clipped Yew and Box trees in tubs.
Silver Banksian Medal.—W. H. Rogers and Son, for shrubs.
Silver Lindley Medal.—Billier and Sons, for rare plants of special interest.

FRUIT (NON-COMPETITIVE GROUPS).

Gold Medal.—G. Bunyard and Co., Limited.
Large Silver Cup.—Barnham Nurseries, Limited.
Small Silver Cup.—Daniels Brothers, Limited.
Silver-gilt Hogg Medal.—Stanley College.
Silver Hogg Medals.—Horticultural College, Swanley; S. Spooner and Son; E. A. Watts.

HERBACEOUS, ETC.

Large Silver Cup.—R. Wallace and Co., for hardy plants.
Small Silver Cups.—Bowell and Skarratt, for alpinas, etc.; G. Jackman and Son, for Clematis and hardy plants.
Silver-gilt Flora Medals.—Isaac House and Son, for Scabiosa caucasica; Ernest Ballard and H. J. Jones, for Michaelmas Daisies; John Waterer, Sons and Crisp, for herbaceous plants; Dickson and Robinson, for Michaelmas Daisies; Amos Perry, for hardy plants and Ferns; Harkness and Son, for hardy flowers; R. Bath, Limited, for Gladioli.
Silver-gilt Banksian Medals.—W. H. Rogers and Son, for alpinas, etc.; Maxwell and Beale, for hardy plants and alpinas; W. Artindale, Bakers, Limited, William Cuthbert and Son, Limited, and W. Wells, Jun., for hardy plants; Alva J. Hall, for Campanulas, etc.; Lowe and Gibson, for Gladioli.
Silver Flora Medals.—F. G. Wood, for rock and hardy plants; P. Ladhams, Limited, for Lobelias; Blackmore and Langdon, for Michaelmas Daisies; Thomas Carlike, for hardy plants; Dobbie and Co., Limited, for Sweet Peas; Kelway and Son, for Gladioli; G. Gibson and Co., for hardy plants.
Silver Banksian Medals.—G. G. Whitelegg, for alpine plants in pans; E. Scapellato, for herbaceous; J. J. Kettle and B. Pimney, for Violets; Central Garden Supplies, for Violas, herbaceous, etc.; John Forbes (Hawick), Limited, for hardy plants; H. Vigers, for Delphiniums.
Silver-gilt Flora Medal.—James MacDonald, for Grasses.

ROSES.

Large Silver Cup.—George Prince.
Small Silver Cups.—W. E. Chaplin, Elisha Hicks and John Matlock.
Silver-gilt Flora Medals.—B. R. Cant and Sons and D. Prior and Son.
Silver-gilt Banksian Medal.—Alex. Dickson and Sons.
Silver Flora Medals.—The Rev. J. H. Pemberton and John Waterer, Sons and Crisp.

ORCHIDS.

Gold Medal.—Charlesworth and Co.
Large Silver Cup.—Stuart Low and Co.
Silver-gilt Flora Medals.—Flory and Black and Mansell and Hatcher.

VEGETABLES (NON-COMPETITIVE GROUPS).
Gold Medals.—The Hon. Vicary Gibbs (gardener, E. Beckett) and Sutton and Sons for vegetables.

Large Silver Cup.—Dobbie and Co., for Potatoes.
Silver Knighton Medal.—H. Chapman, Limited, for vegetables.

FRUIT TREES IN POTS.

Large Silver Cup.—J. C. Allrove, for fruit trees in pots and fruit.
Small Silver Cup.—John Waterer, Sons and Crisp, for fruit.
Silver-gilt Hogg Medal.—T. Rivers and Sons, for fruit trees in pots.

ROSES FOR THE SHRUBBERY

KIX gardeners with ample space at disposal not infrequently devote a section of semi-wild garden to Rose species and to garden varieties which have a sufficiently wild appearance. This type of Rose never looks better than when finishing the shelving sides of a little valley. Whether the valley be wholly natural, or the result of excavation for clay, marl, gravel or sand, or made specially for the occasion, matters not a jot. Not everyone is sufficiently enamoured of this type of Rose to provide a special garden for it, but none of us who loves shrubs can afford to neglect the possibilities of the great genus *Rosa* which provides as many beautiful and attractive shrubs (shrubbery shrubs, if we may say so) as any other genus whatsoever. There will, indeed, be few to dispute that it eclipses all other genera in this respect!

Roses for the shrubbery divide themselves naturally into two great classes. The first group includes all the suitable species and varieties which make self-supporting bushes; the other comprises those of rambling habit which, like the Dog Rose and the Sweet Briar, depend very largely upon the support of other shrubs and trees.

Taking the groups in the order given, we have a large number of species which are beautiful in growth, charming when in flower and handsome when in fruit. Some of the best large growers are *R. macrophylla*, *Moyesii* (including *Fargesii*), *Hugonis*, *rugosa*, *pomifera*, *sericea* and *omniensis* (or *sericea*) *pteracantha*.

⚔ Rather smaller than the foregoing but still large enough for the middle planting in a shrubbery are *R. rubrifolia* (ferruginea), *spinosissima* (several forms) and *altaica*. Of quite dwarf kinds, the forms of *Rosa lutea* and *R. nitida* are representative.

Dealing first with the larger growers, *Rosa macrocarpa* may be taken as typical of the species with bottle-like fruits. This peculiar appearance is caused by the persistent flower-calyx projecting, almost like the cornea of a chimney-stack, above the narrowed neck of the hip. The blossoms are deep rosy red in colour. *R. Moyesii*, with similar fruits, is quite distinct, has almost fern-like foliage and flowers of a lurid red, quite unique in the genus and, as far as we know, unmatched in any other flower. The plant with deep rose-coloured flowers, known and listed as *R. Fargesii*, has proved to be nothing more than a variety of *R. Moyesii*, and plants with flowers of the two very distinct colourings may often be raised from seeds taken from the same hip. The yellow-flowered *Rosa Hugonis* is quite dissimilar to those mentioned so far, but is a robust species with strong, arching growths. *Rosa rugosa*, the Ramanas Rose, with, typically, rose flowers with more than a hint of magenta, and a rather stiff and inelegant habit of growth, is noteworthy for its large sealing-wax red apple-like fruits, which, unless taken by birds, persist for some time. There is a pure white form which fruits as freely as the type, and a number of double forms and hybrids, which, of course, do not fruit. *Blanc Double de Coubert* is a typical *rugosa* with double white blossoms, but

Conrad F. Meyer, with long arching canes and large fragrant blossoms is a hybrid. Very early to flower, it bears its pretty silvery rose blossoms freely, and these are very handsome and shapely when partially expanded. *Nova Zembla* is supposed to be an albino of Conrad F. Meyer, but is not pure white, being, indeed, a very pale silvery rose, which, especially near towns, is apt to look uncommonly like dirty white. *Rosa pomifera* with very bristly fruits is closely akin to the Ramanas Rose. *Rosa sericea* makes a good very thorny bush covered with white flowers, but is overshadowed in gardens by the plant generally known as *R. s. pteracantha*, but which the botanists tell us is really a form of the somewhat similar *Rosa omniensis*. This also has white flowers, but is chiefly noteworthy for the very large and decorative crimson semi-translucent thorns.

Rosa rubrifolia is particularly noteworthy for its curious reddish-greyish-blue foliage. The deep rose flowers are produced over a considerable period, but comparatively few are open at any one time. The trusses of crimson hips, however, are very attractive in autumn. There are several distinct forms of our native Burnet Rose, *R. spinosissima*, in commerce, mostly with white, but some with yellow flowers, which rival in brilliance the Persian Yellow. *Rosa altaica* with yellow blossoms is very near akin botanically to *R. spinosissima*. *R. lutea* is represented by three very distinct colour forms known respectively as the Austrian Yellow, the Persian Yellow and the Austrian Copper. These are too well known to need description. This species has been used very successfully for introducing new colouring into bedding Roses. All the race of Pernetiana hybrids owe their rich colouring to this species, and many of the richly coloured Hybrid Teas which are now introduced yearly owe their vivid colouring to an original infusion of *R. lutea* "blood."

Apart from species and their immediate derivatives, there are many Roses which make handsome

bushes for the shrubbery. Conrad F. Meyer has already been mentioned. *Alister Stella Gray* (a *Noisette*, but hardy for its class) is another. The rather stubborn growths of this variety really make it unsuitable for arch or pergola, but as a free bush it is truly grand. The small but shapely blossoms, which are borne in trusses and open bright yellow, quickly fading to cream, can always be gathered from early summer until late autumn. We have gathered a not despicable posy of them on New Year's Eve.

There is a whole range of Lord Penzance's Hybrid Sweet Briars, all beautiful and fragrant, and every one suitable for making bold bushes in the shrubbery. Where space is ample these are even more effective in groups than when single plants are employed. A few of the very best include *Meg Merrilies*, *Rose Bradwardine*, *Julia Manning*, *Lord Penzance* and *Lady Penzance*. The last two are smaller growers, but very beautiful and uncommon with their fawn-shaded blossoms. Yet another single Rose which makes a splendid free bush is the multiflora *Leuchtstern*, which is a very long-lived as well as a very showy Rose. The "Irish" singles typified by *Irish Elegance* are also more suitable for the shrubbery than the rose garden. Other suitable kinds include the crimson *Grüss an Teplitz* and the China (should not it rather be Hybrid China?) *Mme. E. Rœsal*.

To the second class—those, it will be remembered, suitable for climbing through and trailing over other shrubs—belong *Rosa multiflora*, represented in gardens by the pretty white-flowered *R. polyantha simplex*, and all its hybrids, including *Crimson Rambler*—better in a shrubbery than anywhere—*Blush Rambler*, *Agliaia*, *Thalia*, *Hélène* and so forth. The Musk Rose, *R. moschata*, a variable species best represented in gardens by *R. Brunoni*, is a taller grower and loves to throw its shoots through the branches of fair-sized trees. A beautiful hybrid of this species with double white flowers and known as *The Garland* is a little less rampant, and so perhaps more useful for the average shrubbery. Two new varieties of this Hybrid Musk race raised by the Rev. I. H. Pemberton, and known respectively



THE BEAUTIFUL WHITE HYBRID MUSK ROSE THE GARLAND, WHICH IS HAPPIEST TRAILING OVER SHRUBS.



ROSE HELENE IN THE ROSE DELL AT KEW GARDENS.

as Nur Mahal and Aurora, the former with rosy crimson and the latter with soft yellow blossoms, should also, though less rampant, be good for the shrubbery.

Where the shrubbery forms a shelter belt from

east winds the white-flowered but not very hardy *R. sinica* should find a place, and the shelter of other shrubs will be grateful to it. Its beautiful pink derivative known as *R. sinica Anemone* will also appreciate a similar spot.

BUSH FRUITS

Where to Plant and How to Grow Them.

THE English language, often ambiguous, is especially so when referring to fruit bushes. Bush fruits, properly speaking, as grown in this country consist of the Gooseberry, and the Red, White and Black Currants. To these, though the canes are only of a year's duration, the Raspberry is often added, and even, at a push, the Strawberry. There is here no ground for confusion, however. This arises because certain tree-fruits, notably the Apple and Pear, are frequently trained in bush form, so that when fruit bushes are referred to, one is sometimes at a loss to know what is in mind. The brief notes which follow have reference to bush fruits properly so called.

It is customary to devote a section of the kitchen garden to bush fruits, keeping the different kinds as close together as possible. In some cases the idea, unquestionably, is to enclose them all in a cage as a protection from birds. It is, naturally, cheaper to build one large cage to include all the kinds than to erect several smaller cages for the different species. Even where such protection is neither afforded nor contemplated, however, the various kinds are usually kept together none the less, and in nine cases out of ten this is a mistake. Nor do I think that, in the average garden, the advantage of caging presents an adequate excuse for growing Black Currants, Red Currants and Raspberries side by side. Their requirements are so different. The Black Currant likes a rather stiff, damp, rich, even gross rooting medium; the Red Currant, of which of course the White Currant is no more than a variety, prefers a fairly light, but moderately fertile soil; while the

Raspberry likes a rich loam which never gets really dry in summer, and never becomes stagnant in winter. Owing to the depredations of eelworm immediately the soil becomes sour, the Raspberry plantation should be treated to frequent and fairly heavy dressings of lime.

It is obvious that the natural conditions which will suit these three important fruits are not very likely to lie side by side. Undoubtedly it does happen sometimes with a new garden that there is nothing to choose as regards soil or situation, between top and bottom, left and right. Even then a place may usually be found for the Black Currants apart, especially if the house is in the depths of the country (see the next paragraph). Generally speaking, though, some parts are moister than others, and there are corresponding differences in the sweetness and fertility of various sections.

The Black Currant has the ability to utilise large quantities of sewage, and this not only in summer, but in winter. A situation in close proximity to a pump from a dumb-well is therefore excellent from the gardener's point of view, and also disposes of the very common difficulty of what to do with the scum and solids when the tank comes to be cleared out. The Black Currant has proved useful, too, in connexion with the direct disposal of sewage. There are many sites in country districts where very little fall is available for the treatment of the house sewage. Purification before discharge into a brook or drain then becomes something of a problem. The effluent may in such case be much improved by planting Black Currant bushes over a series of parallel rubble-filled drains through which the sewage

must slowly pass on its way to the outlet. It is not, of course, suggested that the Currant bushes alone will act as efficient sewage purifiers, but that they may be made of great assistance is beyond question.

In such places a maximum amount of stem and foliage will be the aim, but where the only object in view is the production of heavy crops of first-rate fruit, the still rather unusual method of training the young growths to wires, exactly as Raspberries are commonly trained, should find favour. Cuttings or young trees are planted in lines about 2 ft. apart in the line. The lines may, with advantage, be spaced widely, leaving room between for not too tall-growing vegetable crops. Every year all but the current season's growth is removed after the fruits are gathered, and the young growths themselves are reduced to three or four, leaving just sufficient, in fact, comfortably to furnish the training wires. The best height for the wires will depend to some extent upon the variety grown and, even more, upon the nature of the soil and the assistance afforded during growth. As a rough guide, however, two wires, one 1 ft. from the ground and the other 2 ft., will, as a rule, suffice. Good fruit may be obtained by this method from comparatively poor ground; but, if only for the sake of the permanence of the planting, it is well to "do" the plants as well as possible. Now as to varieties, the best all-round Black Currant is generally allowed to be Boskoop Giant. It is, however, a mistake to rely upon one variety, as bad weather at flowering-time sometimes causes an almost total failure of the crop. By growing two or more varieties which flower at different seasons, this danger may be largely overcome. Other good varieties are Black Naples, rather early; Carter's Champion, main-crop; and Daniel's September Black, very late. The last named is worth growing if only because of its season of fruiting, but it is, in fact, a fine grower and excellent cropper.

The Black Currant, which was formerly a very clean-growing bush, has of late years been attacked by two very troublesome diseases. "Big-bud," caused by the ravages of a minute parasite—the black currant mite, *Phytoptus ribis*—is most difficult to control once it makes headway, but if a sharp look-out be kept and the characteristic swollen and blunted buds be picked off and burnt as soon as they shew themselves, it may be kept down with little difficulty. The newer pest, known as "reversion," in which the bushes produce a distinct and weedy type of foliage, will probably be found to be due to eelworm attacks. Bushes so affected should be promptly destroyed and great care should be taken not to propagate from plants shewing the slightest tendency to "revert."

We have seen that the pruning of Black Currants should consist of removing old wood, leaving the strong new shoots, which under proper conditions of culture and pruning are regularly produced from the base, to bear the crop of fruit. The natural growth of the Red Currant is entirely different. It is usual to grow this fruit on bushes with a "leg." A short leg not exceeding, say, 1 ft. is most profitable, but "standards" with legs some 3½ ft. or 4 ft. in height are easy to gather from, and to protect from birds, and quite practicable. For training upon walls, cordons are very useful as well as picturesque, but the Red Currant may be trained fan-wise, or even as an espalier if desired. The pruning is not very dissimilar to that of an Apple on a dwarfing stock. Like the Apple, the Red Currant bears its fruit on spurs upon matured wood. The production of growths from below ground is discouraged, in the first instance, by the removal of all buds on the cuttings below ground level. This does not, of course, prevent the production of coarse growths (water shoots) from

the centre of the tree, but these should be removed as soon as seen, preferably while they may still be nibbled out with finger and thumb. Leaving out of account such "water shoots" strong wood should be encouraged in the bushes, and weaker, spent wood be gradually removed. Stopping and thinning in summer (summer pruning) so that all the sunlight and air possible may reach the shoots is important. In winter shorten back the leading shoots to a length of not more than oins., cutting, of course, to an eye pointing outwards. A distance of 6 ft. should be allowed from centre to centre of the bushes, and if more than one row is planted

they may with advantage be arranged quincunx fashion, utilising bushes of White Currants to fill in the vacant spaces at the ends of the alternate rows, for the pleasantly flavoured White Currant is, like most albinos, not so strong a grower as the more typical red varieties. Red Currants do quite well against a north wall, and not only do their fruits ripen later there, but they hang a considerable time in perfection on the bushes and so lengthen considerably the season of this useful fruit. Out in the open, summer mulching is very beneficial, and if stable litter is available for this purpose, so much the better.

Some of the best varieties are given below, but different sorts give most satisfaction in gardens on apparently similar soils, so that it is well to experiment a little. Cherry is early, large and prolific; Red Dutch is well known as a good mid-season kind and a heavy bearer; Ruby Castle, rather later, is perhaps the most popular sort at present, bunches and fruits are both large and it remains for some time in condition; Mammoth and La Constante are two good late sorts, the last named being the latest of all—both have fine fruits. White Dutch is the best white variety. R. V. G. W.

(To be continued.)

A GARDEN OF CHARACTER AND CHARM

THREE years ago there lay hidden by a thick belt of tall Poplars just behind the quaint little railway station at Market Bosworth, Leicestershire, an old disused and deserted brickyard. The great pits, from which thousands of tons of clay had been excavated, had filled with water, Sedges and Bulrushes had established themselves, and the banks were overgrown with coarse Grasses, Briars, Brambles and seedling Thorns. The place was a convenient tip for all manner of rubbish, and a happy home of water rats and vermin.

Mr. Frank Bouskell, one of our keenest and most successful amateur hardy plantmen, for some time chairman of the National Hardy Plant Society and now president of the Society's Council, realised the possibilities of this spot, and having acquired it, he devoted himself to the delightful, although somewhat arduous task of converting

Apart from a judicious and altogether necessary clearance of Brambles and scrub that impeded passage, there has been little interference with the natural features of the place, but at intervals along a meandering pathway between the boundary trees little gaps have been opened up, through each of which a glimpse may be had of some particular feature, and a different view obtained of the water or of some strikingly beautiful drift of flowering plants or other appropriately introduced subject. Wherever light has thus been let into this shady walk one finds Rambler Roses or Clematis montana growing rampant over some old tree stump, and in every little recess or clearance some native plant of distinctive merit has been introduced to grow in a setting as natural as could be found.

There has been no making of beds of formal design or any such artificiality as pergolas or rustic arches, but from the entrance gates there

notice our approach to a building. Perhaps the most remarkable thing about these herbaceous borders is the large percentage of plants that are seedlings, crosses and selections of Mr. Bouskell's own raising, and not only do we note differences between them and the varieties familiar to us in nurseries of hardy plant specialists, but in many cases we find them superior to most of the varieties we know, for Mr. Bouskell has the fine judgment of a connoisseur and exceptionally successful exhibitor of over thirty years' experience to guide him in his selections and rejections. Of *Pentstemon barbatus* he has one of a bright coral pink shade totally different from the ordinary reds and scarlets. An Oriental Poppy which he has named Bosworth Park not only possesses a wonderful shade of deep salmon pink, but comes into bloom long after the rest of the tribe have gone to seed. The number of hybrid *Verbascums* is too great to permit of detailed description, for this family has for years occupied Mr. Bouskell's special attention. A form of *Lythrum virgatum* with flowers many degrees brighter than the best I have seen elsewhere was making a wonderful blaze of colour, and so, all along these extensive borders, might be seen extra good forms of first one plant and then another.

From the front of the bungalow the ground falls away with a long steep descent right down to the water's edge, and this great bank has been recently converted into a rockery. It is necessarily "new" at present, but it has been cleverly planted with a comprehensive assortment of alpine plants, with stretches of hardy *Ericas* and well placed groups and clumps of flowering shrubs, dwarf-growing conifers, and trailing alpine and Wichuriana Roses. Here, again, we find a highly interesting display of home-raised seedling forms and hybrids of such things as *Cheiranthus*, *Linaria*, *Oenothera* and *Dianthus*; while of scarce and interesting native plants there are upwards of 200 kinds, most of which Mr. Bouskell has himself gathered from their wild haunts in various parts of England and Ireland.

Of British Orchids many are well established, and some have been successfully raised from seed.

The margins of the ponds demand attention, for here we find broad masses of the finest *Astilbes* throwing up great feathery plumes of bloom ranging in colour from silvery white and cream through delicate flesh pinks to deep rose and reddish purple. *Lysimachias*, *Lythnums*, tall, handsome *Rumex*, *Eulalias* and a host of other bog plants mingle with the Reeds, Rushes and Sedges that grow with the abandon and luxuriance that betokens the ideal environment, and as we take up some point of vantage and cast our gaze over the rippling expanse of water we confront the crowning glory of great spreading masses of white and coloured Water Lilies. The strength and vigour of the *Nymphaeas* is remarkable. From



NYMPHAEAS AT SEDGEMERE, MARKET BOSWORTH.

this neglected waste into a garden according to his own conceptions and taste. Last month I paid what of late years has been an annual visit to Market Bosworth, and found what I can only describe as a wonderful transformation in this place, for there already exists a garden which in many respects is totally different from any other garden I know, and altogether delightful.

is a wide irregular and circuitous roadway, on either side of which run broad borders occupied by a bewildering variety of hardy herbaceous plants. This roadway brings us eventually to a substantially built and homely-looking bungalow with steep thatched roof, but we are so fully occupied with the infinite variety and gorgeous colour of the herbaceous borders that we scarcely

the mass of the giant white shewn in the accompanying illustration blooms were cut during my stay that measured 14 ins. across. Smaller plants of the best of Marliac's pinks and deep reds, with only a second season's growth, were throwing

a shrub and tree. Altogether one feels that Mr. Bouskell has achieved a triumph. He has made a garden exactly suited to its setting and environment, and in so doing has obtained something unique and soul-satisfying. He might at far

Kochiana excisa. But he found it impossible in the Continental climate to produce huge masses of the plant covered with such numerous flowers as appeared, e.g., in a bed in a garden at Blessington, Ireland. M. Correvon added that "*Kochiana* and *Clusii* are the antitypes, the one of the granite (calcifuge), the other the chalk loving. The three others are, or seem to be, indifferent as to lime." In nature, however, *G. angustifolia* usually grows on limestone. Descriptions were then given, and in that of *G. angustifolia* Vill. (= *sabauda* Boiss.) the very stoloniferous and creeping nature of the plant is emphasised. "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." I offer no solution, but M. Correvon was probably right in what he said. He knows these perplexing plants of the European mountains, and he knows from personal visits better than anyone on the Continent what alpine plants are cultivated in English gardens.

G. angustifolia was described by Villars in his "Hist. des Plantes de Dauphiné," 1787, Vol. II, page 526: "*Gentiana foliis oblongo linearibus enerviis, corolla campanulata caulem excedente*." His description begins with: "I believe with all botanists that these two plants [*G. acaulis* and *G. angustifolia*] are two not very distinct species, but as I have found the differences rather remarkable I have thought it suitable to separate them, whether they are taken as species or as varieties." Villars also first described *G. alpina*, and gave a good figure of it on (copper) plate x, loc. cit. This is also a stoloniferous and creeping plant, much smaller than the others of the group and, like *G. Clusii*, usually more or less stemless, so that they resemble in that particular the *G. acaulis* of Linné, who wrote on the type specimen now at Burlington House "*Gentiana caule unifloro flore campanulato caulem longitudine excedente*." The distribution of *G. angustifolia* Vill. is Savoy, Dauphiny, Provence, North Italy, rare in Southern Switzerland, Jura (?), Pyrenees. Mr. Ingwersen believes a lowland form of *G. excisa* to be the true origin of our garden plant. Will he or some other botanist examine in London any such specimens "from moorlands in Northern Germany and from what . . . is again Denmark"? Can we also be told how Dr. Murbeck arranges this group? Here in Bristol we have neither the specimens nor some of the literature to help us.

Those who wish for the original description of *G. excisa* Presl. will find it in "Flora" (1828), page 268; those of its synonym *G. Kochiana* Perr. et Song. and of *G. Clusii* Perr. et Song. in "Plantes nouv., rares et crit. Savoie," in "Bull. Soc. Hist. Nat. Savoie" (1853), page 33. Huxley's paper on "The Gentians: Notes and Queries" ("Journ. Linn. Soc.," 1888, page 101) may be read by those interested in the morphological relations, distribution and possible evolution of the beautiful plants of the family *Gentianaceæ*.—H. STUART THOMPSON.

A VASE OF DIGNITY AND IMPUDENCE.

"THE first and only yellow Michaelmas Daisy," as Amos Perry writes in his catalogue about his *Aster hybridus luteus* is a treasure. Although its small, soft, canary-coloured flowers individually feature in no small degree those of the *Senecio Jacobaea* (for which I think I can claim our local Cheshire name—see Holland and Britain—as being the most unsavoury and unfit for polite ears of all the fifty odd wherewith it has been so plentifully endowed), yet arranged as they are in little loose masses, they are "quite (as) all right" in small vases as the 2ft. high plants are in a border. The chance juxtaposition of these and some blooms



THE WATER-SIDE ROCKERY AT SEDGEMERE, MARKET BOSWORTH.

several fine blooms, auguring well for the show they will make in another year or two.

The other illustration gives us a glimpse of one of the farther reaches of the rockery with a corner of the larger pond in the foreground. A pathway along the back of the rockery leads into an overhung walk between the trees, and hereabouts are massive clumps of *Cimicifugas*, *Polygonatum*s and fine hardy Ferns. Farther on beyond the second pool is another great drift of *Astilbes* and *Spiræas* and as fine a colony of the scarce *Montbretia rosea* as I have ever seen. In spring the grassy drifts along the winding paths are bestrewn with Daffodils, Scillas, Anemones, and crowds of Primroses and Forget-me-nots, and in winter there will be bright berries on many

greater expense and labour have endeavoured to remodel and reconstruct the whole place, introducing features foreign to their surroundings and endeavouring to grow kinds that would require constant nursing and irksome attention. As it is, he has an extraordinary collection of charming and delightful plants, the majority of which are now as firmly established as in their natural homes and as capable of taking care of themselves as the very Grasses and Rushes and trees that grew there during the period of neglect and desertion. How many places in this land of ours might be similarly and as successfully treated? It is a question of the development of a garden in contrast to the mere making of one.

A. J. MACSELF.

CORRESPONDENCE

THE "GENTIANELLA" AND OTHER GENTIANS.

MR. INGWERSEN'S article (page 501) is interesting and ingenious, and the cultural part of it most useful. I agree with him in not accepting the name of *Gentiana Gentianella* for the old favourite of our gardens. And I agree with you, sir, that we cannot revert to the name *acaulis*, which is dropped by modern botanists; but I doubt if *G. excisa* var. *Gentianella* is the name to be adopted. In my "Alpine Plants of Europe," 1911, I said of *G. excisa*: "This Bell-Gentian is the one which is generally called in England *G. acaulis*, and too frequently goes under the absurd diminutive title of *Gentianella* in books on gardening." I did not then know that *Gentianella* was the name which Moench gave to the genus which Tournefort (1656-1708), and afterwards Linné, called *Gentiana*. But in *Irish Gardening*, March, 1918, M. Correvon,

in writing on the *acaulis* group, said: "Lastly, there is the most brilliant of all, *G. angustifolia*, of the Alps of Dauphiné, which under the name of *Gentianella* has been grown in English gardens for 300 years." He then described it. In THE GARDEN, March 11, 1922, page 113, M. Correvon had an article on "The Adaptation of Plants to Environment, Illustrated by the *Gentianella* and its Alpine Cousins." There he says "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." He brought some with him from England and cultivated them forty years ago near other types to study their adaptation. This began at the Linnaea garden at 5,800ft. altitude in Valais, and was continued at Floraire, near Geneva. With the "*Gentianella*" he grew all the different *acaulis*-forms (*angustifolia*, *alpina*, *Clusii*, *dinaria* and

of the tall and stately yellow Cone-flower—*Rudbeckia grandiflora* (single) or *R. californica*—as I was gathering flowers for the house gave me an idea. I used the Aster as a sort of carpet plant through which came the taller stems of the Cone-flowers, bearing their quaint "lop-eared" petals round the small sugar-loaf-shaped tall centres. I think it was a distinct hit from remarks that have been passed upon it. Any tall, long-stemmed yellow might be substituted for the *Rudbeckia*. I have since tried *Coreopsis grandiflora* and it was presentable, but far from equalling the arrangement described. The long, hanging, lop-eared petals and its upright, stiff stems were undoubtedly the secret of *Rudbeckia*'s success and, remembering the big dog in the picture, they suggested the heading of this note.

As I write I have an odd plant or two of *Aster ptarmicoides* in bloom and I am wishing I had some of the purple *Rudbeckia* (purpurea) to play dignity to the little, unpretentious white Aster. It would not be a bad combination. Is there a lop-eared white flower that would go with it?—JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—The lifting of Potatoes should be completed and the tubers stored in a frost-proof shed. Cover the tubers with a layer of straw to keep out the light, or the top layer will become green and unfit for consumption. To save further trouble they should be graded into three sections—ware, seed and small. The last-named may be disposed of at once and the seed tubers placed in a separate heap to be dealt with later when an opportunity occurs.

Carrots that are ready may be lifted and stored in sand or ashes, choosing as cool a place as possible. Beet and Turnips may be dealt with in a similar way.

Asparagus-Beds.—When the season's growth has ripened it should be cut off, collected and burnt, the ground cleared of any weeds, and the surface pricked over lightly with a fork, taking care not to injure the crowns. A thin layer of manure may be afforded and allowed to remain throughout the winter. The spaces between the beds may be dug over, and everything made clean and tidy.

Cabbages.—Plantations already established should be kept free from weeds and hoed occasionally when the surface is sufficiently dry for the purpose. Any failures in the rows should be replaced, and a few more lines may be planted for succession. If we experience a hard winter, this crop may prove the most valuable.

Cauliflowers should be examined frequently and those in a forward state may have the top leaves bent over, which will be sufficient to protect them from a few degrees of frost. If there is a glut, the plants may be lifted and hung head downwards in a cool shed, or the roots may be laid in ashes or sand.

The Flower Garden.

Lifting Plants.—In some gardens specimen plants of *Heliotrope*, *Pelargonium*, *Fuchsia*, etc., are employed in the summer bedding schemes, and where such is the case it is not advisable to leave them in the open very long after this date. When they are lifted they should be potted up and placed in the greenhouse, and if the weather is bright the plants may be syringed overhead until they are re-established. Keep the house more or less closed for a few days, afterwards admitting plenty of air when outside conditions are favourable.

Begonias have been exceptionally good this season, but now they should be lifted and placed in shallow boxes to dry out. When at rest store in a frost-proof place and keep the tubers quite dry. It is advisable to examine them occasionally, and any showing signs of decay should be removed.

The Flower-Beds. During the next few weeks the beds should be cleared of their summer occupants and, after being given a liberal dressing

HYPERICUM CHINENSE.

ONE of the most pleasing shrubs in the garden at the present time is *Hypericum chinense*. I think it is much preferable to *H. patulum* Henryi, though the latter has this advantage, that it seeds itself freely and seems to come true. It is the only *Hypericum* I have which does so. Of the two, however, I think *H. p. Henryi* is the hardier, as I do not recollect it ever having been cut to the ground by frost, while others like *H. Moserianum* frequently suffer thus. A charming autumn effect can be obtained by a wall clad with *Rhus Toxicodendron* (Poison Ivy) and in the foreground large clumps of *Anemone japonica alba* and *H. chinense*, all of which will be making their most brilliant efforts at the same time and last for several weeks. While, if the border be planted with *Lilium regale*, the early summer effect will be charming, and the dead stems of the *Anemone* and branches of the *Hypericum* will ward off spring frosts, which are so fatal to many Lilies, and their stems in turn will have withered up ere the autumn blaze, as suggested, commences.—FORMAKIN.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Storing Roots.—The following root crops should now be carefully lifted and stored in the root cellar either in sifted ashes or sand: Carrots, Turnips—both ordinary and Swedes—Salsify and Scorzoneria. Take special care not to break the roots of either of the two last named. Parsnips, like Jerusalem Artichokes, are best left in the ground and only lifted as required for use.

Hoeing.—The hoeing season is now about over, but a final hoeing should be given on a fine dry day to such crops as Leeks, Spring Cabbage, Spinach, Onions and Parsley. This will keep any seedling weeds in check and will make the surface soil sweet and fresh.

Asparagus.—As soon as the "grass" has matured, cut the stems over about 3 ins. above the ground, rid the beds of weeds, lightly fork the soil between the rows in the beds and give a mulching of good farmyard manure about 3 ins. in depth. Finish off by forking a little more deeply in the alleys and apply a light mulch along them too, as the roots travel into them on either side. The decayed stems will prove valuable for protecting plants of doubtful hardiness during severe weather.

Fruits Under Glass.

Peaches that are to be started early should be pruned without delay. The fruit-bearing shoot of the past season should be cut away close to the succession shoot which now takes its place. Cut away in. or 2 ins. of the immature wood at the tip of the succession shoot, making sure that the cut is made immediately beyond a wood bud. The wood buds are easily distinguished from the fruit buds, being more elongated. The general framework of the tree should, of course, be maintained, therefore any dead or diseased branches should be cut away and young wood encouraged to take their places.

The Flower Garden.

Spring Bedding.—This work should be carried through without delay. Owing to the comparatively high price of bulbs nowadays, greater use is being made of the humble Wall-flower, and, since there is such variety of colour available, wonderful effects can be produced with them. The following varieties are all quite distinct: Vulcan, Fire King, Orange Bedder, Golden Monarch, Primrose Dame, Eastern Queen and Ruby Gem. This does not complete the list, although some of the varieties offered by different firms differ only in name. The Forget-me-not and the Daisy, too, may be utilised with good effect. Among bulbous plants for this particular work, reliance should be placed mainly on the early Tulips, as they finish off in time to admit of the summer bedding being carried through in season.

Bulb Planting.—This will demand chief attention in the mixed flower garden for the next week or two. Tulips, Cottage and Darwin varieties, are the most valuable for large effects. Daffodils, too, are suitable for massing, and are often at their best in grass or in the wild garden. For early summer display, Irises, both English and Spanish, are invaluable. Among miscellaneous bulbs the following are all worthy of inclusion: Snowdrops, Chionodoxas, Scillas, Grape Hyacinths, Iris reticulata, Dog's Tooth Violets (*Erythroniums*), Crocuses, Camassias and many others. Clumps of three or more are always more effective than single specimens.

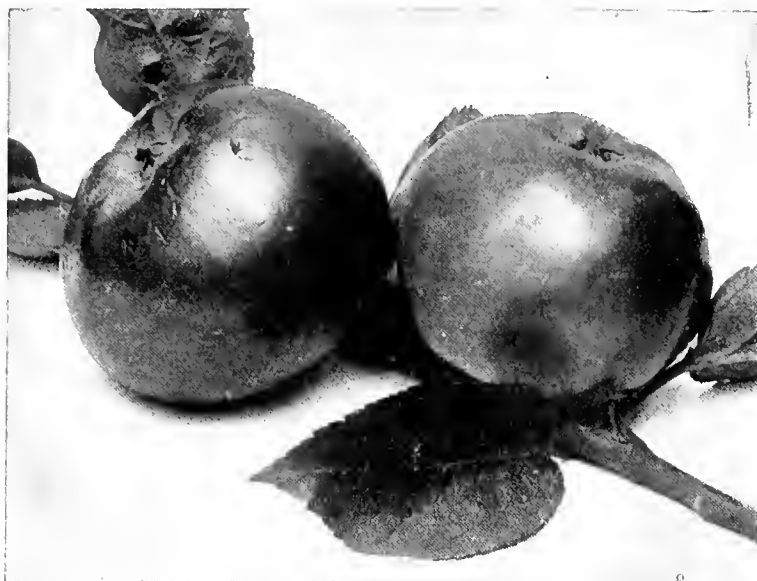
Liliums are too important a genus to be included among miscellaneous bulbs. Here one can only indicate a few species which may, and should be, grown by all and sundry. *Lilium croceum* (the Orange Lily) is an everyman's flower as is also *L. tigrinum* (Tiger Lily) with improved varieties. *Lilium candidum* (Madonna Lily), of purest white and richly fragrant, should be in every garden—plant early. *L. testaceum* (Nankeen Lily) is easily grown and is very floriferous with an uncommon shade of colour, as its garden name suggests. *L. pardalinum*, with its purple-spotted orange red flowers, is another good doer when given somewhat moist conditions. I close this restricted list with that brightest of all the Lilies, *L. chalcedonicum*, the Scarlet Turk's Cap Lily. It is not quite such a sure doer as the others I have mentioned, but could not be fairly called fastidious in its requirements. If the bulbs are surrounded with a little sharp sand it will help to ensure success.

CHARLES COMFORT

Formerly Head-Gardener to Mrs. Hang, Broomfield, Davidson's Mains, Midlothian).

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GREENHOUSE AND CONSERVATORY.

Storing Plants for the Winter. Large specimen Hydrangeas may be stored in a frost proof shed if a greenhouse space is available. They should be kept dry all the winter, although care should be taken that they do not get too dry. Thus it may be necessary to water them once or twice during the winter.

Fuchsias. Large specimen plants from which water has been gradually withheld should be wintered in the same way as Hydrangeas, while younger plants are best wintered under moister conditions. A frame from which frost can be excluded suits them very well. Standing on the ground they should get sufficient moisture to keep them from drying up too much. Young plants that have little or no hard wood frequently die if allowed to get too dry. Young Fuchsias rooted last month should be kept growing steadily on all through the winter.

Cannas, Crinum, Eucomis, Agapanthus and such-like plants may all be safely stored for the winter in a fairly dry shed from which frost can be excluded. Cannas may be turned out of their pots and stored with the balls of soil intact, as this prevents them from drying out too much. If kept too dry they seem to suffer and do not start well the following season.

Primulas. Many of the hardy Primulas, such as *P. denticulata*, *japonica*, *Bulleyana*, *Beesiana* and *pulverulenta* are excellent for the cool greenhouse. The best plants are obtained by planting them out for the growing season. Where this has been done the plants should now be lifted and placed in suitable-sized pots. If they are large well grown plants, 6 in. or 7 in. pots will be necessary. After potting, they should be stood in cold frames. As all the Primulas mentioned are really hardy, they are very useful for the small unheated greenhouse. They are all easily raised from seed, and strong stock may be maintained by raising a batch each year from seed.

Wallflowers.—The double varieties, of which there are tall and dwarf strains, are very useful for furnishing the greenhouse and conservatory. Plants that have been grown for this purpose should now be lifted and potted up. They should be potted fairly firm, and have some lime or old mortar rubble added to the potting compost. After potting, they should be stood in cold frames, giving them plenty of air on all favourable occasions.

Canterbury Bells.—Well grown plants are very fine for conservatory decoration, and the plants should now be lifted and placed in suitable-sized pots. If good examples are to be grown, 8 in. or 9 in. pots are necessary. They may be stood outdoors at the foot of a wall if a cold frame is not available. Although quite hardy, they often suffer from damp, and in this respect they prove very troublesome in the neighbourhood of London.

Achusa italica Dropmore var.—Although not generally used for greenhouse decoration, this plant is excellent for the purpose. If grown on in a cool house they flower several weeks in advance of the outdoor plants and last in flower for quite a long time. The varieties *Opal* and *Pride of Dover* are equally suitable for this purpose. Three strong crowns may be placed in an 8-in. pot, plunging them to the rim in ashes outdoors until such time as it is necessary to take them indoors.

Caryopteris Mastacanthus is hardy in the South in dry, warm situations. This pretty plant, which is now in flower in the colder parts of the country, is well worth growing for the cool greenhouse. It is naturally of a neat bushy habit, and its greyish foliage and violet blue flowers are very pretty. It is easily propagated by means of cuttings, especially if a stock plant is taken indoors during the spring. The newer *Caryopteris tauguetia*, which is a slenderer and more lax growing plant with deeper coloured flowers, promises to be equally useful for the cool greenhouse.

Cinerarias. The later-sown batch of plants should be ready for their flowering pots. They enjoy cool, moist conditions, and should now be placed in low pits, keeping them well up to the root glass. No more fire-heat need be given than is necessary to exclude frost. The earlier batches that have well filled their pots with roots should now be given frequent applications of diluted liquid manure and soot water. These plants are very subject to attacks by green fly, which may be prevented by frequent light fumigations.

Royal Botanic Gardens, Kew.

J. COURTS.

The Swamp Blueberry. *Vaccinium corymbosum* is perhaps the best known of the American *Vaccinums* in our gardens, and is probably the most worthy of culture. Though commonly known as the Swamp Blueberry, it will prosper in any cool loam that does not get too dry in summer, but peat (or leaf-mould) is more to its liking. *V. corymbosum* is usually seen as a medium-sized shrub with rigid, branching stems which have a tendency to arch at the tips. It varies a good deal, however, in habit, and the pale green leaves may be narrow and willow-like or considerably more ovate. In most forms these are slightly hairy, especially when young, and before falling in autumn they assume really fine tints. The flowers, which appear in clusters in the late spring on the previous year's wood, are nearly $\frac{1}{2}$ in. long, cylindrical, slightly contracted at the mouth and of a pale bluish colour. These are followed by black berries and willow-like size of Currants and covered with a bluish bloom. In flavour they are somewhat like our common Bilberry (*V. Myrtillus*).

The Judas Tree.—Of the small genus *Cercis*, this species (*C. Siliquastrum*) is the most familiar, though it is by no means common in gardens. It is one of the oldest of exotic trees, having been introduced to this country from Southern Europe in 1590. The generic name appears to have been bestowed upon it by Theophrastus some two hundred years before the Christian Era, and tradition has it that it was upon a tree of this kind that Judas hanged himself. *C. Siliquastrum* is generally seen as a low, somewhat spreading tree of 15 ft. to 20 ft. in height, but it will attain a much greater height. It is a deciduous species, the broad, rounded leaves being a pale green changing to yellow in autumn. The flowers, which appear before the leaves in spring, are pea-shaped and are produced at the joints of the old wood, or even from the trunk. They vary a good deal in colour, but in average specimens they are a full toned rosy lilac, so that a Judas Tree laden with these pretty blossoms on a sunny day in May is a very beautiful object. There is a variety with white flowers. Much of the beauty of the Judas Tree, however, lies in its

characteristic habit of growth and equally remarkable bark. *C. Siliquastrum* is naturally a sun-lover, and it will thrive in any well drained loam, the situation being one that is sheltered from cold spring winds and late frosts.

Eucryphia pinnatifolia.—Though this exceedingly attractive plant was introduced from Chile in 1850, it is still uncommon in gardens. This is probably due to difficulties in propagation, to its objection to root disturbance and to frequent losses among young plants. It is, however, quite hardy enough for all but our bleaker localities, and when once established it is a free and contented doer in any cool, lime-free loam or peaty soil in which Heaths do well. *E. pinnatifolia* is usually seen as a tall bush, or small tree, up to 10 ft. or so in height. It is a deciduous species, or practically so, and bears its leaves, which are somewhat like those of a Rose, in clusters at the ends of its rather stiff, upright shoots. The beautiful flowers (2 in. to 3 in. across), which are produced in the later summer, consist of four broad, creamy-white petals with a bold cluster of numerous yellow-anthered stamens at the centre. The foliage becomes a brilliant orange in autumn.

An Autumn-flowering Arabis.—The rose-pink *Arabis Sundermanni*, though it blooms in spring as freely as the common white one, deserves some consideration as an autumn-flowerer. For not only is its colour good—probably better than that of any of the other pink members of the species—but the habit is neat, and vigorous young plants, cut back in summer, will often be a mass of blossoms during September and later. *A. Sundermanni* does best in a fairly cool soil with shade from the mid-day sun and enjoys an annual dressing of old manure with some broken mortar.

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October 16.—Royal Horticultural Society's Fortnightly Meeting.—Winchester Horticultural Society's Meeting.

NAMES OF PLANTS.—Mrs. S. J. Glos.—*Linaria purpurea*.—C. M. W.—*Minulus (Diplacus) glutinosus*.—H. B. (Limp-field).—1, *Erica cinerea*; 2, *E. vagans*; 3, *E. carnea*; 4, *Fuchsia macrostemma* var. *gracilis*; 5, *F. m.* var. *Riccartoni*; 6, *Lonicera flexuosa*.

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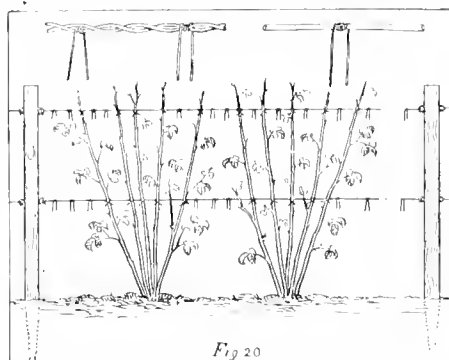


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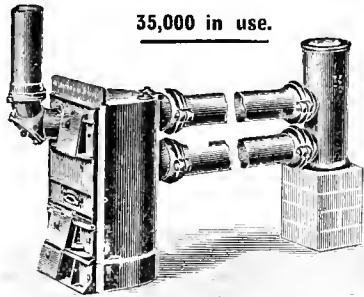
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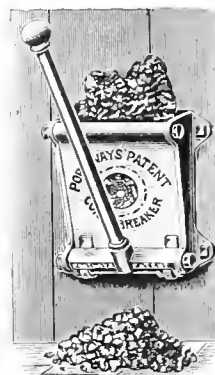
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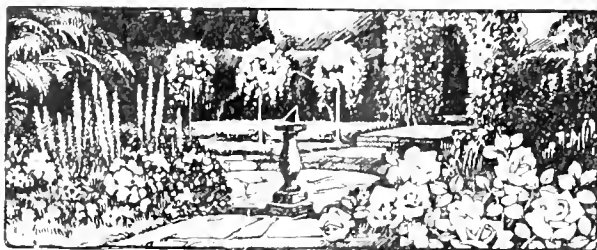
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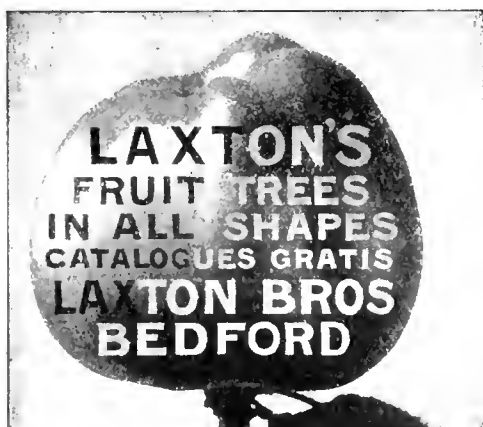
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160 acres in extent

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No. 2709.—VOL. LXXXVII.]

[OCTOBER 20, 1923.]

ALPINES AND THEIR CULTURE

ALPINE plants and other choice species and varieties suitable for the rock garden are supplied almost entirely from pots, so that they may be put into their permanent positions at practically any season. It is not wise, however, to choose the middle of a summer drought or the dead of winter for the operation. Winter will soon be upon us, and a few words about alpine culture may not be inappropriate before planting closes down for the season.

Rock gardens of some extent are common, but the number of such which contain a really good collection of kinds is not so great as it might be. In some cases the idea, originally, was to grow large masses of a few effective sorts of which the culture is of the easiest. An understandable viewpoint this, but outside our purview at the moment! The greater number, however, had originally a wide range of plants of varying degrees of choiceness, and the apparently healthy rock garden is, in fact, little better than a graveyard, overgrown with weeds. Very often the choicest kinds are found in quite small rock gardens, or even on the rockery bank of the suburban garden.

Why is this? One rather obvious reason is that when laying out a rock garden many people "bite off more than they can chew," for, in the nature of things, rockery is not inexpensive to maintain, the weeding alone being a very considerable item. Then, again, if the choice species are dotted about almost indiscriminately over the whole garden, this in itself increases the work several-fold, because the same close attention must be paid to the whole garden, which

otherwise would suffice for a comparatively small part. If this attention is not afforded, the stronger, coarser-growing kinds quickly smother the smaller and choicer ones.

Thin planting is a common explanation of failure, or comparative failure, with trees and shrubs in the present-day garden; with choice alpine plants it is an even commoner cause of non-success. Plants which, in their native mountains, form part of a close alpine turf can hardly be expected to luxuriate under very dissimilar climatic conditions when isolated. Their roots under such circumstances are alternately parched and water-logged, frost and thaw loosen the hold of the plant upon the soil and a valuable plant has become a casualty.

The introduction of fine Grasses from the alpine lawns has often been tried, but never with any measure of success. It is difficult to provide them, in our lowland gardens, with conditions under which they will thrive, more difficult to prevent them from losing character, and all but impossible to distinguish them clearly from the

grass weeds which spring up and choke one's choicest plants.

Many plants may be grown in the "moraine" which are not in nature moraine plants, because the finely broken stone retains moisture well, provides a cool root-run for the plants, and even modifies to some extent the atmosphere above it for a few inches, greatly to the advantage of the little plants. The moraine, however, seems inadequate for certain stoloniferous plants such as *Gentiana verna*, which is difficult to flower satisfactorily in our drier countries. For these Mr. Clarence Elliott's notion of an alpine "turf" composed entirely of small-growing alpine plants should prove invaluable, though it may be that there is some reason for *Gentiana verna* (and the *Gentianella* for that matter) not flowering, apart from climatic conditions. However that may be, Mr. Elliott's stone pans (pig-troughs to be exact) absolutely crowded with vegetation were the object-lesson of the 1923 Chelsea Show. The "alpine lawn" idea, however, cannot

altogether supersede the moraine; these two adjuncts to the rock garden must be considered complementary rather than antagonistic.

Many people are chary of putting down a moraine because they have seen some which were, to quote a keen lady gardener, "abominably ugly excrescences." Admittedly, a "moraine" can easily be ugly, but in fact it need neither be unsightly nor an excrescence. Indeed, very often the moraine gives a diversity of appearance to the rock garden which is very desirable. Cause the rock garden cliffs to fall back, leaving a little valley not so wide as to be disproportionate to the rock garden as a



A BEAUTIFUL YELLOW-FLOWERED KABSCHIA SAXIFRAGE, GROWN BY MESSRS. TUCKER OF OXFORD AS *S. SARTORII*, WHICH SHOULD SUPERSEDE *S. APICULATA*.

and the plants are not so much as the stepping-stones in the path. A few plants are so small that they can be buried in the soil, and the more the better.

The best spot for the moraine is a westerly or cool the same aspect is very desirable for many plants, which do not require a moraine or a deep, and special treatment. Such an exposure gives shelter from parching easterly winds, while allowing the generally moisture-laden winds from the west, south west and north-west ready access. It prevents in springtime the morning sun from scorching frozen blossoms, and it is less trying in the heat of summer to the majority of alpine plants than a bank with a southerly aspect.

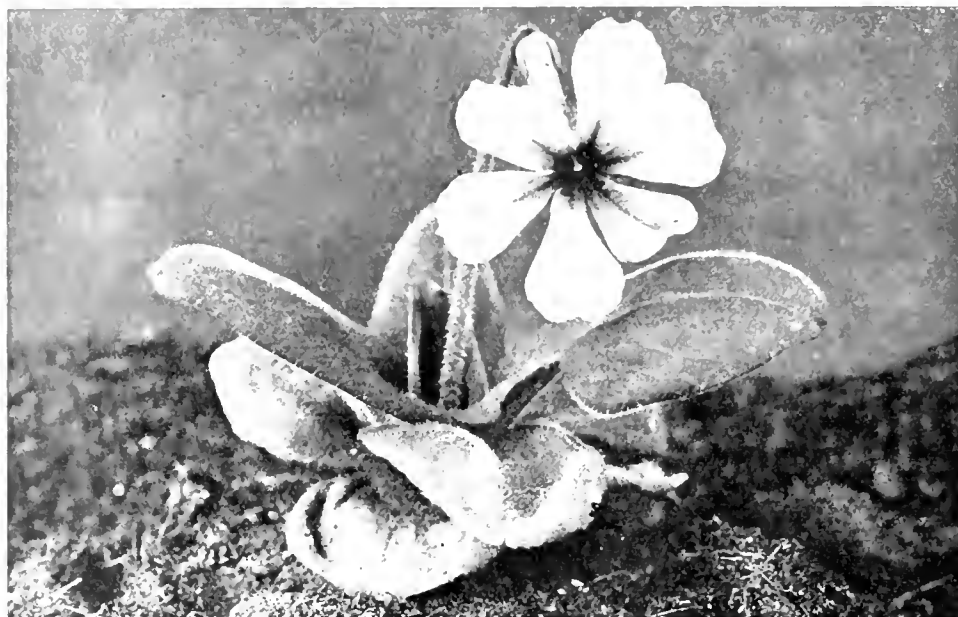
Some will like the cliff, others a flat, not over-dry ledge, but all the Saxifrages ordinarily grown in rock gardens like the western slope. The Encrusted forms have a preference for a fairly sunny place, and the "Mosses" for one where too much direct sunlight does not penetrate, the Kabschias falling in between in their requirements; but a representative collection of *Funaria*, *Kabschia* and *Dactyloides* Saxifrages could be grown very successfully on a stone-lined bank sloping down from east to west.

If planted on a bank, a similar exposure suits the Gentians, but many of the larger growers succeed quite well in a cool, rather stony cool on the flat. This is the case with *G. septemloba* and *Phacelia* and their various forms with the *Gentiana*, and with some of the newer Asiatic species, including *G. sinensis* and *Farrerii*. In most localities even *G. verna* respond well to similar treatment.

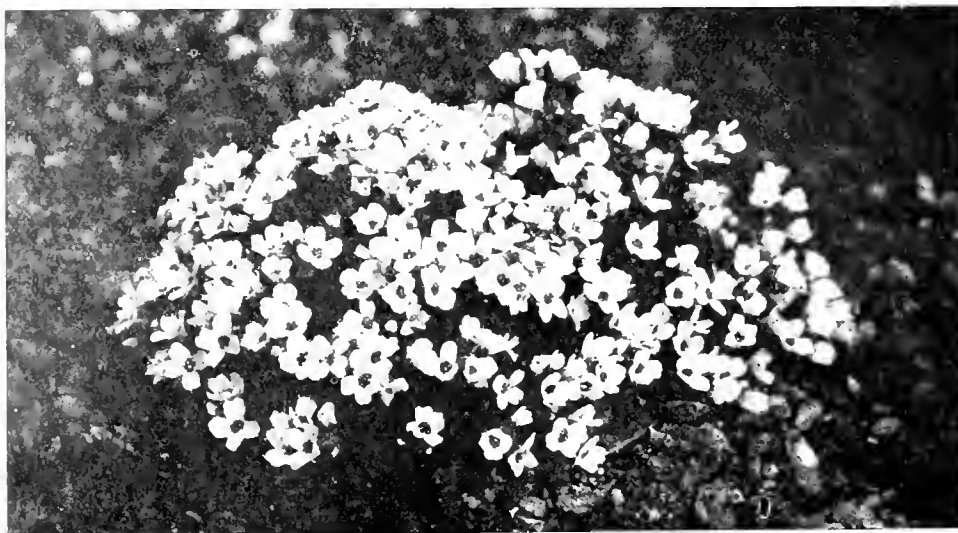
We will not waste space by lingering over the effective and space filling, but by no means choice, *Aubrietias*, *subulata* *Phloxes*, *Aralis* and *Iberis* species and such-like. Let it suffice to mention that a westerly exposure is ideal for the lot of them.

With *Primula* and *Androsace* we are back among the gardener's favourites. Most of the *Primula* of the *Auricula* class like an open, fairly sunny position, some of them, indeed, are not averse to regular sun baths in summer-time, but, for them for all in all, a westerly aspect suits them. Most of the *Candelabra* section like moist, not to say boggy, conditions and not too much direct sunlight; the same may be said of *P. rosea*. Beyond these there are *Primulas* of many sorts, those of the *capitata* set, for instance, those which gardeners think would have been best left under the name of *Onophthalma* (typified by *P. vinciflora* and *Viola grandis*), those which seem to mimic the *Field Orchis* (including such as *P. Giraldiana* and *Littoriana*), a small host of forms more or less closely related to *P. cortusoides*, the relatives and forms of *P. farinosa* and those of *P. sibirica*, some species which closely approach *Androsace*, and a number which can hardly be classed with any of the foregoing. Some of the newest introductions are, to put it mildly, doubtfully winter-hard, but when the time comes to try any of them outdoors consult Farrer, if you wish for compacts; but, unless the appearance of the plant gives strong grounds for thinking it can be put in a cool but well drained corner with a north-westerly aspect.

The *Androsace*, on the other hand, like an open sunny position, though one not too sun-baked. The *Androsace* of the *Androsace* class, such as *A. cuneata* and *A. lactea*, should, however, be put in a sunny position as much as possible, while *A. cuneata* and *A. lactea* should be put in a sunny position as much as possible. The *Androsace* of the *Androsace* class, such as *A. cuneata* and *A. lactea*, should, however, be put in a sunny position as much as possible. The *Androsace* of the *Androsace* class, such as *A. cuneata* and *A. lactea*, should, however, be put in a sunny position as much as possible.



A TYPICAL OMPHALGRAMMA PRIMULA, THE VIOLET-COLOURED *P. VINCEFLORA*.



THE WHITE-FLOWERED *DRABA DEDEANA*, A CHOICE PLANT FOR THE MORaine.



ANOTHER MORaine PLANT—A SUN-LOVER—*Silene hookeri*, WITH CLEAR PINK BLOSSOMS.

place often turn red, but this seems to be a measure of protection rather than a sign of ill-health, for such plants usually increase well and flower profusely. *A. carnea*, of course, is a peat-loving species; no consideration of the best aspect for it must obscure that. Many gardeners plant the silky-foliaged forms on an eastern slope as less exposed to driving rains and splashing, but practice does not, in this instance, bear out theory, so that a western or south-western aspect seems to suit almost all the species, including the admittedly difficult *Aretia* forms typified by *A. helvetica*. This plant is most likely to succeed wedged firmly between fair-sized pieces of rock in the limestone moraine.

Sedum (with a few notable exceptions) and *Sempervivum* need no special accommodation,

but like all the sunlight that is going, and the same may be said of the Sun Roses (*Helianthemum*) and their bigger cousins the true Rock Roses (*Cistus*). Hardy Cacti and *Mesembryanthemums* (where they stand the winter outdoors) naturally like a scorching corner, but it would not be easy to mention many more which prefer full sunlight to a site where the noon sun, if it comes, only strikes along the rock, not full upon it. Another week we may touch upon the plants which like a northerly aspect—more than one might expect—but for the moment we will simply make the point that positions which face more or less to the west are the most generally desirable. If one must grow one's alpine on a rockery bank—as many a gardener is forced to do—one is lucky (other things being equal) if the bank faces west.

Mr. E. H. Wilson, who first sent home seeds in 1900 or 1901. He describes it as a large bush or small tree up to 30 ft. high. On vigorous young plants the largest leaves exceed 1 ft. in length and are 1 ins. to 5 ins. broad. We had a shock when the plants first shed the oldest leaves in July, but this has since proved to be an annual occurrence. The large funnel-shaped flowers are pink tinted when they first open, fading to white with age. In a wild state there is said to be a good pink form, but I have not heard of this flowering under cultivation. *R. auriculatum* is proving to be a very good seed-bearing parent, having been pollinated with numbers of hybrids and several species in different gardens where it has flowered. The species is also being extensively raised from home-saved seeds. The propagator in one large nursery recently informed me that they had 5,000 seedling plants.

R. BRACHYCARPUM is a Japanese species flowering in June and July. It has creamy white flowers, flushed with pink and yellow. The plants form sturdy and compact evergreen bushes, not perhaps in the first flight as showy flowering shrubs, but possessing desirable characters for breeding purposes.

R. DECORUM in its many forms flowers from May to July. Mr. Wilson describes it as one of the most widely distributed Chinese *Rhododendrons*. Hence it is not surprising to find a very considerable difference in the foliage and colour of the flowers, which vary from white to rich pink. The blossoms have a very pleasing fragrance.

R. DISCOLOR may prove even a better parent

THE LATER-FLOWERING EVERGREEN RHODODENDRONS

The introduction of several large-leaved evergreen Rhododendrons from China, flowering in late summer, offers wide possibilities to the hybridist.

THE great majority of large-leaved evergreen *Rhododendrons* flower during April, May and early June. The introduction from China of *R. discolor*, flowering in July, the August-blooming *R. auriculatum*, and *R. serotinum*, which has many open flower-trusses in August, September and even October, offers wide possibilities of a summer-flowering race of evergreen *Rhododendrons*. These, with *R. maximum* from the United States and the Japanese *R. brachycarpum*, should prove good seed-bearing and pollen parents, all being perfectly hardy and of easy culture.

As most of these have white or light-coloured flowers, the particularly valuable hybrids to pollinate with them will be those with richly coloured blossoms. Some of the later May and June flowering sorts which should be useful include Lord Roberts, rosy scarlet; Doncaster, rich red; The Warrior, rosy purple; John Waterer, dark crimson; C. S. Sargent, dark red; John Spencer, rose with pink markings; and Charles Noble, rosy red, yellow markings. The pure white variety Snowflake is one of the best June-flowering hybrid *Rhododendrons*. In view of its free-flowering and bushy habit this should be useful to pollinate with *R. auriculatum* and *R. discolor* in particular.

Various methods can be adopted to bring the plants into flower at the same time. Introducing the late-blooming species into a greenhouse and advancing the flowering a month or six weeks has been done with success. The flowering season of Doncaster, Charles Noble and other hybrids can be retarded by moving the plants to a north position where a high wall makes the position cool, moist and shaded from all the sunlight. It is also possible to keep pollen for several weeks in good condition in small glass phials.

There is always the chance of picking up pollen from a precocious flower here and there, especially when a considerable amount of transplanting is done each winter. One of the most interesting crosses made at Kew among these *Rhododendrons* was the crossing of *R. auriculatum* with pollen from precocious flowers of *R. ponticum*. There is very distinct evidence of both parents in the foliage of the seedlings, none of which has yet flowered.

In crossing *Rhododendrons* it is found in practice that, with few exceptions, the best results are obtained when one of the parents, preferably the seed-bearer, is a species. In using a species there

is a definite fixed base to work upon, which is very desirable when there is a definite objective in making a cross. When hybrids of named varieties only are used in crossing, the result is, at best, very uncertain.

R. AURICULATUM.—In some respects this is the most distinct and valuable species introduced



A GOOD SPECIMEN OF RHODODENDRON AURICULATUM.

during recent years from China. With us the flowering season is August. Under varying conditions in different gardens we hear of plants flowering from July to September or October. It is also very late starting into growth, for it is not until July that the young shoots commence to develop. This species is a native of Hupeh, by no means common in a wild state, says

than *R. auriculatum* in the breeding of a race of summer-flowering *Rhododendrons*. Though not so strikingly distinct, *R. discolor* makes a better branched evergreen bush and is more free-flowering. The colour of the large funnel-shaped blooms, the largest of which approach 6 ins. across, vary from white to deep glowing pink. July is the flowering season.



A FINE PLANT OF RHODODENDRON MAXIMUM.

R. MAXIMUM, the great Laurel or Rose Bay of the United States, was first introduced to British gardens in 1730. It is not a particularly showy flowering shrub, as the flower-trusses open in late June or July when the young growths are well advanced. The colour of the flowers is pale pink, or rose, spotted and flushed with yellow. There is also a white variety. *R. maximum* has not up to now been very extensively used for breeding, but crossed with the large up-standing flowers of *R. discolor* or *R. auriculatum* we might get something good.

R. SCROTINUM when first introduced from the Jardin des Plantes, Paris, in 1880, received the name and was grown for some years as *R. decorum*. From that species, however, it differs, among other characters, in having thinner and longer branches, forming a rather straggly bush. Its chief value lies in the flowering season, which extends from July to October. The white flowers are pleasantly fragrant.

SHUTTER.

In selecting positions for planting Rhododendrons which flower in summer, the most important consideration is shade from the fierce rays of the sun. Growing in the open, the flowers cannot last long in strong summer sunlight. Moisture at the roots is equally important; here, again, shelter seems called for, coupled with very liberal mulching with decaying leaves, pieces of broken sticks and twigs which help to hold the leaves in position, blacken and perhaps a small quantity of old straw manure if the soil is light and sandy. Even the hardy hybrid Rhododendrons will not succeed indefinitely without occasional mulching.

A. O.

SOME GENTIANAS

THERE are some among the many flower names in existence that immediately suggest

great altitudes and romantic solitudes. Perhaps the most familiar of these is that of the Gentian, the flower of Gentius, King of Illyria. This family of plants has a special fascination for the rock gardener, and with a few well chosen species a succession of blooms may be obtained, which will continue from early spring until the beginning of winter. The first to appear are *Gentiana verna* and *G. bavarica*. The former is a native and may be found in Yorkshire and several parts of Ireland. Both varieties are difficult to grow, however, except in the moraine, and even there they prefer to have their roots running among other low-growing plants. Next in succession comes *G. acaulis* or *Gentianella*, an old favourite in many gardens, which blooms freely where the soil is suitable. When grown in strips of a foot or more wide, its large

blue blooms make a wonderful edging to a border. *G. asclepiadea* is another robust plant suitable either for the herbaceous border or the rock garden, as is also *G. septemfida*, which has flowers of a paler blue colour, and numerous hairs in the tube; these give a charming softness to its appearance. This last is easily grown in good soil, but is apt to suffer from transplantation. There is a very fine variety of *G. septemfida*, *Lagodechiana* by name, of which the flowers are hairless and of a

larger size and richer purple colouring than the type. The latest-flowering variety is *G. sinuata*, which blooms very freely in October and on into November. The flowers are dark blue inside and greenish-white outside, beautifully veined, with purple throughout. At this present moment there is a large patch of this variety, covered with buds, among the alpine in the Botanic Garden, Edinburgh, close to the most recently introduced and most lovely of all Gentians, called after its discoverer, *G. Farreri*.

A peculiar interest attaches to this flower which comes from the wild region, where Reginald Farrer found so many wonderful plants new to science, and where he ultimately lost his life. It was found by him in 1915, during one of his expeditions to Northern China, on the borders of Tibet. In his delightful book, "The Rainbow Bridge," he says, "This new Gentian instantly obliterates all others of its race, and sinks *Gentiana verna* and *Gentiana acaulis* into a common depth of dullness. . . ." One imagines him, a modern Linnaeus, kneeling in ecstasy before it. The history of its transference to these regions is in itself a little romance. The specimens Farrer collected were sent home to this country, but the trans-Siberian journey killed them all. Strange to say, however, by a fortunate accident, the seeds had already arrived in this country. The year before, when collecting the seed of another Gentian of a more common order, Farrer had observed that some of the pods which he had obtained were darker and thicker than the others. These were sent to the Edinburgh Botanic Garden for propagation and turned out to be seeds of *G. Farreri*, and these are the source of the present stock now blooming happily on this side of the world. The flower, about the size of the *G. acaulis*, is a little narrower in the tube. Farrer describes it as a "beautiful Cambridge blue with a white throat, and without there are long vandykes of periwinkle purple alternate with panels of nankeen, outlined in violet, with darker violet median lines." It is a free grower and can be increased by cuttings, but the best and hardest plants are obtained from seed. Some fine specimens are at present in bloom in the Edinburgh Botanic Garden. Others are growing in even greater profusion in Mr. Harley's garden at Glendevon, Perthshire, where the soil, the altitude and the most climate combine to bring all the Gentians to perfection. H. W. L.



THE BEAUTIFUL, BUT RATHER DIFFICULT GENTIANA BAVARICA.

ORNAMENTAL VINES

The value of the species and varieties of Vitis in gardens is chiefly due to the attractive foliage, which affords a wealth of rich autumn colour.

THERE is scope in most gardens for a freer use of hardy climbers. The vigorous climbing Roses, the Clematises and Vines, to name only three of the most important, add, wherever planted, a distinctive charm and beauty. The ornamental Vines in particular, when space permits of their luxuriant growth over arbours and trees, are distinctly suggestive of tropical or sub-tropical vegetation.

Somewhere in the neighbourhood of 400 species of *Vitis* have been described, but many of these are native of warm countries and quite unsuitable for outside culture in Britain. The *Vitis* collection at Kew, most of which is growing on the pergola near the Pagoda, comprises about fifty species and twenty-five varieties. For purely garden decoration it is easily possible to make a selection of twenty or twenty-five Vines possessing really considerable value for garden decoration. They have a special value for clothing bare walls and fences, climbing over outbuildings and summer-houses. Is there anything more beautiful than a wall festooned in autumn with the Virginian Creeper?

CULTIVATION.

Most species of *Vitis* can be readily increased by means of cuttings or "eyes" in close heated frames. The method is well known in connexion with the Grape Vine. Seeds and layering are alternative methods of increase when cuttings and "eyes" fail. The *Ampelopsis* section can be freely propagated by cuttings during late summer made of the half-ripe young shoots. Insert these in sandy soil in a propagating case with slight bottom heat.

The Ornamental Vines are moisture-loving plants. The soil should be deeply dug and manured before planting. Liberal mulching in summer, too, serves to provide the plants with food and to keep the soil cool and moist.

The proper pruning varies somewhat in the different species, but is largely a question of position. Where the space is unlimited, a little pruning will be desirable the first two or three years to form a framework; they can then be allowed to grow at will. The best results with the varieties of the Common Grape are obtained by hard spur-pruning, as is done with the fruiting sorts. A somewhat similar method of pruning can be adopted for the Common Virginian Creeper when used as a screen or curtain. Main rods are trained along the top, the shoots trail down in summer to be cut back each year before growths push again in spring.

PILLARS AND PERGOLAS.

In the open garden and pleasure grounds the ornamental Vines are cultivated in varying ways. A pergola can easily become a distinctive feature if suitably placed with some apparent objective, either over a path or a grass avenue. It may, lead, perhaps, from the rose garden to the pleasure grounds, or to the kitchen garden. Such a pergola should be at least 12ft. wide; for the vigorous-growing Vines 15ft. would be better, with the uprights on either side 10ft. to 12ft. apart.

Where a large Vine pergola is impracticable or undesirable, two or three arches spanning the walks in a small garden would effectively display the best of these climbing shrubs. My choice of three would be *VV. Coignetiae*, *vinifera* var. *purpurea*, and in a hot, sunny position, *heterophylla* var. *humulifolia*.

It is becoming a favourite practice to introduce here and there along the shrubbery and flower borders, wooden posts, or iron pillars, perhaps 10ft. to 12ft. or even 15ft. high, for climbing plants. The ornamental Vines comprise one of the most useful classes of plants for these positions. In preparing the wooden posts, or poles, short spurs 1ft. or more in length should be left when cutting off the side branches. This provides useful support for the long twining growths. If thin Larch poles are used, it is better to fix three



VITIS HETEROPHYLLA WITH STARTLING TURQUOISE BLUE BERRIES, BLACK SPOTTED.

of these tripod fashion. The tripod is also usually employed when iron supports, because of their lasting quality, are favoured.

While we value Vines in their varying degrees of vigour and variety of foliage for the porch, veranda, fence and wall, it is when we get out in the less severely kept parts of the garden or into the park and woodland among taller trees that the Vines can be used at least to imitate the luxuriant growth and beauty which travellers in the countries native to these plants are never tired of describing.

In selecting trees over which the Vines can ramble it is more a question of the position than planting against certain kinds of trees. Evergreen trees are perhaps preferable to display the gorgeous autumn colours of *V. Coignetiae*, for instance, but we also have this species a delightful sight

trailing through and over the branches of a stately Oak. The Evergreen Oak, Holly, Yew, Box and *Cryptomeria japonica* each and all provide suitable support and environment. Several of the tall Scotch Pines near the Kew Pagoda have the long trailing shoots of *V. quinquefolia* clothing the bare trunks to a height of 40ft. to 50ft.

It is desirable, may, one may even venture necessary, to prepare good stations for planting Vines to trail over trees if the best results are desired. The planting positions should, whenever possible, be on the outskirts of the branches. The Vine is a moisture-loving plant, and it will certainly not get very adequate supplies if planted beneath evergreen trees. Good stakes should be placed in position to support the growths for a few years after planting, so that they may take firm hold of the lower branches and not suffer damage from wind.

The hardy species we cultivate in gardens are mostly natives of North America, China and Japan. There is no British representative, and evidence suggests that even the Grape Vine, *V. vinifera*, was introduced to Europe at a very early date from Asia Minor.

While the genus *Vitis* is usually accepted to-day in its widest sense as adopted by Bentham and Hooker, in most gardens and nurseries it is still the practice to separate the *Vitis* proper from the *Ampelopsis*.

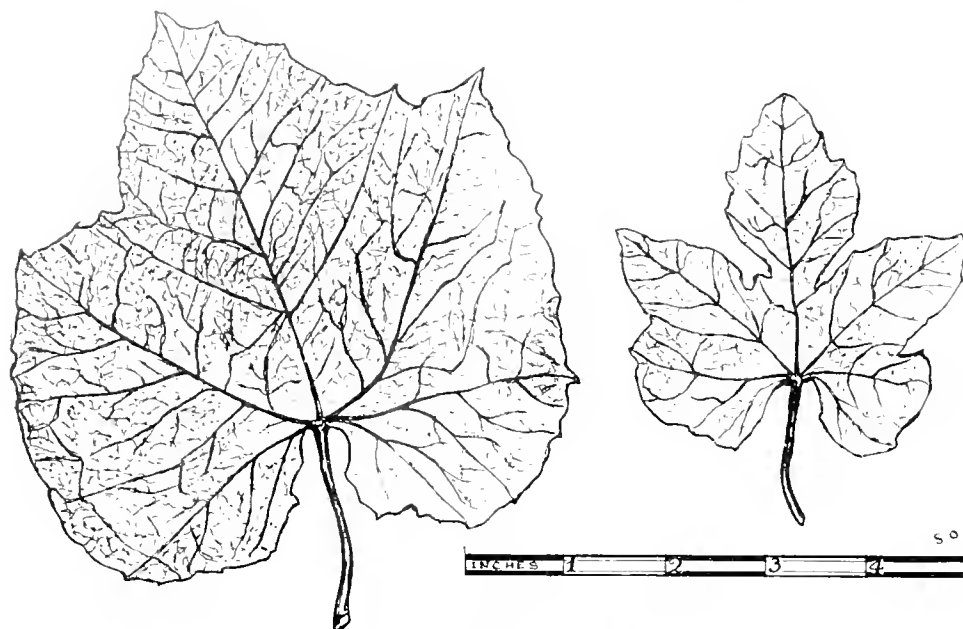
THE TRUE VINES.

V. Coignetiae, a Japanese species, is the most beautiful of all the true Vines in its autumn colouring. It has large leaves up to 10ins. or 1ft. long and 5ins. to 10ins. wide. The growths are very vigorous, trailing over tall trees and, gorgeous in autumn owing to the scarlet and crimson colouring of the foliage at that season. This is not an easy Vine to propagate except by seeds. Unfortunately, plants from seed vary greatly in the amount of autumn colouring they take on. Layering is a slow method for a plant that is in such demand.

The plant which is frequently grown as *V. Thunbergii* is one of the best forms of *V. Coignetiae*.

The true *V. Thunbergii* of Siebold is a much less vigorous climber, easily distinguished by its deeply lobed and much smaller leaves, which vary from 3ins. to 5ins. long and wide. It colours a golden scarlet and is quite one of the best Vines of moderate growth.

Several forms of the Common Grape Vine, *V. vinifera*, have very attractive foliage. Variety *purpurea*, the Purple-leaved Vine, has bronzy purple leaves in summer, changing to a rich claret red in autumn. It is a very valuable and reliable climber to plant for colour in the garden. Variety *apiifolia* (syn. *laciniosa*) has been given the popular name of the Parsley-leaved Vine in reference to the prettily cut foliage; var. *sylvestris*



TYPICAL LEAVES OF VITIS COIGNETIÆ AND V. THUNBERGII (TRUE).

is similar in leaf to the Common Grape Vine. It takes on in autumn brilliant tints of golden orange, scarlet and crimson.

V. amurensis, the Amurland Grape, is a vigorous growing Vine in the way of *V. Coignetiae* and, like that species, it colours well. *V. armata* and var. *Veitchii* are luxuriant-growing climbers introduced by Mr. Wilson from China. *V. pulchra* (syn. *flexuosa major*) has in summer deep green leaves which change before falling to orange and crimson.

V. megalophylla is a vigorous Chinese Vine with very large bipinnate leaves 2ft. to 3ft. wide and long. In its luxuriant growth and ample leafage it is one of the most striking of all hardy Vines. *V. heterophylla* has a very variable leaf, being in some forms deeply lobed, but the foliage varies greatly even on the same plant. The most attractive form is that known as *humulifolia*, which in warm sunny positions, especially against a wall, produces quantities of turquoise blue fruits. The var. *elegans* (variegata of some gardens) does well against a low wall, the variegated pink and white leaves being very pretty. *V. aconitifolia* is a Chinese species with attractive deeply cut leaflets borne on long slender stems. *V. flexuosa* has rather small foliage and is a native of China, Japan and Korea. The variety *Wilsoni* is more ornamental, with deep green leaves which are purple beneath when young.

THE AMPELOPSIS SECTION.

There are two distinct types among the forms of the Virginian Creeper, which is one of our most popular climbers. The true *V. quinquefolia* is a self-clinging plant, having discs at the ends of the branched tendrils. In nursery catalogues the names *V. Engelmannii* and *V. muralis* are sometimes given to this plant. The climbing plant so much cultivated in town and suburban gardens, and which changes to gorgeous scarlet and crimson in autumn, is *V. vitacea*. This must be supported at first until the rapid growth of the trailing shoots permits of the tendrils seeking and finding supports to which it can cling. There is not a great deal to choose between the two as regards autumn colouring, the one without discs which trails over arbours, verandas and outhouses hanging down to form thick screens or curtains of growth is, however, perhaps a little the brighter. The important point is to obtain the true *V. quinquefolia* if a self-supporting

climber for walls is required. The form with hairy shoots and leaves (var. *hirsuta*) is self-supporting, while the large-leaved variety major and the deeply toothed variety *laciniata* (syn. *incisa*) belong to *V. vitacea*.

V. inconstans, the beautiful self-clinging climber so very largely grown as *Ampelopsis Veitchii*, needs no recommendation. Very easy to grow, it rapidly climbs to the tops of tall buildings, giving a wealth of foliage in summer, which changes before it falls in autumn to varying shades of gorgeous orange-scarlet and crimson. The variety *Lowii* is a smaller-leaved elegant climber with deeply lobed foliage. A form having rich wine purple leaves has been given the varietal name of *purpurea*.

V. Henryana, at least at Kew, is on the borderline of hardiness, but thrives and grows very freely on a north-west wall. It is a native of China, and is named in compliment to Mr. Augustine Henry, who discovered the plant in 1885; but it was not introduced until 1900, by Mr. Wilson. It belongs to the *quinquefolia* section, and attaches itself to a wall by means of the disc-like appendages to the tendrils. The markings of the leaves, deep velvety green with silvery, pink and red midrib and veins, give to this Vine a very attractive appearance. The foliage changes to claret red before the leaves fall. Another allied species with purplish stems and foliage is *V. Thompsonii*. As a pillar Vine this species is very ornamental.

If asked to give a selection of the best ten ornamental Vines my choice would be *V. Coignetiae*, *V. vinifera purpurea*, *V. humulifolia*, *V. megalophylla*, *V. vinifera apiifolia*, *V. quinquefolia*, *V. inconstans*, *V. Henryana*, *V. aconitifolia* and *V. pulchra*. A. K.

SOME PLANTS OF A WEST COUNTRY GARDEN

DURING the cold and dreary days of rain that accompanied the equinox, and survived it, there were few such cheerful things in the rock garden as the *Satureias*. If nothing loves the sun better than these little southerners certainly nothing maintains so dauntless a spirit as they do under the most distressing conditions. In the greyest weather their fragrant foliage, always so green and glossy and fresh, and their spikes of white or pale lilac flowers, suggest their sunny Mediterranean homes, and all they ask is a poor, stony soil in which their near relations, the *Thymes*, delight. These little bushlings are the more welcome at this season since most of the lesser labiates pass with the summer, always excepting our old friend, *Calamintha alpina*, which still has velvet lips of violet to offer to any wandering bee which happens to be abroad at so late an hour.

In giving credit where it is due to such children of the sun as have proved their capacity for enduring the sort of welcome that our autumn this year has thus far accorded them, mention must be made of *Hunnemannia fumariifolia*. This bears a cousinly resemblance to *Eschscholtzia californica*, and is a Mexican species of remarkable beauty. Though a perennial, it is too tender to stand our winters, save, perhaps, in the most favoured localities. But it may be easily grown as an annual and, as such, it fully merits a wider appreciation than it now enjoys. It is an erect-growing plant of about 2ft. in height with finely cut foliage like that of the Common *Eschscholtzia*, but bluer and of more substance. The large bowl-shaped flowers are of a full golden yellow with a rich orange centre, and the most remarkable point about them, after their undoubted loveliness, is the long time they last and the brave way in which they will remain fully open even in wet and cloudy weather.

Speaking of annuals reminds me that it does not do always to despise these plants of a class that suggests a phase of gardening which some of us may have "gone beyond." I am inspired at the moment to these heights of magnanimity by certain very happy clumps of the Common or suburban *Lobelia* which have cropped up in all manner of unexpected places. That these strays are self-sown I have already implied. This may of course be their extenuation and the *raison d'être* of my own benevolence towards them. But no matter how much one may abhor the formal edging or the dotted carpet when made of this popular bedder in the wrong place, that is no reason why one should not extend hospitality to the single plant in the right one. However, *Lobelia erinus* here turns up like a bright-eyed stowaway every year, and in sun or shade, good weather or ill, will accompany the season to the end with its deep speedwell blue.

Having made of August a well deserved holiday month, *Papaver atlanticum*, usually the first of its race to flower with us, throws up a fresh crop of its grass green, hairy leaves in September, these being followed by 2ft. flowering stems of stately bearing. These latter are frequently furnished with a few leaflets near the base, where also they may branch into twin stems which bear at their tips the nodding single blooms whose glowing orange terra-cotta is one of those shades of colour which harmonises with most satisfying effect in the autumn garden. Though it is said to seed too freely in some gardens, *P. atlanticum* is a perennial which we have never found aggressive in that respect. It keeps us supplied with a reasonable quantity of seedlings which have a happy way of appearing in convenient places, often beneath the shade of trees.

Also in an "autumn brown art shade," very much in keeping with the season, is that quaint

iridaceous plant *Cypella Herbertii*, but its curious tawny gold is scarcely so refulgent as that of the Poppy. Though one of those South Americans of the *Tigridia* class which usually do quite well for a season and then depart, *C. Herbertii* has proved quite permanent here. It has got its bulbs hidden away among the roots of an old *Fuchsia* and every season sends up through the lower branches of the latter its thin, wiry stems and sparse, grassy leaves. These stems terminate in the strangely fashioned, three-parted flowers during the later summer and a succession of these is maintained often until October.

Antholyza paniculata, another *Irid*, closely allied to *Montbretia*, must also be numbered among these late flowers which give back the fires of autumn in glowing hues, and its crimson-scarlet flower sprays are extremely effective in woodland. Still fiercer in tone, rivalling even the *Kniphofias*, is *A. crocosmaeoides*, which unfurls its scrolls of intense orange-scarlet at the same time. Both of these are noble, broad-leaved plants of 2ft. or more in height, and their semi-rhizomatous bulbs, if one may so describe them, are as hard to kill in our light soil as the most stubborn *Montbretia* corm.

Like the above, *Schizostylis coccinea* is a South African, yet it is absolutely hardy here. As a matter of fact, it has proved too robust for association with plants of more gentle birth. So to the woodland it went some years ago, where, in an open spot, it grows among grass and other herbage, thriving with seemly vigour and not demanding that all too frequent attention with the pitchfork that it is wont to do in places where life is too easy.

Though herbaceous plants of the usual border description are not a prominent feature with us, one reason being that there are hardly any borders, there is one which we should not like to be without at this season, and that is *Aconitum Fischeri*. The very large blossoms in a bright violet blue—almost a pure blue in subdued light, of this Monkshood, together with the broad and ample foliage, create a most imposing effect. The stems, moreover, which rise to 3ft. or 4ft., are rigid enough to stand without staking or tying, and it is by no means an uncommon occurrence to have *A. Fischeri* in flower throughout the whole of the autumn. This is, I think, a finer plant than *A. Wilsoni* and it is of the easiest culture.

For a good many years that dainty little Rock Rose, *Helianthemum lunulatum*, has given us an autumn crop of blossom that is by no means inferior to its earlier efforts. This does not appear to be a common species, but it is one of the most delightful of its cheerful race, making a semi-prostrate bushling about 9ins. in height and twice as much in width, close-set with small, oval pointed leaves all shimmering with silver. The bright yellow flowers which appear all over this pretty foliage are about $\frac{1}{2}$ in. across and each petal bears at its base a tiny crescent of orange by which the true plant can be distinguished.

In a cool corner of the woodland the shining, bay green foliage of *Gaultheria procumbens* has been bright for some weeks with the pearly white flowers of this American Wintergreen of which the red fruits, will remain as far through

the winter as birds and mice will allow. More uncommon is *G. nummularioides*, whose long, slender, creeping stems, thickly coated with rusty hairs, bear a double row of round, dark green leaves which grow smaller towards the tips, somewhat after the fashion of those of *Lysimachia Nummularia*. Though it grows vigorously, making large mats, and blooms with commendable regularity every September, this *Gaultheria* has not yet ripened any fruit with us. *G. trichophylla*, like the last mentioned, is a Himalayan, but it appears to be absolutely hardy, and its glossy green, healthy foliage and lowly, creeping habit make it a first-rate little woodlander for associating as a carpeting with other ericaceous plants. *G. trichophylla*, moreover, bears fruits of most remarkable dimensions for so small a plant, and of a clear, porcelain blue.

Then there is the very uncommon *G. pyrolaefolia*. This is only a recent addition to our garden, but having once seen it (among Mr. E. C. Buxton's treasures) it had to be acquired forthwith, for it possesses not only a full share of that peculiar fascination which the genus has for some of us, but the charm that belongs to distinction and rarity.

NORTH WALES.

SIEBOLD'S PRIMULA

THE plant usually grown in gardens as *P. cortusoides* is almost always *P. Sieboldii*, a handsome but not over-hardy Japanese species, of which there are quite a number of excellent forms in



THE CHEERFUL SPRING-FLOWERING PRIMULA SIEBOLDII.

commerce, with flowers varying in colour from pure white to deep purplish rose; some of the sorts, and those not the least handsome, have fringed petals. It is rhizomatous, and these rootstocks are very easily damaged by frost, especially in wet soils. For colonising in fairly open woodland, however, or for a sheltered corner in the rock garden this spring-flowering species is first-rate.

SOME SUITABLE PLANTS FOR OLD WALLS

I DO not intend in these brief notes to deal with dry wall gardening as it is generally understood by the lover of this form of growing plants. I refer chiefly to the utilisation of the top of any wall suitable for the purpose and in suitable surroundings. I well remember plants being established on a wall thirty years ago. When on a visit to this garden recently I saw many of the original plants, many several feet high, others compact tufts either embracing the top or depending gracefully from both edges and clothing several feet of the wall on either side. Little colonies of *Sedums* and *Saxifrages* were most attractive, and one felt one could linger by this wall and enjoy its beauties for a long time. Walls so treated should harmonise with their immediate surroundings.

If the wall to be dealt with is built of bricks with a coping of bricks on edge, there will be no necessity for dislodging any of the bricks. Bricks on edge should be placed lengthwise to form a narrow space in the centre to contain some soil and the roots of the plants. At intervals of 27ins. cross bricks should be built in to bind together the two courses placed on edge. This applies to a 9in. wall, a 14in. one may have containing bricks placed flat, and old stone walls should be treated similarly, only in this case more informality of arrangement can be secured. Any interesting plants now growing on the wall should be retained if they are conveniently placed.

Now we must consider the question of planting and the soil to be used. Old mortar rubble will be needed, and should be procured even at some trouble. One peck of lime rubble to 4 pecks of soil will answer the purpose. It is a mistake to use ordinary garden soil; really good fibrous turf is the best because it is not so readily scratched away by birds and the roots of the plants are left undisturbed. Immediately on the roots, or the soil covering the roots, of each plant place a small stone or fragment of brick. In the hollow places of the wall where it is intended to establish any plants to furnish the sides, a small plug of clay will help to make the tiny plants secure; this dab of clay is in addition to the soil pressed in.

The early part of spring is the best time to establish wall plants, but the wall must be prepared for them some time beforehand. The following are suitable kinds for the beginner to select from, but expert wall gardeners will with great success furnish a wall with many others. Small specimens are more likely to succeed than large ones. Newly rooted cuttings will with great care do well, but they require extra attention. Seedling and other *Pinks* are charming, and other suitable kinds

include *Nepeta Mussini*, *Sedums*, *Sempervivums*, *Encrusted Saxifrages*, *Helianthemums* (Sun Roses), *Erinus alpinus*, some of the subulata section of *Phloxes* (flowering early in the year), *Alyssum saxatile*, dwarf *Campanulas*, *Aubrietias*, double and single flowered *Arabis*, *Iberis* (*Perennial Candytuft*), *Alpine Wallflowers* and *Arenaria balearica*. Small-flowered *Fuchsias* do well and also *F. Riccartoni* in the case of strong walls.

There are many really old, partly broken down walls in different parts of the country belonging to ruined buildings and in quite romantic settings, covered mainly with lichen and mosses. Such

old structures would look charming were they clothed with Foxgloves, dark red and yellow Wallflowers, Honesty and clumps of *Cerastium tomentosum*.
GEORGE GARNER.

GARDEN DESIGN.—I

NOWHERE is greater interest taken in the development and beautification of country estates than in this country. The Englishman is essentially a lover of his home, and his traditional good taste is the result of centuries of culture. This has enabled him, generally speaking, to retain what is good and to develop in the most careful way his ancestral demesne. Equally is this the case in the making and development of more recent acquisitions. These are generally of smaller extent than formerly, but evidence a beauty of design and care in their making that were sometimes lacking in the work of earlier days.

Proper proportion and relationship of the several parts are the secret of success both in estate planning and in the designing of gardens. The extent and treatment of the grounds must be in harmony with, and form a satisfying setting to, the residence, and from the entrance gates to the extreme limits a sense of harmony and fitness should everywhere be felt.

Tastes vary greatly, and what is the recreation of one man may be the height of boredom to another. Almost everybody, however, loves a garden, and it is, or should be, the ambition of

everyone to make his surroundings suitable and as beautiful as they can be made. Local conditions will very largely govern the design of the grounds; for example, a hillside garden would probably be treated as a succession of terraced gardens, and very beautiful results may be obtained by doing this. Surroundings should be carefully studied; the principal windows of the house should command and frame the most pleasing views both of the grounds and of distant scenery.

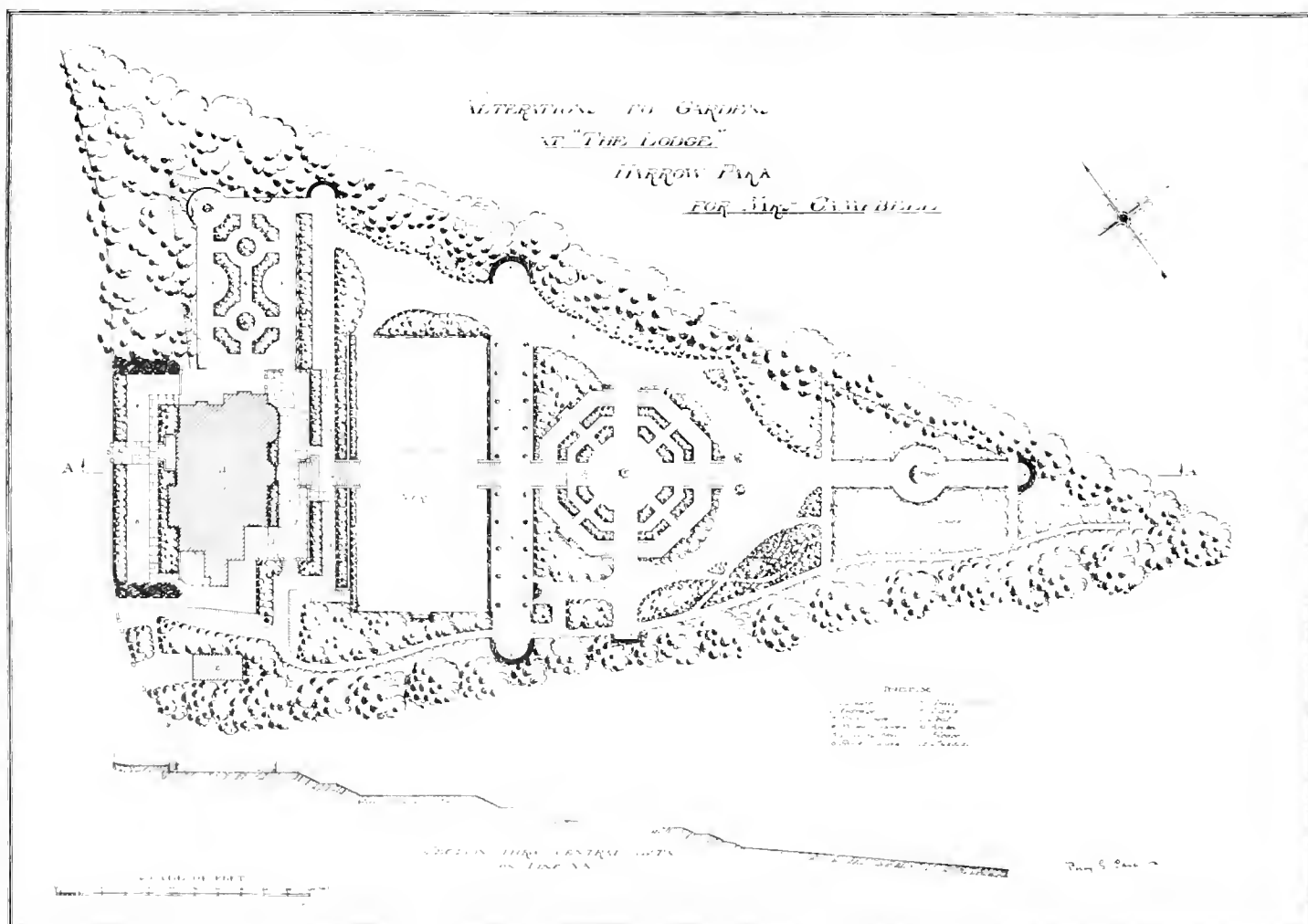
Even if some parts of the country are not notably beautiful, the rich verdure of lawns and trees makes the English countryside generally pleasing, but where this is not so and where, it may be, smoky chimneys of manufacturing towns have to be screened from sight, unsightly surroundings should be blotted out, and interest be created within the limits of the grounds.

Modern gardens generally shew great care in their arrangement and are more beautiful than was formerly the case, excepting of course those older ones of outstanding interest and charm. A finer and more critical taste and appreciation govern their design; there is a greater contrast between their separate parts, and a more carefully planned harmony of colour and elaboration of detail.

Some kind of terrace (or terraces) is generally an essential connecting link between the residence and the grounds, and seldom, if ever, is a pleasing impression created by stepping directly from the house into informal gardens. This being so, a properly planned terrace (or terraces) will usually relate the house to the grounds in the best possible way.

Some definite conception or idea of what is to be done should always govern the planning. The treatment of any site offers a very wide range of choice. The architectural character of house will be the *motif* or keynote governing the treatment of the gardens. The fitting setting for the mansion will be the ordered stateliness of its park-enclosed grounds, while smaller places will have their equally beautiful, even though less elaborate gardens. The tendency, in these days of high taxation and expenses, is to have smaller, but well appointed houses in beautiful, if less extensive grounds than was formerly the case. There is much to be said in favour of these compact estates; they are often owned by men who are away for a considerable part of their time and, if properly run, their management is a source of pleasure and relaxation instead of, as might easily be the case with larger places, becoming actually a tax upon the energy and leisure of their owners. Country life is to most people a healthy life, full of interest, and the making or improvement of an estate, even if it is to be a small one, is a source of lasting pleasure.

Consequent upon the reduction in cost, the building of new houses is again commencing,



SHews FORMAL AND INFORMAL PLANTING IN A SMALL GARDEN.

and an impetus is given to the adaptation and modernisation of older places. Most of our old farmhouses and other buildings may be thus treated. There is something very attractive about many of these old farms surrounded with their farm buildings. They are full of local colour and, where a small estate only is required, they may be made to possess a charm and picturesque-ness entirely their own.

Careful attention should be given to the choice of the site for a new residence. The principal rooms should command the most pleasant views and should have a southern or western aspect. Shelter should be provided by planting belts of conifers or of conifers and deciduous trees to shut off the north and east winds, and at the same time to give that air of comfort and seclusion that is lacking in the case of houses without trees. Trees should not be near enough to darken the windows, to make the house damp, or to interfere with foundations.

Perhaps the best, even of smaller as well as of larger grounds to-day, consist of an arrangement of formal gardens in an informal setting, this informal setting being in what is known sometimes as the "landscape" style. The word landscape, as applied to garden planning to describe the opposite of formal design, is a curiously misleading one, and is really more applicable to the grouping of forest trees in parks than to other forms of garden design.

To return to the terrace and formal gardens, like every part of the grounds, and to an even greater extent, these will be governed by the architectural character of the residence. Often one may plan a paved garden as a part of or near to the principal terrace, and here should be masses of the choicest plants and richest colours. One should be careful when making or planning different gardens to arrange the plants in their proper places, for although a number of plants may be equally at home in gardens that are quite different in character, yet the different gardens should have each their own particular character to a very marked degree. The rose garden will, excluding carpeting plants of course, be for Roses alone and, except for Rose species and Rambler Roses, these beautiful plants will not be grown in other parts of the grounds. Herbaceous borders will be the home for the numbers of beautiful hardy plants that are procurable nowadays. It should be remembered that plants vary very much in character, and that there is as much difference in their texture as between rich silks and velvets and the thinnest of cotton, and that it does not do to mix these different qualities too freely. There are parts of the grounds, such as on the terraces and in paved gardens, where, although the planting may be chiefly of perennial plants, yet in its effect it is far richer than the ordinary herbaceous border.

Suitable vistas should be planned for the longest distances through the principal parts of the grounds, and even though it is possible for the eye to travel for considerable distances along their lengths, the different gardens as one enters them must always surprise by change and contrast of beauty, so that one goes from formal to informal and wild gardens, if the grounds are sufficiently extensive, always feeling harmony of proportion and that every part is happily related to its surroundings.

The design given illustrates the planning of a comparatively small garden. In its contrast of formal and informal design and in the varying character of its separate gardens it shews also the results that may be obtained from a terraced treatment of ground that is naturally sloping.

PERCY S. CANE.

(To be continued.)

CORRESPONDENCE

JAPANESE CHERRIES.

THE statement made in THE GARDEN for September 20 that "it is now easier to obtain the Oriental Cherries on suitable stocks than was the case until recently" is of great interest to me. For a number of years I have been striving to get

here in my collection.—COLLINGWOOD INGRAM, Benenden.

GENTIANA FARRERI & G. SINO-ORNATA.

IN reply to "H. M. N. R.'s," Yorks, enquiry as to how I produce ripened seed of *Gentiana Farreri*, I may say my plants start flowering in the



GENTIANA SINO-ORNATA AT GLENDFVON, PERTHSHIRE.

Japanese Cherries worked on the stock recommended by Wilson, i.e., *P. serrulata* var. *sachalinensis*, but up to the present I have been wholly unsuccessful. Any information that would enable me to do so would, therefore, be very acceptable. As the above-mentioned North Japanese form is a vigorous and hardy parent of some of the finest double varieties, for these near relatives it is no doubt an ideal stock, but I think it still remains to be proved that it is equally suitable for the *P. Lannesiana* varieties. The plants I have imported from Japan appear to have been worked on two different stocks—some on an apparently small form of *P. serrulata spontanea* (which seem to have a decidedly dwarfing influence) and some on a form of *P. Lannesiana* (probably the undesirable *Mazakura*—cf. Wilson's "Cherries of Japan," page 52). Personally, for this country, I prefer *P. Avium* to either of these for the cultivated varieties of *P. P. serrulata* and *Lannesiana*. I choose this stock for the same reason that I choose Plums for my fruiting Peaches—it is more "at home" in my somewhat chilly soil. As the Japanese Cherries vary considerably in vigour, to avoid the possibility of unsightly swelling or restriction at the point of union it is best to work them low down on the stock; moreover, they usually do better when so worked. With regard to the so-called Rosebud Cherries, I have in cultivation a distinct variety which you omit from your list. This charming and very floriferous little Cherry is called *Usubenibigan* by the Japanese, and has been given the varietal name of *alborubescens* by Miyoshi. Curiously enough, it is not mentioned in Wilson's brochure. I would like to take this opportunity of pointing out that *Ichio* is a Japanese synonym for *Hisakura*, and not a separate form as is suggested by your article. Furthermore, according to Wilson, *Sirotae*, and not *Seuriko*, is the native name for the Mount Fuji Cherry. *Seuriko* is an exceedingly handsome single variety with large bluish pink blossoms, specimens of which are now growing

middle of August—the photograph you published (page 493) was taken on September 2—and are still opening their flowers. *Gentiana Farreri* has a great attraction for the bees, which appear to fertilise the flowers very freely, and I have secured a good quantity of seed this season. The late Reginald Farrer in his book "On the Eaves of the World" says: "A distinct line is followed in the seed of the *Gentians* of Tibet: when the blossom goes over, the style protrudes further and further out of the mouth till about twice the length of the carpel, and while the collector is vainly hunting for the seed at the base of this, where the ovary should surely be, and grows weary with disappointment at never finding any, lo! suddenly a little oval knob at the very tip of the style gapes open with two lips and there is the seed after all, and if you are not wary it is out and away while you watch." The seed of *Gentiana Farreri* ripens very quickly, within about ten days after the flowers fade, and during wet weather the seed is very liable to decay. I find it best to look over the plants twice a week, open the faded blooms, and if the seed-pod is about ripe, pick it off and dry in the sun. In a few days the tip of the seed-pod splits open and the seed falls out. The soil in my garden is of a peaty nature, we are about 700ft. above sea level, and being at the foot of the Ochil Hills we get a good deal of moisture during summer, which I think is the reason my plants grow and bloom so freely and set seed. I enclose a photograph of *Gentiana sino-ornata* growing in my garden. This photograph was taken four weeks later than that of *G. Farreri*. *G. sino-ornata* increases very quickly with me, and I find the best way to propagate it is by division in the spring. Being so late in flowering it sets very little seed.—A. H.

I WAS very much interested in "A. H.'s" paragraph regarding *Gentiana Farreri* which appeared in THE GARDEN of September 22, and perhaps all the more so as I had quite recently

had a small lot of the Gentians at Glendevon. What was most as being unusual was the statement that this lovely Gentian ripened its seeds at Glendevon every year, and when sown in 1911, produced flowering plants in the autumn of the year following. Hitherto we have looked on Gentian seeds as being exceedingly slow in germinating, taking about a year to baird, consequently "A. H.'s" experience quite upsets all our ideas in this connexion. Being a late-flowering plant, it would be interesting to know how your correspondent manages to obtain ripe seeds. Do they carry the seed-pods through the winter and ripen the seeds in spring and, if so, do they require protection from the frosts and storms of winter? I think it would be exceedingly interesting, as well as instructive, if "A. H." would, in the pages of THE GARDEN, give a *résumé* of his method of culture from seed sowing to seed saving of this charming plant. I feel sure, considering the success he has attained in the culture of this Queen of Gentians, that a few notes regarding his treatment would be appreciated by all lovers of alpine flowers.—ALBYN.

[Our correspondent's point about the ripening of the seeds is covered in the previous letter.—ED.]

A GLADIOLUS SOCIETY?

I WAS pleased to see in your issue of the 6th inst. Mr. Payne's note *re* the formation of a Gladiolus Society. There is abundant evidence that the Gladiolus cannot much longer run its course of ascending popularity without the organised help of such a body, because, as Mr. Payne points out, the need is already urgent for some controlling power, not only to classify and register new varieties, but to put a staying hand on the impetuous rush of mediocre or even worthless flowers on the market. Some folks seem to think that any Gladiolus with the blue blood of the *Primulinus* type running in its veins is worthy of a place among the elect. Both this season and last I have seen dozens of *Primulinus* seedlings bearing flamboyant and high-flown names that should never have been looked at the second time in the seedling bed. That sort of thing is sure to injure the justly increasing popularity of the Gladiolus, and I can think of no other means of encouraging the production of really good varieties, and its *concomitant contra*, than through the operations of a society having the care of this beautiful flower in charge. Yet we cannot forget the inglorious demise of the English Gladiolus Society during the sad years of war not so very far behind us, and it would perhaps be wisest first of all, before making agitation towards a definite scheme, to invite the opinion of as many of your readers as possible, so that some estimate could be made of the strength lying behind the desire to rejuvenate the old society. Built on a solid foundation, I feel sure a great deal of good and useful work would be accomplished by its activities, but we must not risk another debacle.—J. L. GIBSON.

At Holland Park on Tuesday, October 2, when I was looking at Mr. Chapman's exhibit of Tomatoes, three gentlemen behind me were having an argument as to the name of a Gladiolus. The first stated, "That is not Marshal Foch!" but the other two were equally certain that it was. Shortly afterwards I looked at the flower and it was named "Kunder's Marshall Foch," a large open flower of a pink colour with a darker blotch. This flower was on Messrs. Lowe and Gibson's stand. A little further along I came across another Gladiolus on Messrs. Artindale's stand named "Marshal Foch," but this was a lavender pink. Continuing along I came to Messrs. Kelway's stand, and I cast my eye along to see if there was

a Marshal Foch present, but did not detect one. However, on picking up a list, I found yet another. "Kelway's Marshal Foch—very deep scarlet self." Would a Gladiolus Society prevent such a duplication of names?—PERPLEXED.

WHAT LILIUM REGALE CAN DO.

WHEN Mr. E. H. Wilson introduced this glorious Lily from Western China it was a moot point as to how hardy and how floriferous it would be in our rather trying climate. Shown first, I think, in 1912, it was seeded, and in 1916 at the Holland House Show the progeny of 1912 plants were exhibited with one or two flowers on a stem. A year or two ago the bulb sellers' catalogue modestly put the number of flowers from two to five, but five flowers on the stem has been for some years quite an ordinary occurrence. Last year one of my seedlings, from one of the plants which was at Holland House, had eight flowers and ripened seven capsules, which stem is now in the Manchester Museum. This year, the same seedling, or another one, produced two stems from one bulb which had respectively fifteen and twelve buds, but which I disbudded to nine flowers each. The accompanying illustration shews this plant in full bloom. The flowers do not look quite so well as they should do, as all the blooms have been de-anthered for cross-fertilisation. This Lily so splendidly and readily produces seed that it is a very good subject for experiments in that direction.—J. H. WATSON.

THE FIFTY BEST ALPINES.

AS a keen lover of alpines I submit for the favour of your criticism a list of fifty best alpines. Most of them I have successfully flowered, though one or two are not perhaps correctly described as alpines. Opinions of other readers would be of great assistance. The list is as follows: *Androsace sarmentosa* Chumbyi, *Aquilegia alpina*, *Arenaria balearica*, *A. montana*, *Asperula suberosa*, *Azalea procumbens*, *Campanula Allionii*, *C. carpatia alba*, *C. cenisia*, *Cyananthus lobatus*, *Cypripedium Calceolus*, *Cytisus kewensis*, *Daphne Blagayana*, *D. rupestris*, *Dianthus alpinus*, *D. neglectus*, *Douglasia levigata*, *Dryas octopetala*, *Genista Ardoinii*, *Gentiana Farreri*, *G. sinornata*, *G. verna*, *Geranum argenteum*, *Geum Borisii*, *Gypsophila cerastioides*, *Linum salsoloides nanum*, *Lithospermum prostratum*, *Lysimachia Henryi*, *Omphalodes Lucilie*, *Ononis cenisia*, *Oxalis enneaphylla*, *Papaver alpinum*, *Pentstemon Davidsoni*, *Petrocallis pyrenaica*, *Phlox subulata Vivid*, *Potentilla nitida*, *P. fruticosa Farreri*, *Primula nivalis*, *P. rosea*, *P. Winteri*, *Ranunculus Nathaliae*, *Ranunculus glacialis*, *Saxifraga Aizoon Rex*, *S. Bursleriana Gloria*, *S. Faldonside*, *S. longifolia*, *Shortia galacifolia*, *Silene acaulis*,

Soldanella Ganderi and *Viola Bertoloni*.—PURLEY.
[The topic is an interesting one. Perhaps readers will give their selections.—ED.]

RHODODENDRONS AND STABLE MANURE.

IT seems to me a kind of unwritten law, but one however, which is most rigidly adhered to, that Rhododendrons are shrubs which do not require any manure, do not like it and, in truth, are better without it. Certain it is they do not get it in one case out of a hundred. The second thoroughly ingrained idea is that they will not grow in anything but peat. From this latter statement, however, there are a few dissentients; some realise that loam or loam and leaf-mould will do almost equally as well. Now, when I recommend an application of strong doses of stable manure, I



TWO FINE SPIKES OF LILIUM REGALE ON ONE BULB.

well know I am stirring up a veritable nest of hornets around my head, and one worthy baronet at least will, doubtless, be on the wing, pursuing me like an angry bee ever ready with its sting. Fortunately, I have the ammonia, the counter-irritant, at hand, as I speak from personal experience on the manure question. No doubt, leaf-mould, peat, decaying branches and top-dressings of cut grass are all helpful in their way, but recommend me to a good barrowful of stable dung if one wants healthy, flowering plants. In the case of old shrubs, it is better applied about 18 ins. or 2 ft. from the stem, as it is there the young roots will be found ready for food. My little experience is gained from among the Himalayan section of "Rhodos," but as, comparatively speaking, they are grown only by a few, I will take for example that favourite hybrid Pink

Pearl. Personally, I think this is very much over-rated, being a bad pink at the best. One of the most convenient spots to study the little tragedy is the villa garden, where, some fine spring morning, the shrub will make its appearance in the centre of the front plot, with very possibly five plump buds on it. In due time there are five large trusses of bloom, one of which perhaps is given to "a dear friend" and the remaining four, seed-pods and all, left, which certainly tends to accelerate the fate of the plant. Next year the plant is rather bilious-looking, with, possibly, one rather sickly bloom, and the owner begins to think it is not "hardy." In the third year there are no flowers and the shrub has a very jaundiced look indeed, so that the owner is now quite convinced that it is not hardy; but he is so charmed with its size, etc., that bang goes another 7s. 6d. on a new plant. The truth is the poor plant has bloomed itself to death and, having no nourishment to speak of, gives up the struggle for existence. If the owner had only given the poor thing a good dash of stable manure, all would have been well, and so it would have been in hundreds of other cases. That Rhododendrons require manure, and plenty of it too, is my experience. When planting I have often given them a liberal sprinkling of half-inch bones, and if transplanted in a few years, the bones will be found hanging to the roots like barnacles. I think, therefore, they like bones, though bones must contain a large percentage of lime. I hear someone say "Disbud the plant freely." Well, possibly, but as the Pink Pearl owner, naturally, wants blooms, he had better keep the buds, put on the manure, and continue to enjoy his plant. I have no experience of a limy soil, but would not be very much surprised if, given plenty of cow manure, they could be induced to thrive in it also. As a test to the foregoing remark I have just come in from planting R. Nobleanum in a heap of old lime rubbish and, of course, with an ample supply of cow manure, and will see what result.

I notice small white specks appear on the upper side of the leaves of "Rhodos" (or at least a number of them) when the plants are robust in health, and these on well manured plants are very prominent. For choice I think the manure is better applied immediately after flowering, as it is then the new wood is made and the unsightliness of the dressing is little noticed. The only fault I find with heavy dressings of manure, however, is that some of the more tender plants are not so well able to stand severe winters as those growing without it, but on the seaboard, where frosts are less prevalent, this is of little moment. One of the Rhododendrons which seem to revel in manure and look like saying "Thank you" is that charming little precocious child of spring, born of such excellent parentage as R. ciliatum and R. dauricum, called *præcox*. How charmingly it is named!—FORMAKIN.

THREE GOOD EARLY MICHAELMAS DAISIES AND A LESSON THEREFROM.

WE popularly call the race Michaelmas Daisies, but this year only a few of my large collection were in bloom on Michaelmas Day. The big show will most likely be in St. Luke's "little summer," and I would not like to say that all will be over at Martinmas-tide. Of those that appeared in their full glory at the conventional day the two that appealed to me most were the old Feltham Blue and the new Pioneer. They are graceful in habit, free blooming, light and airy, and their flowers are not monstrosities! Barnum, how well you gauged human nature in the monstrosities you gathered together for your shows! There is the taint of this old Adam in all of us I fear, and so we bring ourselves to like my third

choice, Lavender, which is very beautiful in colour—being a real pale lavender—but which, alas! is half inclined to be a double and in consequence the outline of what I conceive ought to be a clean cut central mass of yellow is blurred. Lavender has flowers of quite an "out-size" in Michaelmas Daisies (many measuring 2ins. across) and they are freely produced. The variety has been raised by Mr. Ballard of Colwall, Malvern, whose name is in every mouth as one of our great raisers of Michaelmas Daisies. So was Pioneer. This is the purest pink that I have ever come across in this race of plants. I compare it with the pure pink that we find in what I believe to be the typical *Alonsoa Mutisii*. There is not a vestige of blue in it. Pioneer, too, is anything but a monstrosity. Mr. Ballard has told me its parentage, and I only hope he will go on and give us others of this type. Let me assure him there are people, even if they be a small minority, who do appreciate dainty plants and flowers. Feltham Blue is like Pioneer in its general habit and in its type of clean-cut flower. The orange yellow centre surrounded by the rich blue-purple ray florets make a very beautiful combination. Why is this variety being gradually shelved? I answer: "The love of monstrosities and the worship of size."—JOSEPH JACOB.

THE GENTIANELLA.

I AM pleased that my good friend Mr. Ingwersen raises a discussion on this general favourite, which, I hope, will lead a step forward. It is a very difficult problem, to popularise the name of a foreign plant which, although known to all growers of alpenes, is not to the man in the street. Mr. Farrer, as a young man, was opposed to the ideas emanating from Wardour Street, but later he became a renegade from his own convictions and merrily invented English names for plants known only to a small section of enthusiasts. I will only refer to the "Eaves of the World" and the vivid christening of the genus *Meconopsis*, surname and others. If *Papaver* stands for Poppy, *Meconopsis* does not. *Mais, revenons à nos moutons!* I share Mr. Ingwersen's views on the tricky character of *Gentianella*, so frequently blind, and on the seedlings, which very little from the parents. If you must fail with *Gentianella*, you will do so in every possible position and under varied conditions, as I have proved to my discomfort over ten years. When my friend speaks about his experience with plants in Stevenage, may I tell him that these specimens are *true G. excisa*? The very quality of the flowers shews it. And now I will shock your readers and say that the true *Gentianella* cannot rival *G. excisa* and *vulgaris*. Often *Gentianella* shews white spots near the apex and the trumpet is slaty or tinged with unpleasant green. I will not call it a florist's flower, but certainly man has meddled with it. I have not seen Linné's type specimen, and will assume that he described wild material. It would be instructing to hear which variety or species he did handle. The parentage of our *Gentianella* is very likely correctly stated by Mr. Farrer, and I think he deserves admiration for the lucid way in which he sets out clearly the variations of the different types seen with the eye of the field botanist and practical gardener. *Gentiana excisa* Presl. stands as far away from *Gentianella* as *G. angustifolia*. *Gentianella* is a truly stoloniferous plant, *excisa* is not. The crowns are closely adpressed and it does not ramble like *Gentianella*. The flower is undoubtedly superior to that of the latter. *G. excisa* is not as rare as Mr. Farrer would have it. You can see millions of plants on the upper Bavarian plain at an average height of 6000m., are remainder of glacial periods, and growing in black peat overlying scree. And

there one can take note how it hates manure. Certain meadows covered with flowers in 1914 had lost practically all plants by 1920 owing to wet manuring. We like to believe in symbiosis if we cannot manage a plant. Well, not more than a foot from the blind *Gentianella*, *G. excisa*, *angustifolia*, *vulgaris*, *x Dumoulinii*, *verna* and *astiva* flower and thrive in my garden. But *G. dinarica*, also stoloniferous, fails there too.—P. ROSENHEIM, *East Molesey*.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Rhubarb.—The general shortage of Apples will no doubt induce people to force Rhubarb in greater quantity than is usual, and as this desirable substitute requires gentle forcing to obtain the best results, an early start should be made. When the stems have decayed, a few strong roots may be lifted, left exposed on the ground for a few days, and then transferred to a cool greenhouse or cellar. Undereath the stage of the former will be excellent. A little garden soil should be placed between the roots and then kept moist. A few roots introduced at intervals of a month or so will keep up a steady supply.

Winter Spinach.—The copious rains in September gave this crop a good start, and now it will be necessary to thin the plants before they become overcrowded. To prevent any waste the thinnings should be taken to the kitchen. Keep the bed free from weeds and decaying leaves, and use the hoe at frequent intervals. A dusting of soot will be beneficial, and if slugs are prevalent a sprinkling of lime between the lines will help to keep them in check.

Seakale.—When the foliage has decayed it should be removed and the crowns fully exposed to allow them to become thoroughly ripened. A few weeks hence the roots may be lifted and the best selected for early forcing.

Mushrooms.—The beds should be producing crops of mushrooms, and if a few cultural details are observed they will continue to be productive for some weeks. The average temperature should be about 60°, but if we get a spell of cold weather 10° lower will be better than employing much fire-heat or fermenting material. Syringe the walls occasionally to keep the atmosphere moist, and when the soil becomes dry it should be given a sprinkling of tepid soft water, using a fine-roset water-can. Overwatering should be guarded against, but the other extreme is also detrimental. Continue to collect horse-droppings for new beds, and turn them over occasionally to allow the rank heat to escape.

The Flower Garden.

Montbretias are useful August and September flowering bulbs, and *M. crocosmaeflora* increases rapidly if left alone for a few years. In time, however, they deteriorate unless they are lifted and the best corms replanted. When the foliage has ripened off, such work may be undertaken, planting the bulbs about 3ins. deep. A light, well drained part of the garden suits them admirably.

Antholyza paniculata may also be lifted if needed and replanted. It will succeed either in the herbaceous border or in a bog providing it is not too wet in winter.

Flowering Shrubs.—Some plants will have filled their allotted stations, and to prevent choice examples from being overgrown it may be necessary to transplant them to another part of the garden. Such work may be done directly the soil is moist enough, and no doubt if early planting is practised the shrubs hardly feel any check. Newly planted shrubs should be examined from time to time to ascertain if they are still firm in the soil.

Rambler Roses.—This section is largely employed for pergolas, arches, tree stumps, fences and banks, and little pruning is needed beyond removing all weak and worn-out shoots. During mild weather the plants should be overhauled, new poles put in where needed, and strong twine used for tying the growths to the supports. Additional plants may be secured and planted at this season.

The Hardy Fruit Garden.

Planting.—Fruit trees may be safely planted during the next few months; it, nevertheless,

is advisable to get them in their permanent stations as soon as possible. Planting ought not to be carried out when the soil is very wet, and the holes should be sufficiently large to take the roots when spread out to their fullest extent. Deep planting is not recommended, and the soil should be broken up so that it will run freely between the roots. The ground should be made fairly and gently treading as the operation proceeds, so that each tree is given a label, preferably a metal one with wire attached to fix it to the tree. Standard trees will require staking directly they are planted, but care should be taken to prevent the support from chafing the stem during rough weather. It is advisable to place some material between the tree and stake where the tie is made.

L. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.).

Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale.—The plants are now in the resting stage, and those intended for forcing indoors should be carefully lifted and packed closely together in sand or sandy soil in a convenient place in the open where they can be protected in the event of severe weather occurring. Any things suitable for root cuttings should be detached and stored as indicated above. To save subsequent trouble, however, these things before being put away should have the thick or upper end cut level across while the lower end should be cut with a slant, thus guiding the operator when planting. A certain portion of the crop may be forced in position out of doors to succeed that forced indoors, and, if judiciously treated, plants forced thus will remain in good condition for several years.

Globe Artichokes.—As these plants are not absolutely hardy, some leaves or other litter should be placed loosely round the neck of each as a protection against severe frost. If any flower stems still remain on the plants, they should now be cut over.

Horse Radish.—It is a wise precaution to lift a certain number of thongs and store them in sand or sandy soil either outdoors or indoors, where they will be conveniently accessible when wanted during severe weather.

Laying Box Edging.—Where box edgings require relaying, the work may be undertaken now with less chance of any failures than when done in spring; moreover, there is generally more time to spare for the work now than in spring. To relay box properly is a somewhat tedious operation, but as it has only to be done at fairly long intervals, it is worth doing thoroughly.

The Hardy Fruit Garden.

Gooseberries.—The work of pruning should be carried through as soon as possible. The old-fashioned system of spurring is now almost entirely abandoned, and the following system is found to produce superior crops, and where it is adopted less damage is likely to be done to the buds by ton-tits. In the case of young partially developed bushes, first cut away any weak or badly placed shoots and, if overcrowded, thin out some of the normal shoots, then cut away a few inches of the miniature wood at the points of the leading shoots which are to form the framework of the bush. In pruning fully developed bushes, first cut away any dead, unhealthy or badly placed shoots; then cut away a proportion of the older leading shoots and encourage young, vigorous ones to replace them. Cut away the miniature points of the young shoots produced during the past season. The two chief points to be aimed at are the maintaining of young, healthy wood and the admission of ample air and light into the bush.

Morello Cherries.—The pruning and training of Morello Cherries should be attended to without delay. So long as the framework of the tree is healthy it should not be interfered with, but as the fruit is borne on the previous year's wood, a supply of young wood should be maintained. Cut away the shoots which have borne fruit during the past season, retaining sufficient young wood to form next season's crop. Nail the young shoots into position, using medicated shreds, and if any of the branches are held too tightly, cut away the shred or tie and replace it by a new one, allowing the branch room to develop.

Planting.—If it is intended to plant any trees or bushes, they should be ordered and preparations made for planting them when received. Autumn planting is preferable to spring planting, as the plants get a good hold of the soil before winter

sets in and are therefore less likely to suffer from the drying-up effect of spring winds. Wherever planting is to be done, the ground should be trenched. Rank manure may be placed at the very bottom, as it will help to aerate the soil, but such should not be allowed to come in contact with the roots. For stone fruits, especially, some old lime mortar has a highly beneficial effect.

The Flower Garden.

Chrysanthemums.—The flowering period being now over, a certain number of plants of each variety should be cut over, lifted, boxed up and placed in a cold frame to furnish cuttings in the spring. When finished give them a good watering with a rose can, and when the water has drained away, dust some soot in among the plants as a preventive against attacks by slugs. Admit air freely except in severe weather.

CHARLES COMFORT

(Formerly Head-Gardener to Mr. Haig, Broomfield, Davidson's Mans, Midlothian).

GREENHOUSE AND CONSERVATORY.

Dicentra spectabilis. This beautiful hardy herbaceous plant is very charming for conservatory decoration. Strong plants should now be placed in 7 in. or 8 in. pots and stood outdoors or in cold frames until such time as they are required for forcing. As they do not stand hard forcing, they should be brought on slowly in a temperature of about 50° maintaining a moist atmosphere. When growing strongly they require ample supplies of water at the root. To keep them strong and sturdy they should be given plenty of standing room and kept well up to the roof glass. By

Begonia Gloire de Lorraine. It may be propagated by means of cuttings during the spring, but many cultivators find this difficult. This is generally due to keeping the cuttings too close and moist. Old plants frequently flower and produce seeds. When they can be obtained, seeds afford an easy and ready means of increase.

Celsia cretica is very useful for the embellishment of the conservatory. Its seed is sown at this time the subsequent plants will flower next summer. Its successful cultivation presents no difficulty, as it grows quite well in ordinary potting compost and only requires the shelter of a cold frame. The plants should be grown on into 6 in. pots, in which they may be allowed to flower. This plant is also very useful for furnishing beds in the conservatory.

Tritonia rosea. This slender and graceful species, although hardy in dry, warm situations, is very charming when grown in pots for the cool greenhouse. Dry corns may be purchased during autumn and winter. They should be potted early in the New Year, placing twelve corns in a 6 in. pot. They are best grown in a cold frame. *Royal Botanic Gardens, Kew.* J. COUTTS.

The "Everyman's" Patent Straining Wire.

One of the most useful labour-saving devices we have come across for some considerable time is made by the House and Garden Sundries Company, which manufactures the now well known "Everyman's" wall-clips and the very handy

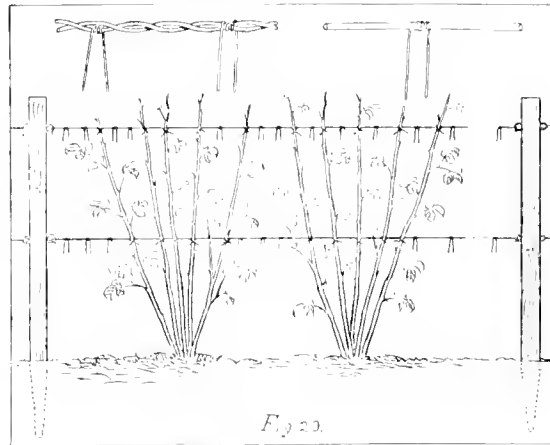


Fig. 20.

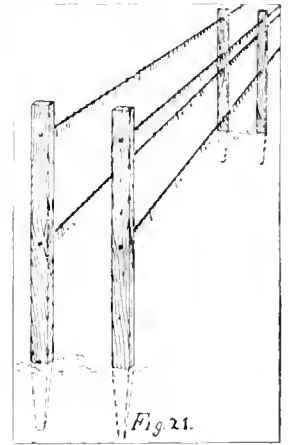


Fig. 21.

using successive batches this plant may be had in flower for several months.

Dicentra eximia is a much smaller-growing plant than the above, only reaching a height of from 1 ft. to 18 in. It is, however, very graceful and is worth growing in shallow pans for the small unheated greenhouse.

Chrysanthemum Parthenium fl. pl.—Although a hardy border plant, this *Chrysanthemum* is very useful for conservatory decoration. Where grown for this purpose cuttings should now be inserted, the young shoots springing from the base of the plant being used for this purpose. Old plants may often be pulled to pieces with the young shoots already rooted. In this case they may be potted directly into small pots, afterwards standing them in a cold frame. They should be grown perfectly cool and air admitted at all times. Useful plants may be grown in 48-sized pots, but where larger specimens are required they should be grown on into 6 in. or 7 in. pots.

Polygonatum multiflorum (Solomon's Seal). This charming and graceful hardy plant is very useful for a supply of cut flower. It is equally useful for growing in pots for conservatory decoration. For this purpose strong rhizomes should now be placed in 7 in. or 8 in. pots. Where required in quantity for cutting purposes the rhizomes should be packed closely in boxes, standing them outdoors until such time as they are required for forcing. For this latter purpose a temperature of 50° to 55° is high enough.

Calcecephalus (Leucophyta) Brownii.—This charming silvery-leaved plant is as a rule only used for summer bedding. Well grown specimens, however, are very beautiful at this time for the greenhouse, being especially useful for grouping with other plants. It associates very well with

little seed-sower marketed under the same trade name. The new invention we have in mind consists in securely attaching, at regular 4½ in. or 6 in. intervals, to ordinary galvanised wire, "ends" of soft iron wire which are also galvanised. To "tie up" a row of Raspberries, once the special straining wires are secured, is a matter of moments only. One has just to slip the cane between the two ends of wire, give the latter a twist, and at once the cane is securely held. To release the cane ready for another season's growth is an equally rapid operation. Does not the wire, it may be asked, cut the Raspberry canes? It appears after exhaustive experiments to have no detrimental effects whatever. Of course the canes are usually fairly woody when first "tied" and are of only one year's duration in any case. The Loganberry, Hailsham Berry and various Brambles will at once come to mind as almost requiring this special wire, but for these rampant growers the double lines of wire shown in Fig. 21 are a great advantage, as the young growths may thus be secured apart from the fruiting canes. Even for Raspberries many gardeners now like the double training system, as more canes may thus be left to a plant. Black Currants when trained in the way set forth in last week's issue may also be secured very readily by this patent wire, and in their case the single row shown (with Raspberries secured) in Fig. 20 is most convenient.

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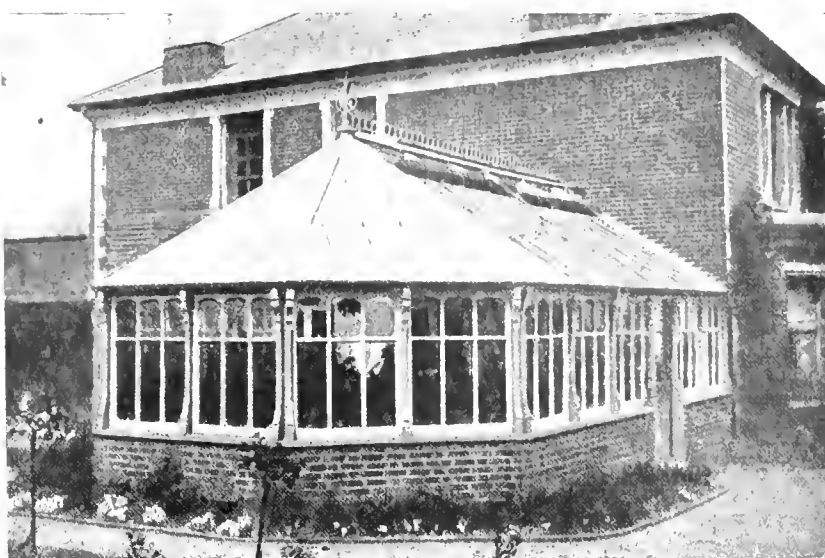
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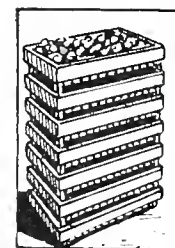
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Kniphofia comosa.—Some folks complain that there are too many "Red Hot Pokers" and that these are "too much alike," but they cannot apply these remarks to *Kniphofia comosa*, for it is perfectly distinct and very unusual. The only advantage of the plant is that the foliage is rather ragged; but, this defect being once recognized, it is easy to screen the base of the plant with something else, and then one has only to enjoy to the full the beauty of the flower-spikes. These are borne on tall, thin stems which very often produce a secondary spike branching from the main head and a little below it. The heads of flower are short and bottlebrush-like in shape, and the colour is so intense that they almost look as if they were alight. These flower-heads are always an immense attraction to the bees which literally swarm among the glowing blossoms. A very remarkable point about the flower-heads is that they reverse the ordinary manner of opening by expanding from the top downwards.

A Pretty Daisy.—There is a refinement and charm about that little Daisy of the Atlas Mountains known as *Bellis rotundifolia*, but its variety, *coarulescens*, is still more dainty and attractive. This plant makes flat, spreading rosettes much after the fashion of our common field Daisy, the spoon-shaped leaves, rather grey and downy, being scalloped at the margins. From these rosettes a succession of delightful flowers is maintained from spring to autumn, these being nearly rim across and having their yellow centres fringed with rays of a most fascinating shade of cool lilac-blue.

Awards of the General Bulb Growers' Society of Haarlem (Holland).—The Floral Committee have made the following awards during their sessions July and August, 1923:

First-class Certificates.—*Gladiolus Lilac Wonder*, soft pink-violet, with purple blotch; *G. Quo Vadis*, light salmon-pink with carmine stripes; *G. primulinus Psyche*, fiery orange red with velvet blotch; *G. primulinus Vinula*, clear carmine.

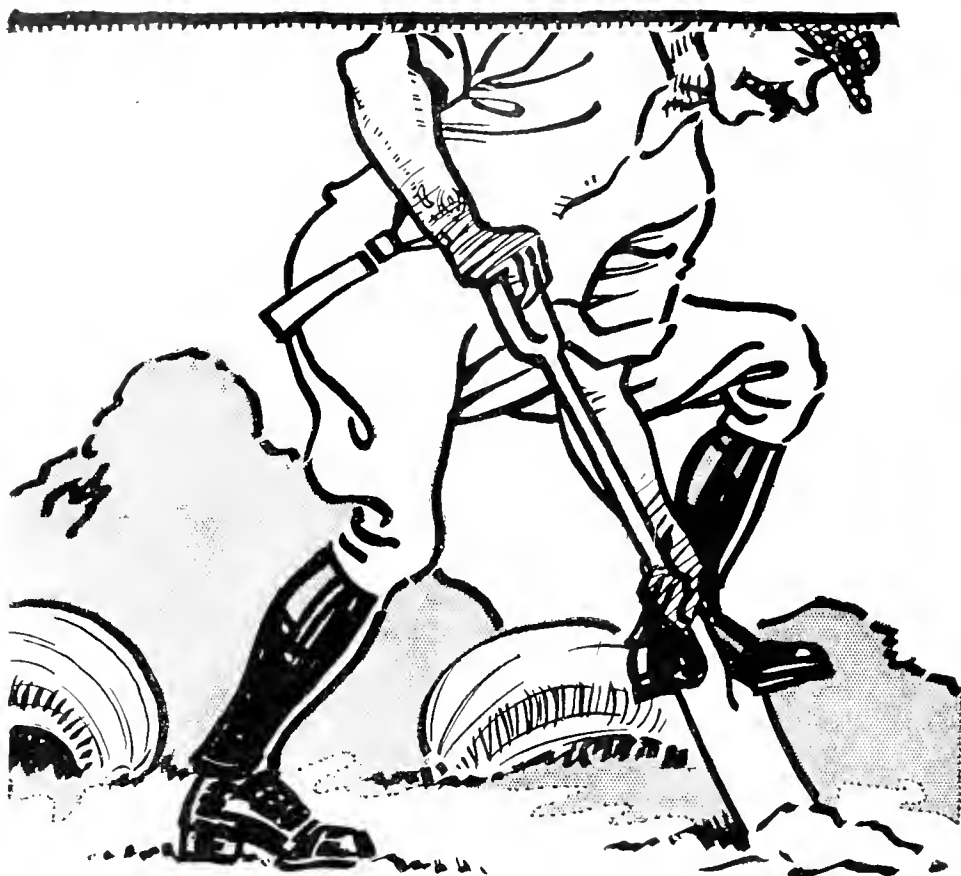
Awards of Merit.—*Gladiolus Circe*, mauve with dark centre and white border; *G. Herbstzauber*, salmon pink; *G. Imperator*, creamy white to ivory white, well formed spike, stamens white, pollen mauve; *G. Mr. C. P. Alkenade*, ivory white, compact spike, firm; *G. Red Star*, velvety red with brown shading, compact spike, firm; *G. Veilchenblau*, very fine mauve with clear centre; *G. nanus King of Spain*, light scarlet with small white spots which have a purple border; *G. primulinus grandiflorus Flaming Sword*, clear vermilion with scarlet stripes; *G. primulinus Rosaura*, pink with vermilion centre; *G. primulinus Wilhelmina Regina*, soft apricot colour, small delicate flowers; *Lilium Pseudotigrinum*, orange with purple spots.

Distribution of Surplus Bedding Plants.—The surplus bedding plants at the London County Council Parks will be distributed to the public between the hours of 9 a.m. and 11 a.m. on Saturday, October 20, 1923. Persons desiring to participate in the distribution should make personal application to the officer-in-charge at the various parks. Plants will not be handed to children under the age of fourteen unless they present a note from their parents or teachers.

FORTHCOMING EVENTS.

October 25.—Royal Botanic Society's Meeting.
—Wargrave and District Gardeners' Society's Meeting.

NAMES OF PLANTS.—X. Y. Z., Birmingham.—1, *Cynoglossum* sp.; 2, *Amherstia martinica* seedling; 3, *Clonatis Nellie Moser*; 4 and 5, both forms of *Sodium Telephium*.—M. G.—1, *Carex brunnea variegata*; 2, *Cupressus pisifera* var. *squarrosa*; 3, *Pteris longifolia*; 4, *Pteris semipinnata*; 5, *Cornus albus*.



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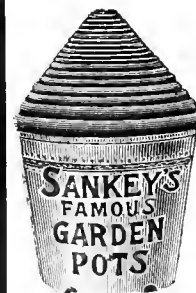


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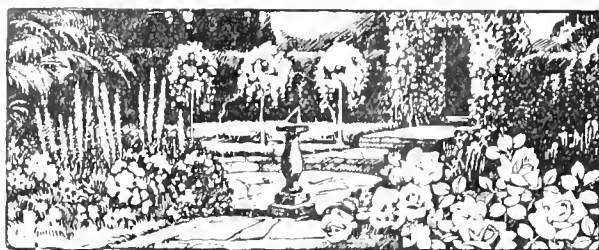
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[OCTOBER 27, 1923.]

AUTUMN - FLOWERING CROCUSES

THE Crocus family consists of nearly a hundred species, although Maw in his monograph only gives figures of sixty-seven kinds. They are chiefly found in the Mediterranean region of Europe, but extend into Asia Minor, the Caucasus and Central Asia. The flowering of the various species extends over the greater part of the year, with the larger number in bloom in spring, nearly as many in the autumn, linked up by others that flower in winter. The autumn-flowering Crocuses are invaluable for giving colour at a season of the year when the majority of plants have passed out of bloom. Some of the more easily grown kinds are well adapted for naturalising in grass, like *C. speciosus*, a mass of which in flower makes an effective picture towards the end of September with the delicately veined purple-blue flowers set off by the orange-coloured anthers. When grown in a border it is an advantage to have a carpeting of some low-growing plant which does not grow too dense and which will shew off the flowers which appear before the leaves. Those which bloom in early autumn are the most useful, as at that time the weather is generally more favourable for their well-being, while those that flower later on in the autumn and winter have frost and rain to contend with. Successfully to grow the latter, it is necessary to plant them in a warm sunny border or cover with glass while in flower. The earliest of the autumn kinds, *C. Sharojani* and *C. valliscola*, flower in August, followed by the handsome *C. speciosus* and several others in September and October.

The culture of the Crocus is very simple, and choice of soil is not, of great advantage. They can all be grown quite easily in a light sandy loam,

any light garden soil suiting the corms. All the species in this climate enjoy the open sunshine, but they will flourish fairly well in open woodland where the grass is thin and the trees deciduous. Most Crocuses in a wild state grow among dwarf scrubby plants, through which the flowers appear, and which give protection to the shallow planted corms in winter. The corms should be planted as early as possible to allow for the formation of roots before the flowers are produced, and autumn-flowering Crocuses should be in the ground in July. They should not be planted deeply, some growers barely covering the corms with soil, but about 2 ins. below the surface in light soil is a suitable depth to plant. In making a selection perhaps the four best and strongest, as well as free-flowering kinds, would be *C. speciosus*, *C. zonatus*, *C. longiflorus* and *C. medius*. Besides these are many others of great beauty which are given below in alphabetical order.

C. ASTURICUS.—This is a very showy, free-flowering species from the Asturian Mountains,

with flowers varying in colour from dark purple to lilac and pale mauve. A white variety of this is figured in Maw's monograph of the genus, but is not now apparently in cultivation. Somewhat short in stature, it is of sturdy habit, and is not so easily broken down by rain as some of the others. It is September flowering.

C. BORYI.—From the Ionian Isles, this has creamy white flowers, sometimes veined with purple, while the base is yellow and the scarlet stigma entire. It flowers in October.

C. CAMBESSEDESI.—A rare miniature species from the Balearic Isles, it is not common in gardens. The inner segments of the flower are white with a violet base, while the outer ones are yellowish white and feathered with crimson. November.

C. CANCELLATUS.—A species with a somewhat wide natural distribution from Greece to Northern Persia. With such a wide range it follows that there are several varieties, that of the type having white flowers with a purple base. The variety

cilicicus from Asia Minor has lilac flowers veined with purple, while the variety *maziaricus* has white flowers with an orange-throat. All flower freely in a warm sunny place in October.

C. CASPIUS.—One of the finest white-flowered autumn Crocuses, and closely allied to the better-known *C. Boryi*. It is a comparatively recent introduction from the Caspian region, and flowers in October and November, often keeping on till February. The variety *lilacinus* has the outer segments suffused with lilac.

C. CLUSII.—Comes from Portugal, and has pale violet flowers in October. It is very tree-flowering and hardy.

C. HADRIANICUS.—A native of the Ionian Isles with pure white flowers very freely



A BEAUTIFUL AUTUMN-FLOWERING CROCUS, *C. SPECIOSUS ALBUS*.

C. FLAVUS.—This species is a native of the Caucasus. It is a very variable species, the flowers being of various shades of yellow to that pencilled at the tips with blue lines, and another variety with a good violet base. This species is best grown in light soil.

C. IRIDATUS.—This species is so named from the shape of the flower to that of an Iris. The outer segments are rich purple, while all inner ones are pale lilac. It is a native of Bonat and Transylvania, and grows best in shady places, it being generally found growing among low bushes. A group in flower is charming in September and October.

C. FLAVIGATUS.—From the Cyclades, this is a free-flowering kind coming into bloom in October. The flowers vary from white to lilac, the outer segments being either self-coloured but or rather red and suffused with rich purple.

C. LONGIFLORUS.—A charming free-flowering plant from Southern Italy with soft rose-coloured fragrant flowers in October. This is one of the best of the autumn-flowering kinds and should find a place in every garden. It comes into flower after *C. speciosus* and lasts well on into November. It is very variable in colouring, some forms being externally veined with purple, one being called var. *Wilhelm*.

C. MARATHONISUS (syn. *C. niveus*).—A native of Greece, closely allied to *C. Boryi*, this is a very handsome white-flowered kind with flowers quite high in November. It is best grown in a frame or very sheltered sunny position.

C. MEDIUS. This species is one of the best with broad and overlapping segments forming a cup-like flower. The flowers exceed 1 cm. in height, and are over 1 cm. in diameter when fully expanded. The colour is a rich mauve-purple with little veining, and the stigma forms a cluster of rich scarlet filaments that droop gracefully and are very attractive. It is found in Northern Italy, but, unfortunately, it does not increase so readily as some of the other Crocuses, therefore it is not so plentiful as could be wished. There is also a pale rosy lilac form in cultivation. It flowers in October.

C. NUDIFLORUS.—September is the flowering-time of the Pyrenean *C. nudiflorus*, with large, tall-growing flowers of a clear purple. This species is naturalised in some of the Midland counties of England, and is remarkable for its curious habit of sending out stolon-like growths which form new corms at a distance from the parent plant. It needs a moister position than many others and does well among *Anemone sylvestris*.

C. OCHROLEUCUS is a small, creamy white-flowered species from the Lebanon with a bright orange base. It is not so hardy as most, and requires a warm, well sheltered position in light sandy soil. November.

C. PULCHELLUS.—This is a useful species for planting in sunny situations in short turf. Its flowers much resemble those of the better-known *C. zonatus*, with the same cup-like shape, but the segments are broader and the stigma very little divided. The segments are lavender blue in colour, with a richer veining of purple. This free-flowering Crocus is found wild abundantly in the heathy thickets bordering the Bosphorus and other parts of Eastern Europe. It seeds itself freely, and soon forms large groups which produce quantities of flowers in September.

C. SCHIMMELI. In most gardens this is a disappointing plant, not flowering so freely as it might. The flowers are pale purple in colour with deeper veining. It is a native of Langiers, and forms large corms and large tufts of grassy leaves in October.

C. SATIVUS. Like the above, this is not a free-flowering plant in this country. It also forms large corms and tufts of grassy foliage. A native



A GOOD FORM OF *CROCUS LONGIFLORUS*.

of Eastern Europe and Western Asia, it is a very variable species, and there are many named varieties. The type has bright lilac flowers with a purple base, suffused with purple veins. Var. *Pallasii* is purple with a golden base; var. *Thomasii* is purple; var. *Curtwrightianus* has purple or white flowers; while var. *Elwesii* has large white flowers. The last named has proved more free-flowering than some of the others. November. It is widely cultivated for producing saffron.

C. SHARONJANI.—This is a very rare species from the Caucasus, and is probably not now in cultivation. It is remarkable for producing its rich orange yellow flowers in August, being one of the first Crocuses in flower.

C. SPECIOSUS.—In many respects this is the most useful of all the autumn-flowering Crocuses, and is admirably adapted for naturalising in grassland where the grass does not get too coarse.

Here it multiplies freely, numerous little corms forming at the base of the parent one. Hence it is difficult to eradicate when well established. For the partly shaded fern border it is very useful when the plants are not too close together. A large group of this in flower at the beginning of September makes a very attractive picture in such a position. The flowers are large, open wide during sunshine, and vary somewhat in shape and colour. In the typical forms the colour may be described as a bluish violet, and the segments are prettily veined with dark purple. In a wild state this species has a wide distribution, being found in Transylvania, Asia Minor, the Caucasus and Northern Persia, among other places. *C. s.* var. *Aitchisonii* is a fine large variety from Persia with larger and lighter-coloured flowers. There is also a beautiful white-flowered variety. All are very free-flowering, and self-sown seedlings come up freely.



PERHAPS THE MOST USEFUL OF AUTUMN-FLOWERING CROCUSES, *C. SPECIOSUS*.

C. TOURNEFORTII.—This native of Greece requires a warm, sheltered position, but even then it does not flower freely. It has large corns, tufts of grassy leaves and delicate rosy lilac flowers in October.

C. VALLICOLA, from the mountains of Armenia, has the segments feathered with rosy pink. It flowers in August. It is a rare plant and probably not at present in cultivation.

C. ZONATUS.—A beautiful, free-flowering little plant from the mountains of Cilicia, it is remarkable for having a flattened, irregular-shaped corn, which distinguishes it from all others. It will thrive in grassland or border, and reproduces itself very freely from self-sown seed. The flowers are rosy lilac in colour, and have a bright orange

zone near the base of the segments. It can be distinguished from *C. pulchellus* by the much-divided, pale yellow stigma.

After these come the winter-flowering species, of which one of the two best is *C. hyemalis* from Palestine, which comes into bloom in December. It should be grown in a frame or in pots for the alpine house. The typical form has white flowers, the outer segments of which are veined or spotted with purple on the outside. *C. h. var. Foxii* has black anthers, and is the commonest form of this species in cultivation. *C. vitellinus* is a native of Asia Minor, and bears handsome orange-coloured flowers in early January. Of this there is a variety with rich brown markings on the outer segments, *C. v. var. graveolens*. W. J.

TREES & SHRUBS FROM CUTTINGS

AMONG the several phases of propagation by seeds, cuttings, layering, grafting and budding, that of increase by cuttings is perhaps the most important, and certainly provides abundant openings for the skill and energy of the propagator. To borrow a popular term, one may truthfully say there are one hundred and one ways of propagating plants by cuttings, ranging from the abundant heat of the tropical propagating cases to the open border where Poplars, Willows, etc., root freely. There is an equally wide variation in the best type of cutting to use at different seasons, from the soft, tender young shoot to the hard wood of the Willow and Tamarisk. While there is a "best" season to select for propagating most trees and shrubs by cuttings, the work is going on more or less throughout the year, with a busy time from June to November.

There are very few trees and shrubs which cannot, in some way or another, be induced to root from cuttings. Here it is that the resourceful individual stands to score as a propagator. There is, no doubt, an element of truth in the statement that the most successful propagators are born, not made; but the man with imagination usually "gets there" at the finish. While very many trees and shrubs root readily from cuttings by several different methods, there are three main considerations in dealing with the type of cutting and the method of treatment.

The best season to insert the cuttings is important, and on this question the propagating notebook must be very accurately kept, recording successes and failures at different seasons. On this item hinges consideration number two, the best type of cutting: whether soft young shoots, half-ripened wood, or the mature growths of the year give the best results. There will be a little variation in the actual date from year to year, according to the season, whether it be early or late. The year 1923, as far as cuttings from the open air were concerned, was unusually late; on the other hand, the hot summer of 1921 matured the shoots in advance of the average dates. The third great item in stringing cuttings is the method of rooting, whether under glass or in the open air, and if under glass the alternatives of bottom heat, just a little artificial heat, intensive heat and moisture in a sun frame, or a cold frame, handlight or cloches. The need of all these varying times and conditions is found in practice in that the widely different growths of trees and shrubs require varying methods of treatment.

Since sand has come so much to the fore as a rooting medium the careful preparation of composts for different types of plants has declined in importance. The most desirable consideration is that the soil should be freely porous in order

that the surplus moisture may drain readily away. This explains the fact that cuttings inserted



FOR PROPAGATING TREES AND SHRUBS.

round the side of a pot almost invariably root before those in the middle when soil is used. Cuttings inserted in pure sand must not be left long when rooted, as the material contains very little plant food. The first soil used for the initial potting from the sand should contain plenty of coarse grit. Unless this precaution is taken it is found that the roots of some cuttings do not take freely to the soil straight from the porous sand.

With most cuttings it may be taken as a fairly safe guide that the softer the growths (that is, generally, the earlier in the season) the more heat may be safely given to root the cuttings. There are, of course, many exceptions, but it works out something like this: A fair amount of heat during June and early July, a close frame with moderate heat in July and August, the cold frame (with handlights) and cloches during August and September, finishing up with mature growths in the open, and under cloches and handlights, from October to December.

In dealing with extensive collections of trees and shrubs, a propagating house somewhat similar to the one illustrated is very desirable, if not, indeed, a necessity. There are hot-water pipes under the propagating cases on one side. Several of these contain sand beds, others have the pots of cuttings plunged in fibre. In other cases, which are ventilated as required, the rooted cuttings are put in small pots, gradually hardened off, and moved to the benches on the other side. On the benches also, cuttings which do not require bottom heat can be rooted in handlights and under bell-glasses.

Some considerable time is gained in rooting deciduous shrubs in heat when large batches are required. I have in mind numbers running into hundreds of Forsythias, Philadelphuses, Diervillas, Aucubas, etc., rooted during June. The young shoots rooted in a fortnight, were potted off singly, made good growth, and were planted outside, when nice little bushy plants, in September. In the ordinary way at this season there would be the intention to prepare the ground and insert the cuttings on a border outside.

Numbers of uncommon shrubs and those not easy to root outside, can be successfully increased by cuttings with artificial heat or on a hot-bed. Soft young shoots of *Prunus subhirtella* and *P. pilosiuscula* root readily in heat during June and early July. This we also find the best time to root the deciduous *Rhododendron* (Azalea) cuttings. The important point is to induce growth and free rooting when the shoots are young. If allowed to get fairly firm, the cuttings, when inserted in late August, mostly form a "callus" and hang about through the winter, many

never getting beyond this stage, falling a prey to damp during the dull dark days of winter. Named varieties of the Ghent and nobis Azaleas, and especially the occidentalis hybrids, can be readily increased by cuttings made of the half-ripe young shoots during July.

August is a busy time for the propagator of hardy shrubs. Cuttings are still being inserted in the heated frame, but it is the cold frame and cloches which will receive most attention. There

the Heath and the Cistus, to name a few important hardy shrubs for cold frames. This continues through September, and then in October and November, the cutting borders outside are filled with Roses, Poplars, Willows, Tamarix, Sambucus, Ribes, etc., selecting the young woody shoots.

With new shrubs and those about which any difficulties are encountered, make a start with soft cuttings in heat in June; then, as the season advances, try half-ripe, firm and mature shoots under varying conditions.

The sun-frame, the idea of which I believe originally came from France, depends, as the name suggests, for its heat upon the sun. Placed in an open position facing south, a bed of sand or sandy soil is made up to within about 1 ft. of the glass with ample drainage beneath. The cuttings, after insertion, are never shaded, but water is freely given half a dozen or more times on the hottest days. With the sun shining full on the glass it will be readily understood how hot the interior becomes. By this means many cuttings root very quickly, among them plants which do not strike freely under ordinary treatment. Sometimes a second frame is placed inside the first, with even better results; the idea being that, while the heat and moisture are intensified, the sun does not shine so directly upon the cuttings.

Considerable care should be exercised in selecting the right type of growth for cuttings. There is usually the choice of a happy medium between coarse or very strong shoots and those which are too thin and wiry. As a rule, healthy side growths make the most satisfactory cuttings. In some instances, those with a thin base or "heel" of the previous year's wood give the best results. Others root freely when cut off just below a node (joint); while a few, notably the Clematises, root freely along the internodes.

The length of the growths suitable for cuttings is a very variable item. Heaths run, to 1½ ins. long are among the shortest; with Willows and Poplars at the other extreme, up to 2 ft. or more in length. With the cold frame and outdoor cuttings the wood must be moderately firm; sappy shoots and tops are very liable to flag, the period of rooting being longer and the conditions more airy than in a heated frame.

The depth to insert the cuttings in the sand or soil is more important in the open air than under glass. Firm cuttings 1 ft. long should be inserted up to half their length outside. Under glass, with shorter cuttings, one-quarter to one-third of the shoot is a good average to take as a guide.

Autumn is the most important period for the propagator of hardy trees and shrubs from cuttings. The cold frame, cloches and handlights, under the shelter of a west wall, and the cutting beds on a west border or in the open, each and all receive their quota of the cuttings which are found to root best under the differing conditions. There is no excuse even for the reader with a small garden but no glass frame or handlight. A box with drainage and sandy soil can be used to root cuttings of many shrubs if the top be covered with a sheet of glass.

A. K.

FORTHCOMING EVENTS.

October 2. Royal Horticultural Society's Fortnightly Meeting (two days).

November 1. National Chrysanthemum Society's Annual Exhibition, to be held at the Royal Horticultural Society's Hall (two days). — United Horticultural Benefit and Provident Society's Festival Dinner, to be held at the Imperial Hotel, Russell Square, London, at 7 p.m. Tickets (Price 6s. 6d.) may be obtained from the secretary, Mr. A. C. Hill, 35, Alexandra Road, London, W.14.

DECIDUOUS RHODODENDRONS

The term Azalea as generally used refers to the deciduous species of the genus Rhododendron. It is a useful and distinctive name in the garden, but the botanical differences and similarities between the deciduous and evergreen species are so closely interwoven that it is found impossible to draw a hard and fast line.

THE opening of the planting season among deciduous shrubs seems a fitting time to discuss the value and beauty of many of the deciduous Rhododendrons in our gardens. In point of rich and brilliant colouring they easily occupy first place among hardy shrubs. Coupled with this gorgeous colouring in spring and early summer is the delightful fragrance of many sorts. This is particularly noticeable among the hybrids of *R. flavum* and *R. viscosum*; the mollis and sinensis varieties are by no means so powerfully fragrant as the Ghent varieties. The question of scent should receive at least equal consideration with that of colour, size and habit by the hybridist.

With many Azaleas there is a further period of striking beauty in autumn, the rich red, orange,

dryness at the roots, a liberal mulching of decaying leaves annually in spring is very desirable.

The deciduous Rhododendrons are readily raised from seeds. The Ghent and mollis Azaleas can also be raised in this way, the seedlings being very suitable for extensive woodland and park plantings. To reproduce the named sorts true to type increase must be by layering, cuttings or, as a last resource, grafting. The best time to insert cuttings is in summer, when the young shoots are becoming fairly firm (half-ripe) but not hard and woody. At this stage they will root in a close frame with a slight bottom heat.

While the question of shelter must receive attention when arranging the planting of the mollis hybrids because they flower rather early, the Ghent hybrids are excellent for lawn beds



A TYPICAL GHENT AZALEA IN FLOWER ON THE LEFT.

bronze and crimson colouring of the foliage being a conspicuous feature of the landscape where large groups are planted.

TRANSPLANTING.

I like the large-leaved evergreen Rhododendrons, the deciduous groups also have close masses of fibrous roots forming large balls of soil. With ordinary care there is practically no risk in transplanting the subjects of these notes. While planting may be done at any convenient time between November and March, the early part of this period is preferable in order that the balls of soil may be nicely settled in the new positions before the approach of the flowering season. The Azaleas thrive in any lime-free soil, either loam or peat. With the loam, in particular, plenty of good leaf-mould should be dug in when preparing the ground and planting the bushes. With such nicely rooted plants it is important to tread the soil firmly. Impatient is these plants are of

in the open. There is, however, much to be said in favour of shelter for all the Azaleas, because they favour a cool and rather moist rooting medium. This is more often obtained when there is shelter such as is provided when Azaleas are planted on the slopes of open woodland valleys.

Mulching has already been mentioned, but it is such an important cultural detail that no excuse is necessary for enlarging on the matter. For light soils in particular, a mulching of half-decayed leaves and old manure, such as that from a spent mushroom-bed or old hot-bed, is most helpful in keeping the roots cool and supplying nutriment.

It is very desirable to remove the seed-vessels as soon as the flowers of Azaleas fall. If this is overlooked, much of the nutriment which should go to promote healthy, vigorous young growths is taken up in the development of seeds. Some of the hybrids are sterile, but many produce good seeds. It is interesting work, raising a few seedlings from the best hybrids, for, although they

do not come true, many are beautiful in flower, and occasionally one produces flowers equal or even superior to those of the parents.

A few evergreen species, such as *RR. amoenum*, *indicum* and *obtusum*, formerly belonged to a section of Azaleas, but in these notes only the deciduous species and hybrids are brought under review.

R. CALENDULACEUM is a native of Eastern North America. Were this a new plant instead of a beautiful shrub cultivated in our gardens for more than a century, we should acclaim its beauty from the housetops. In point of size and gorgeous colours the species may be dwarfed by the hybrids, but all the same *R. calendulaceum* is a very valuable hardy flowering shrub. The flowering season is June, just when the wonderful colouring of the hybrids is on the wane. Rhododendron enthusiasts are now giving much more attention to the species, and the Monograph on Azaleas by Messrs. Wilson and Rehder has added fuel to the flame. The outcome is the growing of large numbers of seedlings from the wild American species, including *R. calendulaceum*. The colours in a wild state range from yellow to scarlet.

R. DILATATUM flowers in April, the purple unspotted blossoms being freely produced on the leafless twigs. It is a native of Japan. Mr. Wilson, in his recent Monograph, includes *R. dilatatum* and *R. rhombicum* as synonyms of *R. reticulatum*. As we grow them in gardens, they are distinct plants, *R. dilatatum* having larger flowers and being freer flowering, a more shapely bush and hardier. It also has only five stamens, while *R. rhombicum* has ten. The wild specimens shew many intermediate forms between these two, which influenced Mr. Wilson in making his determination. *R. dilatatum*, as seen at Kew, is, apart from its floral beauty, worthy of cultivation for its gorgeous autumn colouring of rich bronzy scarlet and red.

R. FLAVUM is the only Azalea found growing wild in Europe, being a native of Eastern Europe, the Caucasus and Asia Minor. It has been freely used in raising the present race of garden Azaleas; but there is still room for the species, with its

deliciously fragrant yellow flowers and richly coloured autumn foliage.

The mystery surrounding the two Eastern species, *R. molle* and *R. sinense*, has at last been unravelled by Mr. Wilson. The yellow-flowered species, *R. molle*, is a native of China and the one with orange red or flame red flowers is a common wild plant in Japan. For this Mr. Wilson prefers the name *R. japonicum*, the name *sinense* having been used for both plants.

R. NUDIFLORUM is the parent responsible for the pink colour in most of the garden Azaleas. It is a native of Eastern North America and was first introduced in 1734.

R. OCCIDENTALE was first introduced by William Lobb from California about 1850. The flowers are white or sometimes pink with a yellow blotch. In recent years this species has been used in the raising of a late-flowering race of garden Azaleas.

R. VASEYI is one of the hardiest Azaleas, being a native of Western North Carolina at from 3,000ft. to 5,000ft. elevation. It is one of the most beautiful Azaleas, producing quantities of pale pink blossoms in early May.

R. viscosum, the Swamp Honeysuckle, is a valuable late-flowering shrub. It is a native of Eastern North America, and was first introduced in 1734. The flowers are white or pink tinted, freely produced during late June and July. This species was one of the parents of the earlier hybrids, but with the introduction of the more showy *R. molle* and *R. sinense* it has declined in favour with the hybridist, despite its delicious fragrance and late-flowering qualities. The variety *glaucom* has distinct bluish grey leaves, blue-white beneath and white viscous tubular blossoms.

Other deciduous species include *R. Schlippenbachii*, a native of Manchuria and Korea, a very beautiful Azalea but which requires protection in spring, otherwise young growths and flowers suffer badly in most seasons from white frosts. The delicate rose pink blossoms are 3ins. to 3½ins. across. *R. quinquefolia* is a Japanese species flowering in April. There are forms with pale pink and white blossoms. *R. Rhodora* is a very

old garden plant, opening its rosy purple flowers in April.

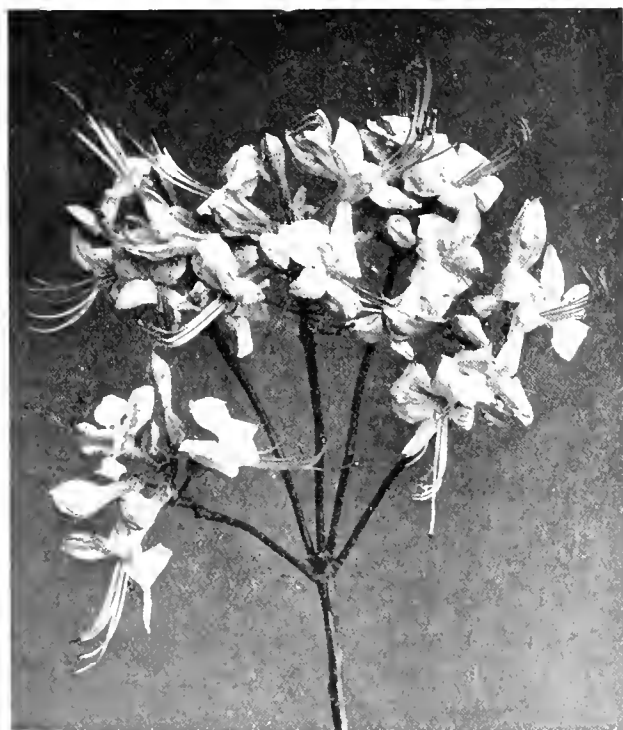
Seeds of the following little-known American species were received a few years ago: *RR. arborescens*, *canescens*, *oblongifolium*, *prunifolium* and *roseum*. The last named has been confused with *R. nudiflorum*, but has the leaves pubescent beneath and deeper-coloured flowers, though this latter may not be a consistent character.

GARDEN HYBRIDS.

So much crossing and intercrossing has been done between the North American species *R. calendulaceum*, *R. nudiflorum*, *R. occidentale* and *R. viscosum*, the Chinese *R. molle* (syn. *R. sinense*, Sweet.), the Japanese *R. japonicum* (syn. *R. sinense*, Maximowicz.) and *R. flavum* of the Caucasus, Asia Minor and Eastern Europe, that it is difficult in many of the progeny to distinguish the parentage with any degree of certainty.

For general outdoor planting the most popular and beautiful race at the present time are the Ghent Azaleas. The original parents of this group are *R. calendulacea*, *R. flavum*, *R. viscosum* and *R. nudiflorum*. Records point to the birth of this race almost simultaneously between 1825 and 1830 in the Earl of Carnarvon's garden at Highclere, and in the garden of M. P. Mortier, a baker of Ghent. Almost a century later, from this small beginning, we have an enormous number of varieties in cultivation, providing during May a wealth of colour second to none in the wide field of hardy trees and shrubs. A selection of the best named sorts should include the following twelve: *Bouquet de Flore*, deep rose pink; *Coccinea speciosa*, orange scarlet; *Gloria Mundi*, salmon, flushed orange; *Hollandia*, yellow; *Ignia nova*, carmine; *Mme. Gustave Guilmont*, rose; *Nancy Waterer*, Indian yellow; *Queen Victoria*, magenta red; *Roi des Belges*, pink; *Unique*, saffron yellow; *William III.*, orange shaded rose; and *Sang de Gentbrugge*, crimson.

The race of free-flowering Azaleas obtained by crossing the Japanese *R. japonicum* and the Chinese *R. molle*, grown in nurseries as *Azalea mollis* - *sinensis*, is, if anything, richer in colour, and the flowers larger than the Ghent section,



THE APTLY NAMED RHODODENDRON NUDIFLORUM.



THE PINK-FLOWERED FORM OF RHODODENDRON OCCIDENTALE.

At the present time in advance of the Ghent Hybrid, the Azaleas are liable to damage by late frosts, and, what is even more important, are not so luxuriously fragrant, a feature of the Ghent, as obtained from the parents *R. viscosum* and *R. japonicum*. For early flowering under glass these hybrids are invaluable for decorative work and cutting. Here again there is such a wealth of named varieties it will suffice if only several of outstanding merit are mentioned: Anthony

Koster, golden yellow; Floradora, red; J. C. Van Thol, very red; Queen Alexandra, orange salmon; J. J. Seidel, salmon red, and Alphonse Lavallee, flame red.

There are also numerous double-flowered hybrid Azaleas, a feature of which is the lengthy period the blooms last in good condition on the bushes. A selection should include Bartholo Lazzari, orange yellow; Bijon de Gentbrugge, white, shaded lilac; Louise A. Van Houtte, red; Narcissiflora,

yellow; Raphael de Smet, white, flushed rosy lilac; and Rosetta, rose.

The crossing of *R. occidentale* and *R. japonicum* has given us a very useful set of late-flowering fragrant Azaleas. The ground colours are creamy white and blush or pinkish white with yellow and pink markings. In addition to being sold as seedling "occidentalis hybrids," a few have been named as follows: Exquisite, Graciosa, magnifica, superba and rosea. A. O.

SHRUBS, MICHAELMAS DAISIES AND FERNS AT VINCENT SQUARE

CHIEF among the many exhibits in the Hall was the large collection of hardy trees and shrubs shown by the Hon. Vicary Gibbs from Aldenham. The autumn colours of such as *Acer palmatum* and other Japanese Maples, *Rhus Cotinus* and *Amelanchier canadensis* were brilliant, but even these paled before the startling vividness of the foliage of the Poison Ivy (*Rhus Toxicodendron*). It is a pity that the sap of this shrub causes such unpleasant effects, as it would be of immense value for decorative purposes. It is, however, not to be recommended for general cultivation. Among the berried shrubs were long sprays of the Snowberry, with large fruits of snowy whiteness, *Berberis* in many species, ornamental Crabs and Cotoneasters, while the large hips of *Rosa Moyesii* were also very attractive. A large plant of the once fairly common *Erythrina Crista-galli* attracted a deal of attention on account of the unfamiliar large pea-shaped flowers of brilliant colour. A gold medal was a fitting reward for this fine collection.

Michaelmas Daisies seemed to overpower the remainder of the floral exhibits. These were to be seen in nearly every collection. The largest exhibit was a spectacular display by Mr. H. J. Jones, who arranged tall stands of distinct sorts against the wall and had ample baskets of sprays in front. The varieties with pink shades seemed to predominate, and these included Maggie Perry, Pink Perfection and Louvain. In the collection of Messrs. Waterer, Sons and Crisp a large stand of Brightest and Best was in good colour. Messrs. W. Cutbush and Sons had a lovely mass of Barr's Pink alongside Beauty of Ronsdorf and General Lemmon.

The newest Michaelmas Daisies were to be seen in a tall arrangement by Mr. E. Ballard. Mother of Pearl is a delightful tall variety with large flowers of pearly sheen. Beauty of Colwall is a good blue. Maid of Colwall is one of the best whites, and Little Pink Lady is certainly the best dwarf pink variety.

Other border flowers worthy of notice included *Polygonum atrosanguineum*, a much deeper coloured and freer-flowering *P. amplexicaule*, with a goodly collection of the almost hardy tall *Lobelia* shown by Messrs. B. Ladhams, Limited. *Salvia oliginosa* of beautiful almost gentian-blue colour was shown by Messrs. Waterer, Sons and Crisp. This is a comparatively rare but very useful all-weather border plant. Messrs. Bakers of Wolverhampton had a pretty little *Kniphofia* named Royal Standard.

One of the most interesting exhibits was Mr. Amos Perry's collection of 250 varieties of the Hart's Tongue Fern, and among them was to be found every possible variation and form of crestation. These are valuable for moist and half-shady places, and all the congested forms are

healthy, so that they become a pleasure in spite of their deformities.

Of totally different character was the collection of Ferns shown by Messrs. Barr and Sons. Although there seems to be an impression that these beautiful "Guernsey Lilies" are difficult to

who had generous vases and sprays of Verona, Perle Chatillonnaise, Normandy, Mrs. G. K. Thorpe, Dick Barnes and John McAlpine.

The generally favourable season has permitted growers to shew the gorgeous colourings of their Dahlias much longer than usual, and on the



BRILLIANT FRUITS OF BERBERIS BRACHYPODA GIBBSII.

grow, they really should present no difficulties to anyone possessing a sunny greenhouse. They are exceedingly beautiful and the flowers last quite a long time. The giant of the collection was Hera, which is of exceptionally robust habit, and yet the large pink flowers are very refined. The older variety, N. Fothergillii major, provided brilliant colour, while of the newer sorts Felicity, Prince of Orange and Dainty were very beautiful.

Beside his Cherries, Sir G. F. Hadden sent a group of Ros-way Crimson Pelargonium in full bloom to illustrate its value as a summer-bedding plant. Messrs. W. J. Godfrey and Son had many trusses of showy Zonal Pelargoniums, both single and double flowered, and also staged a quantity of their new Chrysanthemum Godfrey's Gem. Mr. W. F. Gullick sent a lovely lot of C Golden Almarante, his sport from the valued older variety. Golden Almarante is larger than the parent and is of good colour.

A large collection of border Chrysanthemums was set up by Messrs. Keith Luxford and Co.,

present occasion there were many charming displays. Mr. J. T. West had mostly the useful Miniature Peony-flowered varieties. Mr. J. B. Riding shewed a very large collection of all the types and made a beautiful group. His varieties Queen Mary, Mariame and Audrey were perfect. Mr. Charles Turner gave special prominence to the fascinating little Pompons, which are so charming in small vases.

Roses also are enjoying a longer autumn than usual, so that there were displays of delightful blooms by Messrs. F. Cant and Co., Mr. W. E. Chaplin, Mr. E. J. Hicks and the Rev. J. H. Pemberton. Among the many decorative Roses Emma Wright has been particularly successful this season; it was freely staged and in great beauty of colouring. America and David Lloyd George, two new pink Hybrid Tea varieties, together with W. F. Dreer of apricot tints, are also worthy of special mention.

There is no close season for greenhouse Carnations, and these flowers are present in quantity

and of consistently good quality no matter when the shows are held. Messrs. Allwood Brothers, Messrs. Stuart Low and Co., and Mr. C. Engemann all had their customary collections.

Sweet fresh Violets were staged in quantity by the Misses Allen-Brown and Mr. B. Pinney. That Violets may be pink seemed to astonish some of the visitors, who were fascinated by the bunches of *Cœur d'Alsace*.

While there were no vegetables proper, Messrs. Sutton and Sons set up a magnificent collection of saladings, of which most could be, and often are, used as vegetables. There were champion sticks of Celery of such valuable sorts as Solid White, Sutton's A 1 and Sulham Prize. Lettuce, both Cabbage and Cos, were equally well represented, and the heads of Matchless Cabbage Lettuce were well named, for it would be difficult to equal them. The Turnip-rooted Celeriac was exceedingly shapely and clean.

Mrs. O. M. Conrage, Crawley, sent a goodly collection of well grown Apples which included enviable dishes of such sorts as King of Tomkin's County, New Hawthornden, Winter Quarrenden, Lady Sudeley (of beautiful colour) and Parquet.

A fine assortment of Apples was staged by Mr. Edward Parsons, who also had a well fruited pot bush of his "Worcester Berry," which is stated to be a cross between Boskoop Giant Black Currant and Whinham's Industry Gooseberry. It bears fruits with the appearance of Black Currants and the flavour of Gooseberries, and may be grown either as a bush or as a climber, and we see no reason why it should not also be grown as a weeping standard, which would be novel and useful. His Apples included excellent dishes of Ribston Pippin, Worcester Pearmain, Bismarck and a dish of May Queen, a shapely Apple which certainly looked as though it would keep in condition until Midsummer.

A beautiful dish of Durendean Pears was included by Messrs. Daniel Brothers in a hardy fruit collection. Their dishes of such Apples as Charles Ross, King of the Pippins, Vicar of Beighton and Worcester Pearmain were splendidly coloured.

Major-General Sir G. F. Hadden sent from Berkhamsted three dishes of exceptionally fine Morello Cherries, which in some unaccountable manner seem to have escaped the eye of the Fruit Committee. The high quality of the fruits well deserved recognition. Mr. G. Trinder shewed fruiting branches of Golden Hornet, his fine autumn-fruited Raspberry.

NEW AND RARE PLANTS.

Aster Aldenham Pink.—This is a tall-growing Michaelmas Daisy of Novi Belgii habit with almost the foliage of the cordifolius section. It has good heads of bright pinkish flowers. Award of merit. Shewn by the Hon. Vicary Gibbs.

Aster October Dawn.—A tall Novi Belgii variety which bears large flowers made up of two or three rows of narrow ray florets which recurve at the tips and are of mauve colour. There seems to be a tendency just now to take into favour these thread-petalled varieties, but they are fair-weather flowers. Award of merit. Shewn by Mr. E. Ballard.

Berberis brachypoda Gibbsii. This is a stiff, erect-growing shrub, apparently of medium size. It is lightly furnished with smallish sage-green spatulate leaves and long, stiff, slender spines. The charm lies in the hanging bunches of berries, which are very freely borne and in disposal resemble those of the common Barberry. On the branches shewn there was a pleasant variation in colouring which ranged from a bright crimson through coral to rosy-flushed. We suspect that a little later



THE BEAUTIFUL NEW PINK DAHLIA SWEET.

all the shining berries will be a bright scarlet colour, when the shrub will be very showy. It appears to be deciduous. Award of merit. Shewn by the Hon. Vicary Gibbs.

Berberis Tom Thumbe.—In many ways this might be described as being a congested form of *B. Wilsonae*, for in its foliage and berries it suggests that beautiful species, though its habit is much more like that of *B. stenophylla* Irwinii. The little bush was said to be seven years old, and it was not more than 15ins. high by 18ins. wide. It should be a very useful shrub for the rock garden. Award of merit. Shewn by Mr. S. Morris.

Chrysanthemum Elsie.—An incurved Japanese variety of exhibition size. The long, broad,

substantial florets hang gracefully and recurve at the tips. It is of good yellow colour. Award of merit. Shewn by Mr. G. Carpenter.

Chrysanthemum Godfrey's Gem.—An exceedingly decorative single Chrysanthemum of Mensa size but not so formal in outline and with a very small disc. The pointed ray florets are gracefully disposed in two or three rows and are of golden buff shades lightly flushed with apricot. Award of merit. Shewn by Messrs. W. J. Godfrey and Son.

Dahlia Sweet.—An exceedingly decorative variety, belonging to the Miniature Paeony-flowered section (almost a Decorative Single). The round flowers are about 4ins. across and are of delightful soft pink shades of colour. Selected for trial at Wisley. Shewn by Mr. A. J. Cobb.



FOR THE ROCK GARDEN, BERBERIS TOM THUMBE.

MICHAELMAS DAISIES AT HOLLAND PARK HALL SHOW

Dahlia Attractive. This is a quite distinct novelty, and it used to be termed Anemone-flowered, which has always been more valued in France than in this country. Apparently there are now only a very few varieties in cultivation, and this above is a welcome addition to them, as they are exceedingly decorative and of especial value as cut flowers. This is a well formed, medium sized bloom with both the quills and ray florets a rich vinous crimson colour. The quills are very lightly tipped with gold. Selected for trial at Wisley. Shewn by Messrs. B. Ladhams, Limited.

Pyrus Aucuparia munda subarachnoidea.—This is a really good white-fruited Mountain Ash. In their opaque whiteness the berries resemble those of the Snowberry, but are smaller and the marks of the small calyx persist in a brownish shade of colour. Award of merit. Shewn by the Hon. Vicary Gibbs.

Scolopendrium vulgare muricatum fimbriatum capitatum.—This is a very handsome Hart's Tongue Fern. The long, shining, deep green fronds are gracefully undulated and lightly crested at the margins and prettily congested at the tips. The crenation is quite regular and very pleasing. Award of merit.

S. v. ramo-crispissimum conglomeratum.—This is an excellent example of the Parsley-leaved Hart's Tongue Fern. The compact plant was not more than 4 ins. high and was composed of curled, densely crested fronds. It is a very attractive variety and a perfectly healthy plant. Award of merit. Both Ferns were shewn by Mr. Amos Perry.

Cattleya Mrs. Gratrix.—A chaste and very beautiful bloom of more than medium size. The petals and widely expanded lip are beautifully crested, and are pure white with golden citron markings in the throat. First-class certificate. Shewn by Messrs. Sander and Co.

Cypripedium Albion, Bodnant variety.—A smallish Lady's Slipper Orchid. The well formed, shining white flower has a number of tiny rosy dots around the centre, like minute stars set in a milky sky. It is a very beautiful variety. First-class certificate. Shewn by Lady Aberconway.

THERE were plenty of them. In a way they dominated the Show, but their quiet colourings are never a match for the brighter flowers of the Roses and the Dahlias, both of which were staged in large numbers. Although there were so many (great exhibits like those of Mr. Ernest Ballard, Mr. H. J. Jones and Messrs. Dickson and Robinson being wholly composed of Michaelmas Daisies), the peculiar bright look which seems only to come when their blooms are developed in warm and favourable weather was wanting, so they did not as a whole look their best and, in consequence, the contrast with their gayer show-fellows was more marked than it might have been in a happier time. Then, again, the lateness of the season of this extraordinary freakish year prevented many varieties being brought to the Show. They were not out in flower, so willy-nilly they had to be left at home and by so much was each exhibit the poorer. Coming to details, readers of gardening papers may have noticed that one variety received an award of merit, viz., Mr. Ballard's white, Snowdrift. I should never have voted for it. I have very little doubt but that the vase of Snowdrift that was placed before the Floral Committee was immaculate in its whiteness and that the pretty flat flowers attracted the members. Before they cast their votes they may also have seen the two effective elongated humps—like those on the top of engines—which were prominent in the hall; but I could have taken them to a third where the skeleton in the cupboard was laid bare, and where the flowers were far from being pure white, being, as a visitor to my garden described them, "just like Dickey-daisies." Was, however, the award given to Snowdrift as a pure white? I believe there is such a thing as coloured snow! I am watching the Novi Belgii whites in my own garden very carefully, and at the moment of writing am wondering if, for one, Maid of Colwall is not a

better plant, but "nuf sed." In the course of a conversation with one of the heads of Messrs. Dickson and Robinson I was told that the firm were paying especial attention to roses and pinks, as they considered there were too many lavenders, mauves and purples on the market and that there was room for more of the rosy shades. I think so too. We can do with some pure pinks and roses without any blue in their composition. This bugbear is being got the better of in Roses, why not in Asters? Walkden's Pink, which was staged by this firm, attracted me very much on account of its pure colouring and the smart well groomed look of its individual flowers. It was found in a private garden near their nurseries. You may be sure I looked out for Pioneer. Of all the pinks in my garden it is the purest, and as the plant has such a light and graceful habit, it appeals to me for its form also. I found it in Mr. Ballard's group, but it looked very woe-begone, as if, in fact, the rose had come off the watering-pot as it passed over it. The plant is botanically interesting as being a cross between a cordifolius and a Novi Belgii, which is an "entirely new departure" in hybrid Michaelmas Daisies.

What a change-loving era this is! "Give us something new." No sooner do we get acclimatised to double flowers than raisers present us with a somewhat startling innovation in flowers with long, thin, spider's-leg-looking petals which are not bad in fair sunny weather, but which in wind become shock-headed and in rain very bedraggled and lumpy. Miss Eisle was one of the first, but we have now several others. The most effective are Grey Lady (real grey), Bee's Blush (pale pink) and Countess (rose). There are some flowers one takes to at once, but there are others which one has to get used to before one takes them to one's heart. These spidery fellows, with me, fall into the second category. Anyhow they were a feature of the Show and have come to stay. One loves the charm of perpetual youth in Peter Pan and we erect statues to his memory; but a flower which always looks as if it ought to open but never does is something totally different and no more pleasing than a half-baked Potato. This is how the half-opened Royal Blue struck me as I saw it in Mr. Ballard's group. I allow it is a very rich blue-purple, and that it may be deeper in tone than either the Rev. C. Nunn, Blue Gem or Little Boy Blue; but, to me, nothing can be an adequate compensation for what I can only look upon as a deformed development. We expect so much from Mr. H. J. Jones that we have got into the way of thinking that he must always be on the top of his form. He had a fine group and, having regard to the lateness of the season, I could readily believe him when he said he had stripped his nursery to provide sufficient material for his exhibit.

In the whole of the hall there was not a single vase of that splendid variety Climax. "Taking one consideration with another," I doubt if there is a better Aster. Mr. Jones displayed his favourite, Roddy, in great abundance. It is one of the ericoides section, and has pretty little pink flowers. In a way it reminded me of the well known Esther, but I imagine the plant is much taller. As I was looking at it a friend came up and propounded the question "Are these small-flowered try as satisfactory in gardens as the Novi Belgii section or the Amellus?" He evidently thought they were not, and I am half disposed to agree with him if one excepts the cordifolius group, Diana, Ideal, Photograph and



A WHITE-FRUITED MOUNTAIN ASH, PYRUS AUCCUPARIA MUNDA SUBARACHNOIDEA.

the rest. There was, in this circular group of big low-down blobs and greatly elongated engine-top humps, a vase of a singularly pure white with a clean-cut centre and regular ray florets. At present it is unnamed, but there must be possibilities about it or it would not have been there. Although I did not see Mr. Jones's very beautiful rich mauve Major Pat à Beckett in his own stand, there was a good bunch of it in that of Dickson and Robinson. I spotted it when I visited Mr. Jones's nursery last year, and I again noticed it at the Show this year before I got close enough to read the name. Some vases of the large pale Lavender doubtless caught more eyes than my own. It is one of the very best of all Michaelmas Daisies and is among the first to come into bloom. The individual flowers are large and very freely produced. They are all inclined to be more double than I, personally, would have them, but the plant is forgiven this venial pandering to present-day taste because of its general excellence. In more than one place there was a mass of Little Boy Blue. In colour it is not far removed from either Blue Gem or Rev. C. Nunn, but it is not nearly such a tall grower as either and would come in useful where Daisies on the dwarf side are wanted. A single vase of a *débutante*, October Dawn, nestled in a corner of the Colwall exhibit. I liked the pale purple of its shapely flowers, which reminded me in their build of those of the dwarf Amellus section. It, too, is a low-growing plant. I hope in some future notes to say more about it, when I see what happens to the plant which was sent me for trial. Anita Ballard seemed to be here, there and everywhere. Growers have evidently taken the advice tendered in Mr. Ballard's catalogue "Must be in every collection." It seemed to be so at this Show. Mr. Ballard will, I hope, forgive me when I say I can by no stretch of my imagination call it a "cornflower blue." *Mutatis mutandis*, how well the lines from "H.M.S. Pinafore" sum up innumerable flowers and their catalogue descriptions:

"Things are seldom what they seem,
Skim milk masquerades as cream."

I do not say that *Centaurea cyanea* under the unwonted conditions of an enervating and fattening durance vile may not have, in some instances, broken out into a pale heliotrope not far removed from the colour of Anita, nor would I for one moment suggest that Anita is not pretty. I was rather fascinated by the darker ends of the ray florets, which get paler as they near the central disc. Anita is a lively-looking young lady. This characteristic was shared, I noticed, by Maggie Perry. Francis Sands, which I noted as a flower of medium size—pale pinky mauve with a clean cut golden centre—was new to me. Lady Lloyd, Bluebell, Namur, Rev. C. Nunn and Winsome I find I have also jotted down in my notebook, but I have written enough. JOSEPH JACOB.

A SUN-LOVER

THAT deciduous shrub, *Peraphyllum ramosissimum*, belongs to the Rose family and is the only one of its genus. It inhabits dry hillsides in California and other parts of the Western United States, and is, more than all else, a lover of the sun. Its blossoms are pure white and about three-quarters of an inch wide, and they are followed by round, yellowish edible berries about half an inch in diameter. The foliage is of a greyish green hue, each leaf being 1 inch to 2 inches long and a quarter of an inch wide, differing from those of nearly all its allies in being without marginal teeth. The chief thing to remember in its cultivation is that it needs as sunny a position as possible. It can be increased by layers.

CORRESPONDENCE

HARDY CYCLAMENS IN THE MORAINE.

THE illustration shows a rather unusual way of growing the Hardy Cyclamens. Although common in rock gardens, it is seldom that they are seen in the moraine. *Cyclamen hederacifolium*

for them, and still they come and, what is more, to the same spots. By far the commonest at present is the putty-coloured and soft *Linax agrestis* and the beastly blackish *Arion hortensis*, which works as much below as above ground,



CYCLAMENS IN MORAINE.

in a wild state likes a "soil" composed of shattered rock of a calcareous nature, and rich, light vegetable mould. This fact suggested that a moraine made up of stone chips, old lime rubble and equal parts of well decayed turf and leaf-mould might make a good substitute for its natural environment. The corns were raised from seed and were planted in the moraine when three years old. When first planted they were well below the surface, but they have gradually risen, and the top of the tuber is now quite visible above ground. As a precaution against frost they get a top-dressing of small chips and light soil after the flowers are past. Autumn usually has little to shew in the way of flowers in the moraine, so the appearance of these dainty blossoms pushing up through the grey stone chips is very welcome. After the flowers are over the prettily marked leaves appear and remain in full beauty all the winter, in this way giving a double season of usefulness.—J. S. T.

SLUGS RAMPANT.

IT is perhaps not out of place to call attention to the activities of the slug pest at the present time. Slugs have been simply awful in the garden lately. To-night (October 6) I accounted for about 150 in a little over half an hour, partly attracted by a little pollard (hen meal) sprinkled on the ground in places where the more attractive (to slugs) and, of course, rarer plants are situate. I am afraid they got a good foothold during my holiday in July and early August, when the weather was only too favourable for propagation. It is a wonder to me how the smaller plants exist at all. In ten days during the past fortnight I have destroyed over 1,000 in the little time I could spare to look

and is most difficult to see. There has also been quite a number of the large slugs, including several of the large "spotted slug," *Linax maximus*, a slug 4 ins. to 6 ins. long, and some of which have been foraging around some recently obtained *Ranunculus glacialis*, which has, of course, completely disappeared, although protected by a zinc ring. Other large ones are the black *Arion* uted and a large brown one with an orange line along its ridged back known as *Amalia marginata*. They are on my "island" moraine, and have badly damaged the rosettes of several *Sedum sempervivoides*, eating into the surface of the fleshy leaves. I also notice quite a lot of the reddish "millipedes" which I have my doubts about. I have used the V.T.H. traps, but found they destroyed as many useful beetles (of course not the wireworm species) as slugs, so that I very rarely use them now. I am afraid the only sure way, although somewhat tedious, is persistent handwork at night with a lantern, and it is just as important or even more so to search for them in the winter months, when they are often very active. A good many can be collected in the daytime from winter Cabbage, Lettuce and other leaves in wet weather, but these do not look very well lying among one's choicer flowers.—T. A. L., *Middlestrough*.

THE PALE BLUE ITALIAN PERIWINKLE.

I BROUGHT this Periwinkle, *Vinca media*, from San Remo, where I found it growing very freely beside the small streams and ditches on the hillsides. With us it enjoys growing in the full sun, and flowers throughout the year. It has lately been making a very fine autumn display. The flowers are a little smaller than

to the "Pector Periwinkle, and the colour is pale sky blue and sometimes almost white. Periwinkles are very useful for covering bare ground, and their glossy evergreen foliage is always tidy and pleasant to look at, apart from the real beauty of the flowers. They also have the advantage apparently of being immune from the attacks of slugs, caterpillars and other insects. *Vinca melia* is also sometimes known as *V. acutiflora*.—RICH BICKLESTETH, *Cottingham*.

A GLADIOLUS SOCIETY?

THE Gladiolus appears to be coming more and more into favour, judging from the exhibits of it at the Royal Horticultural Society's meetings during this year. One or two new growers have put up not only some of the older varieties but also some newer ones of considerable merit. The competition for the Foremarke Cup was disappointing in the number of the exhibits staged. I understand that there were five entries, but only three came up before the judges, and the owner of one of these had not studied the "book of words" and clearly had not put up the best that he had. He confined himself mostly to seedlings. The failure of two of the entrants to toe the mark was, no doubt, due to the storm of the week before. The conditions for the cup competition, undoubtedly, are not easy for the small amateur to comply with, with hope of success. This is where the proposed Gladiolus Society might come in with a small schedule (with the permission of the R.H.S.) somewhat on the lines of the show held for Daffodils. It would enable those interested in this beautiful flower to compare not only the flowers of the same colour, but also those which bear the same name although not of the same colour. I understand that the opinion of some of the members of the old Gladiolus Society was that the schedules asked for too much from the amateur. Should a new society be formed, its first aim should be to encourage the small grower.—G.

APPLE THE HOUBLON.

AS one who puts in practice the old adage of "An Apple a day," etc., I am now in the enjoyment of the above Apple. It is now (October 13) in excellent form for eating, and in my opinion is most eminently useful as filling a gap between the earlier well flavoured Apples and Cox's Orange. Like a Pear, it has its "day," i.e., one must not eat it too soon nor too late, and fruits of it kept after the middle of November, though excellent in appearance as regards eating, are merely "whited sepulchres." To those who do not know The Houblon, it is a fruit with a distinct and characteristic flavour of its own—brisk, pleasant, aromatic and spicy—and, unlike certain aromatic Apples, it is very juicy. Its mellow and ruddy appearance, too, is attractive. If I were asked to outline a dessert Apple programme, I would begin with Gladstone, but would probably quickly put it on one side for Irish Peach, that most charmingly flavoured and juicy fruit that so few seem to grow, but is worthy of a place in every private orchard; then on to St. Eloiand, which is good, and gives us a foretaste of Cox's Orange, at any rate a scintillation of it; then our friend The Houblon. Cox's Orange then makes its entry, and I can find nothing to beat it, or even rival it, except American Mother at its best in a good season, and the season of "Mother" is so short that it is scarcely comparable with "Cox." I have now carried my Apple programme up to Christmas and, not being a greedy fellow, I hope, I suggest that one of your correspondents who appreciates eating Apples may like to carry on the sequence up to the end of the Apple season.—F. HERBERT CHAPMAN, *Rye*.

THALICTRUM DIPTEROCARPUM.

YOUR correspondent, Jock F. L. Cudmore, issue of September 22, page 4931, may be interested to know that *Thalictrum dipterocarpum* grows to a similar height in the grounds of the Right Hon. Lord Forteviot at Dupplin Castle, Perth. In 1921, the first year after planting, the greater number reached 7ft. and 8ft., and have done so each season since. To-day, September 24, the largest plant measured 8ft. 8ins. high and nearly 5ft. through its foliage. If not unusual, they are very desirable when well grown, remaining in flower for weeks. I may add that the plants here are in partial shade among Rhododendrons in newly made borders of stiff soil to which has been added liberal dressings of half-decayed leaves.—J. T. H., *Dupplin Gardens*.

THE DOUBLE LILAC PRIMROSE.

I WONDER why it is that the old Double Lilac Primrose is, comparatively speaking, so seldom seen nowadays in gardens. It is, at any

fertility of a flower until it has been afforded an opportunity to mature its ovary. Cultivation has disturbed the balance of Nature in many cases, and removed from essential organs the power to function properly. Knowing this, I decided to walk on the side of caution in offering advice upon the propagation of Strawberries. I decided to accept ripe fruit as the only indisputable evidence of fertility. Growers who propagate from such stock know at the time of propagation that it is likely to prove remunerative. Stock from which the blossom trusses have been removed may, and very likely will, be satisfactory, but because of the doubt I hesitated to commend it. One realises that the subject has many ramifications, and it would be extremely helpful if it could be investigated in a thoroughly scientific manner.—GEO. H. COPLEY.

The question is purely a practical one. Has anyone ever had difficulty, accidents excepted, in ripening fruits on Strawberry plants which produced bloom trusses and appeared healthy at flowering-time? Mr. Engleheart has, evidently,



THE BEAUTIFUL DOUBLE LILAC PRIMROSE.

rate in my experience, a vigorous grower and, it divided every second year, makes a fine show on the shady side of a shrubbery or on the north or west edges of a coppice. It used often to be grown, too, in the rock garden, but many people, I know, draw the line at double-flowered plants there. Its entirely pleasing colouring and its freedom to flower make it a very desirable plant and one which should not be allowed to die out like the beautiful old Pompadour, which I have not seen now for a number of years. Are there any plants of Pompadour still in existence? I wonder! There are several other interesting double forms, but none of them seems to be very largely cultivated at the present time. However, always excepting Pompadour, I think the Double Lilac quite the best.—N. H. P.

ABOUT STRAWBERRIES.

THE Editorial footnote to my letter upon Strawberry culture on page 506 raises a most interesting point. I cannot quite agree that the presence of blossom trusses is a certain sign of fertility. There is a doubt about the

struck no "snag" in taking the production of flowering trusses as evidence of fertility, and our limited experience confirms his. If any reader has evidence to the contrary, however, we should like to hear from him. [Ed.]

GEUM LADY STRATHEDEN.

AFTER growing this recently introduced plant for a considerable time and having tested it in various ways, I feel quite convinced that it is destined to take a high place among hardy plants either as a bedding plant, for grouping, or as an isolated specimen in the herbaceous border. The rich golden yellow double flowers are produced with lavish freedom throughout the whole season, lasting for a considerable time in good condition. It is also useful as a cut flower, the blossoms being carried on long, thinly branching stems which lend themselves to easy, graceful arrangement. When one states that it is an exact replica of the well known Geum Mrs. Bradshaw, except in colour, its usefulness will be readily recognised; and, like this well known favourite, it reproduces true from seeds.—ALBYN.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—The bulbs being already in store, it will be advisable to examine them at intervals—such work being undertaken when the weather is wet. Any examples showing signs of decay should be removed, and the sound specimens tied in small bunches and suspended from the roof of the shed. Cottagers often tie them to sticks and ropes, and the method has much to commend it.

Beetroots.—Roots from a late sowing should be lifted, taking care not to injure them in any way, or their cooking qualities will be impaired. Store them in a cool, dry shed, which should also be frost-proof.

Mint.—This herb is usually in demand the year round, and where the necessary glass accommodation is at hand it can be obtained at almost any date. Hot-beds are also useful for the production of fresh young shoots; when the heat is declining the roots should be laid thickly in the frame and lightly covered with leaf-soil. Roots may be placed in boxes if only a small quantity is needed, and they will grow freely in a temperature of 60° if kept moist.

Lettuce.—Plants in frames should receive all the light and air possible, and except during frosty weather the lights should be removed. Remove all weeds and stir the soil occasionally between the plants.

Jerusalem Artichokes.—When the stems have finished their season's growth they may be cut down to the ground level and burnt. Artichokes, like Parsnips and Salsify, may be left in the ground until needed for the kitchen, but, if at any time we are likely to experience frosty weather, a small quantity should be lifted and stored in a cool place. When digging Artichokes the work should be done thoroughly, picking out every tuber, however small, for, if anything is left, it will eventually grow and become a nuisance to future crops.

Winter Onions.—These will not be transplanted until the spring, but in the meantime the rows should be kept free from weeds. If neglected, they are soon overgrown, and it is difficult to remove large weeds without disturbing the plants.

The Flower Garden.

Roses.—Where it is intended to plant *Rosés* the order should be given and the ground prepared. In many instances, however, it will be merely filling up any blank places in existing beds, but where new positions are contemplated the ground should be prepared a few weeks before any planting is done. Rich loam of a retentive nature is best for Roses, but most soils can be made suitable. In light and sandy soils, incorporate some stiff loam and farmyard manure, while to those too heavy and chiefly clay, add decayed manure, sand, and ashes from the rubbish fire. Select an open situation well away from large trees, and if necessary the site should be drained. Dig the ground deeply and remember firm planting is essential.

Dahlias.—If the weather is favourable, these will continue to produce flowers, but directly the growth is injured by frosts the tubers may be dug up and placed in a frost-proof storehouse. Special varieties already marked for propagating purposes later on, should have their labels securely attached. The roots of *Salvia patens* and *Lobelia fulgens* may also be lifted and then arranged closely together in boxes, sprinkling some old potting soil between the roots and tubers. These may be stored in a cool greenhouse.

Lily of the Valley.—When the beds become crowded the plants should be carefully lifted and replanted. November is a suitable month to replant or make new beds. A partially shaded position should be chosen, and the crowns may be set out in lines 12 ins. apart and a few inches between each crown in the rows. If the soil is heavy, it can be improved by the addition of old potting soil and leaf-mould. Beds not disturbed may be afforded a light top-dressing of leaf-soil and short manure.

The Hardy Fruit Garden.

Wall Trees.—The pruning and tying in of fruit trees on walls should be proceeded with and, if possible, completed before the cold weather arrives. During congenial weather more progress is made. At this season the borders are often very wet, so, to prevent the soil from being puddled to any extent, we usually employ a few planks. If the leaves have fallen, the Morello

Cherries are dealt with first. The pruning of Peaches and Nectarines is a fairly simple operation if the grower remembers that fruit will be produced on the growth made this season. Cut out as much of the old wood as possible and retain new shoots which are well ripened. Maintain a well balanced tree, and do not overcrowd the growths. Before the trees are tied give them a thorough dressing with an insecticide, such as Gishurst Compound. When tying in the growths, especially the main branches, avoid making the far-twine too tight. Many trees have been ruined because no room has been left for expansion. Plums may also be dealt with when time permits, and here fruit-buds will form on the main branches of the trees, so the current year's growth is cut back to two or three buds. It may be necessary to tie in a few new growths to fill up the space, especially with trees that have already covered their allotted station, and young examples should have their main growths left almost intact. This, however, will depend upon the vigour of the tree.

Fruits Under Glass.

Late Grapes.—Where the berries are ripe it will be necessary to keep a close watch on the bunches and decaying berries should be removed at once. Keep the atmosphere dry, and to prevent the house getting damp, pot plants should be placed in another structure. A little fire-heat will be needed, but the night temperature ought not to exceed 50°, with a rise of a few degrees during the day. Ventilation is desirable when the weather is favourable, but during wet periods care should be taken to keep out as much damp as possible.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.).

Castleford, Cheltenham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Rhubarb.—Lift about half a dozen medium-sized stools and leave them exposed on the surface of the soil until wanted for forcing. As a result of this exposure to the rigours of winter they will respond more readily to a little forcing when applied.

Seakale.—Arrange a number of crowns (quantity according to requirements) in a box or flower-pot among sandy soil and place in the mushroom-house if at work; failing, which place under the staging in the stove or forcing-house, thoroughly excluding the light. This method will furnish an early supply.

Potatoes.—If pits were only partially covered when storming, they should now be finished off, but a little ventilation should be permanently provided. This is best done by inserting small, firm wisps of straw along the ridge of the pit, say, every 3 ft., and in the case of round clamps, one at the apex.

Celery.—If an early frost of some severity sets in, cover the plants with some wheat straw, or bracken if available. Lay on the protecting material loosely. When the frost yields, move the material down between the trenches with a wooden rake.

General Work.—Take advantage of frosty mornings for wheeling dung or soil on to the positions where it is required. Carry on with digging and trenching operations as expeditiously as possible, but never dig down frozen soil.

The Hardy Fruit Garden.

Planting.—If the ground has been prepared and the trees have come to hand, planting should be proceeded with without delay. Perhaps the most common mistake made in planting is that of planting too deeply. The aim should be to keep the roots as near the surface as possible, so that they may be under control. By pursuing this system the trees have the advantage of a comparatively warm, well aerated rooting medium; moreover, they can be fed as required from the surface, and the effects of continued drought can be countered by top-dressing and watering. Pits 12 ins. to 15 ins. deep are quite deep enough. The bottoms of the pits should be flat or slightly convex. They should be sufficiently wide to admit of the roots being stretched out at full length. Cut away any damaged or diseased roots and shorten any extra long bare roots. If some maiden loam can be mixed in with the excavated soil, it will prove beneficial. Stone fruits especially will be greatly benefited by a moderate admixture of old lime mortar. Tread the soil firm as it is

being filled in. Stake, tie and label each tree and finish off by applying a mulching of rather light manure.

Pruning. The pruning of Apple and Pear trees should be dealt with as circumstances will permit, choosing open, dry weather for the job. Summer pruning having been duly attended to, the operation will be confined to spurring back the shoots, to two buds as a rule. In the case of young, partially developed trees, any badly placed shoots should be entirely removed and leading shoots so selected and arranged as to build up a symmetrical specimen, whether grown in the open or trained against a wall or trellis (espalier). These leading shoots should always have the immature points cut away, as they can never serve as a good foundation for the future tree and, further, cutting these away encourages a break which is necessary for furnishing the ever-expanding specimen.

The Flower Garden.

Christmas Roses.—The true Christmas Rose (*Helleborus niger*) does not open its flowers till about Christmas, but *H. atropurpureus*, which is a much superior species, usually commences to bloom towards the end of October, and blooms more or less continuously throughout the winter. If these are grown in some quantity, a garden frame should be placed over the plants, not so much with any idea of forcing, but for the purpose of keeping the blooms clean. Abundance of air should be admitted to the plants night and day.

Bulb Planting.—This work should now be completed with as little delay as possible. Plants of doubtful hardiness, such as the early dwarf Gladioli, Ranunculi, Anemones, Camassias and Tigrids are best left until spring, or if planted now should be afforded some protection.

Sweet Violets.—If the culture has been correct, Sweet Violets should have been yielding a fair supply of autumn bloom. Keep all runners pinched as soon as they appear, and see that the plants do not suffer for want of water. Promptly remove all decayed foliage and do not coddle the plants.

Herbaceous Plants.—Specimens of doubtful hardiness should be protected either with rough coal ashes or dry, loose litter. Some coal ashes worked in among the crowns of Delphiniums will keep the slugs at bay.

Turfing.—This is a suitable time for carrying out any odd turfing operations, as it gives the grass a chance to root before winter sets in. Only turf of first-class quality should be used.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Celsia Areturus is a much smaller plant than *C. cretica*, but is very useful for furnishing the stages in the conservatory. If seed is sown at this time the resulting plants will flower early next summer, and another sowing made early next year will give flowers towards the end of summer. This plant is really perennial, but the best results are obtained by raising fresh stock from seed. *C. Areturus* only requires cool greenhouse treatment, and during the summer months may be grown in a cold frame.

Salvia patens.—This beautiful blue-flowered plant is generally grown for summer bedding, but at this time it is very charming for the cool greenhouse. This plant has tuberous roots like a Dahlia, and may be propagated in the same way, although the best results are obtained from seed. For flowering at this time the seed should be sown towards the end of March. Good plants may be grown in 6 in. or 7 in. pots and during the summer should be grown outdoors. There is a good white-flowered variety of this *Salvia*.

Veronica speciosa.—There are many beautiful varieties of this species, and all are very useful for furnishing the conservatory during autumn and early winter. If propagated at this time by means of cuttings, fine large plants will be secured for next year, while another batch should be propagated during the spring. If the plants are slightly pruned back after flowering, they may be potted on, when they should make fine large specimens. During the summer they should be grown outdoors, standing them on an ash-bed in an open, sunny position.

Calceolarias.—The large-flowered herbaceous varieties should be potted on as they require it, using a light rich compost. If it can be obtained, some old mushroom-bed manure is excellent for

young with the potted soil. The plants should be grown in a cool place at all stages of their cultivation. They should be lightly fumigated at intervals to prevent attacks by green fly. There are many beautiful and dainty varieties of *Calceolaria* and hybrids which should be increased and grown by plant lovers who like something out of the usual run of plants. There are some charming varieties which resulted from crossing *Calceolaria* with the large-flowered herbaceous *Episcia* and a batch of seedlings usually gives a wide range of colours and size of flower. Some of the varieties that are nearest the species *Calceolaria* in size and colour have retained the violet scent of this species. As many of the varieties have the dense woolly tomentum of *Calceolaria*, they require careful attention as regards watering during the winter months, and every care should be taken to keep the foliage dry, as it is very apt to damp off during the dull days. There are some fine selected varieties which are propagated by means of cuttings, and some of them are by no means easy to propagate successfully. The best plants are usually obtained by re-rooting the young soft tops from the first batch of cuttings. This, of course, applies to quite a number of other plants. *Calceolarias* of the shrubby section, such as *CC. Chirani*, *integrifolia*, *Allardii* and *Burlinghi*, that were propagated some time ago should be potted on as they require it. If stock is short, the young tops can be rooted, and will probably in the end make the best plants.

Begonias.—The winter-flowering varieties are now coming into bloom, and should be kept neatly staked and tied. When removed to the greenhouse they should have a position at the warmest end of the house. The variety *Mrs. Petersen*

is rather slow-growing, and it is an advantage if it is propagated at this time. Young soft shoots now root very readily. This plant can also be propagated by means of leaves like the other varieties of *B. Gloire de Lorraine*. This variety is excellent for indoor decoration, as its dark foliage and flowers are very effective under artificial light.

Tropæolum tricolorum and **T. Jarrattii** are two slender twining species that make pretty specimens for the cool conservatory. Dry tubers can usually be purchased during the autumn; four or five roots may be planted in a rosin pot. They only require a cool greenhouse, and should be sparingly watered until growth commences, when light sprays of Hazel about 3 ft. in length should be inserted in the pots for them to clamber over. *T. azureum* is a beautiful blue-flowered species, but so far as I know it has not been in cultivation for some years.

Scilla sibirica and **S. bifolia**, although quite hardy, are very charming when grown in small pots or pans for the small unheated greenhouse. They thrive in any good garden soil. When potted they may be stood in a cold frame, or even outdoors until such time as it is desired to place them indoors. *Scilla campanulata* (syn. *hispanica*), of which there are blue, white and rose-coloured varieties, is in all forms very beautiful for the unheated greenhouse, although one seldom sees it used for this purpose.

Chionodoxa Lucilæ (Glory of the Snow), of which there are several varieties, are very charming when grown in small pans for the same purpose, as also are some of the best *Muscari* or *Grape Hyacinths*.

Royal Botanic Gardens, Kew.

J. COULTS.

INSECTIVOROUS PLANTS—IV

Pinguiculas and Nepenthes.

UPON a casual examination of these two plants side by side—a Butterwort and the magnificent Pitcher Plant of the stove—one would almost certainly say that they stood at opposite ends of the scale, both in interest and complex structure. One a native of our own land growing freely as a hardy plant, the other a denizen of the tropical Bornean and other forest lands where brilliant birds and butterflies flit around amid vegetation no less gorgeous than themselves. Closer scrutiny, however, will reveal that there is not much to choose between them in their marvellous power to carry out their object, and that the humble *Pinguicula* is fully as efficient as the more striking *Nepenthes*.

Here is a plant of the common Bog Violet, Butter Root or Butterwort (*Pinguicula vulgaris*)—let us catch a small fly and “feed” one of those greasy-looking leaves. We drop the insect upon this leaf. It sticks upon the surface, and at once those glistening glands begin to pour forth their digestive fluid. As they do so the edges of the leaf roll slightly inwards so that the captive is directed more nearly towards the centre of the leaf and the process of digestion and absorption goes forward. Once more we have witnessed a remarkable example of flesh-feeding by an innocent-looking plant.

With the Butterwort, however, this is not all. If not omnivorous, it is certainly a very cosmopolitan consumer, to which a varied diet by no means comes amiss. Provided the nitrogen is there, the Butterwort has the power to “gobble” thus eaten seeds of other plants that may be blown upon the leaf surface by wind or other agency. Many people are under the impression that the name “Butterwort” is derived from the greasy or buttery appearance of the leaves, but this is not so. The name was acquired from the curious use to which the Lapps put the leaves in curdling the milk of the reindeer. Fresh leaves are gathered and laid upon a filter, and the warm milk poured upon them. Two or three days are

allowed to elapse while the milk becomes sour, and it is then separated from the whey and eaten. Once a supply of this milk has been obtained it is not necessary to use fresh leaves, for a small quantity of the already soured fluid poured into new milk carries with it the property necessary for curdling the new milk, a fact which is largely made use of in Sweden and Norway as well as Lapland.

The plant is quite an easy one to grow and well within the scope of any garden that can provide a boggy spot that is *never* allowed to dry out and where a peat bed can be put down for planting the roots. Plant firmly in a tully sunny spot and be sure that the soil never becomes dry and you will find that the Butterwort thrives splendidly. Seeds are the simplest mode of propagation, and to raise these the most convenient method is to sow them immediately they ripen in pots filled with sandy peat. Do not bury these seeds too deeply, and to ensure a sufficiency of moisture sink the pot to half its depth in water so as to keep the soil in a state of saturation.

There is quite a good number of species, the best of all being the Irish Butterwort, *Pinguicula grandiflora*. This makes a rosette of pale green fleshy oval leaves, and it flowers freely from May to July, the flower-stem varying from 3 ins. to 6 ins. in height and carrying violet blue spurred flowers. The common Butterwort (*P. vulgaris*) also produces a rosette of oblong fleshy leaves from 1 in. to 3 ins. long and several stems 6 ins. to 8 ins. high. These latter bear violet flowers with a long spur. In *P. lusitanica* the leaves are oblong in shape with a short stalk, the flowers—which are produced from June to October—are a variation on the usual violet blue in that they are lilac with yellow throats and a short incurved spur. The Scotch Butterwort (*P. alpina*), again, produces rosettes of oblong green leaves, which are slightly hairy on the upper surface. The flowering-time of this is early—May and June—and the blossoms very distinct, pure white and having a hairy yellow throat.

Turning now to the *Nepenthes*, to see which one must visit a house where the atmosphere is steamingly moist and very hot. One soon forgets all about the heat, however. The pitcher proves not to be a “flower” but an extension of the leaf blade. When the plants are young these leaves are quite unlike the adult and end in a hooked crest slightly hollowed in the lower portion. These hooks serve the same purpose as tendrils do for other plants, and in a state of nature these hooks cling round neighbouring plants and so gradually lift the plant higher and higher, until it is sufficiently raised into the light for the pitchers to be useful.

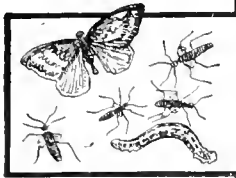
The pitchers are of two distinct forms, both being found at times on the same plant. The lower pitchers—as a rule—are globular, the upper are tubular, while—in a few species—a funnel form is seen.

Over the surface of the leaf are distributed numerous secreting glands, so that any sweet-loving insect which chances to alight there will probably be tempted to explore further. Now follow on down the tendril from which the pitcher depends. Here, again, small patches of sweet secretion are exuded. Lured on and on, the unsuspecting insect reaches the lid of the pitcher. Having fed so generously in such perfect security, all alarm is allayed, and it is only a step further upon that shining surface of destruction. Beneath the curved edge of that treacherous rim are more large sunken glands rich with promise, and in attempting to reach this it is a ten to one chance that foothold is lost and the insect precipitated into the death-pool that waits below.

When one looks at *Nepenthes bicalcarata*, one should notice those two strong, sharp spines that form the top of the high neck. One may be sure that they are not placed there just by chance. Where they grow, there is a small lemur which often attempts to rifle the pitchers of the dead insects they contain. Those two spines are so placed that they would just catch him by the nape of the neck and so throw him headlong into the pitcher too. “Wonderful” is but a weak word to describe such a marvel. Naturally, so unique a plant has evoked considerable interest among those interested in hybridising, and a very good number of hybrids now exist. The largest known species is *N. Rajah*. The species *N. Sanderiana* is a good example of the small globular type of pitcher, rather drawn in at the waist and with the cap drawn well down over the mouth. In colour these are a bright red-brown, splashed, marked and variegated all over with light green. Another very attractive form with short bulbous pitcher is *N. Dominii*. In this case the ground colour of the pitcher is bright light green, sparsely mottled with light red. *N. mixta* is a good example of the long tubular type of pitcher. The rim of this is much reflexed at the brim and ribbed in bright red crimson. The ground colour of the pitcher—dull yellow—makes it very conspicuous, especially as it is marked and blotched with crimson.

Culture is a matter of interest to but few, as a minimum winter temperature of 60° to 65° is necessary to keep them in good health. The plants are usually grown in teak baskets filled with fibrous peat, and the atmosphere needs to be kept almost at saturation point, so hungry are the plants for atmospheric moisture. Propagation is by means of cuttings, taken off in spring and inserted under a bell-glass in a warm propagating frame. The plants do not like direct sunlight, but at the same time they should always be grown near the glass and shaded only when necessary, so as to keep them as dwarf as possible.

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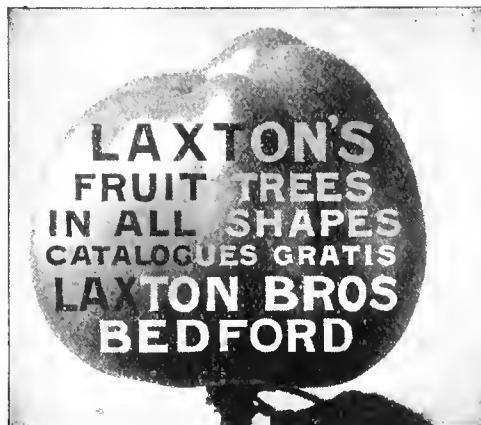
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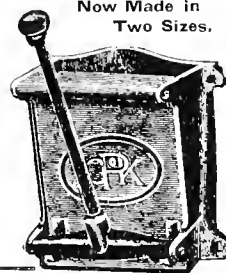
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GARDENING AT WEMBLEY PARK

One of the most attractive features of the exhibition at Wembley should be the wide expanse of garden grounds which are to surround the buildings at the British Empire Exhibition. The arrangement of the landscape effects and the gardens is in the hands of Mr. Edward White, the well-known garden architect.

Before Wembley Park was pulled to pieces it was rich in natural beauty, and the architects changed the lay-out with the idea of preserving as far as possible the best of the old trees. There will, consequently, be a suggestion of maturity and an air of an exhibition. Many trees, of course, had either to be destroyed or transplanted, and last spring a large number of trees 40 ft. high, weighing up to six or seven tons, were moved under Mr. White's directions. A special tree-shifting machine was built for the purpose. The late spring encouraged the taking of risks not usually justifiable, and practically all the trees have survived, including even a big Chestnut that was blown over when in full leaf during the early summer. Nurseries to-day are very short of big trees, but about 700 forest trees up to 70 ft. in height have been secured. Many large evergreen trees and shrubs, especially Rhododendrons, have been prepared for transplanting, so that the grounds should be well furnished in spite of many difficulties.

The garden arrangements are in three sections: (1) The exhibition grounds generally; (2) the gardens of the Dominions and Colonies; (3) the gardens of horticultural exhibitors. The gardens in the first section cover about 30 acres, including the roadways and the new lake, which is a quarter of a mile in length. The old seven-acre lake at the north-west entrance has been filled in and the site turned into pleasure gardens enclosed by a fine colonnade. The main central avenue has altogether about 600 yds. run of flower beds and borders fronting the chief Exhibition buildings. The new lake, which runs east and west, is crossed by four bridges and contains several islands. The banks are treated in ornamental fashion, and should offer some good pictures. A big rock garden has been made in which seven or eight hundred tons of stones have been used. A cascade in the rockwork is crossed by a section of Old London Bridge, which has been presented to the Exhibition by the contractors. Landing stages have been made to serve a large number of pleasure boats, and the lake ought to be a very popular feature.

The supremacy of the "Geranium" is over, and for garden colour dependence is being placed on relays of herbaceous perennials specially prepared for planting. The opening display will be given by 100,000 British-grown Darwin Tulips. An idea of the quantities of herbaceous plants required is given by the fact that there are 5,000 Delphiniums in reserve.

The horticultural industry will be represented by exhibits covering 1½ acres in one of the most important parts of the grounds. It is, of course, a serious and expensive undertaking for a nursery firm to have an exhibit of this kind in an attractive condition for so long as six months. It is hoped, however, and there is little doubt, that those firms who have had the courage to make gardens will reap the full reward of their enterprise.

CATALOGUE RECEIVED.

Messrs. William Outbush and Son, Limited, Barnet Nurseries, Barnet, Herts.—Herbaceous, Alpine and Bulbous Plants.

Hedysarum multijugum. This is a loose-lobed, somewhat straggling, deciduous shrub which makes amends for a certain inelegance of form by possessing a pretty grey-green foliage of graceful fern-like, or pinnate, leaves, and abundant racemes of bright rosy-lilac, pea-shaped flowers which are produced from midsummer to October. *H. multijugum* is a good plant for growing in a light, warm soil with full exposure, and it may be used for covering low retaining walls or rocky banks with good effect. It attains a height of some 4 ft. or 5 ft., but it is usually seen with the branches peezed down, thus inducing a more bushy growth. It is a native of Mongolia and is hardy.

For the Waterside. *Saxifraga peltata* is quite distinct from most members of its extensive family, the majority of which are dwarf and admirably suited for the rock garden. The Umbrella Plant, as *S. peltata* is occasionally named, is well adapted for the bog or the edge of a stream, where it is seen at its best if given a rich rooting medium. It has large fleshy leaves, sometimes 1½ ins. to 2 ins. across, produced at the top of a stem some 2 ft. or 3 ft. in length. With the approach of autumn the leaves assume a coppery tinge, and as a foliage plant, *S. peltata* is a fine acquisition to the bog garden. It produces large heads of rosy-pink flowers in the spring and, after these are over, the foliage begins to develop. Where sufficient space is available it should be planted in bold groups, when it is most effective, and it may be associated with such things as *Rodgersia podophylla* and *R. pinnata*, both fine foliage plants. They appreciate a liberal root-run and if they are employed in small bogs by the rock garden will need fresh soil occasionally, otherwise they are apt to present a starved and stunted appearance.

The Pearl Berry. That delightful trailing plant, *Margyricarpus setosus*, known also under the names of Pearl Fruit and Pearl Berry, hails from the dry mountain sides of Chile, and is well adapted for the rock garden, where it should be planted so that the trailing growths can rest on a dark-coloured stone. In such a position its numerous white berries are very conspicuous, and if birds are not troublesome, it remains in full beauty well into the winter months. Plants suitable for clothing large stones are none too plentiful, that is if we do not desire too much repetition of the more common plants, such as *Arabis* and the like. In the Pearl Berry we have a pretty, uncommon plant that should be represented in every rock garden. It is evergreen and requires an open, sunny situation, where the soil is of a loamy nature. If this is on the heavy side, a portion of peat may be added with advantage. Propagation is effected by cuttings and division. Cuttings root readily during the summer months if placed in a frame or under a bell-glass. The plants can be divided during the autumn or spring months.

A Beautiful Rock Rose. Among the yellow *Helianthemums* of medium size *H. alyssoides* must rank with the choicest. The true plant makes a somewhat dense spreading bush up to 1½ ins. or more in height and twice as wide, the slender branches and narrowly oblong, pale green leaves being covered with a greyish down. The flowers are 1 in. to 1½ in. in width, the petals being a deep golden yellow without a blotch, a richer colour than is seen in any other Rock Rose of its class. These blossoms are borne on very hairy terminal corymbs, and while they are most numerous from the late spring to midsummer, the species is seldom out of flower until October. *H. alyssoides* is a native of the Spanish Peninsula, and it is quite hardy in any of our western and southern counties where its nearest allies, *H. tomentosum* and *H. f. unicolor*, prove reliable. Like most of its race, it enjoys full sun and a well-drained, gritty or rocky soil which should not be

too rich. It is easily propagated by cuttings taken in the late summer. The true *H. alyssoides* is still uncommon in gardens, though others frequently bear its name.

The Box-leaved Milkwort.—This is a charming little shrubby plant for almost any situation in the rock garden or woodland. It appears to prefer partial shade, though it will do quite well in full sun, and a cool root-run of sandy peat or gritty loam and leaf-mould containing a few buried stones is what it enjoys by way of soil. *Polygala Chamæboxus*, as it is botanically called, is an evergreen with dark green, leathery leaves about the size and shape of those of the common Box. The foliage, however, like the whole plant, varies a good deal, some forms having larger and rounder leaves than others. Considerable differences may also be noted in the height, some plants creeping in a close mat no more than 4 ins. high, while others will mound up into dense cushions 6 ins. deep. In the type species the pea-shaped flowers have ivory "wings" and a "keel" of pale yellow. But in the variety *purpurea* the blossoms are not only larger but the wing-petals are a rosy lilac, the "keel" being a rich citron yellow. This delightful shrublet is seldom out of flower in some gardens, and in most it can be relied upon to bloom in spring and again in autumn. It is perfectly hardy, being a native of the Alps of Switzerland and Austria.

Hardy Orchids.—We have received the prospectus of the new edition of M. Correvon's work, "L'Album des Orchidées d'Europe," which has been out of print since 1905. It is now being published with six new plates at the same price as the original edition in 1899, namely, 20fr. After the end of the year the price increases automatically to 25fr. There are in all sixty-six colour plates depicting the sixty-seven European species. Intending subscribers should write to M. Henry Correvon, Floraire, Chêne-Bourg, near Geneva (Switzerland).

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

GLADIOLI DISEASED (A. H. J.).—The Gladioli was attacked by a fungus known as *Botrytis*. In the particular plant sent the disease was confined to the top of the plant and the corns sound. If the others are like it, they can be saved if they are lifted this autumn and have the tops removed. Gladioli should not be planted in the same place again. In any case you will need to lift the corns each autumn.

FRUIT UNDER GLASS.

GRAPES UNSATISFACTORY (J. B., S.W.).—The Grapes are suffering from the difficulty that exists in regulating moisture and temperature. It is also likely that they are receiving more moisture than is actually necessary. It will, of course, be plain that the methods of ventilation, etc., adopted when fire-heat was available are not likely to be effective when the sun alone has to be relied upon.

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MISCELLANEOUS.

NAMES OF FRUIT.—A. B.—Apples: 1, Wellington; 2, Eddinville Seedling; 3, Lord Grosvenor; 4, Newton Wonder; 5, Colonel Vaughan; 6, Lady's Prince Albert.

NAMES OF PLANTS. J. J. Montrose, *Acronia sativoides*.—C. A. F., *Physostegia virginiana*.—J. E. J., *Spergularia villoides*.—P. W. S.—1, *Eupatorium Wiemannianum*; 2, *Begonia Worthiana*.

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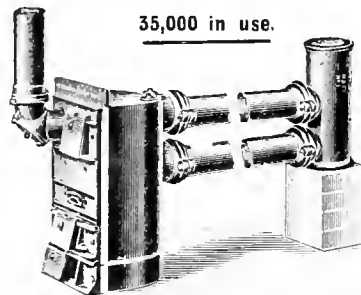
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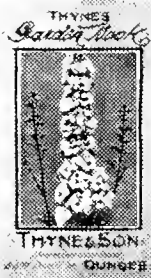
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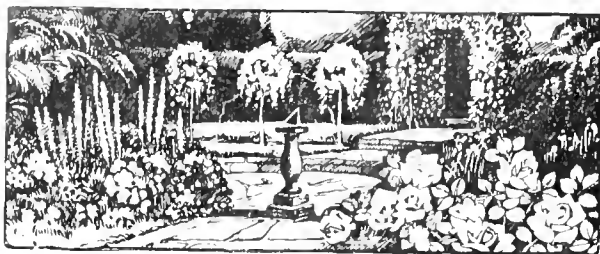
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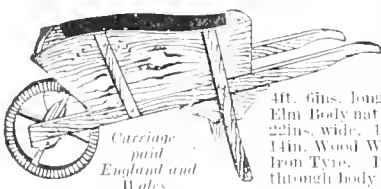
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No. 2711.—VOL. LXXXVII.]

[NOVEMBER 3, 1923.]

SHRUBS FOR THE ROCK GARDEN

THE list of shrubs which may be usefully employed in the really large rock garden is a practically endless one. Such tall-growing plants as the Common Broom and its varieties and the white-flowered *Cytisus albus* may often be used effectively where space is ample.

It is rather, then, to shrubs suitable for the rock garden of moderate dimensions that attention will be directed in the following notes. Such shrubs divide themselves at once into three classes. Class 1 will contain those kinds which are of an attractive habit of growth and (or) valuable for the colouring of their foliage but of which the flowers, if they bear any, have no special attraction; the majority of these are, in fact, conifers. In Class 2 will come all the tiny flowering shrubs which so much enhance the appearance of the rocky ledges, and in Class 3 must be placed shrublets valuable chiefly for their fruits or the colouring of their foliage in autumn.

There is a bewildering list of conifers suitable for the rock garden. Of the Norway Spruce, *Picea excelsa*, alone there are enough forms to stock a good-sized garden entirely; but, unfortunately, the nomenclature in nurseries is very confused and it is not easy to come by plants true to name. The better way is to purchase these plants after personal inspection; the name is, after all, of less importance than the habit of growth. A few good and desirable forms which one has a fair chance of procuring true are vars. *pygmaea*, *Clanbrasili-ana*, *nana*, *elegans* (usually listed as *Remonti*) and *Remonti*. The last named forms a very distinct egg-shaped bush, *pumila* is flat-growing, *nana* a congested "upright," *Clanbrasili-ana* pudding shaped, while *elegans* is conical. These dwarf Spruces seem

specially suitable for the rock garden. Another race which has almost equal claim consists of the very numerous dwarf forms of *Cupressus* (*Chamaecyparis*) *obtusa*. Very interesting and beautiful is *C. o. nana densa*, but many forms of *C. o. Tetragona* and *C. o. lycopodioides* (some of the latter Japanese) are equally attractive. There are, of course, dwarf Firs, Cedars, *Arbor-Vitæ*, Cypresses (true and false), *Cryptomerias*, Junipers, Pines, Douglas Firs, Yews and Hemlock Spruces, to say nothing of forms of the yew-like *Podocarpus* and *Cephalotaxus*, and the Umbrella Pine (*Sciadopitys*). Some of the dwarf Pines in particular are good, though it is doubtful if many of the special forms are better than *Pinus montana* var. *Mughus*, as it may readily be raised from seeds. For the rest, those who wish to go deeply into the question of miniature conifers should procure Mr. Murray Hornibrook's book, which has to a great extent brought order out of chaos in this direction.

Apart from conifers, shrubs for the rock garden which are cultivated mainly for the quaintness of their growth or the beauty of their foliage

belong very largely to the genus *Veronica*, which, largely herbaceous in the Northern Hemisphere, is entirely, or almost entirely, shrubby in the Southern. The very great majority of these shrubby Veronicas, indeed, came originally from New Zealand. Some of the quaintest for the purpose in mind are *cupressoides*, *salicornioides*, *epacridea*, *lycopodioides*, *canescens*, *Catarractæ* and *Hectori*. *Cupressoides* and *salicornioides* are much confused in nurseries, but, though some botanists consider *salicornioides* a form of *cupressoides* (*V. cupressoides variabilis*), the plants are, from the gardener's point of view, quite distinct. *V. cupressoides* makes upright cypress-like growths—it is generally many-headed—and is green, whereas the spreading sail-like growths of *V. salicornioides* are of a fairly bright yellow colour. The names fairly describe the club moss-like *lycopodioides* and the curious *epacridea*. *V. Hectori*, though quite distinct, is somewhat in the way of the last. *V. Catarractæ* approaches more closely in appearance to some of the trailing herbaceous kinds, and *V. canescens* is one of the most minute of trailers with foliage so small that

the whole plant might easily be overlooked.

Of more ordinary habit are the pleasantly grey *pinguifolia*, almost a small *V. Traversii*, but with foliage of a different grey; *glauco-cerulea* with very handsome steel-blue foliage; *loganioides*, heath-like with freely produced white flowers; and *Guthri-ana*, a tiny kind with very blue foliage. *V. glauco-cerulea* is botanically a form of *V. pimeleoides*, a plant after the style of *V. pinguifolia*, but rougher and scarcely worth a place.

One wee evergreen *Euonymus*, *E. radicans*, is delightful when rambling over a stone, and there is a good variegated form.

Another foliage shrub which is useful in the fair-sized rock



HEATHS, CONIFERS, AND OTHER DWARF SHRUBS IN THE ROCK GARDEN AT HALLINGBURY.

The great genus *Rhododendron* should, no doubt, have been touched on when we were considering ericaceous plants, but miniature *Rhododendrons* may be used in a rock garden, and used very effectively, whence all others of the Heath tribe are banished. A recent article on

(To be continued.)

THE SNAKE-ROOTS

THERE are about a dozen known species of *Cimicifuga*, variously called Bug-worts or Snake-roots, all natives of the north temperate regions of Europe, Asia and North America. They are spiræa-like, hardy border perennials, several of which closely resemble one another, but differ mainly in their season of flowering and the height each one attains. They belong to the *Ranunculus* family, and are closely allied to the genus *Actæa*, the coloured fruits of which are attractive in the autumn and useful for the purpose of house decoration.

Considering their handsome appearance, it is strange that they are so little grown in gardens, but this may be due to their being so often seen in poor condition in borders, where they are much injured by drought. They should be grown in deep loam in partial shade, such as that produced by a deciduous tree, preferably near water, and when well established will repay the planter with their splendid and plentiful foliage and inflorescences, composed of branching spikes of white or cream-coloured flowers. The taller-growing kinds, like *C. cordifolia* and *C. foetida*, may be used for the ornamentation of the margins of lakes and streams in conjunction with *Spiræas*, *Irises*, *Osmundas* and such-like plants. Here they would be seen to great advantage, with luxuriant foliage and handsome flowers.

Cimicifugas are easily propagated by division of the crowns in early spring, and by seeds, which are best sown as soon as they are ripe in well worked soil on the north side of a wall and allowed to develop as much as they will before transplanting. They dislike disturbance, and one only sees them at their best when they are left alone for several years and allowed to become well established. Some eight species are now in cultivation.

C. AMERICANA.—This is a neat-growing tufted plant, 2ft. to 3ft. high, with compound leaves of elegant habit. The flower-spikes are erect, in panicle form, with the primary spikes nearly 1ft. long and nearly 1in. in diameter, while the flowers are white. It flowers in July and August, and is a native of North America.

C. CORDIFOLIA is a much stronger plant, one of the finest kinds in the genus, with something of the habit of *Spiræa Aruncus*. The large leaves, of handsome appearance, vary in length and breadth from 6ins. to 10ins. The black-tinted stems are from 4ft. to 6ft. high, and they bear spikes of closely arranged flowers, the larger anthers and dull colouring of the filaments of which give a tint of cream to the whole spike. The inflorescence appears slender compared to the vigour of the plant, but the number of spikes produced and the stiffly erect habit compensate for this. It is only suitable for borders of some size or for waterside planting, where it is boldly effective. It flowers in September and, like the above, is a native of North America, where it is usually found growing in shady woods on the high mountains of Carolina.

C. DAURICA is an elegant plant from North-Eastern Asia with much-divided compound leaves and stems 4ft. to 5ft. high. The stems are slender, but very tough, and they bear branched spikes of pure white flowers, the primary spike nearly

species for the rock garden gave information which it would be futile to attempt to summarise here, but a word must be said for the rather tender, but O! so gorgeous, Kurume Azaleas, of which the slow-growing bushes smother themselves with blossoms in a great variety of colouring.

erect and about 1ft. long, the secondary ones more lax, and as they interlace freely they have been compared to the well known *Statice Suworowi*, but that is, of course, less drooping in habit. *C. daurica* is an easily grown plant, and will thrive in a shady border in rich soil. It produces its flowers in August.

C. ELATA is a tall-growing species some 6ft. to 8ft. high, with more distinctly lobed and thinner biternate leaves than *C. cordifolia*. The flowers

late in October; especially is this the case if the plant has been checked by drought in summer. A denizen of the woodland, it is more partial to shade than any of the others, and is more readily injured by hot sun. As its name implies, it is a native of Japan.

C. RACEMOSA, "Black Snake-root."—This, one of the most ornamental species, was introduced into this country from North America in 1732. When thoroughly happy in its surroundings it will attain a height of 6ft., and with its dozen or more tall flower-stems, terminated by slender racemes of pure white flowers, it presents a highly effective picture. The curiously twisted habit of the flower racemes has earned for it the name of *C. Serpentaria*. *C. racemosa* has a handsome mass of broad and much-divided leaves, and succeeds best in rich, moist woodland, where in the more open spots it establishes itself and increases freely by means of self-sown seeds. It is an admirable wild garden plant, and is also



CIMICIFUGA JAPONICA (ON THE LEFT) AND *C. SIMPLEX*.

of this are not showy, and are borne on much-branched inflorescences. It is a native of the shady woods of Oregon in North America.

C. FOETIDA.—A native of Europe and Northern Asia, this species bears a general resemblance to the above, although it is quite distinct. It is not so tall, and the white flowers in large branched panicles are more showy. A distinct feature of this plant is its unpleasant smell and the large carpels that succeed the flowers. It is a good woodland plant, and self-sown seedlings come up freely in moist, loamy soil, thus in a short time producing an effective group.

C. JAPONICA (syn. *Pityroserpa acerinum*).—Recently there seems to have been some confusion between this species and *C. simplex*, which is, however, quite a distinct plant. *C. japonica* grows about 2ft. high, with entire basal leaves and ternate stem leaves with broad leaflets. The white flowers are borne on erect stems in smaller spikes than in *C. simplex*, and it is generally a much inferior plant. Another distinction is the absence of or very short pedicels of the flowers and fruits. It is one of the oldest known species grown in our gardens, and has been in cultivation for a long time. Often, it does not bloom till

useful in the border, as it flowers during the months of July, August and September.

C. SIMPLEX.—Although one of the most elegant autumn-flowering plants, it is only of recent years that this species has attracted much attention. It has been in cultivation for a long time under various names, as *C. japonica* and *Pityroserpa acerinum*. These two latter names are synonyms, and *C. simplex* differs from them in its more robust habit and more decompound leaves, as well as in the mature fruit carpels, which in *C. simplex* are stalked, while in *C. japonica* the carpels are practically sessile on the stem and usually fewer in number. *C. simplex* is a native of Japan, and makes a neat bush about 3ft. high, with good-sized triternate leaves and slightly nodding inflorescences 6ins. or more in length. The flowers are pure white and produced during September and October, lasting for a long time in full beauty. It is one of the easiest to grow, and does not mind lifting and division, although established plants produce a greater quantity of longer racemes. Like all the others, it prefers a shady position in moist soil, but will succeed in the open if supplied with plenty of water when in full growth.

W. L.

NOTES ON SOME LATE-FLOWERING PLANTS

ONE of the most charming of autumn-flowering plants belongs to a race that is peculiarly lacking in species of quality, viz., the family of Knot-woods. *Polygonum vacinifolium*, however, is a treasure that would be valuable enough to uphold the reputation of a genus more ill-favoured than that of which it is a member. Elegant in habit, beautiful in leaf and branch, and possessing a temper of indestructible sweetness, this little creeping shrublet would be delightful were it never to bear a flower. When autumn brings a ruddier flush to its mat of foliage and the extremity of every slender twig is tilted in a spire of rose pink blossom, then, indeed, *P. vacinifolium* becomes one of the loveliest objects of the garden year.

Though willing to prosper under almost any conditions, this plant is never quite so happy as it is with its roots in a cool vegetable mould and its trailing branches mounding over some old stump or mossy rock with full exposure to the sun. Though it does not object to hanging head downwards as a wall plant, or flopping over a ledge, its tendency is to go upwards, and its flower-spikes are never so numerous and gay as when they are crowning the summit of some hummocky object which it has enmeshed.

We grow the above about open spots in the woodland, and associated with it is *Borago laxiflora*, another delightful plant of which the azure bells may be found swinging at the arched tips of the slender, semi-prostrate stems from spring to winter. Few would credit such a gentle thing

there are still of the *Asclepiadea* set. The best of their blues, however, has not the delicate quality of the colour of this *Borago*, of which the peculiar refinement is not exceeded even by the wonderful sprays of *Omphalodes cappadocica*, young plants (seedlings) of which can always be relied upon to give a hearty response to the autumn rains in this garden.

Yet another plant of irreproachable taste, of which the flowers will adorn any cool, half-shady place in woodland or rock garden at this season of the year is the Winter-flowering Periwinkle (*Vinca difformis*). The blossoms of this beautiful species are about the size of those of *V. major*, but the segments of the corolla are sharply pointed and they are of a cold, icy whiteness, suffused with just a hint of palest blue. Though a native of Southern Europe, *V. difformis* appears to be hardy, but it should have, and none more fully deserves it, a sheltered corner, lest its flowers be injured by frost. Whether *V. acutiflora* is merely a geographical form of the above or the same thing, the botanists must decide. It is, at any rate, equally lovely. Indeed, the only difference which a mere Gentile has been able to discover between the twain is that while the white of the one is most delicately shaded with blue, that of the other is invested with the faintest wash of lilac.

An 8 in. bunch of vivid watercress green that came here as *Cineraria lobata*, and which never lost heart during the driest weeks of summer, is now a blaze of quaint little yellow stars. This might be a glorified Groundsel or a pauperised

flowers smell of new-mown hay, and even though it has borne these all summer, its earlier efforts were as nothing compared with the constellation which it now raises aloft on slim branching stems, blazing defiance at the lowering sun.

Though we have had some frost and anything but a kindly autumn, the honoured house of *Erodium* is still well represented. These little Stork-bills are such tireless sun worshippers, and so optimistic withal, that they will lie in a dog's sleep for a week, their half-opened flowers waiting for the rain and gloom to pass, when the butterfly flowers will expand their jaunty wings to the grateful light. Nor do they feel like giving up until the year grows late, and even then many a flower will perish unopened like young forsaken swallows in an autumn nest.

Thus only a week ago there were clusters of blossoms, closed, yet showing their delicate pink, on *E. supraannum*, perhaps one of the daintiest of the race. But there were others, as there are to-day, more greatly daring, and among them *E. maritimum* must always rank high as a southerner of admirable courage under depressing conditions. Also bearing several heads of flower is *E. autumnum*, which for many of these mid-autumn weeks has been a most delightful object, for not only is its silvery foliage most tasteful and delicate in design, but its flowers are large and of a most exquisite pearly whiteness. Much might also be said of sweet little *E. chamaedryoides*, first and last to bloom, and the highest compliment which I can give this bantling is that she will never be displaced by her china pink sister *rosea*, even though the latter must be numbered among the gems which are beyond price.

Linaria alpina always reappears in October, a rare and dainty combination of blue-grey, violet and orange. Then there is that irrepressible midget, *L. equitridoba*, which is still swarming about some shady steps which it has claimed as its own and, not content with that, it has darned a bristly green mop of *Armeria*, big as a two-pound loaf, with its yarn of green and studded it all over with tiny purple flowers.

Asters do not, here, proclaim the sovereignty of purple over all other colours as they are wont to do in many autumn gardens. If they did those wee *Linarias* might have stood a feeblish chance of claiming recognition. An old clump of the very splendid *A. Amellus* King George, however, and another of *A. Rudolph* Goethe, have been proving the wonderful endurance of their big, violet-purple flowers in all sorts of weather for unnumbered weeks. Compared with these ornate fellows *A. Thompsoni* nana might be considered a shrinking apology, but it is just that modesty in habit and colour and form which makes it so appealing. This is a shy bloomer here, and its pale blue lilac flowers with the curiously small eye, usually come late and continue throughout the autumn. Another downy-leaved species which carries on to the last is the 3 ft. *A. pyrenaicus*, with shaggy heads of blossom in a cool blue-purple and a predilection for wet feet.

Lower or dry places that it is, *Achillea tomentosa* can always be relied upon to put up a good show of its golden flowers with the autumn rains, and the variety King Edward with larger heads and flowers in sulphur yellow is also a good late bloomer. *Sedum spectabile* will keep its rosy pads of blossom for some time yet, as will *SS. Ewersii* and *Sieboldii*, and that strange little member of this family, *S. amplicaulis*, which, having thrown off its mask of withered leaves in autumn, has covered its trailing stems with tufts of foliage in a fresh sea green.

N. WALES.



THE AUTUMN-FLOWERING *POLYGONUM VACINIFOLIUM*.

as this wit sufficient courage and resource to enable it to hold its own with its companions, many of them native, of the woodland flora. But it does, and does it with such a nice regard for the feelings of its neighbours that it never seems to place a seedling in the wrong spot. *B. laxiflora* is even more generous with its flowers at this season than it is earlier, and blue is a very precious colour in the garden to-day. Gentians

Ragwort far gone in moult, for the rays of those yellow stars only number five, and they are set so far apart and at such odd angles that they give the flower a dishevelled look. But this weird creature deserves a passing tribute because it kept throughout that droughty period not only its life but its smiles, while others perished. Its spoon-shaped, scalloped leaves are, moreover, more than ordinarily pretty, the queer little

CHINESE RHODODENDRONS

Some Interesting and Distinct Kinds

WITH the present wide and very real interest in the cultivation of hardy shrubs we often nowadays see borders set apart for rare and uncommon plants. One such border might very well be set apart for distinct and interesting Rhododendrons in any garden where these plants are favoured. Such a selection should appeal, too, to readers with small gardens, for, while there are points about them which are attractive and absorbingly interesting, none of those brought under review is likely, at least for numbers of years, to grow into a big bush.

Most of the plants possess some particular trait or characteristic which will appeal to and engross the attention of the enthusiast. These distinct features may be in habit, foliage or flower, the season of blossoming, or in cultural requirements. The selection of positions for planting is important. The majority, if not all, of those mentioned should have shelter from the midday sun, while those which flower early must, if success is to be obtained, have protection from the east. This points to a west border or sloping bank as the most suitable position for the larger number.

Special stations may be selected and prepared for individual plants, but, at least during the first years of planting, a cultivated border is preferable. Plants of small stature invariably thrive better in association with well tilled ground than as isolated plants with cultivated rings. The upkeep as to hoeing, weeding and mulching is also less exacting.

R. SOULIEI was one of Mr. E. H. Wilson's earlier (1903) introductions. He describes it as a common bush 3 ft. to 8 ft. high near Tachien-lu, Western China, at 9,000 ft. to 10,000 ft. The leaves are heart-shaped and of a distinct dark metallic green, and the ends of the twigs in May terminate in clusters of three to six blossoms. The wax-like flowers are open, saucer-shaped, a dainty pale rose shade in some, while other plants have white flowers. Though cultivated plants mature seeds fairly freely and these bloom in four or five years from sowing, Rhododendron Souliei is puzzling in its cultural requirements. The two best plants at Kew are on a west bank nestling close against the bottom branches of a shrubby *Arbutus*.

R. ORBICULARE is another of Mr. Wilson's introductions. He first found it in the woodlands of Tachien-lu, Western Szechuen, at about 10,000 ft. in 1904, and again in 1908. It is very distinct in habit, forming quite formal rounded bushes much wider than high. Native specimens are described as rounded evergreen shrubs up to 10 ft. high, but I have not seen plants more than one-third this height in cultivation. This Rhododendron has also been named *R. rotundifolium*, it and the name *R. orbiculare* referring to the roundish or orbicular leaves. The rich rosy red flowers are borne in loose trusses six to eight, rarely more, in number, campanulate and 2 ins. to 2½ ins. across. The flowering season is April or early May. This is quite one of the most charming of the Chinese species, but not among the easiest to cultivate. This fact will, no doubt, cause the enthusiast to give the plants special attention, as seedlings are being raised very successfully. Growing in woodlands and thickets suggests that shelter will be one essential. A hybrid raised at Kew, *R. orbiculare* pollinated with *R. Williamsianum*, is fairly intermediate between the two parents with rose-coloured, bell-shaped flowers.

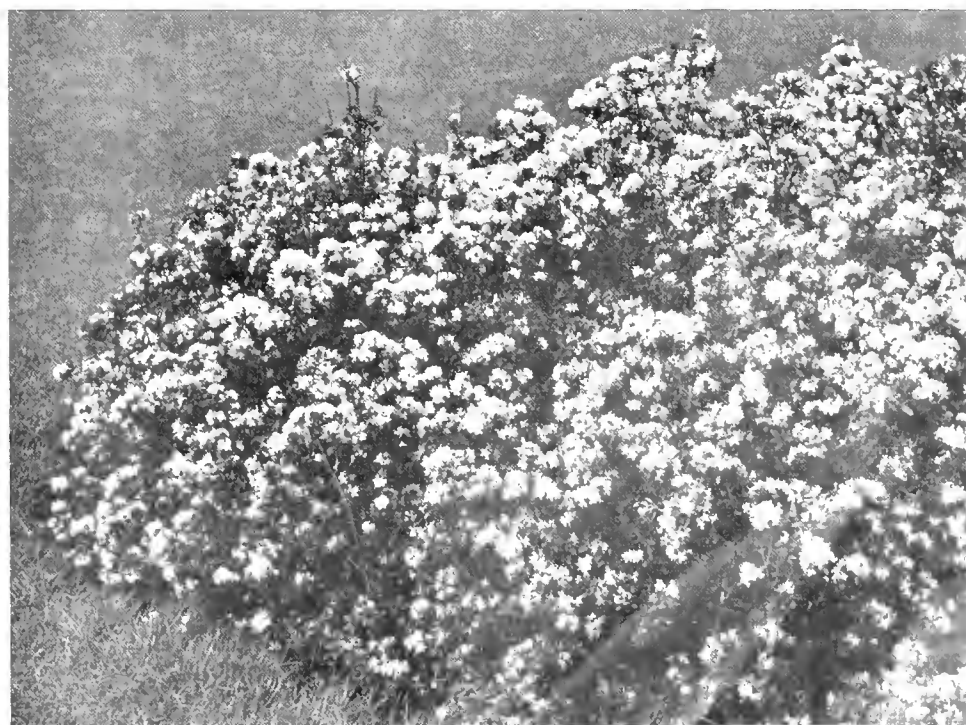
R. STRIMFOLIUM in colour may be very well described as a Chinese *R. Thomsoni* or *R. fulgens*, such a glowing crimson are the flowers on the plants raised from seeds collected by Mr. George Forrest in Yunnan. There are also said to be forms with rose coloured blossoms. In a wild state the plants vary from 2 ft. to 8 ft. in height.

The oblong leaves are dark green above, glaucous white beneath. The crimson flowers are bell-shaped, up to about twelve blooms in a truss. As Mr. Forrest found *R. normifolium* at 9,000 ft. to 12,000 ft. elevation, it should be quite hardy, yet as the flowering season is usually April, shelter is necessary.

R. BRACHYANTHEMUM is a native of Yunnan. Mr. Forrest collected seeds on the Tai Range at 10,000 ft. to 11,000 ft. altitude, where he describes it as an evergreen shrub from 2 ft. to 3 ft. high. The features of this plant are the dainty pale



THE INTERESTING RHODODENDRON OLEIFOLIUM.



RHODODENDRON RACEMOSUM IS BY SOME CONSIDERED ONLY A WIDELY DIVERGENT FORM OF *R. OLEIFOLIUM*, ILLUSTRATED ABOVE.

flowers, three to five, sometimes more, pericarpis bell-shaped, 1mm. or rather less across. A curious feature is the saucer-like pale green calyx, five-lobed, 2mm. to 3mm. wide. A valuable character is that the flowering season is June. Our two plants of this species were received as *R. repens*, which is also a native of Yunnan. The true *R. sulphureum*, however, has rather larger leaves, richer yellow flowers 1mm. or more wide, a much smaller calyx, and the flowering season April. *R. sulphureum* is a shady and moisture-loving species, judging by Mr. Forrest's notes: "Collected on moist, shady ledges of cliffs on the Lah Range at 9,000ft. to 10,000ft. and in shady ravines on humus-coated rocks up to 14,000ft."

R. himalaicum is a dwarf compact-growing species introduced by Mr. Forrest from Yunnan. It has dark leathery green leaves, up to about 3ins. long and half as wide, covered beneath with a brown felt. The rich deep red flowers are funnel-shaped, five to seven or more blooms in a truss opening during May. Found by Mr. Forrest in woods at 12,000ft., it should be quite hardy, but will, no doubt, thrive best where the plants get some shade. Giving this species a liberal mulching of leaf-mould will induce the stems to root, thus providing a ready means of increase by layering.

R. oleifolium.—This species is very much confused with *R. racemosum*; in fact, there are numerous intermediate forms that suggest the two may be the extreme forms of one plant. The confusion is really due to both producing the flowers from the leaf-axils of the previous year's wood. All the plants we have grown of *R. oleifolium* are smaller in stature than is *R. racemosum*, but with larger leaves. In *R. racemosum* the flowers are freely produced, four to ten, or twelve in a cluster, but in *R. oleifolium* they are borne singly or in pairs, rarely three or more, pale rose or white in colour. Both species are readily increased by cuttings and layering. Mr. Forrest introduced the true plant from Yunnan in 1909.

R. oreotrephes.—In foliage and flower this introduction of Mr. Forrest's is usually singled out for admiration by ladies because of its attractive glaucous foliage and pale lavender or lavender rose flowers, the shade of colouring and spotting of the flowers varying considerably. The flowering season is April and May. It is a plant which requires shelter and liberal mulching. Wild plants are said to attain from 15ft. to 20ft. in height, but with us, at least, it is slow in growth. *R. oreotrephes* is another outcome of Mr. Forrest's Yunnan expedition of 1909, which gave us so many new and interesting plants.

R. ruficolum, with rich plum purple blossoms, immediately attracts attention when well grown, but it is with some a wayward plant and apparently not easy to accommodate. Found by Mr. Forrest in Yunnan during 1910 at 14,000ft., the plants appear to be perfectly hardy. Spreading in habit, it resembles somewhat in appearance the European species *R. ferrugineum* and *R. hirsutum* and, like the last named, is said to grow on a limestone formation. Perhaps, therefore, the ideal spot for this gem is in the rock garden.

R. Wilmsii is a delightful low-growing plant spreading over the ground, with us, always seeking the shade and moisture of rocky boulders. This liking is very pronounced. The front of the group of some twenty plants is open and sunny, and we invariably lose one or two in the front each year, replacing them with rooted layers from the shade, but they only bloom. Given shade and moisture the plants spread, nesting closely to the surface of the stones and producing

freely the small ovate dark green leaves. For so small a plant it has quite large flowers, these being bell-shaped, rich pale rose in colour, 2ins. to 2½ins. across. There are two to four, rarely more, flowers in a loose truss. Mr. Wilson introduced this species from Western Szechuen in 1908. In addition to easy propagation by layering, cuttings are fairly easy to root.

R. molle was first introduced by Mr. Wilson in 1909 from Western China. It is a bushy evergreen shrub requiring shelter and some shade, as the flowering season is March and April. In a wild state some of the plants are epiphytes, growing in the forks of trees. There are two forms, one with rose and the other with white spotted flowers. Our best plants are growing among the roots of an upturned

tree butt in front of an evergreen tree and facing west.

R. spinuliferum is one of the most distinct and remarkable of all *Rhododendrons*. Discovered in Yunnan by the Abbé Delavay about 1907, it is the least hardy of all the species mentioned in these notes, growing outside only in sheltered positions. Even so, it has not, so far, had to face a really severe winter. The plants are freely clothed with bristles and hairs, and the leaves are lanceolate up to 2ins. or 2½ins. long. The flowers are tubular, about 1in. long, red in colour, borne several together in clusters at the ends of the shoots. Though not perhaps an ideal comparison, I always think of *Correa cardinalis* when looking at this plant in flower.

Kear.

A. O.

A CHARMING WHITE-BERRIED SHRUB

(HYMENANTHERA CRASSIFOLIA)

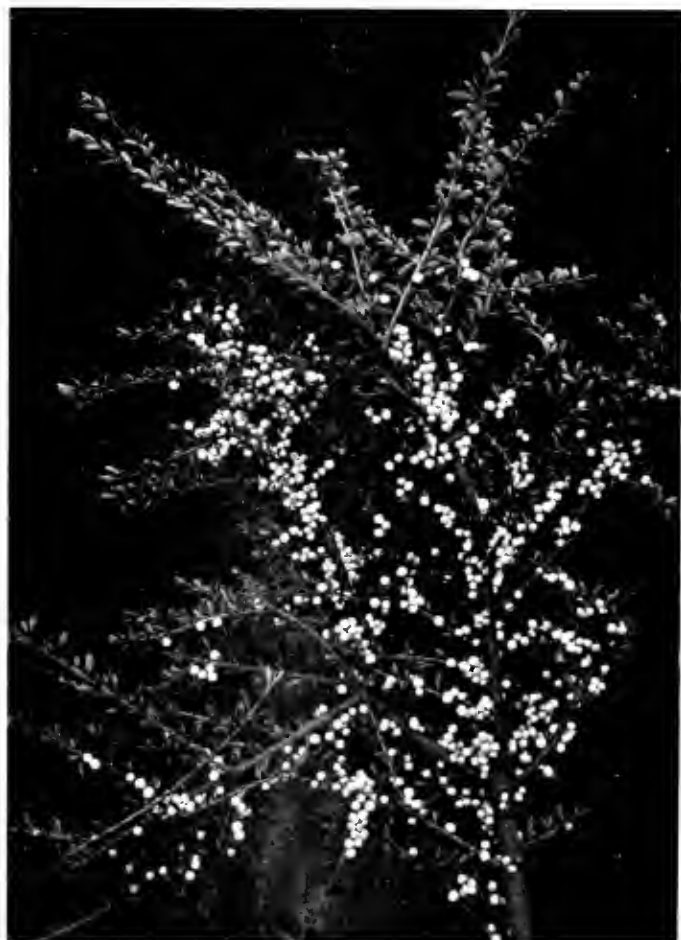
In the few places where this interesting shrub is grown it stands out very conspicuously among other berried shrubs during the autumn and winter months by its compact habit, neat foliage, but more particularly by its white berries, which are borne in great profusion. It forms a close compact bush from 4ft. to 5ft. high and twice as much through, of a semi-evergreen habit, with stiff, cylindrical or somewhat angular branches, which are covered with ash-coloured wrinkled bark thinly beset with whitish strigose hairs. The almost stalkless flowers, which are borne in the leaf-axils, with five brownish reflexed petals (which are longer than the sepals) cannot claim to possess any interest from a decorative point of view, being very inconspicuous; but when the bush is laden with its masses of white berries it is really valuable, for there is but a limited number of white-berried shrubs. The fruits, too, remain on the plant long into the winter. The thick leathery leaves are alternate, about 2in. to 3in. long, scarcely ½in. broad, obovate, entire, rounded or slightly notched at the apex, tapering at the base into a very short stalk.

A native of New Zealand, the species was introduced into this country somewhere about 1875. Its habit, neat foliage and white berries give it a distinctive character, while botanically it is an interesting shrub in that it belongs to the *Viola* family. *Hymenanchera* is the only hardy genus of that family which is of a shrubby nature.

In Hooker's "Flora of New Zealand" the

berries are described as blue-purple, but probably this description was made from dried specimens, when the white skin had become transparent and allowed the purplish pulp which surrounds the seed to shine through. A similar effect may be noticed on the outside of some of the growing berries where they are exposed to full sun. The plant is readily raised from seeds, and thrives in any ordinary soil in an open position. It is rather remarkable that so interesting and beautiful a shrub should not be more cultivated.

Botanic Garden, Cambridge. F. G. PRESTON.



HYMENANTHERA CRASSIFOLIA IN FRUIT.

GARDEN DESIGN—II

NEARLY all new grounds, even though quite small in extent, are composed of separate gardens, each having its own particular character, and it is in this subdivision and the proper contrast and relation of the different parts that much of the art of garden-making consists. Terraces, lawns, rose gardens, herbaceous borders, and rock and wild gardens must all be correctly proportioned to the total area of the site.

As well as being of suitable size, gardens should be well placed, that is to say, each particular garden should have the proper aspect and be in the best place for that particular garden. Rose gardens should be sheltered from the north and east and yet have a fairly open aspect. Neither the rose garden nor the tennis courts should be too far from the house.

Much has been written about the respective merits of formal and informal (or "landscape") gardens. Generally, gardens will be less formal in treatment as they are farther from the house, although it will often surprise and please to come unexpectedly upon some small formal garden set amid the more natural parts of the grounds. Gardens of shrubs and lawns, and so-called wild gardens, may, if properly planned, be some of the most beautiful and attractive of all.

Let us start again from the house and consider planting and the nature of it for the different gardens. Not too far away one should have colour, colour for the greater part of the year and a lot of it, and here let me say that if one's gardens are set in woods or trees so that one has backgrounds of green, one cannot well have too much colour, but if the surroundings are walls, one needs to be careful. At the risk of repetition I must repeat that the terraces and gardens near the house should be formal, but formality will be changed to richness if the planting is properly arranged.

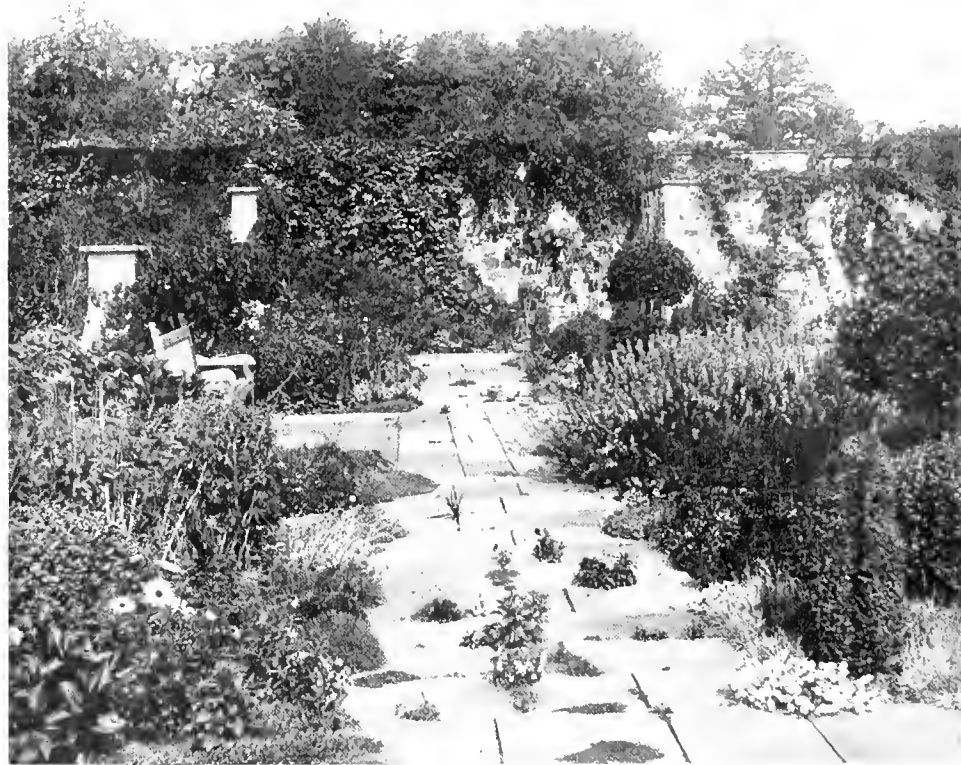
The terraces and gardens near the house should be resplendent with colour for most of the year. There should be a foundation of permanent planting, such as *Ceanothus* in its different species and varieties, *Bignonia*s, *Irish Junipers* (most serviceable for the way in which they can be used to accentuate formal design), as well as *Roses* and other climbers on any low walls, on house walls, pillars and pergolas, and down the sides of steps.

Near the house there must be finished planting with nothing untidy about it. Flowers differ in quality with the difference there is between silk and velvet on the one hand and, say, cotton fabrics on the other, and near the house one must feel no jarring note between the tastefully decorated interior, and gardens that may often here be something in the nature of outdoor rooms.

For the permanent planting use such plants as *Delphiniums* (blue *Delphiniums* may often be used where blue *Lupins* would seem too coarse), *Liliums*, perhaps *Tree Lupins*, the various *Artemisia*s (Southernwoods), *Lavender*, *Mimulus*, some perennial *Asters*, *Campanulas*, *Scabious*, *Pentstemons* and numbers of other plants.

The plants which constitute the permanent planting should be skilfully grouped to form a setting for the bedding plants and biennials that will be used for their continuity and freedom of flowering, and for the added touch of richness they will impart. In the autumn one may plant great masses of *Darwin Tulips* midway or rather back in the border, so that lower plants in front may partly hide their stems and act as a foil to their lovely colours. As well as *Tulips*, one could have *Narcissi*, but this family is really more suitable for the more natural parts of the gardens.

Numbers of *Hyacinths* can be planted in front to grow close to the paving or turf, always in masses of one sort by itself, and *Wallflowers*, but some



SHOWS PLANTING SUITABLE FOR A PAVED GARDEN.

of these are of cruder colouring and must be carefully placed. *Violas* can be treated as permanent residents and left undisturbed until they become weak and straggly and need replacing, and they will flower so early as to be in bloom with the *Tulips*, that is, if they are planted soon enough. Double white *Arabis*, *Myosotis* and *Aubrietia*s in their colours that seem to tone with everything will also be planted for early spring effects.

The fresh delicate greens of the permanent masses of *Delphiniums* and other plants will, all the time that they are growing, be the best possible background for the bulbs and other early flowers, and after these have finished there are a host of things to choose from for the summer. *Tree Fuchsias* are always useful, they need little care during the winter—to keep them secure from frost is enough—and they should be grown into as large plants as possible. *Bezonias* (both tuberous and fibrous rooted), *Heliotropes*, *Carnations*, *Marguerites*, *Zonal* and *Ivy-leaved Pelargoniums* ("Geraniums"), almost all of the often despised bedding plants can be used here with the best results. Only remember always that they are to be grouped and never arranged as formal bedding, and grouped with due regard to the scheme of planting as a whole. November may seem an unsuitable time to talk of summer bedding, but it is easy now to visualise results for future seasons.

To turn to more permanent planting—the planning of which is as interesting as it is hoped the results will later on be beautiful—so far as herbaceous plants are concerned it is well first to decide the height and habit of growth that is required to

obtain the effect desired, and carefully to consider the colour scheme as a whole before actually selecting the plants to be used.

For reds one should be careful in the choice of plants: some are good natured enough to tone with anything, the ruby red *Pentstemon Southgate*

Gem being one of these, but many reds are inclined to be crude unless carefully placed. Blues are always welcome, and go with nearly every other colour except perhaps some reds and browns. Browns and golds and yellows and bronzes may be grouped to make harmonies of their own. *Heleniums*, *Gaillardias*, *Torch Lilies* and the bronzy foliage of some of the Chinese *Paeonies* can be most effective. To arrange interesting and beautiful groups in the borders is an art in itself. Having decided the colour scheme as a whole, one may proceed to carry this out with a succession of groups each lovely in itself, and yet all subservient to, and helping towards, the general effect.

Grey foliage plants, of which there are quite a number, are always useful. Nearly every colour looks better against grey. *Lavender*, *Santolina* (although its yellow flowers are sometimes troublesome), *Carnations*, *Stachys lanata*, *Alyssum* and *Artemisia*s of sorts are some of the plants with desirable grey foliage.

It is important to have as much green as possible for the backgrounds. In nature one sees nearly all colour as a relief against green in some or other of its many shades. The vision of a park with reds or scarlets as the predominant colouring is too hot to think about, yet it is not unusual to see something like this in small gardens, where bricks or buildings supply the red background with other colours piled on thickly.

In herbaceous borders it is better to err on the side of having the groups of one sort of plant too big rather than too small. *Delphiniums*, *Asters*, *Lupins*, *Hollyhocks*, *Anchusa italica*, to be most effective, should be in groups as large



A HERBACEOUS BORDER.

The form of plants is as important as their colouring.

as the size of the borders will allow. It goes without saying that most of these tall-growing plants will be at the back of the borders. Some of the larger plants should, however, be brought well to the front or the border will be too regular in outline. Also it must be remembered that form is even more important than colour or, at all events, that form comes first and colour should be built on to it. It is the use in the best possible way of the wealth of materials, the interweaving of the threads of form and colour, that,

colour is to be obtained not only from flowers, but that numbers of trees, shrubs and plants are invaluable for the colouring of their foliage alone.

Trees, shrubs and flowers, turf and water, the dignity of straight lines and the beauty of pleasing contours are materials enough, like the notes of music, with which to make innumerable harmonies in endless ways. Not the least of the pleasures of garden-making is the limitless scope of its possibilities.

PERCY S. CANE.

ABOUT SEEMLY FLOWER POTS AND BULB BOWLS

BY a fortunate development of taste the variety of plants grown in pots for decoration of the house or conservatory is nowadays increasing. Geraniums, Primulas, Scillas and other flowers are delightful and showy indeed (though they require a good deal of labour), and so, too, are the shrubs commonly seen in pots, such as Azalea indica, Daphne, Forsythia, Hydrangea, Cypripedium, and, latterly, Viburnum Carleii. But outside the conventional repertory there is a vast store of suitable plants which might well be drawn upon more freely for decorative purposes. In a later article I will hazard some suggestions as to plants worth adding to the repertory, but for the moment let us deal only with the initial problem of finding suitable pots.

The ordinary red earthenware flower-pot is inoffensive enough in a conservatory, and in an entrance hall or wherever plants can be massed together in some quantity the pots can generally be masked more or less effectively. The Ferns so commonly used for this purpose are often unsuitable; plants of bolder, shapelier form, such as Funkias, may be preferable. (Readers of Miss Jelk's "Colour in the Flower Garden" will remember her pictures of the use of Funkias for masking the pots of speciosum Lilies and Hydrangeas.)

But no matter how skilful one may be in the masking of pots, there will remain occasions when one has to allow the pot, or its container, to show itself. The plant has to be isolated on a terrace or in the house, and it is then that the

to the artist, makes the construction of gardens so interesting an occupation.

Nearly everyone has his or her favourite colours and flowers, but some colours can be more generally used than others. Blues can be used almost anywhere, and in a blue border or garden, if one's space allows room for it, can be included as many as possible of its shades. If one does have a blue garden, one should see that it is set in green surroundings and, with the exception of, it may be, a little white, it should be kept to blues. Blue flowers with green turf and, perhaps, grey stone-walling are always beautiful together.

As in Eastern embroidery, one may, in parts of the principal borders, work up to a riot of the richest colours. Deep blue and purple Delphiniums, orange Lilies, crimson Pentstemons and Hollyhocks (crimsons are generally safe, but beware of scarlet!), apricot and yellow Day Lilies, with always plenty of green foliage, and the bronzy leafage of purple-leaved Plums and Paeonies will make a brave show. One must not forget that

problem of finding a container for the garden pot becomes acute. What is one to do with a little bush of, say, Cydonia Sargentii, or of Corylopsis, or Rhododendron praecox or R. Princess Alice, or of orange Azalea, when it comes into the house in its rough garden pot. The pot may have a good wholesome natural colour, but it will usually look much too rough and raw to fit in as part of the decoration of a modern room. And the trouble is that nobody seems to bother their head about producing a decent pot-container. Why is this? Lots of people are interested nowadays in the potter's craft: quite a number of good potters are at work. Yet, so far as I know, hardly anyone has given an artist's thought to this much-needed commodity—a plain, lightly pot-container. The Poole Pottery has made some excellent holders for rather small pots; I do not know if they have tried making them for the larger sizes. The pottery that was started by Mrs. G. F. Watts at Compton produced, I believe, some good earthenware pots for terraces. And I expect there are potters here and there even now who are producing just what I am looking for and looking for just such customers as myself. But the fact remains that whether through ignorance or ill-luck or simply because the thing I am looking for is not being made, I do not know where to go to find the pot-holder I want.

The sort of holder I have in mind is moulded very simply on much the same lines as the common garden pot, with a well marked rim and a solid, rather conspicuous base. There should be no ornament, or only a very little: no garlands or built-up horns in relief. The colour should, I imagine, be rather quiet, not bright yellow nor pink nor blue like the dreadful glazed bowls with waved edges in which an Aspidistra darkens so many a window. There is a vivid green, however, which is delightful for such a purpose, the colour of malachite or of true emerald, a blue-green, not a yellow-green. It is the colour of the pottery which is, or was, commonly obtainable in the South of France, *i.e.*, at Carcassonne and, I think, in Spain. The glaze must be some simple one, within the reach of potters humbly equipped, but I never see the colour in modern English pots.

There are various beautiful whites which would be very suitable, such as the dull white used by the Upchurch Pottery in some of their finest work. And there is a black, not the matt Wedgwood black, but a more lively colour, such as Mr. Reginald Wells used in his Coldrum pots. Besides these colours there are all the beautiful neutral tones, and the dull, not too olive greens, that are within the potter's range. I have no knowledge of potting. I am only describing the ideal pot-holder I have in mind.

Besides the difficulty of finding the pot-holder, there is a lack of good bowls for bulbs. The bowls commonly advertised at the end of bulb catalogues are almost without exception bad in colour and form, and lacking in character. Metal bowls, such as the beautiful Italian utensils of copper and the plain copper preserving pans used for jam-boiling are among the best that I have tried. Why does not some enterprising firm or guild, such as the Artificers' Guild or the Design and Industries Association, set craftsmen to work on making bowls to meet this recently developed demand. Some of the Korean bronzes have just the required dignity of shape, and so, too, have the beautiful shallow Chinese bowls in celadon. Surely I am right in thinking that there are many gardeners, and many a householder, too, who is starved of gardening opportunities, who would gladly pay a decent price, not just a commercial "one-and-eleven-three" for a pot-holder or a bowl really well designed by contemporary English craftsmen.

A PAINTER.

CORRESPONDENCE

GARDENING IN ESSEX.

I THINK perhaps the enclosed pictures of my garden may be of interest to some of your readers. We are on the hills between Maldon and Colchester with a most beautiful view across the Blackwater River. Twenty years ago the garden was a very stony field with a few Gorse bushes about; all the ground round here, if left, very shortly reverts to heathland. It is a very

RHODODENDRONS AND STABLE MANURE.

I DO not think that "Formakin" will find many of those who have given most attention to the finer species of Rhododendron to agree with his recommendation of stable manure as a stimulant to growth (page 546). I have not seen his plants, and there may be peculiar qualities in the soil at Formakin requiring different treatment

and I claim that the result proved it to be beneficial. Cow manure is cool, and although I am enough of a sceptic to think that in the fine greensand of Leonardslee, Sir Edmund's plants would have flourished as freely without that supplement to their natural diet, it is certain that they suffered no injury from it. But the stable manure recommended by "Formakin" is hot stuff, and I cannot but think that its application might be the reverse of beneficial. "Formakin" takes as an example the hybrid Pink Pearl; I am more concerned about the natural Asiatic species. Rhododendrons belong to the Heath family, and it is well known to those Scottish farmers who have to deal with rough pasture that there is no more effective way of ridding such land of Heather than by feeding cattle grazing thereon with cake. Their droppings stimulate the growth of grass and the Heather gets choked out. But even such plants as Pink Pearl thrive luxuriantly without other treatment than an annual or biennial heavy mulch of leaf-mould, or, as I prefer, freshly fallen leaves that, decaying *in situ*, dissolve into leaf-mould. "The largest flowers of Pink Pearl I have ever seen," says Mr. Millais, "were grown in a made bed of sand and beech leaf-mould."

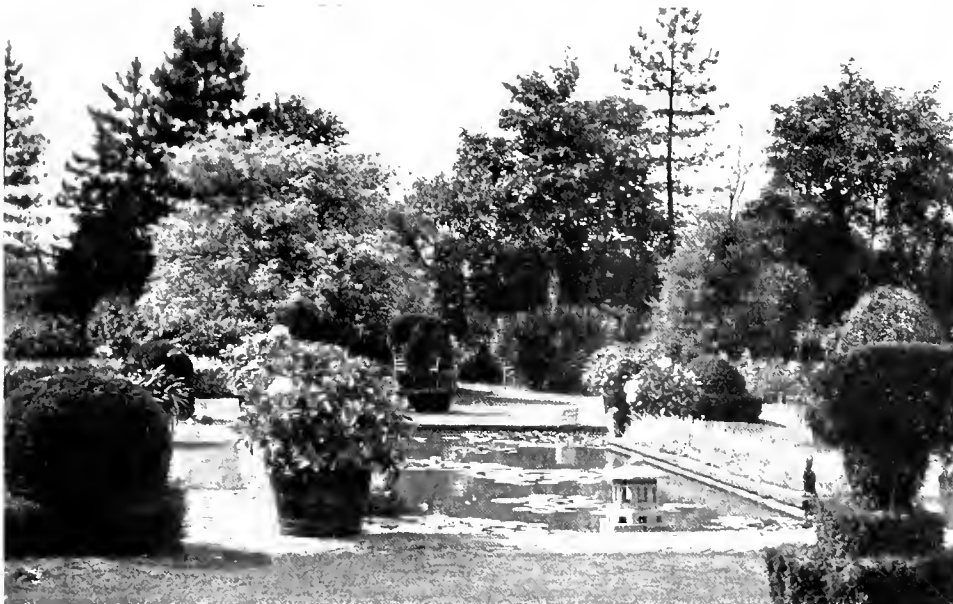
I must not be understood to underrate "Formakin's" experience, still less to doubt the accuracy of his description thereof; but having witnessed and followed the simpler treatment of Rhododendrons practised in most of the finest collections in Great Britain and Ireland, I am slow to be convinced of any advantage in the application of any animal manure. So long as *R. sino-grande* produces leaves 20ins. long and *R. calophytum* 10ins. long (measured this morning) my plants must be content with a dressing of leaf-mould. As for peat, the Asiatic Rhododendrons, except the lowly species that take the place of Heather at very high altitudes, never taste it till they are brought to this country, nor have the splendid plants grown in Cornwall any experience of it; nevertheless, in planting out we always put in some sand and pulverised peat as a good starting medium. Peat dug out of a moss and applied straightway is positively injurious, being heavily charged with humic acid; but six months' exposure to sun and wind makes it wholesome and digestible.

In his experiment of planting an unhappy *R. Nobleanum* in lime rubbish to test whether cow manure will enable it to survive, "Formakin" seems to disregard the latest research upon the biology of the genus Rhododendron, whence it appears probable that, while the Rhododendron itself has no antipathy to lime, the symbiotic fungus which clothes the roots and penetrates them with its mycorrhiza cannot survive contact with lime; and whereas the Rhododendron depends for existence on the nitrogen drawn from the soil by the fungus, the death of the fungus entails the death of its host. When Mr. Wilson and other collectors first reported that several species of Rhododendron had been discovered growing upon limestone, and even in talus full of limestone rubbish, British botanists were puzzled by a statement so much at variance with their experience of the genus; but Mr. Forrest has carried research further, establishing the interesting fact that in the Asiatic Rhododendrons growing in a limy soil the characteristic fungus grows on their leaves instead of their roots, presumably to draw a supply of free nitrogen from the atmosphere instead of fixed nitrogen from the soil.—HERBERT MAXWELL, *Monreith*.

MANURE as a mulch for Rhododendrons is very beneficial, though cow manure is to be preferred to that from the stable. Possibly the old idea that peat is a real necessity for successful



A READER'S PAVED GARDEN.



A LILY POOL IN THE SAME GARDEN.

difficult garden to run, as the soil is so hot and hungry. The lily pool shewn is very shallow—only about 18ins. deep—with large basins scooped out for the Water Lilies, which are planted in loam and turves, in which they do exceedingly well.—(Mrs.) E. M. TAYLOR.

from that of other places. "No doubt," says Mr. Millais in his great work on the genus Rhododendron, "the different exigencies of soil and situation sometimes require the employment of different treatments," and at Leonardslee the late Sir Edmund Loder used to apply decayed cow manure

Rhododendron growing in the few adherents in the wintered days. I am free from lime but the soil is quite satisfactory in which to grow this beautiful race of plants, but they will "get away" more quickly and better if peat and leaf-mould are placed about the roots when planting. Thus and an annual mulch of fresh leaves and manure will ensure success so far as soil is concerned. Moisture at the roots is a more important factor. The Rhododendron produces a mass of fibrous roots which do not extend far beyond the branches, and plants will readily respond to generous waterings in hot, dry weather. There will be many dissentients from "Formakin's" statement that R. Pink Pearl is an over-rated plant. If placed in full sun it is not satisfactory, for the colour soon fades, but in semi-shade, such as on the north side of a belt of trees, it is good, and possibly some experts would still place it among the best twelve. In full shade Pink Pearl is not satisfactory—it flowers less freely and becomes straggling.

A more difficult question than manure or soil is whether to plant in shade, semi-shade or in the open, and the question is answered by the requirements of each particular species or hybrid. One learns of these requirements only from experience. Semi-shade, such as woodland which has been cleared except for such trees as are reserved specially to provide shade, is the ideal position for Rhododendron growing, but some of us have not these ideal sites, such as one sees at Leonardslee, South Lodge, Sheffield Park or Exbury. Yet we would endeavour to grow and enjoy these beautiful flowers, and one is optimistic when he sees a huge plant of R. arboreum album said to be ninety years of age, with stems about 2ft. in circumference at the base, 20ft. to 25ft. in height and as far through, planted in full sun and fully exposed to the south-west. This specimen is growing in clay, and receives no help except that which it can obtain from its own decayed leaves. Varieties which stand exposure very well are R. arboreum hybrids, Fortunei hybrids (including Duke of York, Duchess of York and Mrs. Thistleton Dyer), R. emmabarinum, R. c. Roylei, R. Gauntlettii, R. Loder's White, R. Alice and the small-flowered R. yunnanense. The flowers of R. chartophyllum are not unlike those of R. yunnanense, but smaller, the plant is more bushy and of pendulous habit. It is a charming plant when in flower, and would look well in a border of mixed shrubs. We have it doing well and fully exposed to the south-west. The beauty of R. c. Roylei is seen at its best from the side the sun is shining. The flowers are then transparent and of a brilliant blood red colour. The beautiful new race of Dutch hybrids distributed by Messrs. van Nes and Koster are proving themselves quite hardy and to stand exposure very well. Some hybrids of R. discolor produce plants and flowers somewhat similar to those from Holland, and these late-flowering hybrids will prove of great value. There are some genies which will always insist on the coziest nooks, such as RR. Loderi, Falconeri, eximium, argenteum, A. Lindleyi, calophyllum and sutchenense, and to these may be added practically all the large-leaved varieties.—R. J. E., *South Hants*.

LING CHANGING COLOUR?

THE note in THE GARDEN of October 6 by H. Lindley about Heather changing colour is of more than passing interest, and induces me to record a somewhat similar happening I experienced some years ago while in charge of a large garden in Rutlandshire. The Heather was planted in clumps at the back and side of a rockery, and during the spring and on into summer the weather

set in very dry. The following season most of these Heathers flowered weakly and the greater part of them were of white or almost white colouring. This I attributed to the dry conditions of soil, the plants being somewhat starved by the lack of moisture for a long period and a loss of iron elements in the soil through those conditions. After flowering, a top-dressing was given, this being made up of a quantity of sifted spent chrysanthemum pot compost containing oyster shell, crushed mortar rubble and charcoal, to every barrow-load of which a barrow of well rotted oak and beech leaf-soil was added. The following season every one of the pink and rose coloured varieties resumed their former hues, while the tufts of Heather grew amazingly, which undoubtedly proved the lack of colour to be due to impoverished conditions. GEO. LOVLOCK.

A ROSE GROWING IN A STONE WALL.

I AM not sure that the enclosed photograph is suitable for reproduction, but I send it, as it may interest some readers to see a Rose growing in the joint of a stone wall. I noticed a seedling Briar growing, and when it was strong enough I inserted a bud of Zéphirine Drouhin in 1922 and the photograph shows the year old plant with three open blossoms and one bud. The plant is strong and healthy and bids fair to do well in its unusual quarters. It is surely a rarity from a joint in masonry to strong clay soil. The joint in which it is growing is about 2ft. from the ground.—H. C. W., *Longfeld*.

THE FIFTY BEST ALPINES.

I ENCLOSE a list of fifty alpine plants that I grow in my little garden at Dawlish. I have omitted non-flowering shrubs, not being sure how many of them are considered alpine. The plants I name are those which have succeeded best here.

Androsace lanuginosa, A. l. Leichtlinii, Alyssum spinosum, Aquilegia glandulosa, Aster Farreri, Arenaria montana, Alyssum saxatile citrinum, Bellis coerulescens, Campanula pusilla (Miss Willmott and alba), C. carpatia and its varieties, Ceratostigma plumbaginoides, Convolvulus mauritanicus, C. Cneorum, Crassula sarcocaulis, Daphne Cneorum, D. Verlotii, Dianthus alpinus, Dryas octopetala, Erodium chamaedryoides, E. chrysanthum, Erica carnea hybrida, E. cinerea atrosanguinea, E. vagans levernensis, Gentiana verna, G. Farreri, Geranium argenteum, G. lanceolatum, Geum montanum, Helichrysum bellidifolium, Lithospermum prostratum, Linaria alpina, Mentha Requienii, Micromeria corsica, Myosotis rupicola, Morisia hypogaea, Omphalodes Luciliae, Oxalis emicaphylla, O. magellanica, Phlox divaricata Laphamii, Potentilla fruticosa, P. nitida, Pentstemon heterophyllus, Ranunculus australis, Rosmarinus prostrata, Spiraea digitata nana, Verbena

chamaedryoides, Viola bosniaca, V. biflora, Wahlenbergia serpyllifolia, Zauschneria californica.—VIOLET C. BENTINCK.

CERTAINLY no two lovers of alpine plants will ever quite agree as to the fifty "best" plants for the rock garden. Climate, soil and general construction of the rock garden vary so much that a plant which is invaluable in one garden proves worthless in another. I imagine that your correspondent invites criticism on his selection of the fifty plants best suited to the average type of rock garden (including a small moraine), where plants which require very special cultural attention are not desired. If that is the case I would suggest striking out from his list the following as being too unreliable unless in the hands of an expert, viz.,



ROSE ZEPHIRINE DROUHIN GROWING IN A WALL.

Aquilegia alpina, Azalea procumbens, Cyananthus lobatus, Cypridium Calceolus, Daphne rupestris, D. Blagayana and Omphalodes Luciliae. Are not Soldanella Ganderi and Viola Bertoloni rather unproved as yet? Ononis cenisia also is too rare. I think the following list of fifty plants consists only of tolerably easy kinds, all of sufficient beauty to be worth a place on every rock garden: Aethionema Warley Hybrid, Androsace sarmentosa Chumbyi, A. lanuginosa, Aquilegia glandulosa, Arenaria balearica, A. montana, Asperula suberosa, Campanula Albionii, C. carpatia White Star, C. garganica, C. pulloides, Cytisus kewensis, Daphne Cneorum, Dianthus alpinus, D. neglectus, Dryas octopetala, Gentiana acaulis, G. Farreri, G. sinuata, G. verna, Geranium argenteum, Geum Borisi, Hypericum Kotschyannum, H. reptans, Iris gracilipes, Lithospermum prostratum, Linaria alpina, Onosma echinoides, Oxalis emicaphylla, Pentstemon Davidsonii, Phlox Douglasii, P. subulata Nelsonii, Potentilla nitida, Primula frondosa, P. pubescens alba (nivalis of gardens), P. Winteri,

Ramondia pyrenaica, *Ranunculus amplexicaulis*, *Saxifraga aizoon rosea*, *S. Burseriana* Gloria, *S. Elizabethæ*, *S. lantoseana*, *S. oppositifolia*, *S. Grisebachii*, *Silene alpestris* fl. pl., *Sedum spatulifolium purpureum*, *Sempervivum arachnoideum*, *Veronica saxatilis*, *Viola gracilis* and *Wahlenbergia serpyllifolia* major. I have purposely omitted all bulbs—one might indeed easily select fifty really desirable bulbous plants for the rock garden alone. —N. G. HADDEN, *West Porlock, Somerset*.

WITH reference to "Purley's" invitation to criticise his list of alpine, I think it would be hard to do so, as the list is rather a good one, but I will submit a list which I think includes some of the best, especially for their flowering qualities.

Achillea rupestris, *Æthionema ibericum*, *Androsace Chumbyi*, *Antirrhinum Asarina*, *Aquilegia corruca*, *Asperula suberosa*, *Aubrietia Dr. Mules*,

A. rosea splendens, *Campanula Abundance*, *C. pusilla alba*, *C. Portenschlagiana* (muralis), *Cheiranthus linifolius*, *Cistus lustranius*, *Convolvulus Cneorum*, *Coronilla iberica*, *Corydalis lutea*, *Cyananthus lobatus*, *Cypripedium spectabile*, *Dianthus casius albus*, *D. fragrans* fl. pl., *Draba brunifolia*, *Erythraea Massoni*, *Gentia sagittalis*, *Gentiana verna*, *Geranium sanguineum lanceolatum*, *Gypsophila cerastoides*, *Houstoniaerulea*, *Hypericum Henryi*, *Linum arborescens*, *Lithospermum prostratum* Heavenly Blue, *Lychnis Lagasce*, *Morisia hypogaea*, *Omphalodes verna*, *Onosma taurica*, *Papaver alpinum*, *Pentstemon Menziesii* Scandier, *Phlox nivalis*, *P. Vivid*, *Primula capitata*, *P. Cockburniana*, *Saxifraga apiculata*, *S. Burseriana* Gloria, *S. Irvingii*, *S. oppositifolia* major, *Thymus Serpyllum coccineus*, *Veronica pectinata rosea*, *V. Teucrium Trebane*, *Viola bosniaca*, *V. gracilis*, *Wahlenbergia saxicola*.—R. C. JOLLIFFE, *Oxford*.

The Flower Garden.

Planting Roses.—November is the ideal month for planting Roses, the leaves having duly performed their functions and yet enabling the plants to take hold of the soil before the dead of winter. It is taken for granted that the ground has been judiciously manured and deeply dug. If the roots of the plants have become dried up in course of transit, they should be steeped in water for twenty-four hours prior to being planted. Cut away any damaged or diseased roots and considerably shorten any long, bare ones. Excavate the pit sufficiently wide to admit of the roots being spread out full length. The bottom of the pit should be quite flat or slightly convex and of such a depth that the point where the bud was inserted should be immediately below the surface of the soil. Tread the soil firmly about the roots, and when the operation is completed, run the Dutch hoe between the plants. Label the beds, clumps or single plants according to the style of planting.

Sweet Peas.—Plants in small pots intended for early planting out should now be pinched to induce a short stocky growth; keep the plants near the glass. It is rather early yet to prepare trenches for the main planting, but the ground should be selected and the trench or trenches marked off. If natural stakes are available, the sooner they are secured the better.

Digging, whether single or double, should be carried through as soon as the work can receive attention. This, of course, applies to the mixed garden and where there are borders or considerable breadths vacant. It will be well provisionally to mark how the various spaces are to be furnished next season, and this in turn will determine to what depth the soil should be cultivated. Strong-growing gross feeders, such as Dahlias, require much more liberal cultivation than Antirrhinums and the general run of annuals.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

CONSERVATORY AND GREENHOUSE.

Shrubs for Forcing.—There is quite a large number of hardy shrubs and small trees that are suitable for growing in pots or tubs for furnishing the conservatory during late winter and spring. Many of them force readily, but where accommodation is not available for forcing, they may still be used, for if brought on in an ordinary greenhouse temperature most of them will produce their flowers several weeks in advance of the plants growing outdoors. The plants best adapted for this purpose are those that naturally flower early. Many of them, such as *Rhododendrons* and *Azaleas*, if lifted from the open ground at this time and placed in pots or tubs may be successfully forced. Others, such as *Lilacs*, give the best results when they are pot grown, and plants specially grown for forcing can usually be purchased from plant dealers. A pot-grown *Lilac* that has suffered no disturbance at the root will last in good condition for several weeks in a cool house, while plants lifted from the open may only last in good condition for a week. The same remarks apply to *Pyruses*, *Prunuses*, *Magnolias* and *Wistarias*. In using *Rhododendrons* for forcing, preference should be given to varieties that naturally flower early. *R. Rosa Mundi* is very free and may be had in flower at Christmas, while *R. Prince Camille de Rohan* is a good type of *Rhododendron* for this purpose. In fact, all the varieties that have caucasicum "blood" in them are suitable. Other *Rhododendrons* that respond well to forcing are *RR. precox*, *macronulatum* and *emasculum*. *Forsythia intermedia* var. *spectabilis* is the best of all the *Forsythias*. This plant forces well and may be had in flower at Christmas, and if placed in a cool conservatory remains in good condition for several weeks. It is invaluable for furnishing a supply of cut flower for house decoration. *Keria japonica* var. fl. pl. is very useful for early work. Among *Spiræas*, *SS. Thunbergii*, *arguta*, *prunifolia* fl. pl. and *Van Houttei* are all very beautiful and useful. *Pyruses* are also lovely, and are always much admired. The most useful are *P. floribunda* vars. *atro-sanguinea* and *purpurea*, *P. spectabilis* and the hybrid *P. Scheideckeri*. The genus *Prunus*, again, provides many fine plants for this purpose, including as it does the many beautiful species and varieties of Japanese Cherries; *P. persica*, which includes the beautiful double Peaches; *P. triloba* fl. pl.; *P. japonica* fl. pl. in pink and white varieties; also *P. pissardi*, the coloured foliage of which is very bright and attractive. *Acer Negundo* albo variegata is also very useful for its foliage effect, while the many beautiful varieties of the Japanese Maple, *Acer palmatum*,

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—In this district we make a practice of sowing several lines of Broad Beans of the Longpod type during the early part of this month, and they are invariably a great success. They produce their crop a few weeks in advance of the spring sown, and they are rarely infested with the black fly. Select a well drained and sheltered spot and plant in double lines 2 ft. or 3 ft. apart—the seeds in the lines being from bins. to bins. apart and the lines about bins. asunder. Plant the seeds 2 ins. deep. If possible, the position should be sheltered from cold, cutting east winds, which do more harm than frosts and rain, especially when the plants are a few inches high.

Crops in Frames will need close attention during the next two or three months, damp being the greatest enemy. Every opportunity should be taken to remove the lights, thereby keeping the atmosphere fairly dry and the plants as hard as possible. Stir the soil between Cauliflowers, Lettuce, etc., at intervals, and afford a sprinkling of soot or lime if slugs are prevalent.

Peas.—Where a suitable position exists, such as a light well drained border with a south aspect, it is worth planting a few lines of Peas. The round-seeded varieties are best, and I have found The Pilot most reliable for sowing during November and December. It attains a height of 3 ft. or 4 ft., so the rows should be about that distance apart. Sow the seeds rather more thickly than is usual, and a close watch should be kept for slugs when the seedlings appear through the soil.

Globe Artichokes.—If we experience a spell of frosty weather, it will be necessary to afford the crowns some protection. Straw, leaves, or fern bracken will be found suitable, but the centre of the plants ought not to be covered for any length of time or they will decay.

The Flower Garden.

Bulbs.—Although earlier planting of bulbs has been advocated in this column, there is still time to deal with some kinds, especially May-flowering Tulips. All beds should now be cleared of their summer occupants, because it is not advisable further to delay such work.

Herbaceous Borders.—The lifting and replanting of herbaceous plants should be taken in hand, and, where new borders are contemplated, it will be necessary to proceed with the work at once. Borders that have been in existence for several years and have not been disturbed will need a thorough overhauling. Lift the plants, label them, and cover them with mats while the border is manured and trenched. The best method to divide herbaceous plants is to pull them to pieces with two forks and not chop them up with a spade. Use the outer or young portions for replanting. Borders that have received recent attention will only require a general clean up, a dressing of manure, and a light fork over. The Michaelmas Daisies, *Heleniums* and such like may be divided, but *Delphiniums*, *Pæonies*, etc., are best left alone. The colour scheme or arrangement of the plants must be left to the individual, and the width of the border should also be taken into consideration. A stiff formal appearance should

be avoided, and a few bold irregular groups generally will suffice to provide the necessary relief.

Lawns will require sweeping occasionally with a new birch broom, afterwards rolling the grass with a light roller. Any bare patches may be made good with fresh clean turf.

The Hardy Fruit Garden.

The Fruit-Room.—Constant attention is necessary to prevent the loss of fruits, more especially this year when they are so scarce. One bad fruit will quickly contaminate others, hence the reason for its early removal. No frost should be allowed to enter the structure, but excessive warmth and dryness are equally detrimental. Arrange the fruits in single layers so that they may be readily examined.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Jerusalem Artichokes.—If the stems have not been cut over, this should be attended to, and, as a wintery snap may occur at any time now, it will be advisable to protect a part of the crop with some dry littery material so that the supply can be maintained independent of the weather.

Ridging.—Those who have to battle with heavy clayey soil should, when trenching, throw the soil up in ridges like a fully earthed-up potato drill; this exposes the maximum of surface to frost and other weathering influences and makes the work of breaking up the soil at cropping-time much easier.

Pea Stakes.—Gardeners who have access to natural pea stakes (the best of all) should secure them as soon as convenient while the sap is down. If there is a choice, Beech, Elm and Hazel should have preference, both on account of tractability and lasting qualities; failing those kinds one must make the best of what is available.

Parsley.—If a sowing was not made in a frame to produce a winter supply, a frame should now be placed over part of the crop. Give abundant ventilation in open weather, but protect from frost by matting the frame. This is only intended for a stand-by during hard weather, so pick from the open whenever it is available there.

Fruits Under Glass.

The Orchard House.—All the pot trees will still be out of doors, where they should remain for the present. If they have not been plunged, they should be now, or the pots should be surrounded with some loose litter. These precautions are necessary to prevent injury to the roots by frost and also as a precaution against the pots being broken through the action of frost. Meanwhile the orchard house should be thoroughly cleaned preparatory to the trees being brought inside. Ventilate the house day and night.

Strawberries.—Should very wet or snowy weather occur, the pots should be accommodated in a cold frame, which should be freely ventilated. The plants should be kept on the dry side, but should not be allowed to become dust dry. If frame room is not available, the pots may be stacked on their sides, protection being afforded by means of mats if frost occurs.

are in vogue for growing in pots, as is *Acer japonicum* var. *acuminatum*. Other plants that are commonly used are *Staphylea trifolia*, *Deutzia gracilis*, *Viburnum Opulus* sterile and *V. macrocephalum*, also the sweet-scented *V. Carlesii* and *Xanthoxylum* *scorbiifolia*. *Wistarias*, of course, are extremely useful, and are best when pot grown. They should be brought in slowly in an intermediate temperature, for it given too much heat they usually drop their buds. *Laburnum* and hardy *Broom*s (*Cytisus*) may be used for the same purpose. From the number of plants mentioned it will be seen that there is a wealth of material to select from, and these plants should be more generally used for furnishing the conservatory during the earlier months of the year, when they give a spring-like effect indoors which is very welcome during inclement weather. All plants used for this purpose should be potted at this season, standing them outdoors until such time as they are required. The pots should be

plunged in ashes or surrounded with hay to protect them from frost.

Erica gracilis and its variety *nivalis* are very useful for furnishing the greenhouse at this time. They are grown in large quantities by several nurseries for the London market. *Erica melanthoides* is also largely grown for sale during Christmas. These plants are very popular and last in flower for quite a long time, and it is a great pity that they are not more generally grown in private establishments.

Freessias and *Lachenalias* that were potted early have now made considerable growth, and should be kept well up to the glass and be given plenty of air on all favourable occasions. The young growth of *Freessias* should never be allowed to fall over, else the plants never do well. Therefore, some timely support should be afforded them. Slender sprays of Birch or Hazel are very suitable for this purpose.

Royal Botanic Gardens, Kew.

J. COULTS.

NERINES

History—Cultivation—Appreciation.

I WOULD, personally, have preferred, had I followed my own inclination, to have headed this article *Guernsey Lilies*. Firstly, because I think the name *Guernsey Lily* is old enough to have the preference given to it, and, secondly, even if this be not so, it is the one that has been attached to one of the most striking plants that have ever reached European shores. The great advertisement of the "Mania," its long continued popularity and its hardiness in western gardens have combined to give such a commanding fame to the *Tulip* that the stir in gardening circles (or to use a much more ancient phrase, among the Curious), is, I expect, almost unknown. Unlike that great flower it has never become common. For one thing it is not hardy, or, to be more accurate in my generalisation, it was not, until the coming of Bowdoin, which, even in my Midland garden, lives through ordinary winters at the foot of a south wall. Secondly, it always seems to have been a shy bloomer. If one may read between the lines of tradition the first bulbs that ever came to *Guernsey*, about 1050, had this failing, as their descendants certainly have. Hence, we frequently come across the advice in old gardening books of last century to throw the bulbs away after they had flowered. There is but little doubt that the *Guernsey Lily* has been an awkward customer to deal with in English gardens ever since the famous Cromwellian General Lambert flowered it in his garden in 1659. It bothered such a keen and knowledgeable gardener as John Evelyn not a little, as anyone may see if they follow his remarks about "the *Narcissus* of Japan (or *Guernsey Lily*)" in his "Kalendarium Hortense" for April from the earliest edition in 1664 to that of 1701. These "curious" ancients thought very highly of it. Father Rapin, a French Jesuit, in his poem about gardens published in 1695, gives us a good idea of the estimation in which it was held both in France and in our own country and so we can reduce the anxiety of Evelyn to get it to succeed. I have chosen the translation made by Mr. Gardiner, the young sub-dean of Lincoln, who died at an early age.

"This delicate, yet skillful Florist often plant,
Let not vexation this fair beauty want;
And thou dost answer not your common care,
No cost nor labour on her dress or spare,
For should she but her conquering charms display,
From every fair she bears the prize away."

The beauty of what I believe to be the original "one and only" *Nerine sarniensis*—has of late years been augmented by the raising of an immense number of very beautiful hybrids of varied shapes and colours, so that we have not only the deep rose

of the old variety, but innumerable shades of red, many shades of pink and a broad-petalled white. There is good news to be told too about the way they flower. The "crab" of the race has been all along their shyness in blooming. In the first volume of the *Memoirs of the Caledonian Horticultural Society* (page 285, of the second edition), it is stated that in the island itself about the year 1800 only from fifteen to eighteen bulbs out of a hundred could be counted upon to bloom. I can readily believe it from my own experience. With some of the newer varieties it is quite different. Until the lengthening out of the war made things very difficult, I kept careful records of how almost every potted flowered, and I could point to many in which there were three or four bulbs of which the record was one to two bloom-units every year, the high-water mark being reached when three bulbs gave six flower stems. This freedom was undoubtedly helped by correct cultivation, but a very great proportion of my success was due to the innate propensity of the new-comers to respond to treatment which they appreciated. One cannot make a silk purse out of a sow's ear; one cannot make *sarniensis* into even a triennial bloomer. With a little knowledge of their wants many of the moderns, if there are three or more in a pot, give a yearly display of their charms. October, in England, knows no more fascinating or glorious sight than a collection of *Nerines* in the early morning or late afternoon when the sun's rays strike those wonderful umbels at right angles and transform the vegetable substance of the flowers into scintillating tinsel which more than rivals the brilliancy of the beautiful red Japen enamel. Believe me, the family is worth a house to itself. Its members are good tenants. They give so little trouble, and when the time comes that they must swarm, a good cold frame from which frost can be excluded will hold the overplus. One cannot kill a *Nerine*, though one cannot make it flower. It fills me with amazement to see what treatment they will put up with. If only one can keep them growing, with healthy foliage, from the time they appear, in October, until, in April, their yellowing sheaves the task of manufacturing food has been completed, little more is necessary except to give the bulbs a thorough good basking from May to August. They like a good virgin loam to which is added enough silver sand to keep it porous, and thorough drainage. All the feeding is done by liquid stimulants during the winter months, when the leaves are green. It is a mistake to overpot. They are a class of plants that like to feel their roots against the sides and bottoms of the pots; hence, repotting is only necessary once in three or four years. If the bulbs become so crowded that they burst their pots, no harm is done

except to the pots. It is their forcible way of telling one that they need dividing, or more room if they are to remain in one mass; in this latter case the ball can be bodily transplanted to a pot of a slightly larger size.

Seedling raising is tedious. I find it at least five or more, often six or seven, years before a new bulb will throw up its first bloom. Against tediousness may be set easiness. If the seeds, which, by the way, are green and never look as if they were ripe, are sown very thinly, say $\frac{1}{2}$ in. apart from one another, they may be left in their original seed pans until they flower. Not only is this an easy way of dealing with seedlings, but it economises room, as, if pantful of each bulb and its little offsets are put into $\frac{3}{4}$ in. pots, they take up a good deal more room than before they were moved. I will conclude as I began, by a few words on the name *Guernsey Lily*. It was originally known as *Narcissus japonicus rubido flore* or *Narcisse du Japon*, that is to say, *Japan Lily*. As far as I can gather from the books at my disposal, John Evelyn was the first person to call it the *Guernsey Lily*, or as he wrote the name the "*Guernsey Lily*." This was in 1664, in the first edition of his "Kalendarium Hortense," which was published as a sort of addendum to his *magnum opus* "*Sylva*," which may literally be called one of the foundation stones of England's Greatness. No "*Sylva*," no Nelson. It is as great as that. The name *Guernsey Lily* did not altogether catch on. At one time it was the *Japan Lily* and at another the *Guernsey Lily*. For example, John Laurence, Rector of Bishops-Wearmouth, in his "New System of Agriculture and Gardening" in 1726, gives both (page 424). He places it under the head of *Narcissus* or *Daffodil* and introduces it by saying, "It would be the highest injustice to the Crown and Glory, and King of them all to say nothing, or but little of the *Narcissus* of Japan." He then gives his version of how the plant got the name *Guernsey Lily*. It arose from the wreck of a ship from Japan on the coast of the island which contained some of these bulbs, which either lay neglected on the shore or which were given to some of the inhabitants. At all events their beauty very much surprised the good people when they first bloomed, and as the conventional tale ends, "they have lived there happily ever after," and for many years must have been a considerable source of income to the people of the little island. I like the ancient parson's enthusiasm. A bed of a hundred spikes "in full blow" can still stir the feelings of an old inhabitant who can remember the palmy days of the flower before the great frost of 1895. As Laurence wrote of Mr. Bradley when he first saw a bed of *Ranunculus* in a garden at Mitcham, my good old friend William Mauzer's "extasy was very great" when he saw this sight this autumn in a *Guernsey* garden, so much so that to let off steam he felt he had to write and tell me about it. I know the "extasy," too. Those visits to the lean-to house at Colesborne filled with the very best *Nerines* the world has ever seen! Can I ever forget them and their more than generous owner? They are among the red-letter days of my gardening life—never to be forgotten—on a par with the strange sight of the ninety-ninth Annual Gooseberry Show at Harborne and my first introduction to a Tulip Show and Feast at the floral metropolis of Middleton, near to which lies the little city of Manchester. We never know. The *Nerine* keeps itself to itself. I hope it never will allow itself to be spread out over the months as the *Carnation* has done. Somehow or other I do think Nature knew what mankind liked best when she ordained a certain season for each flower. The beauties that are here to-day and gone to-morrow are, I think, those that give us the greatest "extasy." If you have this feeling, you will know why the fatted calf was killed for the prodigal son. Just try *Nerines*! JOSEPH JACOB.

LARGE VARIETIES of PEARS FOR DESSERT or STEWING

Large specimen Pears are often useful to ornament the dinner-table (to say nothing of shop window display). They also find admirers visiting establishments during the shooting season, and often bring testimony to the skill of the cultivator. I remember many years ago the late Duke of Cambridge, visiting Sir Henry Ewart as a shooting guest, being greatly interested in some fine specimen fruits of General Todleben Pear, then hanging on the tree, and requested conversation with the writer as to how it was possible to produce Pears weighing over two pounds. I explained that I thought it might be the application, as a top-dressing, of sulphate of ammonia!

GENERAL TODLEBEN is a large long russety fruit, but rather difficult to ripen satisfactorily. Should climatic conditions favour its ripening, it may be claimed as good for dessert, although for my part I consider it much too large for that purpose; in fact, all fruits over 10 ozs. ought, so I consider, to be barred in competition in the dessert classes. The tree of this variety first produced fruit in 1855, and was named in honour of the gallant defender of Sebastopol. The flesh has a rosy tinge, is slightly gritty, with, however, plenty of juice, and, should the specimens be too large for dessert, its culinary value is well proved.

PITMASTON DUCHESS, also a Pear of immense size, was raised by a Mr. Williams of Pitmaston, near Worcester, some time about 1805. I have judged Pears of this variety in open competition over two pounds in weight, and often remarked, "Far too large for a pretty mouth." Seasons of sunshine will give finish and high flavour, and should no other Pear be handy, it will not altogether get condemned on the dessert dish. It thrives well whether trained as a cordon or espalier, or in bush form.

BLURRE CLAIRGEAU is a large and handsome fruit, the skin being smooth and shining, of a lemon colour, with a patch of orange red next the sun, covered with large russety dots and patches of thin delicate russet. The flesh is white, crisp, and in favourable seasons this is a good dessert Pear. It is ripe in November, and finds many admirers on account of its coloured appearance.

SOUVENIR DU CONGRES resembles a large Williams' Bon Chrétien, but is quite a distinct fruit none the less. The skin is bright yellow with cinnamon russet, and there are streaks of bright crimson on the side next the sun overlaid with russet. The flesh is yellowish white and juicy and of high flavour. It ripens at the end of August. It was raised at Lyon-Vaise, France, and introduced to commerce between 1865 and 1870. It is prolific on espalier, cordon, half-standard and bush, and finds a ready sale in the open market.

ROOSEVELT is a very large fruiting variety introduced about 1900, and I have seen enormous specimens of this Pear. As a variety it has two outstanding features, the one being its almost round, temple-like shape, and the other that every blossom has a double number of petals, namely, ten instead of five, giving the tree a charming appearance while in blossom. It is a noted cropper, and, during the past four seasons, the quality of production has been quite satisfactory. The fruit is green in colour with a slight flush, and to anyone requiring a constant bearer of large Pears, Roosevelt will answer the purpose. It ripens in October and is of fair quality. GEO. LOVLOCK.

Cotoneaster Simonsii.—Though a common species, often used for ornamental bedding, this is deserving of a warmer regard than it usually enjoys as a berrying shrub. It is a robust and easy doer almost anywhere, with a bold, somewhat stiff habit and a stature of some 10 ft. or more. The foliage, which is deciduous, or semi-evergreen, consists of rather rounded, oval-pointed leaves of a peculiarly fresh glossy green, and before these colour in autumn the large fruits assume a fine deep orange tint which changes to scarlet. These fruits are egg-shaped and borne in clusters of three or four, and as they are nearly $\frac{1}{2}$ in. long they make an effective display. On bushes occasionally cut back, or clipped hedges, the berries of *C. Simonsii* are produced on the older wood almost to the ground, as well as on that of the previous year's growth, so that a well berried specimen—and this species is most reliable in this respect—is a most attractive object. These berries, moreover, are seldom eaten by birds until most others have disappeared, and it is by no means uncommon to see a bush carrying its crop far into the winter. *C. Simonsii* is excellent for quickly covering a wall, and grown in this way it makes a useful support for choice Clematises and other climbing plants.

The Large White Meadow Saffron.—The large white Meadow Saffron, *Colchicum speciosum album*, has bloomed very well this season. It is exceedingly fine—much finer than the white variety of the ordinary *C. autumnale*. In size it far surpasses it, while in respect of its "staying" power in the way of resisting stormy weather, there can be no real comparison between the two, so immeasurably superior is *C. s. album*. It is of much greater substance and the tubes are so much stronger that it will stand up against weather which would render the smaller white one almost a wreck. Its colour, also, is purer, and for the rock garden or the front of the border it is superb. It does not appear as yet to have been planted largely in grass, but one can picture in the mind's eye the magnificent effect which would be produced by hundreds of this grand flower on such a carpet. It is as yet expensive, however, for such generous planting. As it increases quite freely in good soil, even a corm or two should prove a profitable investment. We owe this fine plant originally to Messrs. Backhouse of York, who sent it out, but its origin is unknown to us.

The Carnation in New Zealand.—In the Annual of the Hutt Valley (N.Z.) Horticultural Society there are a number of very interesting papers on various aspects of gardening in New Zealand, and it may be said at once that good garden practice appears to be much the same there as in the Old Country. A paper on the Cultivation of the Narcissus by that well known authority, Mr. A. E. Lowe, first attracted attention in this interesting little book, but Mr. Lowe's views on the question are fairly well known to readers of THE GARDEN. A paper on Border Carnations by Mr. H. A. Fox as they appear to a New Zealand enthusiast is of interest in several ways. Not only does Mr. Fox find no difficulty in importing plants from England, he actually finds that imported plants do better than native raised stock. He attributes this to the fact that, owing to the changing over of the seasons, the plants are seventeen months old when they come to flower. Mr. Fox imports from Mr. Douglas of Great Bookham, and he says: "My experience with Douglas's Carnations is that there are very few that burst. When they do it is caused by wind and sun hardening one side of the calyx with disastrous results. For this reason alone I always apply a rubber band to each bud just

before it shews colour. Directly the bud expands above the calyx the pressure is removed and the band can be slipped down and removed with scissors." A really excellent paper in an extremely interesting little book; one wishes it were obtainable in this country.

The First Issue of "The Garden."—A correspondent writes to say that he has a copy of the first issue of THE GARDEN (November 25, 1871) in good condition, which he would like to dispose of. If anyone reading this would like to acquire it, the Editor will gladly forward a letter.

FORTHCOMING EVENTS.

November 6.—Birmingham Chrysanthemum Society's Exhibition, to be held in conjunction with the National Potato Society's Exhibition (two days).—Royal Caledonian Horticultural Society's Meeting.

November 7.—Mitcham, Tooting and District Horticultural Society's Show.—Sevenoaks Chrysanthemum Society's Exhibition.—Royal Oxfordshire Horticultural Society's Exhibition (two days).—Marlow and District Chrysanthemum Society's Exhibition.

November 8.—Wargrave and District Gardeners' Society's Meeting.—Bedford and District Chrysanthemum Society's Exhibition.

November 9.—Gloucestershire Root and Fruit Society's Exhibition.

November 10.—Hawick Horticultural Society's Exhibition.

ANSWERS TO CORRESPONDENTS

So many of the Apples and Pears that are sent to this office for naming are unsuitable that we are constrained to point out (1) that fruit's should be ripe and typical of the variety; if the fruits seem to differ in type a good deal, it is better to send two or more fruits showing the different types; (2) the easiest way to mark the fruits is by marking a number upon the fruit itself in Roman figures with a sharp pencil—stump paper often becomes detached in transit; and (3) packing should be done very carefully, bearing in mind the present day Post Office methods of handling parcels in sacks. We endeavour to name all specimens sent, realising that in some cases typical specimens are not available, but in that case errors of identification are likely to occur.

FRUIT UNDER GLASS.

GRAPES UNSATISFACTORY (F. S.).—The Grapes have suffered from errors in cultivation, and are apparently ruined through insufficient or untimely ventilation. There is no specific disease apart from this.

KITCHEN GARDEN.

CELERY ATTACKED (R. N., Woodfield).—The Celery is attacked by the Celery leaf-spot disease due to the fungus *Septoria Petroselinii* var. *Api.* It is often carried over in diseased seed and all seed should be sterilised before sowing by steeping it for two hours in hydrogen peroxide. The diseased parts of plants should be completely burned.

MISCELLANEOUS.

HOW TO ESTABLISH MOSS UNDER TREES (Mlle. A. de S.).—It would be quite useless for our correspondent to attempt to grow any Moss on the ground while the roots of the Couch Grass are there. Ordinary grass, sown-growing, will kill Moss; Couch Grass will do so in much less time. The roots, or underground runners, should be taken out, then the surface rolled firmly, left so and not disturbed; and, if possible, it should be moistened occasionally. If any Moss can be procured but should be sown on the soil before the latter is rolled. Mosses drive on soils too poor to sustain the growth of grasses and, in northern aspects they spread rapidly. Failing to establish Moss, why not plant Heather? The ground would, of course, still need clearing of grass for this.

FUMIGATION WITH TOBACCO PAPER (C. H.).—Tobacco paper, as usually sold, will smoulder on lighting. Directions are generally given for its use by the vendor.

NAMES OF FRUITS—W. W., Porthshire.—Apples: 1, Golden Spire; 2, Warner's King.—C. V. B., Cornwall.—Apples: 1, Chatley's Kernel; 2, Barchard's Seedling; 3, Pope's Scarlet Costard; 4, Endleigh Beauty; 5, Washington. The specimens sent were exceptionally poor, thus making identification uncertain.

NAMES OF PLANTS—G. B., Anglesea.—1, *Tritonia crocosmeiflora*; 2, *Physalis capensis*; 3, *Fuchsia macrostemma globosa*; 4, *Salvia splendens*; 5 and 6, both garden hybrid *Fuchsias*. Cannot identify.—W. S. T., Norwich.—*Hibiscus Trionum*.—H. G. S.—*Centaurea rutifolia*. This plant is half hardy.—Mrs. S., Glos.—1, *Helenium autumnale purpureum*; 2, *Solidago canadensis*.

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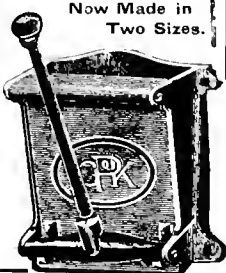
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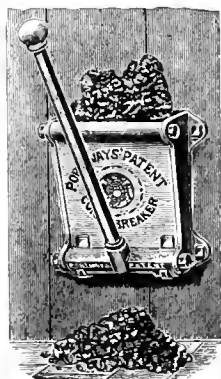
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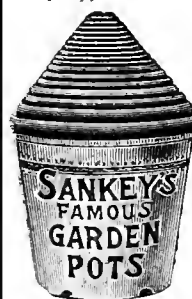
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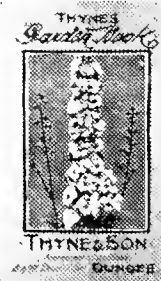
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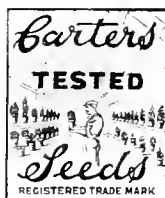
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No. 2712.—VOL. LXXXVII.]

[NOVEMBER 10, 1923.]

TREES AND SHRUBS FOR FOLIAGE

THERE are many trees and shrubs which are worth a place in gardens for their foliage and habit of growth. Some of them, indeed, have no other merit—the Bamboos, for example. A great deal of the beauty to be obtained by such planting depends upon proper grouping, sometimes merely of the species in question, but more frequently as regards its placing among other trees and shrubs of a character and habit of growth calculated to shew it up to best advantage.

The Bamboos have been mentioned as examples of shrubs which are cultivated solely for their foliage and habit of growth, but, unless used with the greatest care and in suitable situations, most of the species can scarcely be called attractive. An exception must, however, be made in favour of *Bambusa pumila*, which, though apt to spread almost too freely, is one of the very best plants we have for "carpeting" in shrubbery or wild garden. The foliage is of a delightful green colour very pleasant to the eye. Another plant grown entirely for its handsome pinnate foliage is the Tree of Heaven, *Ailanthus glandulosa*, which, remarkable and beautiful throughout the growing season, is especially attractive when the foliage takes on a mellow golden tint preparatory to the fall. The new *A. Vilmoriniana* has even larger foliage. The Sumachs, with somewhat similar pinnate leafage and more brilliant autumn colouring, have the added attraction of the curious rather candelabra-like inflorescences.

Several Araliads have very handsome foliage, notably the Chinese Angelica tree (*Aralia chinensis*), and the very similar *A. spinosa*, the so-called *Aralia Sieboldii*—more properly *Fatsia japonica*—and several members of the genus *Acanthopanax*. The most striking of these is *A. richii-folium* (*Aralia Maximowiczii*) with leaves on young plants 1 ft. or 15 ins. across, but *AA. Henryi*, *lencorrhizum*, *pentaphyllum*, *senticosum*, *sessiliflorum* and *sutchuenense* are all handsome and remarkable in their appearance. Some of them are very attractive when bearing their quantities of ivy-like berries. All the Tree Ivies—merely fruiting forms of

the several species—have attractive foliage, and at least one species—*Hedera colchica* (better known as *Ragneriana*)—is remarkable in the climbing (non-fruited) form. The Araliads, however, have an appearance so very distinctive and exotic that they should either be used boldly to create an atmosphere or neglected altogether. A single specimen or group in a mixed shrubbery is apt to look very spotty and bizarre.

The great Maple family is noteworthy for its beautiful foliage, and many gardeners would consider that the Japanese varieties of *Acer*

palmatum (in particular) and *A. japonicum* hold the palm for beauty of leafage. Certainly they are very attractive and, for a small garden, well-nigh indispensable, yet here again the exotic appearance of many of the varieties is noteworthy, and they should be used fairly extensively in any planting in which they are employed, and not scattered indiscriminately over the whole garden. Moreover, they should have shelter from the north and east. The varieties are almost all attractive, but some are not very robust. A list of the very best would include *A. palmatum* (type) and vars. *aureum*, *septemlobum atropurpureum*, *s. elegans*, *s. reticulatum*, *s. sanguineum*, *dissectum*, *d. rubrum*, *d. purpureum* and *sessilifolium*, with *A. japonicum* (type) and vars. *aureum* and *filicifolium*.

The Box Elders, forms of *Acer Negundo*, have also remarkable and attractive foliage. The typical plant grows into a not unattractive tree of some size, but the variegated forms called *variegatum* and *aureo-marginata* are more generally grown. Of the two, *aureo-marginata* is the more vigorous. Variety *aureum* (syn. *odessanum*) has leaves entirely golden, and is a free grower, but not very attractive.

Most of the taller Maples and Sycamores have handsome foliage, though few, if any, are more beautiful than the Common Maple of our hedgerows, *A. campestre*. Two other species which appeal rather specially to the writer may be mentioned, namely, *AA. circinatum* (the Vine Maple), of rather a low spreading habit of growth, and the purplish foliaged form of the Norway Maple known as *A. platanoides Schwedleri*; but many others of equal merit might be selected.

Among Barberries, those most effective as foliage shrubs, are, as a rule, by no means the most brilliant when in flower, though no one could call the foliage of those old favourites, *Berberis Darwinii* and *B. stenophylla*, anything but beautiful. They have not, however, the striking appearance when out of flower which is characteristic of *BB. aristata* and *Hookeri*. Neither of these species, however, compares as regards sheer beauty of



AUTUMNAL SPRAYS OF VIBURNUM OPULUS FRUCTU-LUTEO.

the most beautiful of the *Malvaceae*, *B. Aquinifolia*, etc., especially the *Malvaceae* of *B. japonica*, such as *B. Thunbergii*, etc., extra large foliage, and *B. Thunbergii*, etc.

The most beautiful of the gigantic foliage are, for the most part, *Malvaceae*, *Gunnera*, *Rheum*, etc. But the most hard back each spring, *Paulownia japonica*, makes tremendous growth and will, after feeding, produce leaves 2 ft. to 3 ft. across. This tree is not a great success except in our milder districts and, even there, it does not as a rule flower freely; but plants for cutting back in the way described may, with little difficulty, be given protection in hard weather.

The most characteristic and perhaps the most beautiful of British trees is the Oak, but there is nothing specially attractive—at least as growing—about its foliage, but a few exotic species and varieties, notably *Quercus pedunculata* and *Q. rubra* and *velutina rubrifolia*, have very large and handsome foliage. The Scarlet American Oak, *Q. coccinea*, so well known for its autumn colour, also has large, rather handsome foliage.

The foliage of the Tulip Tree, *Liriodendron tulipifera*, attracts because of its size, and also because of its unusual and rather peculiar "saddle" shape. The foliage takes on, in autumn, a rich but mellow yellow colouring very much like that of the *Ailanthus*. Another tree with unusual and handsome foliage is the well named Maidenhair Tree, *Ginkgo biloba*, which also colours pleasantly.

The Service Tree, *Pyrus Sorbus*, is noteworthy for its handsome foliage, and all the members of its family, including the Mountain Ash, *Pyrus Aucuparia*, to some extent share its distinction. The Locust, *Robinia Pseudacacia*, has very beautiful graceful foliage, and so have most of its sister species, but it is scarcely improved by the hard pruning so often given to these trees, which makes for congestion of growth, though the brittleness of the wood to some extent justifies the treatment. Somewhat similar is the foliage of the beautiful but not very hardy *Gleditsias*.

The beautiful foliage of many Vines is noteworthy. An article on these very handsome and useful plants has appeared recently, so that there is no need now to dwell upon them. The most useful species of all is *V. Coccinea*. The reddish foliage of *Clematis montana rubens* is very handsome and distinctive, though it has not the exotic magnificence of the evergreen *Clematis Armandi*, which does not look hardy and, alas! is not, except in favoured situations.

The *Escallomias* are noteworthy for beautiful foliage. Perhaps the best of them in this respect is *E. mariantha*, which, moreover, is one of the trees to flower, being scarcely ever without blossom. The foliage of the Cherries colours nicely in autumn, but is otherwise, as a rule, without special interest. An exception is the Japanese Cherry New Red, with leaves of a delightful bronzy shade, which shows up the structure of the leaf to great advantage.

The gigantic foliage of some of the new Asiatic *Rhododendrons* is perhaps more remarkable than beautiful, but that of *R. orbiculare* may pass muster on the grounds alike of interest and beauty. The same may be said of many of the deciduous species, but perhaps *R. flavum* (*Azalea pontica*) is the palm in this respect. It colours well in autumn, too, and has passed on a great deal of its beautiful leaf character to the Ghent *Azaleas*, of which it is one of the principal parents.

The Loquat, *Eriobotrya japonica* is known to many of us for its exceedingly palatable though very seedy fruit, but only in exceptional summers does it ripen fruit in this country. Merely as a beautiful foliage tree, however, it is worth growing, and is well deserving of the shelter of a wall, which, in cold districts, it needs.



THE SPLENDID FOLIAGE OF *BERBERIS JAPONICA*.



THE HANDSOME, BUT RATHER TENDER, LOQUAT, *ERIOBOTRYA JAPONICA*.



A YOUNG PLANT OF *AILANTHUS VILMORINIANA*.

WIND-SWEPT SEASIDE GARDENS

Some Suggestions for Providing Shelter.

IN the majority of English gardens near the sea, lack of shelter from wind neutralises the advantage that might be obtained from the mildness of climate. How many a seaside garden, almost free from frost, but swept by wind, looks so bleak as to make one long for the up-country garden "bosomed high in tufted trees." What can be grown on a coast such as that of Dorset, provided that wind shelter can be arranged, may be seen in the famous garden at Abbotsbury, where screens of *Ilex* have made possible a wonderful expansion of the gardener's repertory. There, in little more than a single decade, a seedling of *Acacia dealbata* will race up into the beauty of a great tree, and *Magnolia Campbellii* can open its incomparable rose-pink flowers unhurt. Of course, not one in many a thousand of seaside gardeners has the chance of making an Abbotsbury; but much more could be done in the way of making seaside gardens bearable if the repertory of wind-resisting plants and the technique of growing them were more widely known. Here are some notes by one who is gardening under these conditions; they are written chiefly with the hope that they may provoke others to an exchange of experiences, or be of some use, slight as they are, to some fellow-experimenter.

Pinus insignis, the Californian Pine, shall come first. There seems to be general agreement among those who have experimented that this is the best windscreen of all its tribe, in a mild climate. It grows very fast and is apt to get blown over at about ten years of age unless it has some shelter or is topped, and in salt-laden gales the outside trees of a plantation often get seared brown for a time. But with reasonable care it can be grown into a splendid tree where nothing else of its stature would survive. The wood of it in the Scillies is a sight to remember—a dark, whispering forest away there in the midst of the Atlantic. And in the Land's End peninsula, even on such exposed sites as St. Michael's Mount, it is making splendid growth. Huge trees in the gardens near Penzance were planted as seedlings only thirty years ago.

P. insignis is easily raised from seed, but such good plants can be bought for 18s. a dozen (e.g., from Treseder at Truro), that, except for extensive plantations, seed-raising is hardly worth troubling about. The plants should not be more than about 2ft. high at planting time; they should be taken from pots, or well balled in hessian for moving, as they are impatient of disturbance. Like *Eucalyptus Globulus* they are great robbers of the soil. *Cupressus macrocarpa*, the Pine's neighbour at Monterey, seems to be less satisfactory as a full-sized tree; where the Cypress has been planted in a belt for shelter, one often sees gaps owing to uprooting. But as a tall hedge, kept properly topped, the Cypress is certainly most valuable. Like the Pine it will not stand careless transplanting. *Quercus Ilex*, again, is notoriously impatient of moving. It is best put out from pots at, I think, the end of April. Opinions vary as to its value as a seaside tree; at Abbotsbury it seems to be the chief standby, whereas I have heard some Cornish gardeners disparage it. Certainly it has a tiresomely untidy way of shedding its leaves which makes it unsuitable for positions where regular sweeping would be required. For beauty of form few trees, I think, can equal the *Ilex*. I call to mind a little thicket of it, underplanted with Crocuses, in a coomb near the Lizard; with their

narrow twisted trunks and wind-cropt heads they are very different in character from the huge *Ilex* masses that hang out from the cliffs of Lake Nemi, but hardly less beautiful.

So much for the three best known trees for seaside planting. I will not stop to deal with the Austrian Pine and others of its tribe, or with such as the Cornish Elm, but will hurry on to my favourite, *Pittosporum crassifolium*. Why is it that nurserymen are still so short of stock of this invaluable plant, probably the finest of all wind-screens of moderate size for a wind garden? *Escallonia macrantha* is splendid, of course, beautiful in flower and leaf and rapid in growth.

plant the long, narrow leaves of *crassifolium*, dull grey green against the pale glaucous leafbuds, the larger size of the maroon-crimson flowers and green seed capsules, and above all the much more erect habit of the shrub, are enough to distinguish the two plants at a glance. Other *Pittosporums* of great value for seaside hedges include *tenuifolium*, with scented flowers, and the well known *P. Tobira*.

Another beautiful grey-leaved shrub, or rather a tree, is *Olearia Traversii*. This has been referred to in these columns as having proved hardy on the East Coast of Scotland, but I gather that other growers, even on the South Coast of England, have



CORDYLINAE AUSTRALIS, VERY EXOTIC IN APPEARANCE, LOOKS BETTER WHEN PLANTED IN FAIR QUANTITY.

But, unlike the *Pittosporum*, it is a robber of a wide area of soil, it dies badly in the middle if neglected, and in salty gales its leaves often get burnt. How it compares with the *Pittosporum* in resistance to frost I do not know; certainly there are gardens, even in Cornwall, where the *Escallonia* gets cut by frost quite often. The *Pittosporum* has a lovely glaucous colour and rare distinction of form both in leaf and fruit. It stands the first shock of the sea wind and makes a splendid upright hedge here, as in New Zealand (where it is extensively used for this purpose).

The plant bears plenty of fertile seed (unlike *P. Fairchildii*), and is easily raised, but I have found difficulty in buying it true to name. *P. Ralphii* and even the very dissimilar *P. Buchananii* have been sent under this name. The confusion with *P. Ralphii* is worth clearing up, for *crassifolium* is undoubtedly the more valuable plant of the two. In the seedling stage the two are very much alike, but about a year's growth is sufficient to distinguish them easily. *Ralphii* is the greener, softer plant, the leaves of *crassifolium* being already harder and thicker, whitish underneath and shewing a white margin on their upper side. In the maturer

had a different experience. The plant grows extremely fast and though it must stand a lot of wind in its home on Chatham Island, may, some tell me, prove too shallow a rooter for the windiest exposures, though, so far I have not found this. It has no beauty of flower, but the white undersides of the leaves and the plant's delightful trim appearance of good health and vigour, make it very well worth trying in seaside gardens where such trees are wanted.

I believe *Olearia oleaefolia*, which was strongly recommended as a seaside plant by that great expert, the late Mr. T. Smith of Newry, will prove even more valuable. It has the merit of making a show of white flowers in the autumn, and the tough greyish leaves are pleasant and obviously well suited for withstanding wind. There is a beautiful photograph of a bush of it in flower in the Royal Horticultural Society's Journal of January of this year. *O. macrodonta*, much better known, is, of course, a splendid coast shrub, rapid in growth and free in flower; indeed, all the *Olearias* I have tried will stand a great deal of wind. The most beautiful of all, *O. semidentata*, does not turn a hair here, even in the worst of gales. Many

found difficult with this plant. It has a habit of suddenly becoming very large. But it may be used in leaf or in flower as it grows on grey rocks or in a towering clump of palings in a certain famous garden. All want to have a try with it. It is a daisy in its setting of leaves, and has a rare discreet beauty of colour. It likes some shade. The grey-leaved *Sedums*, which make good company for the *Oleas*, are, of course, well known as wind-sisters. *S. compacta* is, I think, even more useful than *S. Gravin*.

For a really wild seaside climate there can hardly be a tree more splendid than *Metrosideros lucida* and its ally in robusta. (Can anyone help me, by the way, to obtain the tree form of *M. lucida*? I have only got the bushy variety.) There must be many gardens on the South Coast where these would grow and flower as freely as they do in this neighbourhood (West Cornwall), and where their myrtle-like leaves and wealth of crimson-scarlet flowers in July would be an outstanding feature. Perhaps even the great tree, *M. tomentosa*, will be found to thrive in some gardens on the mainland as it does in the Scillies. Young plants have already stood two winters here and made much growth, but these have been mild winters; now that they have made mature leaves and some hard wood I believe they will survive; in most places the best chance would be to grow them on in pots or tubs till they are mature.

Griselinia littoralis has been recommended as capable of withstanding the first shock of Atlantic gales. This has not been my experience, but I admit that I subjected the plants to an exceptionally severe ordeal. Probably they would be all right if planted close together and given some shelter at the start. They are certainly useful for such purposes as stopping gaps inside the defences, but they have no beauty of flower, and though handsome and healthy in colour when the leaves have reached the adult stage, these are rather sour and yellow green when young. It is well known that *Cordyline australis* will stand a terrific blast, and the scent of its flowers is so pervading and delicious that it predominates over all other recollections of some seaside gardens in summer. Unfortunately, the "Palms and Pricklies," the plants commonly classified as "sub-tropical," are seldom happily placed; more often than not *Cordyline* is grown almost solitary in some context where its exotic character is not pleasantly but uncomfortably apparent. Grown in some quantity, say, in a little avenue up a drive, it is capable of splendid effect.

Here, in conclusion, are some of the plants which will stand a lot of wind, not on the outer rampart, but in the wind-swept places within the first line of defence:—

Cytisus fragrans (will stand far more than one would expect); *Hydrangea hortensis*, of course (indeed this will even stand the full gale, *H. paniculata* is much less resistant); *Berberis Darwinii* (will grow in the teeth of the gale, but, unless it has shelter, its flowers get cut to pieces); *Tricuspidaria lanceolata*; *Destonainea spinosa*; *Correa virens* (tender), and, I think, *C. Harrisi*, etc.; *Abutilon vitifolium*; *Clethra arborea* (tender, stands more than one would expect, more, I think, than *Arbutus*). Or *Vernonia*, the well known Blue Gem is a common but most valuable plant and will stand the full gale, but all the nearly all the others are less wind-hardy. The red sorts are magnificent in colour. The *Heaths*; *Rosemary*; *Lavender*, of course. *Leptospermum*: I am not yet sure how much these will stand. *L. Boissaweni* is certainly liable to be injured by a salt gale, but the others seem harder. Of the *Heaths*, *E. arborea* and *E. Veitchii* will stand a lot; *E. codonodes* gets its

flowers browned in bad weather; *E. melanthera*, certainly, and, I think, *E. australis*, will not stand any severe exposure. The *Epacris*, where they can be grown outside, seem very wind-hardy, and *E. magnifica* should certainly be tried in mild windy gardens; *Launuma apiculata*. —

But it is time I stopped. One last word; 600ft. up, facing the north-wester's first onslaught from the Atlantic, is good old *Rhododendron ponticum*; it even manages to flower profusely. Can anyone tell me what other *Rhododendrons* are fairly wind-hardy? Z.

PYRUSES of the AUCUPARIA SECTION

THOUGH perhaps, as flowering trees, rather overshadowed by the glorious masses of blossoms produced by the *Malus* (Crab) section of the genus, there are very many beautiful trees among the Mountain Ashes or pinnate-leaved *Sorbi*.

As regards foliage, the species and varieties of the *Aucuparia* section easily lead, but they must take a back seat to the Flowering Crabs during May and early June. If only the birds would leave the fruits alone in autumn, some of the Mountain Ashes would be near the top of the poll, were a referendum to be taken among tree lovers. Heavily laden as they generally are with richly coloured fruits, we are able to admire their beauty during the ripening period. When the fruits attain maturity they are not, however, long safe from birds in most seasons; unless, indeed, the trees are growing in small town or suburban gardens, where they sometimes escape attention from our feathered friends.

Little need be said regarding the soil for these trees. They thrive in most soils, which, to get the best results, should be trenched and manured. A loamy soil of a calcareous nature is generally recommended for planting, but is far from essential, judging by the way the *Sorbi* grow and fruit in the sandy medium, deficient in lime, at Kew.

Increase is by seeds, grafting and budding. Do not harvest and store the seeds (pips) dry. Place them when taken from the fruits in damp sand or sandy soil. Propagation by this means is only recommended for the species. Even among these, if it happens to be a good form, increase by grafting or budding is preferable, as seedlings do not always come true. Some may be an improvement on the parent, but if this represented a very good selection, the probability is that the majority will be inferior.

For this reason cultivators prefer to do most of their multiplication of species and varieties by vegetative means. Seedlings of *Pyrus Aucuparia* make a very good stock, the trees being hardy, free in growth, and not particular regarding soil.

I have noticed from time to time a number of the species and varieties developing shoots of *Thorn* (*Crataegus*) from the stock, and have been

told that this is a favourite stock in some of the Continental nurseries. The growth and general health of the trees suggests that it is a happy union and we know that the *Thorns* are trees easily accommodated in the matter of soil.

For planting in the pleasure grounds the newer Chinese species are very valuable and distinct additions. In the park and open woodland the varieties of *Pyrus Aucuparia* and *P. Sorbus* possess attractions in foliage, flower, fruit and autumn colouring which make them of interest in the landscape.

The best known and one of the most generally planted species is *Pyrus* (*Sorbus*) *Aucuparia*, the Mountain Ash or Rowan. It is a useful tree for small gardens, though it ultimately attains a height of from 30ft. to 50ft. The pinnate leaves are ornamental throughout the summer. During May the flat heads of white flowers attract attention, these being followed in August and September by clusters of very showy coral-red fruits.

For garden planting there are several forms or varieties even more attractive than the native and typical species. The best of these are var. *moravica*, the Moravian Mountain Ash, a wild tree of Northern Austria, with rich red fruits double the size of the type. The fern-leaved variety—*asplenifolia*, has



FRUITS OF THE DAINTY PYRUS VILMORINI.

the segments of the leaves deeply cut, a pretty contrast to the foliage of other trees. The variety *Backhousei* is rather more upright in growth and produces bright red fruits very freely, while *fructu-luteo*, as the name suggests, has bright yellow berries. The stiff upright habit of *var. fastigiata* is very distinct and the plant is valuable for confined areas. The autumn tints of Mountain Ash leaves are very beautiful, the golden yellow colour of *var. fructu-luteo* in particular.

A fairly common tree, often a bush, in mountainous districts of Britain, the Mountain Ash has also a wide distribution in Europe and the temperate regions of Asia.

We have two Service Trees, *P. Sorbus* (*Sorbus domestica*), the True Service Tree, and the Wild Service Tree, *P. Torminalis* (*Sorbus Torminalis*). These common names were evidently given to indicate the fact that *P. Torminalis* is a native of Britain, while there is only one instance of a solitary tree of *P. Sorbus* in this country growing quite away from cultivated areas. This was a very old tree in Wyre Forest near Bewdly, known for two hundred years, but destroyed in 1862. Possibly this was a garden escape, the fruit having been carried by a bird.

P. Sorbus is a native of Southern and Eastern Europe. Growing as an isolated specimen it is an attractive foliage tree. In "The Trees of Great Britain and Ireland" by Elwes and Henry, they record a tree in Kilkenny, Ireland, 77ft. in height, with a girth of 10ft. 8ins. The panicles of white flowers are freely produced in May; they are not quite so wide as the Mountain Ash, but the individual flowers are larger, $\frac{1}{2}$ in. across.

There are two forms of the True Service Tree: *var. maliformis* with round or apple-shaped fruits, and *var. pyriformis*, perhaps the better known tree, having pear-shaped fruits. In autumn, a sheen of crimson bronze on the pinnate leaves before they fall is very beautiful.

P. AMERICANA.—The American Mountain Ash is a tree 15ft. to 30ft. high, resembling somewhat our native species, but with larger leaves. The creamy-white flowers are borne in flattish cymes 3ins. to 4ins. across, followed by rich red fruits.

P. CONRADINÆ is one of the new Chinese Sorbi, introduced by Mr. E. H. Wilson from Western Szechuen in 1908. It is an attractive pinnate-leaved tree 18ft. to 25ft. high. The leaves are dark green above, white or greyish-white beneath. The white corymbs of flowers are 2 $\frac{1}{2}$ ins. to 4ins. across, the fruits orange-red. This tree is No. 1015 of Mr. Wilson's 1908 expedition.

P. GLOMERULATA was discovered in and introduced by Mr. Wilson from Western Hupeh in 1907. It promises to grow into an attractive small tree or large bush having pinnate leaves some 3ins. to 5ins. long, corymbs of white flowers and pearly-white fruits. In foliage, but particularly in fruit, this Chinese Sorbus is a valuable addition to the family, the only trouble is that, unless netted, the fruits are soon cleared by the blackbirds and thrushes. Wilson's numbers for this species are 1494 and 3001. When first introduced it was confused with *P. KÖHNENIANA*, also a white-fruited species, but with smaller leaves and pinnæ and also botanical differences. The latter is evidently a much more widely distributed bush or small tree in a wild state, as specimens were collected by at least four travellers—Messrs. Giraldi, Henry, Purdom and Wilson—in Southern Shensi and Western Hupeh between 1894 and 1910.

P. MUNDA VAR. SUBARACHNOIDEA is the best known of the newer Chinese Sorbi, largely because of the attractive sprays exhibited at several of the fortnightly meetings of the Royal Horticultural Society by the Hon. Vicary Gibbs. These shew it to be a very free-fruited tree at Aldenham. To bring such sprays of fruits to Vincent Square

the trees are probably netted, for the birds seem as partial, or more so, to the pearly-white fruits of these Chinese trees as they are to the common Mountain Ash. In China it is found as a bush or small tree up to about 20ft. high. Mr. Wilson collected it in Western Szechuen in 1910 at 7,000ft. to 9,000ft., this being Wilson's No. 4323.

P. VILMORINI is a small tree or bush of graceful appearance. In spring the elegant pinnate leaves unfold, soon followed by corymbs of white flowers during June. In autumn the rosy-red fruits claim

attention. This *Sorbus* was introduced to France by Père Delavay in 1880, and was grown by Mr. Maurice de Vilmorin and first fruited in his well known garden at Verrières. This Chinese species has been confused with the Himalayan *P. foliolosa*, being named *Sorbus foliolosa*, Franchet. Herbarium specimens of *P. foliolosa*, Wallich., collected in Sikkim by the late Mr. C. B. Clarke in 1884, suggest that it is quite distinct from Delavay's plant, the leaves being very woolly on the underside and altogether heavier-looking. A. O.

PROPAGATION OF HERBACEOUS PLANTS BY ROOT-CUTTINGS

HARDY herbaceous plants may be propagated by various methods, the most natural and efficient being by means of seeds. In nature, plants spread by means of seeds. Some are carried by wind far from the parent plants by

by means of cuttings, that is, parts of the plant, either stems or roots, severed from the parent and inserted in soil so that they root and make new plants.

In this article, however, we are only concerned in the method of reproducing plants by means



THE BEAUTIFUL *ANCHUSA ITALICA*, DROPMORE VARIETY, WHICH IS PROPAGATED BY ROOT-CUTTINGS.

means of wings, as in the Maple and Ash; others are floated by means of down or plumes, as in the Thistle, Dandelion and many other members of the Composite Order. Some seeds, like those of the Squirting Cucumber, are ejected forcibly to a considerable distance from their capsules. It is not, however, by seeds alone that plants multiply themselves. Many kinds reproduce themselves by means of runners, like the Strawberry; while others increase by means of underground stems, like the Couch Grass. The offsets of House-leeks (*Sempervivum*) and Sedums detach easily and form new plants. The bulblets on the stems of some of the Liliaceae and Alliaceae, as well as the leafy tufts on the fronds of certain Ferns are all capable of reproducing the parent plant under favourable conditions.

The above are some instances of Nature's methods of propagation, but plants may be increased in various other ways. One of the most common is by means of division of the rootstock in the autumn or spring. Grafting and budding as a means of increase is confined mostly to trees and shrubs. Then we have propagation

of root cuttings, a method which is adopted largely in the case of certain kinds. Many species can, in fact, be increased rapidly by means of short cuttings of the roots, especially those species which have a natural tendency to "sucker" or send up shoots from the root. Rootstocks or underground stems may be made into cuttings, but true root-cuttings possess no buds till these develop after planting. Among kitchen-garden plants the Horse-radish is the most familiar example of propagation by means of root cuttings. The small side roots, $\frac{1}{2}$ in. or so in diameter, are taken off when the Horse-radish is dug in the autumn or spring and are cut into lengths of about 4ins. In the spring these "sets," as they are called, are planted in rows 2ins. to 4ins. deep in deeply trenched ground to produce another crop of roots.

Many other plants lend themselves to this manner of increase, notably those of the Borage family, *Anchusas* and *Symphytum*, among others. All those with large enough roots can be treated in the same way as the Horse-radish, planted out in rows in the nursery but it is

necessary to surround the cuttings of some kinds with sand to prevent rotting. Some gardeners insert the root cuttings in boxes or pans of soil, keep them in a cool place till the roots callus, and then introduce them to a little heat to start them into growth. When hardened off again they are planted out in the nursery to develop. Plants with smaller roots, like those of *Morisia*, are best kept in pans of sandy soil till they start growing, when they can be potted off separately. Among plants that can be increased in this

way are *Acanthus* (Bear's Breach), *Anchusa italica* and others, *Anemone japonica*, *Arnica* or *Macrotomia echinoides*, *Bocconia cordata*, *Chicory* (*Cichorium Intybus*), Sea Kale (*Crambe maritima* and other species), Dandelion (*Taraxacum officinale*), *Gaillardias*, Horse-radish (*Cochlearia Armoracia*), *Mandragora* (Mandrake), *Mertensia*, *Nicotiana affinis*, *Ostrowskia magnifica*, *Papaver orientale* (best under glass in sand in autumn), *Polygonum* (various), *Romneya Coulteri*, *Rubia peregrina*, *Tragopogon pterifolius* (Salsola).

Silphium (various species), *Verbascum nigrum* and *Senecio pulcher*.

In addition to the above, no doubt, many other plants would respond to this method of increase. Experiments are now being carried out dealing with the plants of many families. The main essential is that the root must be thick and fleshy enough to subsist till the end forms a callus; after which, in the natural process, a bud is formed and, under favourable conditions, a new plant is developed. W. I.

THE FORTNIGHTLY MEETING OF THE ROYAL HORTICULTURAL SOCIETY

IT was "Orchid Day" at Vincent Square on October 30, when the two-day meeting of the Royal Horticultural Society opened, for fully one-half of the Hall was devoted to these fascinating flowers, and there was a special competition for them. As this and the corresponding meetings each year are largely set aside for Orchids, all the principal amateur and trade growers meet in friendly rivalry, and it is a pleasant thing to be able to record that in the Orchid world the amateurs quite hold their own. A gold medal was awarded to Mr. Pantia Ralli, Ashted Park, for a most delightfully arranged group of beautiful and gorgeous Orchids. The association of the fascinating Blue Orchids (*Vanda coerulea*) with the long, arching sprays of the yellow *Oncidiums* (*O. varicosum Rogerii* and *O. Marshallianum*) charmed many of the visitors. In another portion the massed purples and mauves of various *Cattleyas* were relieved and enhanced by the purity of *Cattleya labiata alba* The Sultan. There were very many specimen plants of great merit. *Brasso-Cattleya Olympus* was a magnificent plant bearing a spike of four large and exquisite blooms. *Lalio-Cattleya Honoria* was also a most delightful plant. The irregular row of many plants of the green and white *Cypripedium Maudie* was a charming finish to the group.

Around the corner Messrs. Sander and Co. also had a gold medal group, and this contained what must have been a record number of Blue Orchids. Besides the type plant they had *Vanda Sapphire* of a more substantial shade of blue and a great many plants of *V. Blue Boy*, much of the colour of the sky when the blue is flaked and teamed with white fleecy clouds. Besides a great many of the decorative Orchids—the *Cattleyas*, *Odontoglossums*, *Oncidiums*, *Cymbidiums* and so on—Messrs. Sander had an interesting collection of the botanical species, including the wend *Masdevallia Wallisi* stupenda.

Another gold medal was deservedly awarded to Messrs. J. and A. McBean for a large collection of excellent plants. Here there were many examples of the type of *Cattleya* which bears flowers of a startling combination of golden petals and vividly coloured

lips, varied by others of crimson and pale orange or fierce cardinal red and citron. *Cattleya Aeneas*, with deep golden, fawn-tipped petals and beautifully waved crimson lip, was another strikingly handsome flower.

Baron Schröder sent from The Dell, Englefield Green, one of his famous exhibits, which won the Orchid Cup. Several masses of *Cattleya Bowringiana* and its varieties received an immense amount of admiration on account of the gorgeous rich rose pink colour of the flowers. These are small for *Cattleyas*, but are produced in unusual numbers and are of dendrobium-like appearance. The *Calanthes* and *Odontoglossums* in this collection were also superb.

Besides the trade groups already mentioned, fine exhibits were made by Messrs. Charlesworth and Co., Messrs. Cowan and Co., Messrs. Mansell and Hatcher, Messrs. Cypher and Co., Messrs. Flory and Black and Mr. H. Dixon, who all had excellent plants and in great variety. The Butterfly Orchid (*Oncidium Papilio*), the pansy-like *Miltonias*, the graceful *Odontoglossums* and the vivid colouring of the *Sophranochilus* were all of immense value.

The general floral exhibits included a splendid collection of stove plants well set out by Messrs. L. R. Russell, Limited, and, beautiful as this was in the morning, the rich colours of the *Crotons* and *Dracenas* were even more effective under

artificial light later in the day. One plant of the interesting "Pitcher Plant" had a hanging pitcher over a foot long. The richly coloured flowers of *Passiflora princeps* were also very uncommon.

A good collection of *Nerines* was sent from Colesborne by Colonel H. C. Elwes, D.S.O., and the delicately beautiful colours of the flowers was enhanced by the coral red of the *Berberis* sprays, which were lightly laid beneath these Guernsey Lilies.

In anticipation of the Show on Thursday, *Chrysanthemums* were prominent. Mr. H. J. Jones had an imposing collection of large exhibition blooms with the smaller singles as market types. Messrs. Keith Luxford and Co., Mr. H. Yandell, Messrs. Carter Page and Co. and Messrs. W. J. Godfrey and Son shewed good collections of decorative sprays.

A new, or at any rate infrequent, exhibitor at the meetings is Mrs. Sofer Whitbourn, Ampport St. Mary's, Andover, who sent excellent plants of winter-flowering *Begonias*. Even after the long journey the plants were admirable.

Carnations, Roses and a few collections of border flowers all added variety to an interesting Show.

Fruit and vegetables were more freely shewn than is usual at the fortnightly meetings, but even more collections would be welcomed. Messrs.



THE NEW CORAL-FRUITED *BERBERIS* "COMET".

Barr and Sons had a general collection of seasonable vegetables set out in the best exhibition manner. The Celery, Leeks, Carrots, and Salsafy were all of superb quality, while the several varieties of Onions, Tomatoes, Artichokes, Kales and *Stachys tuberosa* added variety. The delicate, yet bright colours of the Peachblow and Golden Sunrise Tomatoes were much admired, while more brightness was provided by the stems of the Chilian Beet, which were as vividly coloured as forced Rhubarb.

Messrs. Sutton and Sons displayed an imposing collection of Brassicas. The dignified method of arrangement added to the value of the exhibit, which in itself was of great merit. Among the Red Cabbages were Blood Red and Selected Blood Red. The Savoy included Best of All, Perfection, Reliance and Green Curled; while the chief green Cabbages were Maincrop, Favourite, Little Gem and Colewort.

A splendid collection of Apples was arranged by Mr. E. J. Parson. He had gorgeously coloured dishes of Worcester Pearmain and William Crump, and also ideal fruits of Lord Hindlip and Newton Wonder with many other valuable sorts. Mr. W. Lane sent eight dishes of good Apples, and Mr. Jaspar Davis, Chippenham, shewed half a dozen dishes of well grown Potatoes.

From Devizes Castle, Wiltshire, Mrs. Reid sent a superb collection of dessert fruit which was very attractively arranged. The large shapely bunches of well finished Grapes included Muscat of Alexandria and Black Alicante. Among a number of Apples of ideal size there was a dish of magnificent Pitnaston Duchess Pears.

NEW AND RARE PLANTS.

Berberis Comet.—It was said by some that this new Barberry fruited even too freely, as this profusion gave the branchlets a congested appearance and also made them seem stiff; that with fewer fruits the branchlets would arch gracefully. Be that as it may, it is a good fault and the bright coral colour was gorgeously attractive. Award of merit. Shewn by the Royal Horticultural Society.

Buddleia auriculata.—A quite uncommon shrub which produces long, graceful branches set with horizontal twigs. The lanceolate leaves are green above and silvery beneath, and on the specimens on view the undersides of the leaves were rather prominent, giving a silvery appearance. The free, terminal clusters were composed of small, pinkish fragrant flowers which have green tubes. If this species proves to be hardy, which we understand is likely, it will be worthy of extensive planting. Award of merit. Shewn by the Director, Royal Gardens, Kew.

Chrysanthemum Exmouth Pink.—A medium-sized, single-flowered variety of good type and bright rose pink colour. The florets are substantial and the blooms travel well. Award of merit. Shewn by Messrs. W. J. Godfrey and Son.

C. Golden Marvel.—A market-sized Japanese variety of substantial flattish shape and golden orange colour. Award of merit.

C. Mrs. E. Reeves.—A good Decorative variety with narrow golden yellow florets, slightly curled. An attractive and stiff-stemmed variety. Award of merit. These two were shewn by Mr. G. Carpenter.

C. Mona.—A good white single made up of several rows of substantial florets. Award of merit. Shewn by Messrs. Keith Luxford and Co.

C. Mrs. T. Hancock.—A large single with two or three rows of petals. It is of flattish shape and the basal primrose colour is heavily stippled with rich pink. Award of merit. Shewn by Messrs. Keith Luxford and Co.



PINKISH WHITE AND GREEN, BUDDLEIA AURICULATA.



MESSRS. BARRS AND SONS' INTERESTING COLLECTION OF VEGETABLES.

C. Raleigh.—A very good single of brilliant crimson colour with a golden centre. The ray florets are flat, regular and substantial. Award of merit. Shewn by Messrs. W. J. Godfrey and Son.

Nerine White Knight.—A large but loosely formed truss well furnished with flowers which have pleasant wavy margins. The pale pink segments have a median line of green. Award of merit. Shewn by Messrs. Barr and Sons.

Brasso-Cattleya Floss Flora.—An exceedingly beautiful flower of perfect proportions and large size. The sepals and petals are rosy mauve, the lip is crimson-purple with a yellow disc. Award of merit. Shewn by Mr. H. T. Pitt.

Cattleya Pittportia var. Lady Leon.—This is a hybrid variety, and is near *C. Portia* in general appearance. The plant bore large trusses of mauve flowers which have a purple lip. Award of merit. Shewn by Sir Herbert Leon.

Cypripedium Phantasy var. Sobriety.—A well formed flower of yellow colour tinged with purple.

The upper half of the dorsal sepal is white. Award of merit. Shewn by Mr. H. T. Pitt.

Lælio-Cattleya Profusion.—A finely formed bloom of soft rosy mauve colour with a broad ruby crimson lip and yellow disc. Award of merit. Shewn by Messrs. A. and J. McBean.

Odontoglossum Desdemona var. Rubens.—A quite distinct variety which bears a good spike of spotted flowers which have a broad rosy pink lip. Award of merit. Shewn by Messrs. A. and J. McBean.

Odontonia Philosopher.—A beautiful hybrid of *Odontoglossum* shape. The pale yellow ground colour is evenly spotted with claret and there are lines of the same shade of colour at the base of the lip. Award of merit. Shewn by Mr. H. T. Pitt.

Sophro-Lælio-Cattleya Pervanch.—This beautiful flower approximates the *Cattleya* in form. The broad sepals and petals are rose coloured flaked with gold, while the front of the lip is a deep crimson. Award of merit. Shewn by Mr. H. T. Pitt.

THE CHRYSANTHEMUM SHOW

The 11th. attended the annual show of the National Chrysanthemum Society at Vincent Square on November 1 and 2. It might have felt as though they had been transported to the land of the Arabian Nights, and that the magician had waved his wand for some purpose. Outside it was a dull and dreary world heavy and depressing with a moisture-laden atmosphere—within the hall floral brightness reigned supreme.

When dealing with the arrangement of competitive classes at a flower show it is no easy matter to make a homogenous and attractive display, but by the exercise of considerable taste, skill and fore-knowledge the management made a more than satisfying picture. Around the hall the chief trade growers had set up imposing groups of the finest Chrysanthemum the world knows. These were all different, yet, inasmuch as they were composed of lovely varieties of the same

flower, they were all in harmony. The most beautiful was the delightful display of Messrs. Keith Luxford and Co., and only a colour photograph finished by an artist could give any real impression of the wonderful colour values. Bright shades predominated, and while there were specimens of all shades of colour and all types of the flower, there were no harsh gradations, but each stand and bowl merged almost insensibly into the tones of its neighbours. The larger type of the market Japanese varieties included *Ruffinesque*, of formal habit and gold-tipped pink colouring, and *Sorcerer*, an orange bronze. Among the excellent Singles there were the small vividly coloured *Barbara*, *Phyllis Bryant*, *Mrs. Thos. Hancock* and *Mrs. W. J. Godfrey*; while the exhibition Japanese sorts included *Harry Clements*, *Rose Day*, *Poulton's Climax*, *Princess Mary*, *F. Spring Watts* and *Mrs. John Palmer*. In the front of this charming group, which deservedly

received a gold medal, there was a most entrancing display of the dainty little *Pompon* varieties.

While Messrs. Keith Luxford and Co. excelled in their arrangement, Mr. H. J. Jones was supreme with his imposing exhibit. Magnificent exhibition blooms were most prominent, and if only Mr. Jones could overcome the tendency to have a distinction between the "background" stands and the lower masses of bloom, his would be the ideal style of show group. But, as before with other flowers, he left something of a gap, with the result that the two styles did not combine to the greatest effect. Of the quality of such large Japanese sorts as *Rose Day*, *Majestic*, *Mrs. Gilbert Drabble*, *Mona Davis*, *Mrs. K. C. Pulling* and *Wm. Rigby*, as examples of the many, there could be no two opinions. Among the Singles he had such sterling novelties as *Mrs. A. B. Hudd*, *Miss Hazel* and *Jessie Robertson*. In this collection, which received the highest honour of a large gold medal and a Clay Gold Medal, there were also many good Japanese varieties of decorative size.

A gold medal was awarded to Messrs. W. Wells and Co. for a meritorious collection, which was composed largely of exhibition Japanese varieties associated with brilliant sprays of the *Scarlet Oak*, *Viscount Chinda*, *Mrs. George Monro*, *Mrs. Gilbert Drabble*, *Mrs. B. Carpenter* and *Wm. Rigby* are the names of only a few of the splendid sorts to be seen in this gold medal group. For general vase decoration they had delightful sprays of *Mabel Weston*, *Aphrodite*, *Phyllis Cooper* and *Blanche de Poitevine*.

A number of new and recent varieties of especial value for market cultivation were shewn by Messrs. Cragg, Harrison and Cragg. *J. H. Blythe*, a rosy shaded reddish crimson Single of brilliant apple orange; *Jessie Pattison*, which received an award; *Enid Elders*, of rich yellow colour; *Felix*, a rosy amaranth Japanese; and *Elspeth*, a spray flowerer of anemone type and satiny mauve shade, are all excellent.

Mr. Norman Davis had a restrained group in which *Norma Fairs*, *Mrs. Fred Fairs* and *In Memoriam* were prominent.

Sturdy plants, not more than 18 ins. high, of such Singles as *Exmouth Pink*, *Exmouth Sunset* and *Exmouth Glory* were shewn by Messrs. W. J. Godfrey and Son, who also had many cut blooms.

Other trade growers who set up valuable displays were Mr. Wm. Yandell, who shewed decorative sorts in a very attractive manner; Messrs. J. W. Cole and Son, who had a very pretty group containing such splendid Singles as *Absolute*, *Mrs. R. H. Harris* and *Mrs. T. Hancock*; Mr. H. Woolmer and Mr. L. Mills.

The competitive classes were generally filled with as good blooms as has ever before been seen at any previous show of the Society. The only weak spot seemed to be in the Incurved section, and these were distinctly poorer than the exhibits of last year. The greatest interest was centred in the classes for exhibition blooms shewn in vases. The first of these classes required thirty-six Japanese blooms in twelve varieties. Captain R. B. Brassey, *Cottesbrooke Hall*, Northampton, who won the first prize, was able to shew 108 perfect blooms. The vase of *Majestic* was particularly good, and this variety seemed to be the flower of the show, for it was to be seen in many exhibits and always of great merit. *Mrs. George Monro*, of rich velvety crimson colour, was another noteworthy sort. *Rosemary Simmonds* and *Princess Mary* also were wonderfully fine. The second prize was won by Mr. E. G. Mocatta of *Addlestone*, who had the best thirty-six exhibition blooms shewn on boards.

The other large class was for eighteen Japanese blooms in six varieties of stipulated colours, and here the *Dowager Lady Annaley*, *Holderby Hall*,



MESSRS. KEITH LUXFORD'S FINE EXHIBIT.



AN EXHIBIT BY MESSRS. J. W. COLE AND SON INCLUDED SOME SPECIALLY FINE SINGLES.

Northampton, won chief honours with a magnificent collection which included in a vase of Majestic the best blooms in the whole Show. Victory, Mrs. George Monro and Mrs. G. Gibson were also of great merit. The second prize was won by the Lord Wandsworth College, Long Sutton.

large Japanese varieties. The Exors. of the late Marquess of Ripon, Coombe Court, Kingston, were successful in the decorative classes, and also won first prizes with vases of small-flowered Singles, Anemone Singles and a vase of large Incurves.



THE FINE NEW EXHIBITION CHRYSANTHEMUM NORMAN DAVIS.

The best vase of three white Japanese blooms was of Mrs. Gilbert Drabble, shewn by Mrs. McDowell, Little Heath Wood, Potters Bar. Mrs. R. C. Pulling was a popular bloom in the similar class for a yellow variety, and the first prize was won with it by Captain C. O. Liddell, Shirenewton Hall, Chepstow. Splendid blooms of Edith Cavell set up by Mr. W. H. Allen were placed first in the class for a vase of any colour other than yellow.

The first prize vase of six Incurved blooms, shewn by Mr. L. E. Chalmers, Farrants, Bickley, was fairly good. The Incurved varieties shewn on boards failed to illustrate the decorative value of this type, and they were decidedly inferior to the exhibits of last year.

The large Japanese blooms shewn on boards were thronged by the usual crowd of admiring and criticising experts. Mr. E. G. Mocatta, Addlestone, won the Holmes' Memorial Challenge Cup with a magnificent collection of thirty-six distinct blooms. The chief varieties were A. F. Tofield, Wm. Rigby, Mrs. G. F. Sawyers, Majestic, Rycroft Triumph, Princess Mary and Peace.

Major Dalgety, Lockerley Hall, Romsey, had the best twenty-four blooms, and also was first with twelve and with six blooms. In each class he had a superb exhibit.

Single Chrysanthemums fully maintained their popularity with exhibitors and the public, and this decorative type was excellently shewn. The George Monro Challenge Cup was won by Mr. F. J. Yarrow, St. John's Wood, who had a delightful vase of Crimson Velvet, a variety which in this and other classes attracted a deal of admiration for its grace of form and charm of brilliant colouring. Mrs. W. Smith, Molly Godfrey and Reginald Godfrey were also especially good in this exhibit. Mr. Yarrow was also first with an imposing large vase of Single Chrysanthemums and another of

These "decorative classes," which aim at illustrating the value of Chrysanthemums in the house, were generally well contested, and the new class initiated by the President (Sir Jeremiah Colman, Bt.) was especially popular with the members, though few of them seemed to realise its full objects. According to the schedule it was for "an arrangement of Chrysanthemum blooms suitable for a hall, a hall table or sideboard decoration," thus allowing a wide margin of treatment. In one or two instances epergnes were used. Others contented themselves with one large ornamental jar and a couple of the ordinary flower show vases—a most incongruous association. The first prize was awarded to Mr. G. Richardson for an example of the last-named method. His jar of Majestic Chrysanthemums was very handsome. The second prize was awarded to Mrs. Robinson, Bourne End, for an overpowering display in which foliage too largely predominated. Mr. Richardson was also first with a well arranged bowl of Chrysanthemums.

The second prize basket of Chrysanthemums exhibited by the Exors. of the Marquess of Ripon was very charming. Mrs. Robinson was placed first with an immense affair which was chiefly basket and foliage.

The Affiliated Societies' Class was well contested, and the collections of the various types were especially attractive and educational. The Surbiton, Kingston, The Dittons and District Society (secretary, Mr. T. Smith) was first, the Eastbourne Society (secretary, Mr. J. Ticehurst) was second and the Berkhamstead Society (secretary, Mr. J. K. Bedford) was third.

NEW CHRYSANTHEMUMS.

Aldyth.—A medium-sized market Japanese variety with graceful drooping florets of rich

crimson colour. The golden reverse shews on occasional mature florets and on those in the centre. First-class certificate. Shewn by Messrs. Cragg, Harrison and Cragg.

Dorothea Edwards.—A compact exhibition Japanese variety made up of long, narrow, slightly twisted florets of bluish mauve colour. We do not think it will appeal to many growers. First-class certificate. Shewn by Mr. Norman Davis.

Flame.—A strikingly beautiful Single Chrysanthemum of rather more than medium size and perfect shape. The bright yellow ground colour is very heavily overlaid with crimson except around the disc. First-class certificate. Shewn by Mr. P. Ladds.

Felicia.—A market Japanese variety of flattish shape and only moderately furnished with broad petals which recurve at the tips. The clear pink colour is very beautiful, but we doubt whether the blooms would "carry well." First-class certificate. Shewn by Messrs. Cragg, Harrison and Cragg.

Gloriosa.—A large market Japanese variety of graceful habit which has broad florets of orange buff colour with a suggestion of old rose in the centre of the flower. First-class certificate. Shewn by Mr. H. Shoesmith.

Gigantic.—An exhibition incurving Japanese variety with variable pale bluish shading. Some of the flowers have lines of deeper colour on the florets. First-class certificate. Shewn by Mr. H. Shoesmith.

Jean Pattison.—A handsome market Japanese variety made up with stiff florets of fiery tangerine orange colour. First-class certificate. Shewn by Messrs. Cragg, Harrison and Cragg.

Mrs. W. E. Calow.—A splendid Single yellow Chrysanthemum of large size perfectly round and attractively reflexed at the tips. First-class certificate. Shewn by The Bridgewater Nurseries Company.

Mrs. W. Seymour.—An Incurving Japanese variety of exhibition size which has long, gracefully twisted florets of deep canary yellow colour. First-class certificate. Shewn by Mr. W. Barber.

Mrs. A. B. Hudd.—A good, large Single yellow Chrysanthemum of flattish round shape and recurved tips to the florets. First-class certificate. Shewn by Mr. G. Carpenter.

Norman Davis.—A brilliant exhibition Japanese variety much like Mrs. George Monro in size and colour, but has slightly twisted florets and is a rather brighter crimson. First-class certificate. Shewn by Mr. W. Jinks.

Progress.—A very moderate Incurved Chrysanthemum of mauve colour paler in the centre. First-class certificate. Shewn by Mr. H. W. Thorpe.

The Wizard.—A fine market Japanese variety of compact habit and dull orange cardinal colour. First-class certificate. Shewn by Messrs. Cragg, Harrison and Cragg.

FORTHCOMING EVENTS.

November 12.—United Horticultural Benefit and Provident Society's Meeting.

November 13.—Royal Horticultural Society's Fortnightly Meeting.

November 14.—East Anglian Horticultural Society's Meeting.—Aberystwyth Chrysanthemum Society's Exhibition.—Lewes Horticultural Society's Meeting.

November 15.—Aylesbury Chrysanthemum Society's Exhibition.

November 16.—Blackburn and District Horticultural Society's Exhibition (two days).—Dunfermline Horticultural Society's Chrysanthemum Exhibition (two days).

November 17.—Stockfield Chrysanthemum Society's Exhibition.

CORRESPONDENCE

GENTIANA FARRERI.

IN reply to "Albyn's" enquiry in *THE GARDEN* of October 20 as to the method of culture of *Gentiana Farreri* from seed, I sow the seed at the end of February in slight heat, and it germinates in about ten days. The seed is very fine and should be sown thinly, as every seed appears to germinate. The seedlings are pricked out into boxes and kept growing on under glass till the end of July, when they are planted out and flower the following autumn. I find seedlings vary very much in size of flower and shade of blue. Some of the seedlings flowering this year are much later in coming into flower and are of a darker blue than the ordinary *Gentiana Farreri*, and it is quite possible these late-flowering ones may be a cross by the bees between *G. Farreri* and *G. sino-ornata*. I have, this year, hand-fertilised some of the blooms of *G. Farreri* with pollen from *G. sino-ornata*, and got some seed from this cross which will be sown in the spring, and I am looking forward to seeing them flowering some day.—A. H.

A GLADIOLUS SOCIETY?

IN reply to your correspondent "Perplexed," a *Gladiolus* Society would certainly prevent a duplication of names, such as he describes, by issuing certificates of registration, each application to be accompanied by a few spikes of the variety the name of which it is desired to register for the Floral Committee to see. Should the proposed name have already been registered by another raiser, the second raiser would be informed and asked to select another name. In the case of Kelway's Marshal Foch, they would be informed that a *pink* variety already bore this name, and that in endeavouring to register a scarlet variety under that name they were likely to cause confusion. In requiring a few spikes with the application, the society would prevent applications being made for names for non-existent seedlings, and if the seedling were a good one, they could take the opportunity of setting their seal of approval on it by making an award of merit. In regard to duplication of names, the society would need to work in conjunction with the American and Dutch *Gladiolus* Societies. This is done by the American and British Carnation Societies now.—A. PAYNE, *Platlow, Essex*.

MANURES FOR RHODODENDRONS.

THE pert and practical remarks in the issue of *THE GARDEN* of October 20 by "Formakin" about animal manures for *Rhododendrons* can be verified by myself. Several years ago I was in charge of a garden in which a large number of named *Rhododendrons* had been planted two seasons previous to my engagement. The foliage and growth at the time I took over appeared sickly and very unhealthy. The following autumn I had 6ins. of the surface soil taken off, forked up the second spit, and applied 3ins. of well rotted dung and 3ins. of fibrous loam. The second year after this these *Rhododendrons* grew like Willows, and to say they revelled in their surroundings does not sufficiently express the difference in health. As regards their liking for crushed bones, I also know this to be correct, as the compost always contained bones when I was growing them in pots. I invariably obtained the best results from a mixture largely consisting of fibrous loam, which I found built up the flower-truss in better form than a peaty compost. This was especially noticeable with the variety *Pink Pearl*.—GEO. LOVELOCK.

AN UNPRUNED BOUGAINVILLEA.

YOU will remember that last year I sent you a photograph of *Bougainvillea glabra* growing in a small tub and never pruned (issue for July 29, 1922, page 374). To shew the advantage of this simple method of culture I enclose another picture of the same plant taken in the middle of October this year, shewing the beautiful effect being carried on right into the dark days, when it is especially welcome. This is largely due,



AN UNPRUNED BOUGAINVILLEA GLABRA IN MID-OCTOBER.

of course, to the retarding effect of the cold weather experienced in early summer.—H. C. W.

THE FIFTY BEST ALPINES.

MY list of fifty best alpine is culled from my notebooks, from observations made in my own gardens, and those of my friends. In a quantity so small as fifty many most beautiful alpine, of necessity, cannot be included. Some are old and perhaps considered out of date, however, they are some of my favourites.

Aster alpinus, *Ethionema grandiflora*, *Alyssum saxatile citrinum*, *Androsace lanuginosa*, *Anemone alpina*, *Aquilegia alpina*, *A. Stuartii*, *Arenaria balearica*, *Aubrietia Fire King*, *Campanulas Allioni*, *G. F. Wilson*, and *pusilla* Miss Willmott, *Cheiranthus linifolius*, *Dryas octopetala*, *Daphne Blagayana*, *Dianthus alpinus*, *D. grautensis*, *D. neglectus*, *Erigeron aurantiacus*, *Gypsophila monstrosa alba*, *Geranium argenteum*, *Geum montanum*, *Gentiana Farreri*, *Lithospermum prostratum Heavenly Blue*, *Hutchinsia alpina*, *Iberis Little Gem*, *Iris cristata*, *Linaria alpina*, *Mimulus Brilliant*, *Myosotis alpestris*, *Mazus rugosus*, *Onophalodes cappadocica*, *Nepeta Mussini*, *Oxalis eumephylla*, *Pentstemon heterophyllus*, *Phlox Vivid*, *P. Nelsoni*, *Primula Bulleyana*, *P. rosea*, *P. Lissadell Hybrid*, *P. Moerhousii Hybrids*, *Ranuncula pyrenaica*, *Ranunculus glacialis*, *Saxifraga Burseriana Gloria*, *S. longifolia* (out of flower, for foliage), *S. Cotyledon pyramidalis*, *S. trifurcata* (for quickly covering large spaces), *S. Wallacei*, *Sedum dasycyphium*, *S. lydium* (a lovely plant when well grown, but

difficult), *S. spectabile atropurpureum*, *Shortia galacifolia*, *Soldanella alpina*. I find I have given more than fifty, but still large quantities are left out. I find a note of an old *Potentilla formosa* that I prefer to all the modern introductions.—JAMES PARKINSON, *Harrington*.

Potentilla formosa is much grown in gardens to-day under its more correct name of *nepalensis*. *P. n. Willmottiae* is by most considered better than the type.—ED.]

ASSUMING the selection to be strictly kept to alpine plants and in a sense to be of a general usefulness for furnishing the rockery, I herewith

append a selection, well knowing them to be adaptable for the purpose.

Oxalis eumephylla, white; *Phlox subulata* G. F. Wilson, lavender; *P. Newry Seedling*, mauve; *Saxifraga Elizabethae*, yellow; *S. Haagii*, deep yellow; *S. splendens*, crimson; *S. Clibrani*, red; *S. Burseriana Gloria*, white; *Ranuncula pyrenaica*, lilac blue; *R. p. alba*, white; *Potentilla nitida*, bluish; *Onosma tauricum*, lemon yellow; *Lewisia Tweedyi*, orange pink; *Houstonia serpyllifolia*, pale blue; *Iberis saxatilis*, white; *Geum montanum* yellow; *Gentiana angulosa*, bright blue; *Erinus alpinus*, rosy purple; *Cypripedium Calceolus*, pale yellow and brown; *Dianthus alpinus*, rose; *D. neglectus*, pink; *Aster alpinus*, violet; *Aubrietia Crimson King*; *A. Pritchard's Art*, violet; *Campanula Rauteri*, dark blue; *C. W. H. Paine*, violet and white; *Androsace lanuginosa*, pink; *A. sarmentosa*, pink; *Achillea Kellereri*, white; *Primula viscosa*, rosy purple; *Shortia galacifolia*, pink fringed; *Sedum reflexum cristatum*; *S. primuloides*, pink; *Soldanella alpina*, blue; *Viola gracilis lutea*, yellow; *V. gracilis*, purple; *Wahlenbergia albo-marginata*, white, tinged blue; *W. saxicolor*, light blue; *Thymus micans nanus*; *Sedum kamschaticum fol. var.*, orange; *Saxifraga sanguinea superba*, bright red; *Saponaria oermondes splendissima*, pink; *Morisia hypogaea*, gold; *Onophalodes verna*, blue; *Lithospermum Heavenly Blue*; *Scabiosa silendifolia*, blue; *Silene Saxifraga*, white and pink; *Primula Julia*, rosy purple; *Lewisia Cotyledon*, crimson and golden yellow; *Oenothera eximia*, white.—G. L.

FROZEN FLOWERS IN TRAFALGAR SQUARE.

AMONG the many flowers and decorations round the Nelson Column on Trafalgar Day I looked with great interest at two solid blocks of ice containing wreaths of fresh flowers sent from New Zealand and South Africa. The wreath from the latter country appeared to be composed entirely of orange-coloured Gerberas. (I think this was the flower, but write—in the absence of books of reference from recollections of Riviera gardens.) The New Zealand wreath appeared to be a mixture of small flowers with ferns and moss—the ice in which they were still completely enclosed was rather clouded and melting fast, and the rope barriers kept one too far away for a close inspection. I could only make out a little mauve colour and what looked like transparent green berries. The view one got was rather tantalising to a flower-lover. I believe the importation of flowers in ice is not unusual now, though I have never before happened to see any of these frozen flowers. The captain of the SS. Naldéra, in February, 1922, when I made the voyage from Marseilles to Tilbury, told me he had on board a bouquet of flowers in ice brought from Australia for Princess Mary's wedding, but it was in the cold storage room and not visible. I wonder if it is ever possible to see these flowers from distant lands at close quarters and at leisure? The smaller wild flowers which are not grown in our gardens and greenhouses would be particularly interesting. I imagine when once the ice is melted the flowers must have a very short life indeed, but I suppose when quite close by, they can be very clearly seen through the ice.—RUTH BICKERSTETH.

DOUBLE PRIMROSES.

I SUPPOSE your correspondent "N. H. P." is right in speaking of the Double Lilac Primrose (lilacina) as being "seldom seen nowadays"; though, was it at any time at all common? I am prompted to this question by the recollection that, when shewing this plant at Vincent Square this and other years, so many people who see it imagine it to be a new plant, and are much surprised when I tell them I knew it well as a child. So few seem to know it, but, seeing it, most people express their admiration for it. It is, indeed a beautiful plant and, as your correspondent says, a vigorous grower; it flowers over a comparatively long period, and well grown plants produce a large number of blooms. An exceptionally fine group that I had the pleasure of exhibiting at the Royal Horticultural Society's Hall this spring attracted the notice of Her Majesty Queen Mary, who graciously made enquiries about it. At that same meeting also I had one or two plants of Pompadour, the "beautiful old Pompadour" as your correspondent aptly describes it. That certainly is a rare plant, but of a small number that I had growing in the nursery this spring one plant was conspicuous for its fine strong and healthy growth, numerous large and richly coloured deep crimson velvety flowers and general appearance of well-being. I had only recently acquired these plants, but seeing that one, at any rate, seemed so conspicuously well suited here, I am hoping that we may in time raise a good stock of the glorious old beauty, of which it would scarcely be possible to say too much in praise. Perhaps equally beautiful, though not finding so many admirers as Pompadour or lilacina, are the two other old varieties, the Double White and the Double Sulphur. These thrive here quite as vigorously as lilacina. The white variety had a number of blossoms a week or two ago, and I see that at present the sulphur is in flower.—FREDERICK G. WOOD, *Ashted*.

I READ with interest "N. H. P.'s" note on double Primroses in your issue of October 27, and I am glad to be able to tell him that there are still a few plants of the double crimson Primrose Pompadour in existence. I had some sent to me by an Irish firm last autumn to try in our climate in North Wales, and I am very pleased with the result. They are growing well and commenced to bloom the beginning of this month in the open ground. I may say that the charming little double crimson Auricula Cardinal also does very well in the open here.—W. A. WATTS, *The Welsh Bulb Fields*.

KNIPHOFIA COMOSA.

IN "W. L.'s" interesting article on the Torch Lilies (October 6, page 509) he states that the flowers of Kniphofia comosa and K. Leichtlinii open from the top of the spike downwards. This procedure is exactly opposite to what happens in other species and varieties. "W. L." also refers to the branching habit of K. comosa, in that many of the primary spikes produce secondary spikes.

At Kew and at the John Innes Horticultural Institution this species flowered freely this year



KNIPHOFIA COMOSA, SHEWING CURIOUS METHOD OF FLOWERING.

and produced many branched inflorescences. The flowers on the secondary spikes open the opposite way, i.e., from the base upwards, thus shewing a reverse order of opening of flowers on the two spikes. This is a very interesting phenomenon and worthy of being placed on record. It would be interesting to observe whether any other species has this branching habit and, if so, to notice how the flowers open on the primary and secondary spikes.—A. HOSKING.

A SLUG TRAP.

I HAVE just read "Slugs Rampant" in THE GARDEN for October 27. I wonder if "T. A. L." has ever tried orange skins as slug traps. I have never found anything to equal them. Take an orange, cut it in half and scoop out most of the fruit. Put the skins down where slugs abound, under the shade of a plant is best, and if the soil is smooth, tilt them slightly so that the slug can crawl under easily. I have often caught twenty to thirty in one night in each orange skin by this method. There is no need for the tiresome nightly search with a lantern, provided the skins are taken up and cleared in the morning before the sun gets on to them, as slugs will remain as long as there is any juice left in the orange, unless driven away by heat. I cleared a large strawberry

bed entirely of a veritable plague of slugs this way, and I once took 1,500 in two days. Oranges are easy to get, and the fruit scooped out need not be wasted. I once told a doctor about this and I heard a rumour afterwards that his patients were doing an "Orange cure" and his garden was "slugless," which was very satisfactory, and think how pleasant for the patients too!—F. F. S. W.

HOLLAND PARK SHOW.

A QUESTION that has been raised, I am told, and seems likely to bear fruit, is—whether it would not be greatly to the advantage of all concerned to hold a separate Autumn Show for competitive classes of fruit and vegetables in the R.H.S. Hall at Vincent Square and leave Holland Park entirely to flowers and shrubs and perhaps groups of fruit and vegetables. It seems a pity that such fine exhibits of fruit and vegetables as were put up at the Show this autumn should be mostly relegated to the balcony for want of space. It is quite certain that great numbers of the public do not seek them in their exalted position and so miss some most interesting exhibits. Apart from this, it does not give the exhibitors

themselves a fair chance to shew their products off to advantage. The Royal Horticultural Society never fails to look for and carry out any possible improvement in its shows, so I feel confident that we shall see the desired alteration in this direction next year.—ENTHUSIAST.

THE CLIMBING CAPABILITIES OF A HYBRID TEA ROSE.

ABOUT five years ago we decided to devote the space on the back wall of a peach-house—then occupied by a worn-out Peach tree—to growing Roses, and as we had a couple of strong plants of Mme. A. Chateau which had been grown in pots for about the space of six years, these were selected for the purpose. They have done extremely well in the soil of the peach border, and now cover the wall to its full height of 10ft. and, being grown with a minimum amount of fire-heat, give very fine blooms. Last spring we had them with 20in. to 30in. stems. Particulars as to the growth made by the plants under notice being mentioned to an expert in the rose-growing world at that time, he declared they must be the climbing form of Chateau, and when it was pointed out to him that we had had the plants for years before the climbing form was introduced (Messrs. B. R. Cant and Sons' catalogue states the date as 1917 by W. Easlea), he said we must have got this form before Easlea's introduction, which is described as "producing growth of 7ft. to 8ft. in one season." I have never known our plants to make more than 5ft. shoots without breaking off into a bunch of flower-buds, which is not the habit of a true climbing Rose. By allowing a length of 2ft. to 3ft. when pruning it is possible to cover a wall like the above in the course of a few seasons, and I feel sure that any of the vigorous varieties of the Hybrid Tea class would do the same under similar conditions.—R. DEAN, *Andleys Wood Gardens, Basingstoke*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Facilities are often meagre for forcing vegetables, but it one can supplement the usual supply by an occasional dish of something not in season, they are always greatly appreciated and credit is due to those who undertake the task. Asparagus is a delicious vegetable, which can be forced at any time during the winter months. A deep brick pit with hot-water pipes is suitable, the latter only being employed when necessary. The pit should be filled with leaves and long fresh manure, and covered with soil to the depth of about 6 ins. When the rank heat has escaped the roots should be placed closely together and covered with 3 ins. of fine soil. In some establishments plants are grown especially for forcing, but it often happens that new beds are formed, and when these begin to yield the old plantations are discarded. If the roots are lifted carefully, a large number will be found suitable for forcing. Do not expose the roots for any length of time, and when they are placed in the pit keep the soil just moist, while the temperature should be about 55°. Very little ventilation is needed, and the lights may be covered with mats at night to keep up the temperature.

General Work. During wet weather the store shed should be given attention, and Potatoes, Onions, etc., examined, all diseased specimens being removed and burnt. Crops that have finished may be cleared, and all decaying vegetable matter collected and buried in a trench. Manure can be put on vacant plots, choosing if possible a frosty morning for the work, and both ordinary digging and trenching ought to be done with all possible speed. This will relieve the rush of work in the spring, and if the soil is laid up in a rough condition both frosts and air will mellow it, and when seed time arrives it will only require to be made level with a wooden rake. It is always advisable at this season to examine notes taken on the various crops during the past year. Some varieties will be discarded, while others have succeeded remarkably well. Mistakes can be recorded for future guidance.

The Flower Garden.

Border Chrysanthemums are almost indispensable for the border and cutting purposes during the autumn months, and they are worthy of wider cultivation, especially now that there are so many admirable varieties in commerce. Here, they remain in the borders throughout the winter, but in most places it is advisable to lift a number of plants for stock purposes. A label should be securely attached to each plant, then the roots may be lifted, placed closely together in boxes and stored in a frame or cool greenhouse. Admit plenty of air, when the weather is favourable, to promote sturdy growths, which will furnish cuttings later on.

Leaves.—Leaf-mould is always acceptable in gardens, so at this period the leaves should be collected and stored in a suitable spot where they can remain for at least a year. It is a bad policy, however, to remove them from shrubberies; it is better to wait till they have all fallen, and then cover them with soil.

Lawn Mowers.—Before putting them away for the winter all parts of the machines should be thoroughly cleansed and given a coating of oil. The order can be given for any new parts, and the knives ground and set at the first opportunity in readiness for another year.

Climbing Plants.—Where these are trained on poles or buildings it will be necessary to thin the growths and cut some of them back to keep the plants within their allotted space. New poles will be needed in some instances, but, where possible, such strong-growing plants as Vines, Clematis montana, etc., should be planted at the base of old trees and allowed to ramble without any interference.

The Hardy Fruit Garden.

Pruning. The pruning of fruit trees should be proceeded with, but where birds are numerous it is advisable to leave Gooseberries and Currants till a later date unless they can be protected. Orchard standard trees will need attention, and as a rule a certain amount of thinning of the shoots to prevent overcrowding will be necessary. All growths crossing each other should be removed, and any of the outer shoots, perchance, cut back to produce a shapely specimen. The chief fault with orchard trees is overcrowding, and in some instances it may be expedient to cut out a few

of the larger branches to allow both light and air to enter the trees.

L. W. BEISCOL.

(Gardener to W. R. Lysaght, Esq.,
Castleford, Cheltenham, Gloucestershire.)

FOR NORTHERN GARDENS.

The Kitchen Garden.

Pea Trenches. Peas rank so high among vegetable supplies that no pains should be spared to ensure full crops of the best quality. As a rule, first and second earlies should be sown on the flat, but mid-season and late varieties should be sown in specially prepared trenches; indeed, on soils of a light nature this mode of culture is essential to success. The best time to prepare the trenches is at this season, when the winter digging of the quarter is being carried through. A good rotation is to follow Celery with the Pea crop, and when this is done, and the Peas are sown in the Celery trenches, little extra preparation is necessary except to finish the trench about 6 ins. below the ground level. New trenches should be taken out from 2 ins. to 2½ ins. deep, and a layer of farmyard manure be placed in the bottom. They should then be filled up to within 6 ins. of the ground-level with part of the excavated soil, plus whatever organic manure may be available. A proportion of decayed vegetable manure will prove highly beneficial. The object in view in adopting the trench system is, chiefly, to obtain cool conditions for the roots during the heat of summer and to admit of the crop being more thoroughly watered if drought occurs. If the Pea crop is to be confined to a limited area, the distance between the lines should correspond with the height of the variety being dealt with, but the better plan is to arrange the lines rather widely apart, utilising the intervening spaces for the culture of dwarfier plants.

Saladings.—Mustard and Cress grown in moderate heat, and renewed every ten days or so, will, in addition to Celery, be the only source of supply in the North during the winter months. Keep an eye on autumn-sown Lettuces for early supply next spring, and, if slugs appear, give the plants an occasional light dressing with soot.

The Hardy Fruit Garden.

Late Propagation.—Late cuttings of Gooseberries and Currants may still be inserted with every chance of their rooting. With the exception of Black Currants, the cuttings, when prepared, should be about 1½ ins. in length, and have all the buds removed except three or four at the top. This admits of the cuttings being inserted in the soil to a depth of from 5 ins. to 6 ins. and gives several inches of clear stem above ground. Cuttings of Black Currants need not be more than from 6 ins. to 8 ins. in length, as a clear stem is not necessary with them owing to the mode of pruning best suited for them. When inserting the cuttings stretch the garden line tight and take out a trench 6 ins. deep with the spade. Then set the cuttings in position 6 ins. apart against the line, partially filling in the soil as the work proceeds. When a line is filled with cuttings, fill in the remainder of the soil and tread it firm. The lines of cuttings should be 1 ft. apart.

Pruning Currants.—Carry through this work when the ground is in a fairly dry condition. Red and White Currants should be pruned on the spur system, but the framework of the bushes should be kept intact with healthy wood. Black Currants should be kept up with successions of young wood, spurring not being advisable with them. A look-out should be kept for big-bud.

Wall Trees should be gone over after being pruned: first, to renew any shreds or ties that have become decayed; next, to unfasten and renew any that have become too tight, and, thirdly, to train any young or extension shoots. Although comparatively expensive, medicated shreds are much to be preferred to the ordinary woollen shreds as being more lasting and as less likely to harbour pests.

The Flower Garden.

Climbers.—Certain climbers should now receive attention. Buddleias should be pruned by cutting back the breastwood to two or three eyes from its base; Clemathuses should have any extra vigorous shoots cut back; Virginian Creepers should be clipped hard in. Clematises of the Jackmanni type, i.e., those which flower on the current year's wood, should be cut back to within about a yard from the ground, while those which flower on the old wood should have the shoots thinned out a little; care being taken to see

that they are well secured to wall or trellis, as the case may be.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian.)

GREENHOUSE AND CONSERVATORY.

Humea elegans.—Plants raised from seeds sown during July and August should now be ready for putting into 48-sized pots, in which they will stand until early in the New Year. Humeas require careful watering at all times and perfectly cool conditions, as a close, stuffy atmosphere soon spoils them.

Lindenbergia grandiflora.—This plant is now flowering, and it is very useful for the cool greenhouse, as it lasts in blossom for a long time. As the species is nearly hardy, it is well worth growing for the small unheated greenhouse, its pale yellow flowers being very attractive. It is easily propagated by means of cuttings during the spring, and it may also be increased by means of root cuttings.

Camellias that have set a heavy crop of buds will now require to be disbudded. If this is not done the chances are that most of the buds will drop off. Allowing the plants to carry too heavy a crop and dryness at the root are generally the causes of bud dropping. Although care should be taken that they do not get dry at the root, overwatering during the winter is equally bad. The leaves of Camellias sometimes get covered with a black sooty deposit; when this happens they should be sponged. They are also apt to suffer from attacks by scale insects, and these should be eradicated by sponging with soft soap and water or some approved insecticide. If the plants are healthy, a vigorous use of the syringe during the summer months will do much towards keeping them clean. With the introduction of many beautiful single varieties Camellias are again becoming popular. Some good single varieties are CC. japonica grandiflora Kimberley, White Swan, Lady Clare and magnoliaeflora. Lady Ardilaun is a small white-flowered variety with an anemone centre to the flower. Unlike most Camellias, the flowers of this remain on the plant for quite a long time before they fall off. The flowers of C. roseaflora behave in the same way. This variety has very small double rose-coloured flowers and very slender shoots, with small leaves, and is a very charming plant. Some varieties of Camellias may be readily rooted by means of cuttings. They are useful as stocks for grafting the varieties that do not root readily. Cuttings may be put in at this time, selecting the more slender and twiggy shoots for this purpose. They are best placed in a case in a cool house until they have callused; then, if they are given slight bottom-heat, they usually root readily. Grafting may also be done at this time, side grafting being the easiest and most successful method. Camellia reticulata is the finest of all the Camellias, and is seen at its best when planted out in a cool conservatory in a compost of medium loam and rough fibrous peat. Stock of this plant is always scarce; this is, perhaps, because its propagation is imperfectly understood. It is grafted on stocks of Camellia japonica, but side grafting is the only successful method, and in selecting the scions a portion of two year old wood must be secured, scions of the current year's wood usually giving many failures.

Luculia gratissima is now showing its flower-buds, and as they are subject to attacks by mealy bug, care should be taken to keep them free from this pest. At this stage the bugs are best removed by means of a soft brush, taking care not to damage the flower-buds. This plant has always—and not without reason—been regarded as difficult to propagate. That it can be successfully rooted and grown on in the same way as Hydrangeas is proved by the fact that a number of plants rooted during the spring have made growth about 15 ins. long, and in every case flower-buds are now showing. They have been grown throughout in a warm close house with a temperature of 60° to 65°, and have retained their foliage. This is interesting, as this plant usually does not do well under pot culture, and when grown in a cool house, as a rule, loses most of its leaves. Of course, when planted out, it grows perfectly well in a cool greenhouse.

Pernettya mucronata.—Small well fruited plants of this hardy evergreen shrub are very useful for furnishing the cool greenhouse during the winter months. They may be lifted from the open ground at this time and placed in suitable-sized pots. When they have done duty in the greenhouse they should be planted out in the nursery garden and grown on for future use.

Royal Botanic Gardens, Kew.

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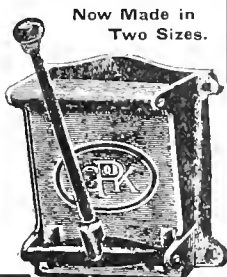
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Gardeners' Provident Society. The annual dinner of the United Horticultural Benefit and Provident Society was held on November 1 at the Imperial Hotel, Russell Square, London, Sir W. Lawrence, Bt., presided, and was followed by Lady Lawrence. Sir William made a short speech. It was pointed out that the members of the Society were to provide assistance to gardeners in sickness and old age, and that upon the death of a member a sum of money would be paid to the deceased's relatives. The Society caters for those engaged in the nursery and seed trades, for florists and market gardeners, as well as for those employed in private gardens. The chairman promised to induce as many friends and acquaintances as possible to use their influence to persuade their employees to join.

Mr. Chas. Curtis, who has been chairman of the committee for a great many years, gave statistics shewing the good work the Society had achieved to date.

This is the only society of its kind and, if not for their sakes, for the sakes of their dependents, present or prospective, all working gardeners should join. Full particulars may be obtained from the Secretary, Mr. A. C. Hill, 35, Alexandra Road, West Kensington Park, W.14.

A Floral Fete for Southport.—The proposal to hold a big floral fête and water carnival in Southport next summer was very favourably received by the Parks and Foreshore and the Advertising and Band Committees of the Southport Corporation at their meetings recently. Both Committees appointed a Sub-Committee to co-operate in carrying out the necessary arrangements. This special Committee consists of Aldermen Aveling and Wood, Councillors Clayton, Wilkinson, Brook, Rhodes, Potts, Lean and G. R. Crankshaw. We are informed that it is intended next year to hold a fête at Southport which is to be on the lines of the famous Shrewsbury Flower Show, and that it will be held during the week following that event. Although the dates have not been definitely fixed, these will probably be Wednesday, Thursday and Friday, August 27, 28 and 29. The exhibits are to be housed in a huge marquee covering about an acre of ground in the Victoria Park, alongside which runs Southport's famous flower border, a most appropriate setting for a floral fête. It is proposed to offer prizes to the value of about £1,500, including nine silver challenge trophies, four or five of which will be of the value of £50 each and the remainder of the value of £25 each. Three of the trophies have already been offered. Although the schedule of the show has not yet been definitely decided upon, the challenge trophies will probably be allotted to suitable classes for rock or water gardens, fine foliage plants, Carnations, dishes of fruit, herbaceous flowers, Roses, Sweet Peas, Dahlias and early Chrysanthemums. The Horticultural Society of the London Midland and Scottish Railway (Northern Division), who last August held a successful flower show in the Victoria Park, Southport, will be invited to hold their 1924 show in conjunction with the Southport Floral Fête. The enthusiastic support of several leading firms and other gentlemen closely connected with the horticultural trade has already been secured for the Southport event. Music will no doubt be provided by one or more of H.M. Guards' bands. Horse leaping may also be included. The proposals include the holding in the evenings of a water carnival on the Marine Lake adjoining the Marine Parks, concluding with magnificent displays of fireworks. The inauguration of a 1924 annual floral fête during the Mayoralty of Mr. Alderman Aveling (who for the past three years has been the chairman of the Parks and Foreshore Committee) will be

peculiarly fitting and should certainly do much to enhance Southport's reputation for magnificent floral displays.

A Pretty Dwarf Carpeter. For covering cool, shady or half-shady ledges in the rock garden, about steps and the margins of paths that little New Zealander, *Nortera depressa*, is very delightful. It makes a dense but shallow carpet of vivid, glossy green, reminding one of *Helxine Solierohii*. *N. depressa* is not quite hardy, but it will often survive quite severe winters with a light covering of dry bracken, and it is not fastidious as to soil, provided the latter is not too stiff and heavy. The flowers of this dainty creeping plant are green and inconspicuous, but they are followed by small round fruits of a glowing orange-red which are distinctly attractive. *N. depressa* makes a good carpeting for any dwarf bulbous plants, and it is by no means difficult to propagate by detaching rooted bits and starting them in gentle heat. In districts which are exceptionally raw and bleak a few of such roots may be wintered in pots in a cold frame.

Trollius pumilus.—This is a Globe Flower which is unique in bearing golden yellow flowers which open flat like a saucer, a distinction which suggests that the common English name for the genus is not always a happy one. *T. pumilus* is a species that is of easy culture in any cool, moist, vegetable soil where it is not too shady. Since it only grows to some 6 ins. to 8 ins. in height, care must be taken lest it be overshadowed by others of the genus or any taller plants associated with it. The foliage of *T. pumilus* also differs from that of the Globe Flowers in general, the leaves consisting of broad, dark green, overlapping lobes of leathery texture. There is a form of this species known as *T. p. yunnanensis* which, though considerably taller and more leafy, is not more

attractive in blossom than the type. It is equally reliable under similar conditions and well worth a place.

A Compact-Growing Bugle.—There is an attractiveness about the Bugles which, however, ultimately leads to their own undoing, for most of the varieties of *A. reptans* are such rampant spreaders that few can tolerate their presence for long. But this cannot be said of *A. genevensis*, which, since it does not creep, is a species that can be trusted in the choicest company. Though a very old garden plant, hailing from Switzerland centuries ago, this is still comparatively uncommon, but its fine erect spikes of deep blue, 6 ins. to 8 ins. in height, are distinctly handsome and deserves to be better known. There is a variety called *A. g. Brockbankii* of which the flowers excel even those of the type in the richness of their colour. *A. genevensis* and the variety mentioned bloom in May and June. They prosper in any ordinary border soil, preferably in partial shade.

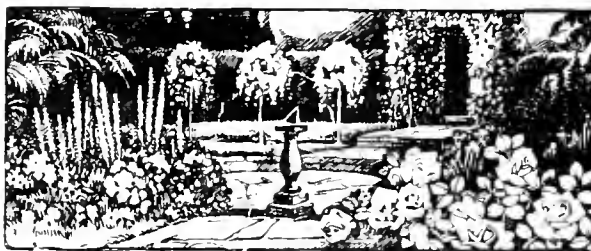
Answers to Correspondents

FLOWER GARDEN.

IRIS SEEDS (C. E. Y., Solihull).—The seeds should be nicely dried and stored in a paper packet in a cool, dry place through the winter if they are to be sown in spring. However, if our correspondent possesses a frame a portion of the seeds may be sown now and the remainder next March. A nice loamy soil passed through a tin mesh sieve will be suitable. Drain the pot well, water the soil before sowing the seeds, but do not water the covering soil for several weeks.

CATALOGUES RECEIVED.

Perry's Hardy Plant Farm, Enfield, Middlesex.—New and Rare Alpines and Perennials and General Catalogue. The Carse of Gowrie Nursery Company, Errol, Perthshire.—Fruit Trees. Messrs. E. P. Dixon and Sons, Limited, Hull.—Fruit Trees, Roses, Trees and Shrubs, Climbers and Hardy Plants. Messrs. Samuel McGredy and Son, Royal Nurseries, Portadown, Northern Ireland.—Rose List illustrated in colour.



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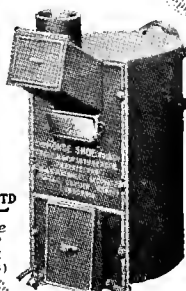
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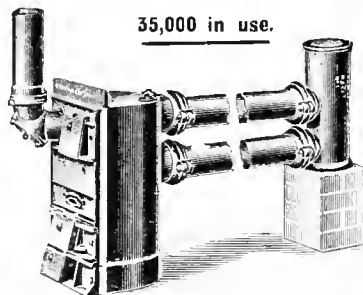
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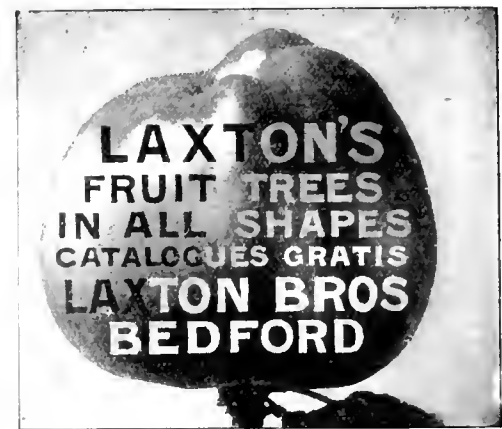
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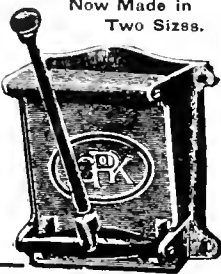
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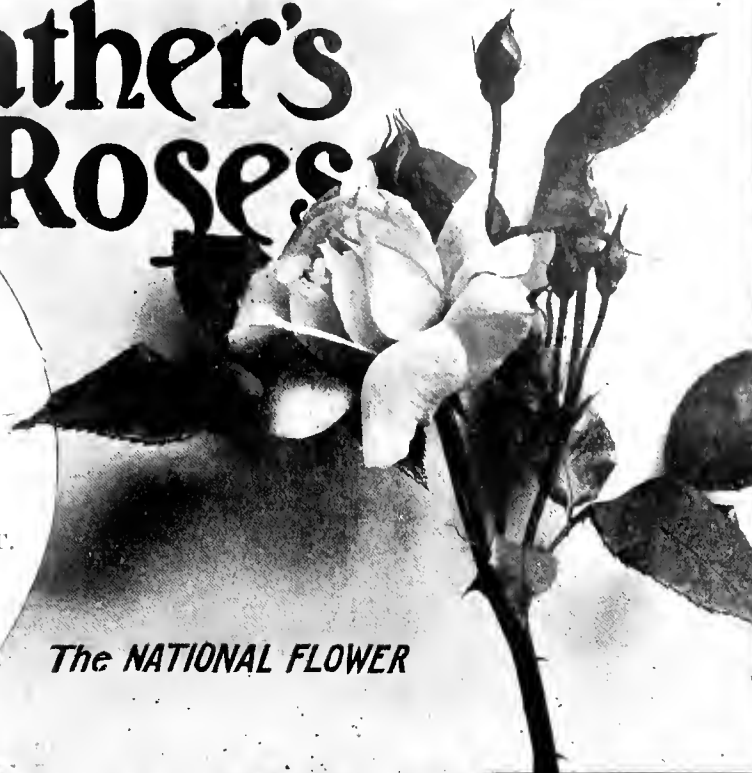
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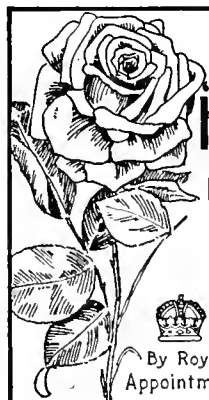
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COLCHESTER



No. 2713.—VOL. LXXXVII.]

[NOVEMBER 17, 1923.]

ROSES FOR BEDDING

IN his delightful "Book About Roses" Reynolds Hole writes: "To have both a beautiful rose garden and a garden of beautiful Roses requires the ground and the gold which few can spare." No doubt in those days this was true, but it can hardly be said to be so now. Dean Hole gives lists of Roses suitable for hedges, for pillars, for walls, for gardens and, what appeals to him most, "for exhibition"; but there is no list of Roses for bedding. Yet in modern books about Roses no chapter is more important than that which treats of varieties suitable for bedding. No question is more often put to us by our gardening acquaintances than this: "Which do you think are the best Roses for bedding?"

The twentieth century, though it may have brought us many troubles, has this to its credit, it has seen the birth of numberless beautiful Roses which have enabled us to plant our gardens in such a way that it is now possible even on a comparatively small piece of ground to combine a beautiful rose garden with a garden of beautiful Roses. The difficulty now in planting a moderate-sized rose garden is to decide which varieties will be most effective for our purpose.

A bedding Rose needs many good qualities, for it is asked to take the place of such old-fashioned bedding plants as "Geraniums," Begonias, or Calceolarias. Therefore it must be free and continuous in blooming, the colour and form of the flowers must be pleasing, the foliage good and abundant, the habit of growth upright, with the flowers borne on firm and sufficiently substantial stems, and they should have the added charm of fragrance. Personally, also, I prefer a variety which does not require constant attention in disbudding, and it is of great importance that the petals of the flowers should be sufficiently substantial to resist rain. Those Roses of which the blossoms, however lovely, turn

into brown balls if subjected to a few showers, are by no means first-rate for bedding. The ideal Rose possessing all good qualities in perfection has yet to be raised. Ophelia and Mme. Butterfly leave little to be desired as regards form, freedom and fragrance, but their foliage is somewhat scanty and their colouring not sufficiently brilliant to be effective at a distance. On the other hand, Mrs. Wemyss Quin and Mme. E. Herriot make vivid patches of colour in the rose garden and their flowers are set off with shining foliage, but they have neither the beauty

of form nor the delicious fragrance of the two first-mentioned varieties. Therefore in deciding what Roses to plant in our beds we must make up our minds whether we chiefly desire a very brilliant distant effect or whether we shall be content with beauty as shewn to us on closer inspection.

I take for granted that in our rose garden we grow our plants in beds of one variety or in groups if in borders. Were I to choose for those who ask first for brilliancy of colour and freedom of bloom, I should recommend the following:—

Crimson.

MRS. EDWARD POWELL is the best red Rose for bedding. It has a splendid upright habit, magnificent dark foliage, very bright red blossoms, freely and continuously produced; moreover, it is very hardy. The flowers, though large and with good petals, are not perfectly shaped, and though they are fragrant, they have not the true "old rose scent."

RED LETTER DAY and K. OF K. both make a fine display of brilliant almost scarlet flowers which are produced freely. They are nearly single and have practically no scent. If I could only grow one of these, I should choose K. of K.

ECARLATE is almost like a China in its freedom of bloom. It has a neat, rather dwarf habit and its flowers, though poor in form, are of a very pretty light crimson colour. They have little scent.

Shades of Pink and Salmon.

MRS. E. G. HILL is a very lovely bedding Rose with sprays of bright rose pink flowers, the reverse of the petals being a deeper shade. This Rose stands rain well and is sweet scented.

MRS. HENRY BOWLES.—This Rose, brought out in 1921, promises to make an excellent bedding variety with large well shaped blooms of warm pink, which are freely and fairly continuously produced.

MME. LEON PAIN, one of the freest of all Roses, is of stout



THE BEAUTIFUL NEW WARM PINK BEDDING ROSE,
MRS. HENRY BOWLES



A BED OF ROSE MRS. HENRY MORSE CARPETED WITH VIOLAS.



ONE OF THE BEST RICH YELLOW BEDDERS, GOLDEN EMBLEM.



THAT UNIVERSAL FAVOURITE, GENERAL MCARTHUR.

4. *Antioch*, but the foliage, and the shape of the flowers of salmon flesh. It is very pretty in the bud, but the full flower is rather heavy, and is easily spoilt by wet weather.

Yellow, Apricot and Orange.

MRS. WEMYSS QUINN must have pride of place as the most effective yellow bedding Rose. Its dark green glossy foliage is mildew-proof, and its brilliant yellow flowers are freely and continuously produced and are well carried on strong, straight stems.

GOLDEN EMBLEM has larger, better shaped and even more brilliant flowers, but they are not so numerous and the plant is not quite so hardy as Mrs. Wemyss Quinn. It has magnificent foliage.

LOS ANGELES, one of the best Roses of recent introduction, has large well shaped flowers of glowing apricot and orange. It is a fairly tall grower, an excellent autumn bloomer, and is fragrant.

EMMA WRIGHT has come to the front this year. Its flowers of almost pure orange are scented and freely and continuously produced, and they are set off by fine glossy foliage. The variety Severine is very similar, but of the two I prefer Emma Wright.

Coral, Flame Colour and Terra-Cotta.

THE WELL KNOWN MME. EDOUARD HERRIGT is certainly the most free-flowering and generally effective variety of this colour, its only faults being that it sometimes hangs its head, that the flower-stems are prone to mildew, and that its tints, though supremely brilliant, are apt to be rather hard and crude.

HENRIETTA is, to me, a far more pleasing variety. Its flowers of coral salmon tints are borne on smooth stems; they are very fragrant and in the bud stage are most brilliant and effective, but this is not nearly so free a variety as Mme. Edouard Herriot.

I will now describe those varieties which we should choose if looking specially for beauty of form combined with good habit and freedom of bloom. All the *white or creamy white varieties* I should recommend for bedding are well shaped Roses.

MRS. HERBERT STEVENS (F.) is wonderfully free-flowering, indeed, even as a bedding variety it needs constant disbudding. When attended to in this respect, its flowers are large, and they are nearly always good in form and stand rain better than any other white Rose I know; the foliage is rather skippy.

MOLLY SHARMAN CRAWFORD, also a Tea, has pretty dark foliage and stems which set off the full white blossoms; they have a tint of can de nil.

MME. JULIE BOUCHE (H.T.) is a good grower and produces freely well shaped flowers of white tinged with blush or salmon. This Rose is rather easily injured by rain.

To return to the Crimson Roses.

RICHMOND is a delightful bedder. It freely disbudded the flowers are of excellent shape and they are sweet scented.

CONVENT GARDEN is a Rose of splendid habit and ample foliage with well formed dark crimson blossoms. They lack fragrance and are not so freely produced as those of Richmond or Mrs. Edward Powell. It is a good autumnal flowerer.

HORTICULTUS BRILLI, a new variety brought out in 1919 by a Dutch firm (H. A. Vershuren and Sons), gives promise of being a fine addition to our crimson bedding Roses. It is glowing dark red, has good foliage and delicious fragrance, and I believe it is a really free-flowering variety.

I need not again describe the charms of Ophelia and Mme. Butterfly except to add that besides their wonderful beauty of form and purity of colour they are exceptionally free-flowering.

Writing on November 4, I can truly say that all through this wet October I have been able daily to cut first-rate blooms of both these varieties and the plants are still covered with buds.

There are many other varieties good for bedding; some, such as Caroline Testout, Lady Pirrie and General McArthur, too well known to need description; others, for example, Betty Uprichard, Independence Day and Mable Morse, almost too recently introduced to be recommended without

further knowledge, although, judging by the growth of two or three plants in our garden, I should certainly be tempted to try them.

I would always keep a bed for the old favourite Mme. Abel Chatenay, for though its habit is far from good, its flowers are so beautiful in shape and colour and of such a delicate fragrance that our gardens would be the poorer without its presence; moreover it is a wonderful autumnal.

In the National Rose Society's Annual for 1922 there is an excellent article on bedding

Roses, giving the views of many well known rosarians on the best dozen. Those of my readers who belong to the Society and are interested in the subject will do well to look up this article, and to those readers, if any, who are not yet members my advice is "Add to your knowledge of Roses, and, by so doing, to the pleasures of life, by becoming a member of the National Rose Society, which has done, and is doing, such excellent work in the cause of the Queen of Flowers."

WHITE LADY.

OLD-FASHIONED ROSES

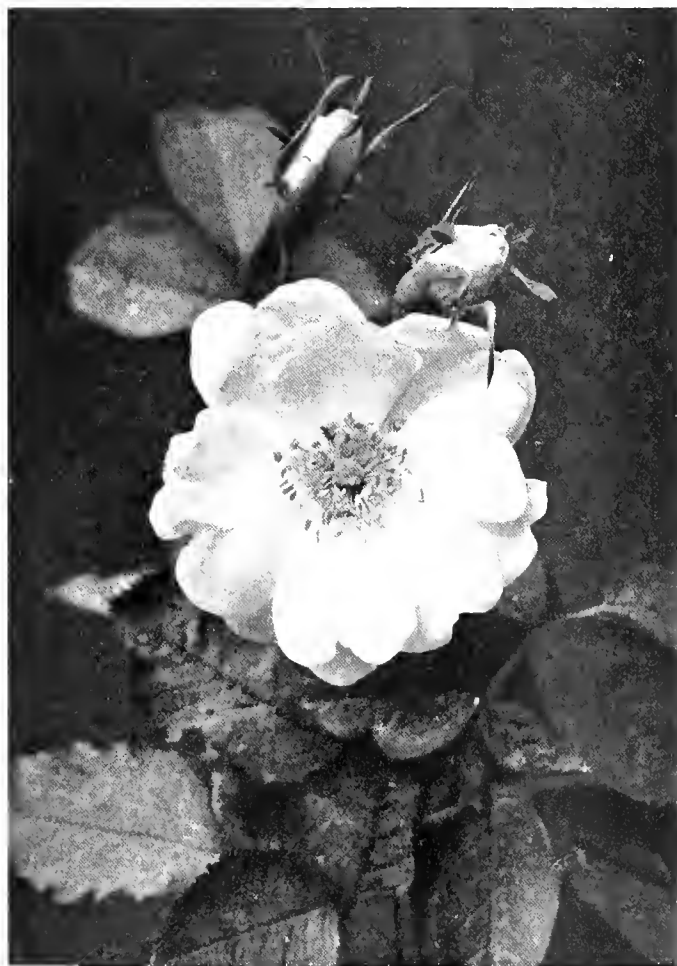
By Miss GERTRUDE JEKYLL, V.M.H.

THE great number and conspicuous beauty of the modern Roses, which are almost exclusively the ones seen at shows, may give the impression that these and these alone are the kinds worth consideration. But those who truly love their gardens will by no means forget or fail to hold in high consideration the old garden Roses

scent of a cordial quality from the glandular-pubescent growth on the stem and calyx.

The native Roses of France and Southern Europe, known as the gallica group, were taken into cultivation by the French and Dutch early in the eighteenth century. Between the years 1820 and 1830 there were no fewer than 2,500 Roses enumerated in catalogues, chiefly of gallica

The Musk Rose and one or two derivatives are among the most beautiful of climbers, and yet one seldom sees them in gardens, and many places are without a single Sweetbriar. Then, among the quantities of lately produced rambling Roses there is none that for simple garden merit can surpass some of the Ayrshires, the cluster Roses of old arbours and trellises—The Garland,



THE OLD MAIDEN'S BLUSH, ROSA ALBA, IS GENERALLY CONSIDERED A HYBRID OF R. GALLICA.



A SPLENDID WILD FORM OF THE MUSK ROSE WHICH FLOWERED LAST YEAR AT KEW.

of their great-grandmother's time. One has only to think of the beauty and charm of the old Cabbage Rose, *Rosa centifolia*, with a sweet scent that has never been surpassed. It has been in England since the sixteenth century, and, hundreds of years before that, was extolled by Herodotus as the sweetest Rose in existence. This delightful quality is even intensified in its variety the Moss Rose, which has an additional

origin. There is still a number of them well worth growing; one of the best is the bushy double Blush gallica, which is still prized in good gardens. Within the present writer's memory there were a number of gallicas in some of the French catalogues, and as there is a wholesome indication of a revival of interest in the older garden Roses it is to be hoped that they will not be allowed to pass into oblivion.

Ruga, Dundee Rambler and the rest. One side of their parentage, *R. sempervirens*, keeps their foliage neat and glossy, and they do not flout the yards of green, sappy growths that come before the bloom is over and put one out of patience with the *Wichuraiana* ramblers. There is an old climbing Rose named *Flora*, of which we recognise the blooms in eighteenth century pictures, with rather large, full double flowers of a mushroom

the Yellow Banksian, is better worth growing than the old garden Rambler.

The Scotch Broom, a garden variety of the wild Rose, is one that grows in many places. It is a small bushy plant, and comes near the sea, and is often used in several garden uses as well as in the wild. In half-wild places. For sunny walls and for the still no better Roses than the grand Fortune's Yellow, and for a Rose of lower growth, but also thankful for warmth and shelter, R. microphylla, with large, flat double flowers, pale pink shading to a crimson centre and extremely neat, many-leaved foliage.

The Damask Roses are also of the greatest use in borders or separate patches or bays in front of shrubs. Besides the usual red form there is the one with the red splashed with white, commonly but not correctly called York and Lancaster. Then there is the old

Velvet Rose, a half double Damask of a very dark, almost purplish colour, and another old variety of a light pink. Another, that has of late been restored to garden favour, is the old Rome Blanche, or Hebe's Lip. The outside of the bud shews as rosy crimson, the opening flower is a warm ivory white turning to clear white and retaining the bud colour as a thin pootee edge.

The old pink China Rose is one of the earliest to bloom, often in flower before the end of May; it has a second season of good bloom in early autumn and a good sprinkling of flower all the summer. Its variety Cramoisie Supérieure, of brightest, deepest red, is an indispensable garden flower, and the dwarf pink Lawrenceana is one of the most charming of miniature Roses.

THE WILD ROSES

In stem, foliage, flower and fruit the species of Rosa are among the most interesting of hardy shrubs.

BECAUSE perhaps their modest beauty is usually compared with the gorgeous displays made by garden Roses, the wild Roses do not receive the attention from cultivators that they deserve. They should, of course, be compared with hardy shrubs in general, and here some of the species easily hold their own. For bold plantings in the pleasure grounds and open woodland, as specimen lawn shrubs, as bushes or groups of bushes in the shrubby border, and for hedges, few shrubs are more attractive than some of these wild Roses.

In winter how interesting are the thorny stems of *Rosa pteracantha* and *R. Willmottiae*, to name but two, these same two also calling for special mention because of their ornamental foliage. The simple beauty of the flowers may in many

instances be fleeting, yet how charming are the flowers of the Common Dog Rose, *R. canina*, of the yellow *R. Hugonis* and of *R. serrata*, and how can we find words to describe the lurid dark red blossoms of *R. moyesii*. At the time of writing some of the treasures of the outdoor garden are rose hips; those of *R. alpina* in the rock garden, of *R. Davidii* in the shrubby border, and of *R. rugosa* on a hedge are especial attractions. Those whose lot it is to live in country districts will need no reminder of the beauty of the glittering orange-scarlet hips of *Rosa canina* on hedgerow bank and in coppice. We might do worse than use this native plant as a boundary hedge



ROSA WILLMOTTIÆ WITH PURPLISH ROSE FLOWERS.

for the rose garden or in masses in the open woodland.

CULTIVATION.

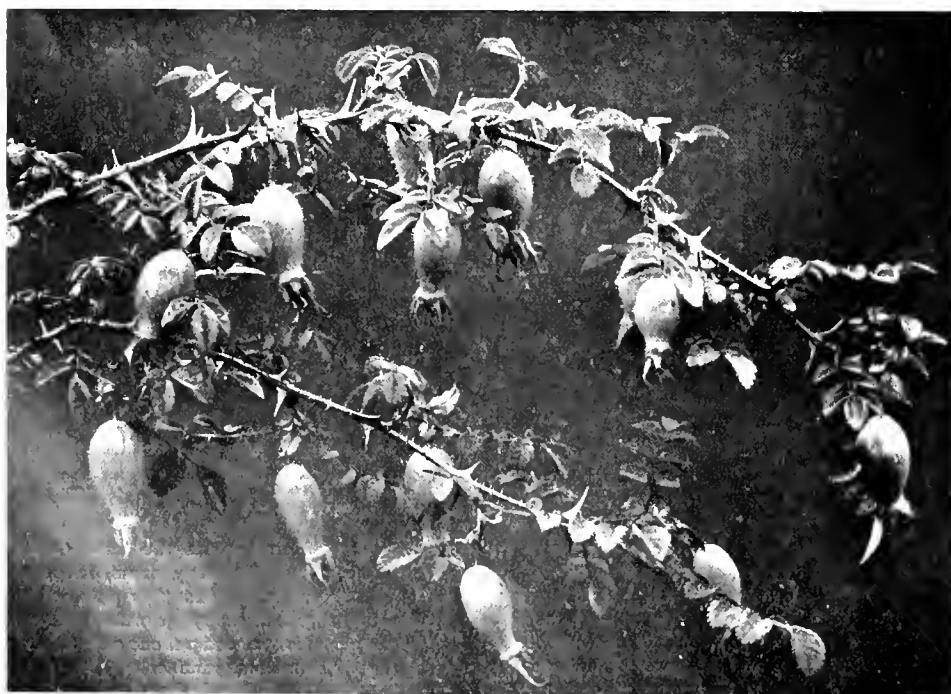
Select open positions for planting, otherwise one cannot hope for vigorous growths and well ripened wood, which is the foundation for abundant flowers and fruits. A loamy soil is the best, trenching and manuring to a depth of 2ft., though we need not be so precise in its composition and preparation as we should be were we planting a bed of the best Hybrid Tea Roses. It may be urged that it is not necessary to trench at all, considering how freely the Dog Rose flowers and fruits in a poverty-stricken hedge bank. When we bring a plant into the garden, however, we generally try to improve its vigour and enhance its beauty, and most of these wild Roses respond to cultivation.

PRUNING.

This is the word commonly employed, but thinning better describes the process of keeping the bushes shapely and floriferous. It is principally a matter of cutting out the older stems to let in light and air and, incidentally, regulating the arrangement of the branches, for most of the oldest stems are removed to the ground level. This induces the development of vigorous young shoots from the base. Very little, if any, shortening of the growths is desirable, unless it be to shape a lawn specimen or one encroaching on its neighbour. The thinning or pruning must, obviously, be done some time during the winter, after the hips disappear and before new growth commences in spring.

PROPAGATION.

The perpetuation of the species of the genus *Rosa* true to type is a matter of considerable importance. Seeds, naturally, come first to mind, but Roses are so readily cross-pollinated that unless the flowers are protected from insects or



HANDSOME FRUITS OF ROSA SWEGINZOWII.

the fruits gathered from very isolated bushes, the chances are that the seedlings will not come true.

Next on the list is increase by cuttings. A few kinds root readily on a border outside or under cloches in autumn, the majority can be rooted in a propagating case with a little bottom-heat or in a sun frame in late summer, using the partially ripened young growths of the current season's shoots. If this fails we may have recourse to layering, which in many ways is the best, or at least the surest, method of increase. The point may be raised as to why we do not resort to budding. It is practised, but is not a particularly desirable method. There is always the possibility of suckers growing from the base, and we cannot easily get at the base of the wild Rose bushes massed or grouped in the pleasure ground. The cutting out of old shoots to the base always tends to make the stock of budded bushes develop suckers.

A few species, the Scotch Rose, *R. spinosissima* and some others can be freely increased by division of the clumps; while, frequently, using an old spade, pieces can be chopped off with some roots attached.

A SELECTION

of the most valuable species to plant should include the following:

R. MOYESII is the most distinct and valuable of the Roses introduced from China by Mr. E. H. Wilson. At its best this Rose is a vigorous bush up to 10ft. or 12ft. high, producing, in summer, quantities of lurid dark red blossoms 2ins. to 2½ins. across. In autumn is another spell of beauty when the bushes are laden with large dark red bottle-shaped hips. Mr. Wilson describes this Rose as a common bush in the mountain thickets of Western Szechuen at 6,000ft. to 12,000ft. elevation. There is considerable variation in the colour of the flowers. It is the form with the unique lurid dark red flowers which should be propagated by layering. A form with lighter-coloured flowers has been named variety *rosea*, but when seedlings differ so much in colour the giving of distinctive names scarcely seems worth while. *R. Fargesii* appears also to be an extreme form of *R. Moyesii*. There are certainly differences in flower and fruit between the typical forms, but from a batch of seedlings connecting links between the two are easy to find.

R. HUGONIS is one of the earliest Roses to flower, the large rounded bushes 7ft. or 8ft. high and more in diameter being covered with 2in. wide yellow blossoms in May. In growth *R. Hugonis* is a gracefully arching shrub with elegant feathery foliage. It is a native of Western China, and was first introduced by the missionary, Father Hugo, in 1890.

R. DAVIDII.—This is one of the most persistent Chinese Roses in flower and fruit, and was first introduced by Mr. Wilson from Western Szechuen in 1903. In habit it is an open upright-growing bush, 8ft. to 10ft. high, probably more with age. In early summer *R. Davidii* is bright with loose corymbs of rose pink flowers, followed in autumn by pendulous clusters of numerous bottle-shaped scarlet-red fruits ½in. to 1in. long. The variety *elongata* has larger leaflets and 1in. long fruits.

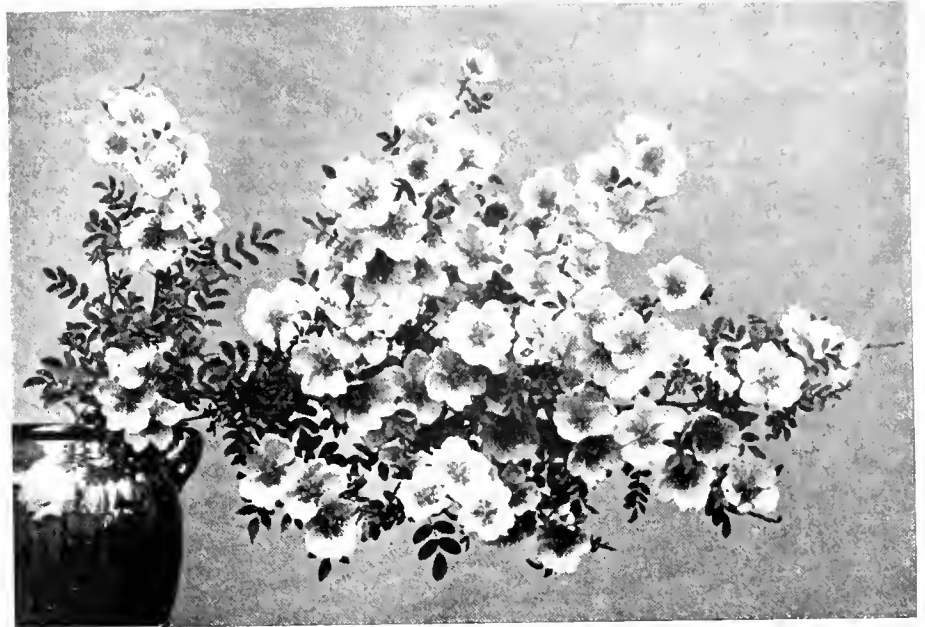
R. SWEGINZOWII is a very vigorous Rose, forming a bush 10ft. to 12ft. or more high. It belongs to the *macrophylla* section and, like the majority of the group, is attractive in flower and fruit. The deep rose-coloured blossoms are at their best in June, and are 1½ins. to 2ins. across. The elongated, pear-shaped fruits are orange red. The plants at Kew were raised from seeds collected by Mr. Wilson in Western Szechuen in 1903. Another attractive species, belonging also to the *macrophylla* group, is *R. setipoda*, introduced

by Mr. Wilson from Hupeh. This has purplish rose blossoms, and red, flask-shaped fruits.

R. OMEIENSIS belongs to the *R. sericea* group with the four-petalled flowers. The variety *pteraantha* is remarkable for the large, richly coloured spines freely borne along the vigorous stems. There are forms with orange red, blood

been written to indicate how much our gardens have been enriched with wild Roses from China during the last twenty-five years.

R. rugosa and its numerous varieties are among the largest of the wild Roses in flower and fruit. The large rounded bright red hips crowned with sepals are very well known on bushes and hedges



THE EARLY-FLOWERING YELLOW ROSA HUGONIS.



FRUITS OF THE RAMANAS ROSE, *R. RUGOSA*.

red, crimson red (var. *atrosanguinea*) and red fruits with thickened yellow stalks. Clustering among the fern-like foliage these are extremely pretty. Unlike most rose hips, the fruits of *R. omeiensis* and varieties fall when fully ripe, often the ground beneath the bushes being thick with fruits.

There are still more of the Chinese Roses, including *R. sertata*, *R. Soulieana* and *R. Willmottii* deserving of mention, but enough has

of this popular Rose, which is a native of China, Korea and Japan.

The Thornless or Alpine Rose, *R. alpina*, is a treasured occupant of the rock garden at Kew. It has rich pink blossoms, but its greatest beauty is in autumn, when the bright red elongated hips are at their best. In addition to the many forms of *R. canina*, other notable British Roses with attractive fruits are *R. mollis* with globose red hips and conspicuous sepals; *R. tomentosa*, with

ROSE GARDEN AND PERGOLA

How to Arrange their Connexion.

BECAUSE the many beautiful climbing and Rambler Roses display their charms to great advantage upon a pergola, there is a natural tendency to associate pergola and rose garden together.

In some cases this is a perfectly easy and simple matter; the rose garden is near the house, and a pergola may be led in a perfectly simple and dignified manner along one side. There are many instances to be seen, however, where either the pergola itself looks sadly misplaced or where the rose garden has obviously been put in an unsuitable position merely to bring it alongside a pergola. In the following notes suggestions will be made for bringing these two important features together in such a way that the rose garden may have the site best suited for the culture and display of the Roses, and that the pergola may be a satisfactory and satisfying garden feature.

The pergola is, in a very special sense, an architectural structure, best not attempted unless it can be carried out in a dignified manner. That is not to say that it need necessarily be constructed of expensive materials or in an elaborate manner. Dignity and over-elaboration have nothing in common. Good and suitable pergolas may be constructed of stone, of brick—in either case with wood cross pieces—or entirely of wood, and the nobility of the material will in no way make up for any deficiency in the design. The tunnels made of "rustic work" which sometimes masquerade as pergolas cannot, of course, be made to look suitable or desirable in any situation whatever. The material of which the pergola is constructed, as well as the degree of finish allowable, will, to great extent, depend upon the construction and finish of the house. This will

especially be the case if the pergola leads away from the house or is, otherwise, placed near to it.

One often sees pergolas leading down the centre of a rose garden. This arrangement is seldom satisfactory, and should never be attempted by the amateur designer, the great difficulty being to embower the rose garden in planting sufficiently heavy to provide balance without rendering the site unfit for the Roses. Remembering that permanent (shrubbery) planting must continue to develop for many years, unless an immense amount of pruning is to be undertaken, and bearing in mind, also, that such pruning—if the desired form is to be maintained—is a task calling for a more than ordinary amount of judgment and knowledge of plant growth, such effects are more than ever undesirable in an age when economy of maintenance is ordinarily a *sine qua non*.

To surround a polygonal rose garden with a pergola is a justifiable expedient, and beyond adequate paths or vistas leading to other parts of the grounds, one which forms an independent feature of itself. It is better in such case to set the pergola upon a slight elevation—not more than one or two steps—or to sink the rose garden a little. Sometimes it is desirable to sink the garden and use the soil excavated to raise the pergola, thus forming a noticeably sunk rose garden. This is not so easy or so simple a matter, however, as might at first appear, because, to make anything of a job, it is necessary to strip the whole of the usable soil from the total area before excavation commences.

The pergola can easily be made an independent feature, too, by causing it to frame an amphitheatre on the north or east side of the rose garden and in a setting of trees or substantial shrubbery.



CRIMSON HIPPS OF ROSA FARGESII.

For its elegant foliage, pale pink blossoms in June and abundant bright red fruits in autumn, *R. Fargesii* forms a tall bush, bearing, as a rule, a profusion of large red fruits. As a lawn shrub *R. sericea* is deserving of more attention. It forms a large rounded bush up to 10 ft. or 12 ft. high with elegant fern-like foliage, creamy white, four-petalled flowers and roundish red fruits.

A rare and uncommon Rose which has attracted some attention at Kew this summer is the dainty *R. myriophylla*, a native of the Southern United States. It forms a graceful bush 2 ft. to 3 ft. in height, perhaps in only 10 years. The solitary purplish rose blossoms are about 2 in. in diameter and open during July and August. The habit of the wild Roses to have brightly coloured hips seems to be lacking in this species, as, this year, two spiny fruits developed without any material change in colour.

A. O.

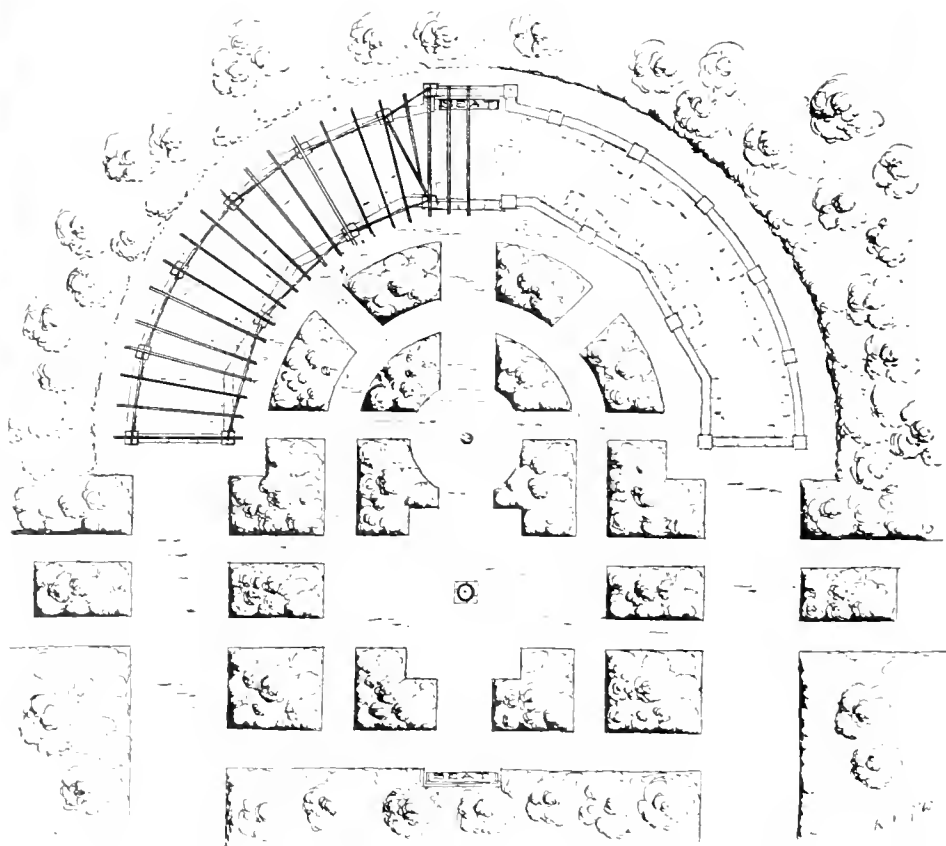


FIG. 1.—PLAN FOR A PERGOLA ON THE NORTH OR EAST SIDE OF A ROSE GARDEN.

Such an arrangement—one of many—is shewn in plan in Fig. 1 and, very roughly I fear, in perspective elevation in Fig. 2. Rough as the sketch is, however, it should serve to establish the fact that such a pergola is an independent garden feature, which may be isolated—indeed, should be isolated—from other features which have architectural character or sympathies outside the adjacent rose garden.

A straight pergola across one end of the rose garden, unless it leads from some other definitely architectural feature, is apt to look misplaced, but the incorporation of a scendy summer-house or garden pavilion in the design will do much to justify its existence. If the ends can be returned a little, as in Fig. 3, the effect will usually be improved. Here, again, merely to raise the base of the pergola the height of an easy step—say, 5 ins. or 6 ins.—will add much to the dignity of the arrangement.

In any of these cases the use of simple and straightforward stone steps to, and of rectangular paving for, the pergola will make it at once more practical and more sightly. Crazy paving, so often employed for the purpose, is much less effective, but if, on account of cost or for other reasons, it is used, it should be carefully fitted together and the joints made good with cement. The too common method of use, where the stones have cracks between them of from 1 in. upwards, so that they often rock when trodden upon, is far less dignified than any gravel path, and such a pavement has as little to recommend it as "rustic" woodwork.

The colour of the paving, whether red, blue-grey or brown, is, generally speaking, of small importance. Most stones, when used as paving, weather in a season or two to some fairly neutral shade of grey, but there can be no doubt that self-faced York paving, which, by the way, varies a good deal in colour, is the most beautiful stone for the purpose, and at least as durable as any other. Readers who have noticed the hard-textured, homogenous, almost slate-like York stone which is employed in building for steps and sills will wonder how it can possibly be supplied in anything but sawn slabs. The self-faced paving stone is, however, obtained from the laminated strata which overlie the homogenous rock. If York stone is employed, any steps may well be carried out in the same material, hanging the flags over to form a 2 in. nosing. This minimises the risk of anyone "stubbing" their toes when ascending the stairway and, by supplying a line of shadow, adds interest and beauty to the steps. A little thought and extra labour expended upon garden stairways or flights of steps, however short, is commonly well spent, for there is no other garden feature of anything approaching architectural interest which is so generally satisfactory.

Where neither of the foregoing plans seems suitable, a pergola may often be arranged to traverse two adjacent sides of the garden. So arranged it will appear more satisfactorily placed, leaving aside external features which might justify its existence, than if it traversed one side only. The foregoing remarks on paving and on raising the pergola a little will, it is almost needless to say, apply in this case also.

Last of all we come to the case, most frequent perhaps in suburban gardens, where, without breaking vistas or otherwise upsetting the general garden scheme, the pergola, if it is to adjoin the rose garden, must be straight. There is then nothing to do but to justify its existence in that form. An effort should be made to use it as a part of a vista with some proportion, but it will be better to arrange it at one end of such vista rather than in the middle; the vista can then be closed at the pergola end by a seat, which should

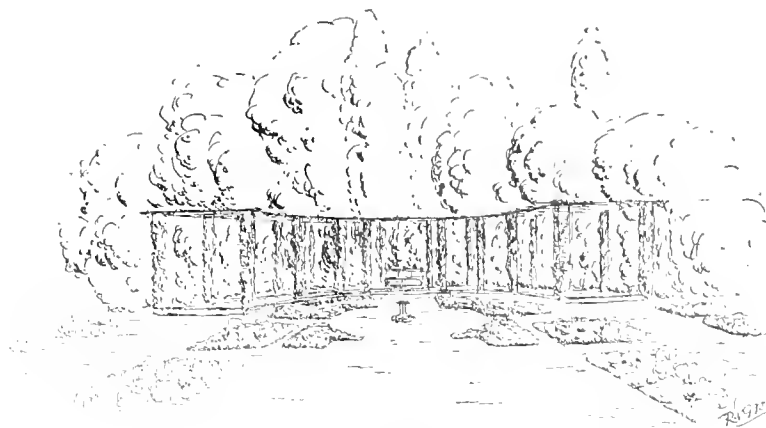


FIG. 2.—THE SAME ROUGHLY DRAWN IN PERSPECTIVE.

be dignified, but fairly simple, in character. The degree of elaboration allowable will necessarily depend upon the materials and finish of the pergola, which in turn should hinge upon the lay-out and treatment of the garden as a whole. Further down the vista another feature or other features of architectural interest should be introduced to carry on the feeling conveyed by the pergola itself, and any such additional features should be of a dignity and importance sufficient to afford balance to the pergola. A fairly substantial sun-dial set on an adequate base will often answer, whereas a small bird bath on a dumpy pedestal and without a base will look ridiculous. A little formal paved garden with, it may be, a central pool is commonly an excellent balancing feature, and the same may be said of wrought-iron gates with adequate piers, of a formal and fairly broad stairway, and of an avenue of columnar evergreens, which, if not architectural in fact, is so in feeling. Even a formal herbaceous walk in a setting of Yew hedges will often serve to justify the placing of the pergola.

The construction of the pergola has more than once been discussed in THE GARDEN, and it would not, in any event, be practicable to go into it very closely in an article such as this one, but it may be well to point out that for growing Roses a pergola with elaborate classic pillars is scarcely suitable. Such erections are better lightly draped with Wistarias, Vines and such-like. The very simplest type of pergola admissible, constructed of substantial larch poles with a few inches of the

branches left on is illustrated on page 592. Equally simple in appearance, but a little more formal, are those constructed of squared timber (usually oak); then we have brick structures, which generally look best if constructed with 14 in. by 14 in. bases, stone plinths, 9 in. by 9 in. tops and stone caps, the whole sustaining rough or squared cross timbers. Last of all we have the pergola with stone pillars which almost calls for shaped cross timbers, which should, however, shew axe marks rather than those of the plane. For most purposes the stone pergola is best constructed of coursed rubble walling, the courses being as narrow as possible in reason, but not of equal thickness. Columns 18 ins. or 20 ins. square will, in a pergola of some dimensions, be suitable. Squared stones are, of course, admissible, but they do not afford the play of light and shadow which is so beautiful with roughly coursed work. They are most desirable where the pergola is in fairly close relationship with a dignified home built of ashlar.

A few lines must be written about the planting of the pergola, for without good and suitable planting the best of pergolas is comparable only to a setting devoid of jewels. Near the rose garden the general wish will be to employ Roses very largely, but a little more variety in habit of growth is desirable than Roses will supply. Vines of sorts, Wistarias (almost indispensable) and some of the forms of Clematis montana are especially suitable. The Clematises of lighter growth, such as C. Jackmanni and those of its section, the

related lanuginosae, etc., are best planted against the same pillar as a Rose and, preferably, on the shady side of a pillar. Some of them should certainly be utilised, and it is a matter for careful selection to obtain pleasing colour harmonies between the Roses and the Clematises which make their way among the Rose branches.

The immense popularity of the Wichuriana hybrids has ousted from many gardens not only the older multiflora (polyantha) Ramblers, but the many beautiful Noisettes and Banksias, and Climbing Tea and Hybrid Tea

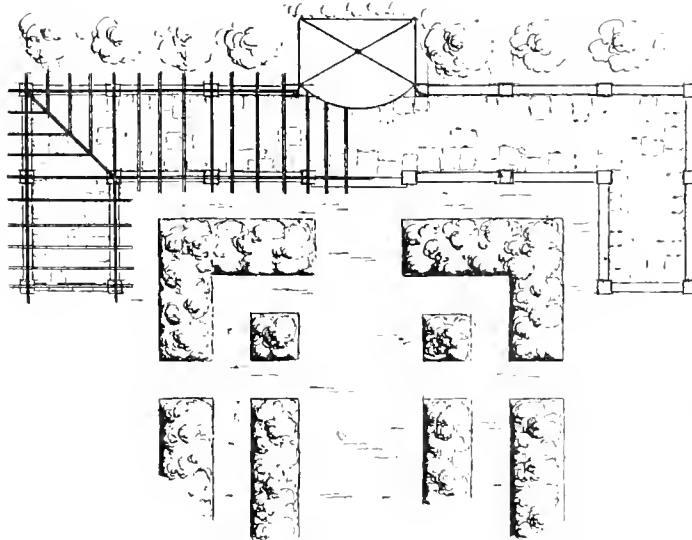


FIG. 3.—DESIGN FOR PERGOLA AND GARDEN HOUSE.



A VERY SIMPLE PERGOLA IN SPRINGTIME: SCILLA SIBIRICA IN FLOWER.

varieties. This is very regrettable, and place should certainly be found for such sorts as Rêve d'Or, the White and Yellow Banksias, Blush Rambler, The Garland, Hélène, Flora, Leuchtstern, Carmine Pillar, Claire Jacquier, Reine Olga de Wurtemberg and the newer Paul's

Scarlet Climber. These have a quality which is only exceptionally found among the Wichuraiana hybrids. I would include the almost ever-flowering Alister Stella Gray were it not that the variety succeeds as well, if not better, as a free bush. R. V. G. W.

ABOUT WEEPING STANDARD ROSES

THE sight of a well grown weeping standard Rose at the height of bloom can scarcely be surpassed in any garden, but, perhaps on account of the dazzling effect, it is necessary to exercise the utmost care in the placing of such specimen trees. Here and there on a lawn, planted in a circular bed 4ft. to 6ft. in diameter and with a dark background, such standards look at their best, but avoid training a lawn with circles of them all round the outside edge. Used in this way, as specimens, a row of Dwarf Polyantha Roses round them makes a good effect; but give the standard plenty of room, otherwise the Dwarf "Polys" will get little chance to grow.

Another use for them is on similar lines to a pergola—a "weeper walk," leading from one part of the garden to another; but the "walk" should be at least 12ft. wide, for it is surprising how much room a well grown weeper takes up, and ladies' fragile dresses are expensive items to replace if torn by the thorns of a pair of extra corpulent weepers.

Here, we have also grown a row of weeper, as a boundary between two parts of the garden, in which case we run a rope or chain from stake to stake, tying only a couple of shoots to each, and it is surprising how quickly it develops into a festoon of Roses.

Digressing for one moment, on the subject of the best material for such ribbon connections, we formerly used old ships' rope, but it has two faults: one, that it sags, making the festoons hang lower and lower; and the other, an even worse fault, is that it lets you down, for the rope rots, a high wind breaks it, and irreparable

damage is done by the best shoots of the plant being torn out.

Chain is unsatisfactory on account of its weight, which necessitates extra stout stakes, and, also, Roses do not like metal—it is too cold for them in winter and too hot in summer. It hardly affects old wood, but with these weepers only the new wood should be tied in, and, when tied to metal, a hard frost will often kill a new shoot. The best solution of the difficulty we have found is to use electric cable about as thick as a lead pencil. Large quantities of this are being disposed of as surplus Government stores, and a mile of it can be purchased for less than a couple of pounds.

As to treatment and growth, standard weepers should be strong enough to grow naturally, *i.e.*, without being tied to any umbrella support. The Rose should throw sufficient new shoots each year, each reaching the ground, and when in bloom completely hiding the briar stem. Liberal treatment by a thick dressing of manure, in spring, well forked in and a few cans of liquid manure should give the desired result in growth, provided, of course, the plant was a good one originally and properly planted, with plenty of organic food for its roots to get at.

Most of the Wichuraiana Roses—practically the only suitable type for weepers—throw their new shoots from the base, in which case *all* the old wood should be cut clean out; but some varieties, such as Albéric Barbier, Delight, etc., also throw new laterals from the previous year's shoots, and, when pruning, these laterals should be cut back too.

To class the best varieties fairly in order of merit one can only go by one's own experience, and, admittedly, varieties that succeed in one

locality are not at home in another. Situation, aspect, soil, treatment and the plant itself all may vary considerably, so the following varieties are described by their growth in an open garden on the hills in Surrey and on a light, sandy loam soil.

For all-round excellence there is nothing to beat ALBÉRIC BARBIER. The growth is wonderful, it blooms early in the season, and retains almost all its foliage through the winter. Five years growth here has transformed the weeper practically into a balloon, and the briar stem, of which the girth is always indicative of the quality of the tree's growth, is 3ins. in diameter.

Secondly comes EVANGELINE, also a massive grower, but a later bloomer. The fragrance of the single pink blooms is delightful, and scents the garden for many yards round. A hint, however, in regard to pruning this Rose—it is a shy bloomer on new wood, therefore leave some of the one year old shoots cut back slightly.

Our third favourite is FRANÇOIS FOUCARD, also a strong and clean grower, with lemon yellow flowers, blooming early.

So much for the perfect varieties, which we regard here as leaders, while the rank and file we put into two categories, classifying them as excellent or only good. The excellent ones are:

LADY GODIVA, pale pink, late flowering.
DOROTHY PERKINS, darker pink, late flowering.
RENE ANDRÉ, yellow, early flowering.
CORONATION, crimson, splashed white, late flowering.
EXCELSA, scarlet, late flowering.
SHOWER OF GOLD, yellow, early flowering.
JERSEY BEAUTY, pale yellow, early flowering.
JOSEPH LAMY, white, with pink edges, early flowering.
WHITE DOROTHY, white, late flowering.
FRANÇOIS JURANVILLE, salmon pink, early flowering.
MINNEHAHA, deep pink, late flowering.
DEBUTANTE, pink, midseason.
GARDENIA, bright yellow, early flowering.
SANDER'S WHITE, pure white, late flowering.

The illustration of this beautiful Rose is of a one year old plant; too short a period, of course, for the plant to have attained anything like perfection.

As good growers, though, by comparison, not so good as the above mentioned, we have

DIABOLO, fiery red, early flowering. Not a true Wichuraiana; in fact, it is classified by some nurserymen as a Hybrid Perpetual. It grows wonderfully strong, but is a scarce bloomer.

DR. VAN FLEET, pale pink, midseason. Also very strong, but too inclined to run to growth and foliage without a corresponding profusion of blooms. Counterbalancing this objection, however, it is sweetly scented, and the blooms remind one of miniature trusses of Mme. Augustine Guinoisseau.

CHATILLON RAMBLER, shell pink, late flowering. Unfortunately, it is disinclined to throw new shoots from the base, preferring only to throw laterals, with the result that the heads get very bushy and top heavy.

ROMEO, dark red, late flowering. The blooms are larger and darker than Excelsa, but here again the quantity of blooms is not in proportion to its strong growth: in fact, it is a real shy bloomer. Perhaps by leaving in some of the old wood it may bloom better.

LIONNE GÉRAISI, salmon, early flowering. The growth of this is "sprawly"—apt to run to laterals instead of clean new base shoots.

FAMILY GRAY, yellow, early flowering. This promises well, but we have not grown it for a sufficiently long time to express a decided opinion on its merits as a weeper.

HIAWATHA, crimson late flowering, is always an unknown quantity as regards growth, and is quite as likely to do better when absolutely neglected and left to itself than if tended and fed. Here, the heads are bushy, and we cannot get the essential long trails of growth for the next season's blooms.

ETHEL, flesh pink, early flowering. A very pretty shade of pink, this is always a favourite with the ladies. Growth is not very strong, but the plants thrive.

MRS. M. H. WALSH, white, late flowering. Here, again, growth is sacrificed for prettiness. The shoots are thin—almost wisps, but plenty of them, and being a profuse bloomer the head is like a bridal bouquet when in full bloom.

FLAME, fiery pink, late blooming. When in full bloom it well merits its fiery name, but, unfortunately, it suffers badly from mildew, and to keep this down it must be frequently sprayed early in the season and during the blooming time.

SWEETHEART, pale pink, late flowering.

DELIGHT, carmine, late flowering. Both of these are bushy growers; the heads are good, but they are not ideal weeper types.

We now come to—what *not* to grow as weepers, and we must eliminate at once the stiff-growing varieties. American Pillar, Blush Rambler and Grüss an Teplitz are all erect growers which cannot weep or trail naturally, and if they are to be forced into an unnatural habit of growth, leave them alone. Even Paul's Scarlet, beautiful and profuse bloomer though it is, cannot be persuaded to weep, and here our plants send stiff shoots up skywards. To grow these stiff-growing varieties as standard weepers is surely unnatural; they

look, in fact, like porcupines stuck on broomsticks. Of new varieties we are experimenting with the latest climbers produced and testing them all as weeping standards, e.g., Irene Bonnet, Lacotte, Violetta, Albertine, Yvonne and Snowflake. The latter particularly looks most promising, with its snow white flowers and wonderful foliage.

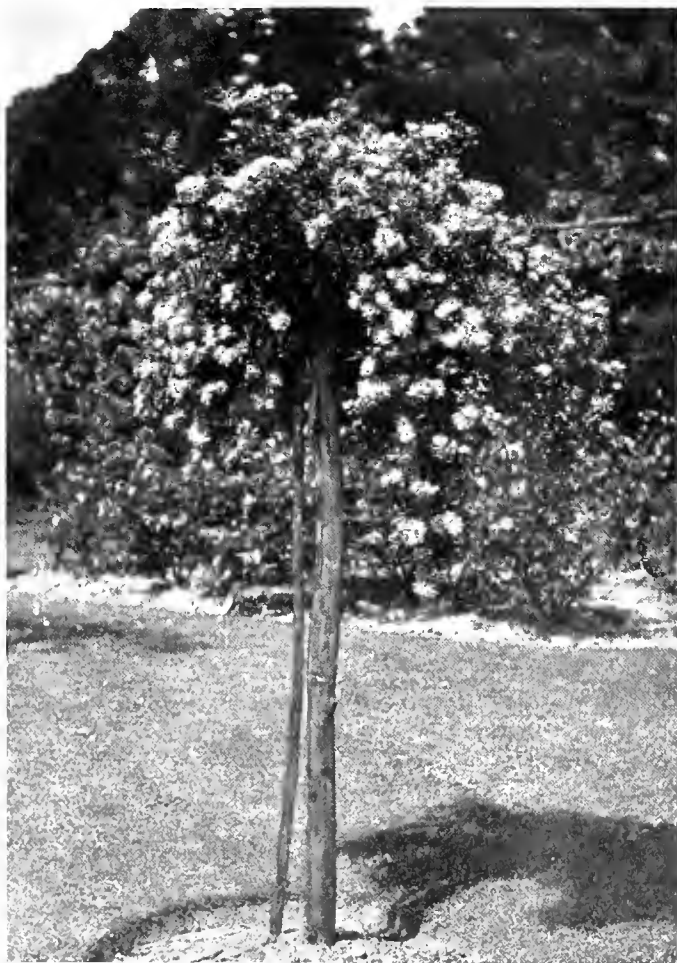
Oxtd.

HERBERT L. WETTERN.

[Mr. Wettern has probably tried as many Ramblers as weeping standards as anyone, and the culture which he gives to Roses is well known. He possesses, too, a soil which is excellent for this class of Rose, and, altogether, most readers will think that he has been far too modest in his claims as to the value in other districts of his experience and experiments at Oxtd. There is plenty of room for new varieties with a vigour approximating to that of Alberic Barbier, which at present stands quite alone as a sort for weeping standards. These "weepers" are, we feel, in some danger of going out of favour owing to the way in which they are abused in many gardens. Spottiness in planting is an evil not always easy to avoid, and weeping standards specially lend themselves to it. They are, in general, most effective when used to form an avenue, as centrepieces for beds of the Dwarf Polyantha varieties, or when arranged in groups of from three to seven of one variety. When grown in groups the plants lose something of the symmetry we usually associate with the weeping standard, but the group as a whole should be moderately symmetrical and, as every gardener knows, there are places where plants on "legs" are practically essential. These weepers are truly beautiful when in blossom.—Ed.]

A TINY JUNIPER

SO admirably suited to the rock garden is that delightful little conifer *Juniperus hibernica compressa* that no rockery planting should be without it. It is exceedingly attractive with its bluish grey foliage and its always uniform shape, which takes the form of a very dense column tapering to a point and which, by the way, needs no artificial training to retain its shape. It is very slow growing, which is, undoubtedly, its greatest attraction as a plant for the rock garden. Generally speaking, the growth it makes in a year is about an inch, therefore it is usually possible to calculate the age of a specimen within a few years. I am afraid that a number of rock gardens are spoilt by the use of quick-growing conifers, probably bought when very small and attractive. *J. hibernica* is not a common plant by any means, which is due largely to its slowness in growth. It may be propagated by cuttings or grafting. Personally, I prefer the former, although it takes longer to get a good plant, but when one has got a nice plant the delay is well repaid. Cuttings may be safely put in in October. They should be placed in a frame and, if possible, under a hand-light in the frame. The mixture I suggest for cuttings is one part of sharp silver sand and one part of charcoal (broken up finely). Water should be given sparingly throughout the winter months, and when April arrives the cuttings should be rooted and fit to put into small pots, in which they should remain until they are large enough to be planted out, which will take two years at the least. As regards their position in the rock garden,



A ONE-YEAR STANDARD OF ROSE CORONATION AT OXTED.



ANOTHER YEARLING STANDARD; THE VARIETY IS SANDER'S WHITE.

this should be well thought out; in fact, it is quite an art to be able to place dwarf shrubs where they lend their best appearance. One of the most pleasing positions is to be found where some great boulder lies immediately behind. Wherever planted, however, no plants of similar height should be allowed near, or the beauty of the Juniper will be lost. The space around

should be planted with neat carpeters, such as *Arenaria verna*, *Ranula australis* and *Myosotis rupicola*. Our little Juniper enjoys a sunny aspect in any good ordinary soil, and is a lover of lime. The typical Irish Juniper (*Juniperus communis hibernica*) is, when quite young, very similar in appearance, but it soon grows to a tree several feet high.

F. BARKER.

GARDEN DESIGN—III

Gardens of Shrubs

ALTHOUGH in its results often very uninteresting, the shrub garden ought to be one of the most beautiful parts of the grounds. Unlike herbaceous borders, the shrub garden can be interesting all the year round with a beauty of form which must be lacking with herbaceous stuff. Their wonderful difference in habit of growth and their more permanent nature make shrubs the most adaptable of materials with which to create beautiful effects.

In every part of the garden there should be felt that proportion and delicately adjusted balance which is in its results so pleasing to critical taste, and this should be particularly so in gardens made of trees and shrubs. One can plant, for a certain effect, the designer's conception of the garden as he wishes it to be. Japanese influence can often be felt in this sort of design. With the use of the most suitable materials in the most artistic way, the careful choice and placing of every plant and shrub is necessary if its proper relation and value in the ultimate scheme is to be obtained.

To a large extent, what makes such a garden more a work of art, requiring greater skill in its making than other parts of the grounds, is that the whole thing is, or should be, accurately proportioned, with a properly balanced harmony of curves. The lawns should be hollowed in varying curves, the lines of which definitely connect and continue the lines of the planting which bounds them, and they should, moreover, emphasise the glade effect which can be made so pleasing a feature in this part of the garden.

In such a garden as this, where every plant and mass of plants tells so exactly in the general scheme, unusual care must be taken in pruning. If the planting is to develop in the best way, not only must the several peculiarities of the different shrubs be studied and each treated so that it grows to its proper size and shape, but, without impairing their flowering or spoiling their inherent beauty of form, each group and each plant must be so pruned that, ultimately, they provide just the necessary weight and the size and shape wanted in their particular place. Even good gardeners usually need skilled super-

vision for this work, but if the work is properly done the results will be so beautiful that they will far more than repay the extra care.

The yellows and golds of the Berberis with their rich green foliage; the wealth of blossom on Almonds, flowering Apples, ornamental Plums, Cherries and Peaches in every shade of pink; the gorgeous and varied colouring of Azaleas; the different Spiraeas, all almost equally charming and with an unmistakable family likeness; the native and hybrid Brooms, white, cream, gold, brown, chocolate and wine pink; Gorse; Forsythias; Laburnums and Lilacs, and the hosts of other plants offer materials enough to give as much colour and as many harmonies of form as could be wished for.

Many of the better-known shrubs and smaller trees flower in spring and early summer, but there are a number that come into bloom later in the year, and such a garden as I am describing need never, except in the quite late autumn and winter, be without plenty of colour. Later in the year, after the spring and early summer flowering trees and plants have ceased to flower, there will be Roses—the yellow-flowered *Rosa Hugonis*, *R. Moyesii* (deep red) and others, such as *Aglæa* (yellow), *Félicité et Perpétue*, *Crimson Rambler* and *Tea Rambler*, if planted in fairly rich soil and allowed to grow as they like, will make great mounds of growth covered in July and August with flowers. On dry, warm banks and in rather sheltered places can be masses of *Rock Roses*; these must be towards the front of the borders, and in the sunniest places with rather poor soil they will give wonderful stretches of colour for a long time. Established plants that flower early should have their dead flowers removed, and they then will continue to bloom freely.

Stortium junceum, planted rather back because of the tall upright habit of growth, will give splashes of strong yellow at midsummer and later, and *Eucryphia pinnatifolia*, the roots of which need shading from hot sun, is another shrub that should be planted for the beauty of its flowers at this season of the year.

On banks or in spreading masses towards the front of the borders may be planted varieties of hardy Fuchsias in as large masses as space will allow. These should have plenty of sun, but not too dry a root-run. A large boulder of stone placed here and there among them will, as well as giving that coolness and moisture always imparted by stone, add to the well-being and consequent beauty of the plants.

A garden of trees and shrubs should be a garden of curving lines. Subject to the necessary pruning, almost every tree and plant that grows is, if allowed to develop naturally, in itself a thing of beauty. There are, however, certain rules that should be observed. Backgrounds should be as dark as possible, for almost every plant and flower is seen to better effect against a dark setting but in a good light. To realise this one need but think of flowering Plums, Almonds, Apples or Cherries against dark Pines or Firs.

The nature of any planting will depend very much upon the character of the surroundings. One may have a lovely and gracious garden merging almost imperceptibly into its surroundings or, on the other hand, one may plant new or use existing backgrounds of trees or hedges, making with them a definitely enclosed garden. There are plants in plenty; it only needs the artist's sense of mass and line to make with them the most beautiful scenes.

Nearly all the Berberis family may be massed in generous groups, the dwarfier sorts especially, such as *BB. Thunbergii*, *Wilsonæ* and *empetrifolia*, and others of more recent introduction, are

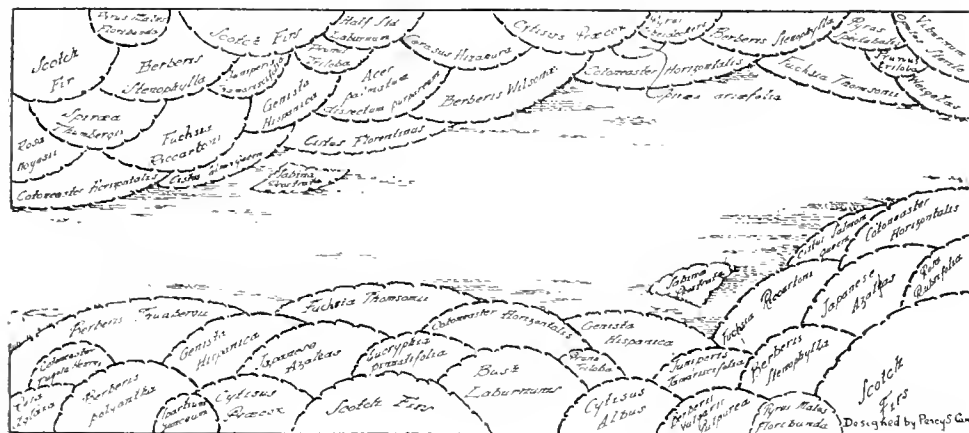


SCENE IN AN ESSEX GARDEN MADE BY THE WRITER.

especially beautiful planted in this way. This applies equally to most of the dwarfier-growing Gorses and Brooms. Of these, *Cytisus kewensis* and *C. purpureus incarnatus* are prostrate or semi-prostrate in their habit of growth. The soft grey cushion-like growth of *Genista hispanica* are also very pleasing. Other varieties of *Berberis* always worth planting are *B. aggregata*, very

procumbens is most useful for the way in which it may be used to cover the ground and to overhang rocky faces. *Juniperus communis hibernica* is a dwarf form of columnar growth, valuable for the way in which it may be used to emphasise points in design.

The plan given shews a portion of a glade bordered by trees and shrubs chosen for their



PLANTING PLAN FOR A SHRUBBY GLADE.

like *Wilsonae*, but more vigorous; *B. brevipaniculata*, another Chinese species of outstanding merit; and *B. dulcis* and *dulcis nana* form rounded evergreen bushes small enough for a tiny garden. *Berberis polyantha* is more free in habit, attaining a height of 7ft. or 8ft., while the strong-growing *B. stenophylla* and its varieties are all of a very pleasing habit, most of them throwing out arching sprays. Of these *stenophylla* forms, *gracilis* and *Irwinii* should be in every shrub garden. In larger gardens the common *Berberis vulgaris* and its purple form should be planted well back in the borders. They provide a wealth of coral red berries in autumn.

Indispensable, too, and adding very much to the character of such a garden as we are describing, are the *Junipers*. As a family the *Junipers* are some of the most useful plants we have, and that in several ways. *Juniperus chinensis* is a strikingly beautiful golden Conifer of upright growth, and there are several distinctive prostrate or semi-prostrate forms. *Juniperus japonica aurea* is a good golden shrub. *Juniperus Sabina prostrata* with its grey-green foliage is one of the best of the quite prostrate forms, and *J. Sabina tamariscifolia* is a more vigorous but equally useful variety. *Juniperus tripartita* is another vigorous dwarf shrub of spreading growth, and *Juniperus*

habit of growth, as well as for the beauty of their flowers. Firs and taller standard and half-standard *Laburnums*, *Pyrus* and other flowering trees are arranged to form a background and so make of the glade a separate garden.

For such planting the ground should be thoroughly trenched and moderately manured with well decayed stable or farmyard manure. Drainage should be attended to if required, but this is seldom necessary for ordinary soils. On any but cold wet ground, planting should be done from now onwards, as early in the winter as possible. Care should be taken when planting to spread out the roots and work between them fine friable soil. On heavy ground it is not advisable to plant in wet weather, as it is difficult to make the plants sufficiently firm without consolidating the soil too much. On dry days the roots should be kept covered with soil or some damp packing material, so that there is no risk of their drying and the fibrous rootlets consequently perishing.

On a larger scale such planting could very well be used to border drives; very beautiful effects could be obtained by the proper spacing of some such planting combined with the judicious use of specimen trees. I hope to deal with this in a later article.

PERCY S. CANE.

BULBS FOR HANGING BASKETS

ONE seldom goes into a greenhouse in summer, be it ever so small, where some attempt is not made to enhance its attractions by a well filled basket or two, from which hang beautiful foliage wreathed by no less lovely flowers. If the house is a warm one, it is very easy to carry on this delightful feature all through the winter and spring by a succession of baskets filled with suitable plants.

When, however, it comes to a question of the house that is only heated to exclude frosts, the problem is apt to be regarded as impossible of solution and, beyond a basket or two of hardy Ferns (minus the fronds), nothing is attempted. One is very tempted to ask, "Why?" Really there is no reason at all. In view of the large

numbers of charming spring-flowering bulbs that flourish under basket culture (or as "balls," of which more later), there is no reason why that roof should be one whit less attractive or gay with vivid colour than during summer and autumn. All that is required is a good number of wire baskets, a supply of soil, plenty of fresh green moss and suitable bulbs.

The filling of the baskets is so simple that it may be dismissed in a few words. Do not fail to line the baskets thickly with moss. Neglect in this direction will allow a great deal of soil to wash away when the necessary watering is done. The soil itself also merits consideration. While it should be light, rich and sandy, it ought not to be forgotten that baskets, unlike pots, are exposed to evaporation over the whole of their

surface and that a good quantity of moisture-retaining material, such as peat, is an excellent addition. Bulb roots take extremely kindly to this, as evidenced by the remarkable success of bowls when filled with peat fibre, and we do well to add about one part of rough peat to every two parts of light soil. Till the baskets quite full, but do not make the soil firm until the bulbs have been inserted, then press well down and, if necessary, add a little more soil to make up. With baskets, one does not, of course, plant only on the surface. Between the moss all round the sides, as well as the top, should be thickly planted with bulbs, pressing these deeply into the moss and earth.

After tilling, the next important point is to ensure thorough rooting, a condition that is best reached by placing the baskets in a cool shaded corner out of doors. It is important to keep them cool, shaded and moist, so that slow, thorough and abundant rooting is ensured, for that is the only foundation upon which success is laid. It is better in any case not to bring them inside until after Christmas has turned. A great point is to keep them evenly moist, especially after they are brought into the greenhouse, and care must be also taken to hang them in a very light place so that, all sides of the basket being evenly illuminated, development is correspondingly equal.

The "balls" mentioned above respond to similar cultural details, and the only difference is that a ball of peat is first made up and roughly tied here and there with copper wire before the bulbs are inserted over the surface. These can be kept outdoors and moistened when required by dipping into a tank of water.

Now as to suitable kinds, for, naturally, some kinds are better adapted to our purpose than others. It is not only dwarf sorts that should be employed, although the greater number should be dwarf, especially where it is intended to hang them in small or medium-sized houses. For a lofty conservatory, however, a basket of the wonderful Parrot Tulips should be tried. This idea has not, it is true, the merit of novelty, but the gorgeous effect of these immense flowers with their daring colouring and fascinating feathering and laciniation is unique, so that it will bear repetition. A special favourite of my own in the bulb-baskets line is one filled by that wonderful *Muscari Heavenly Blue* or the white variety *botryoides album*, known sometimes as *Pearls of Spain*. Normally, the height of these is about 6ins.; but under glass the stems are a little longer and they do not grow upright, but both leaves and flowers arch over and form almost a ball of blue or white flowers. Crocuses of all kinds give splendid balls of colour, and when thickly planted the flowers of these are so closely set together that one scarcely sees the green moss from which they spring.

In making up these Crocus baskets one should not confine one's choice solely to the stronger colours. The effect of the lovely pale mauves and striped varieties, to say nothing of the pure whites, is exquisite, as is also the added effect, when, in warm sunlight, they expand just enough to shew the orange anthers in the centre. Snowdrops cannot be recommended, as they do not take kindly to basket culture, but the Snake-head *Fritillaries* do well and make a most unusual picture with their drooping queerly chequered bell-like bloom. These, though not early, are very easy if one does not try to push them too hard for the sake of earlier flowers. Roman Hyacinths, on the contrary, are early and among the most suitable for our purpose, for their spikes are both light and graceful and they follow the first blooming by a subsidiary spike or two. BULBIST.

FURTHER NOTES ON THE GREAT AUTUMN SHOW

Most object in going to the Holland Park Show was to see Michaelmas Daisies, and although the season was on the late side, I was not disappointed. As I walked up and down the gay portico seeking what later on I might devour, or, to be more accurate, what I might offer as food for my empty note-book, I came to the large and interesting display of Messrs. Dickson and Robinson of Manchester. I had no idea before that they were such Michaelmas Daisy people, but now I have one more name to add to my list. Their exhibit took my eye because of the brave show it made in a dark corner and because it included a number of varieties which were quite new to me. Poor things, they were frightened when the rain came on, and a great gloom filled the already gloomy hall. The cry of Persephone seemed to reach my ears:

"Oh, light, light, light," she cries, "farewell.
The coal-black horses wait for me.
O shade of shades, where I must dwell,
Demeter, mother, far from thee!"

And they came from Manchester! They were reassured when they saw that, after all, they were only going into Jacob's note-book. Walkden's Pink took my eye more particularly. I suppose because I am on the look-out for pinks and roses. Of the other good Daisies that attracted me, both here and elsewhere, I have already written, so I pass on to what to me were the etceteras of the occasion. I had hoped for some Nerines, but beyond a few Fothergillii major in Wallace's exhibit and two or three which looked something like Bowdeni in Reuthe's, the Show was drawn blank.

Where, had I been given a golden apple to lay at the feet of the fairest, would it have been placed? On Mr. James MacDonald's flawless lawn of well ordered grass beneath the delicate pink-tipped sprays of a 3ft. high ethereal-looking plant labelled *Tricholena rosea*. Something of what *Thalictrum dipterocarpum* is in the flowering plant world, this is in the world of Grasses. The host of delicate little pale rosy lavender parachutes suspended in mid air by fairy threads have been changed into a milky way of tiny rose-tinted stars kept in place by almost invisible hairs. The name was well chosen, for "Tricho" means hair; but, alas! the long-lasted botanists have thrown it over, as we learn in Nicholson, and now it lives in the big sea of Panicle, of which the synonym appropriately enough is *Thalassium*. *Tricholena*

rosea is an animal and, I think, hardy. It is well worth enquiring about.

I fancy the appreciation of autumn tints, whether of leaves or berries, is a growing taste, and I have no doubt the announcement of the Show, which specially mentioned these things, drew many visitors. There were two beauties there. One was evidently a sport or seedling form of our old scarlet-coated friend *Berberis Thunbergii*, but the branches had a more erect habit of growth and the colour was more intense. This appeared among Messrs. Cheal and Sons' fine collection of berries and foliage. The other was one of the innumerable Japanese Maples which we all know provide us with many glorious sights. None excelled in richness *Acer japonicum laciniatum* in Messrs. Hillier and Sons' large group with its toothed palmate leaves of deep crimson, not unlike the colouring of a hand-polished "mahogany" round which more generations than one have enjoyed their nuts and wine.

One of the advantages of these shows is that one meets so many friends there. Certainly I was lucky. I wanted to hear about the progress of the new *Gladiolus primulinus* hybrids, so who should I come across but Mr. G. W. Leak (R. H. Bath, Limited, is his professional name) and Mr. J. L. Gibson (Lowe and Gibson). Each firm had exhibits, and each exhibit had numerous examples of those very lovely hand-made flowers—the *Gladiolus primulinus* hybrids. Both my friends are



A CHARMING PINK GRASS, *TRICHOLENA ROSEA*

a little "gone" in this direction. So am I. Three men in the same boat! I saw *Nydia*, delicately complexioned and so sweet—a leading lady among the new-comers, as the bright scarlet-coated Woodcote is a leading gentleman. Dahlias, as might be expected in the previously frostless autumn, were plentiful and of many shapes and sizes. Cheal's Stars are all good, but on this occasion I was most attracted by Mauve Star, as I was by the dwarf bedding Cactus variety *Marianne* of Messrs. Carter, Page and Co. *Scabiosa caucasica* has come to be closely associated with the firm of Isaac House and Son of Westbury-on-Trym. They have worked wonders. The original has been transformed both in colouring and in size. My pick of the long white show tiers was *Nellie Dow*. It was dark enough to be novel and pleasing, and sufficiently regularly irregular in the disposition of its ray petals to be specially attractive.

JOSEPH JACOB.

ROOT-PRUNING FRUIT TREES

CERTAIN fruit trees, especially those of Apples and Pears, will, in some soils, grow year after year without bearing fruit profitably. The annual pruning of the shoots does not have the desired effect; in fact, in many instances it results in increasingly vigorous growth which cannot ripen satisfactorily in our climate.

Judicious root-pruning will, in the majority of cases, do much good. Those trees with attenuated shoots which do not bear fruits satisfactorily are, of course, not benefited by root-pruning. What they require is root feeding. The proper time to root-prune is from early November to mid-February in northern counties and from the middle of October to the middle of February in the southern. The trees most suitable for root restriction are those from four to sixteen years of age. With some exceptions older specimens are not benefited much and the labour is great. Young trees may be entirely lifted, have their roots pruned and be replanted with the best results; but the roots must not be allowed to get dry before the tree is planted again. The entire work on each specimen should be done and the replanting finished before another tree is interfered with. Trenches should be opened round older trees: 2ft. 6ins. from the stem in the case of trees seven to ten years old, and 4ft. distant in the case of specimens from ten to sixteen years old. Up to twelve years of age the trench may be made all round the tree, but it should go only half way round in the case of older ones, the remaining portion being dealt with the following winter.

A fruit tree possesses three kinds of roots, namely, tap-root, wood or fibreless roots and fibrous roots. When the tap-root and the fibreless ones permeate the soil, the first to a considerable depth and the second in every direction from the stem, the result is that many strong shoots grow annually. The trench should be about 18ins. wide to enable the workman to get at the lowest roots—the fibreless ones—and those crossing the open trench should be cut off, using a sharp knife where possible. If large, they may be sawn off and the ends smoothed with a sharp knife. All fibrous roots found should be preserved. When the trench comes to be filled up, if any gritty loam is available, it should be mixed with the ordinary soil. Make all quite firm by treading as the work proceeds. Do the root-pruning and shifting of the soil while the latter is fairly dry, as this partial dryness is essential to success. Success means that in the immediate future the trees will make less wood, but more flower-buds will form, the spurs increase and with them the crops of fruit.

GEORGE GARNER.

CORRESPONDENCE

THE SNAKE-ROOTS.

I WAS well pleased to read "W. L.'s" seasonable note on the genus *Cimicifuga* (page 563). As he justly remarks, it is strange that these beautiful autumnal flowers should not have earned more general favour from amateur growers of hardy plants. It is still more strange that such an enthusiast as the late Mr. Reginald Farrer should have written in disparagement of the family. "The *Cimicifugas*," he wrote in his "Alpines and Bog Plants," "never attract me very much . . . they have something a little coarse and rank about them, to my taste—perhaps a hinted warning of the poison that lurks in all their being . . . the *Cimicifugas*, like their rare native cousin, *Actæa spicata*, are too unmistakably ominous in appearance to have the full attraction of their beauty." After all, we do not aim at stocking our flower borders with esculents. If poisonous properties were held to rule out plants that possess them, away would go *Aconites*, *Colchicums*, *Foxgloves*, *Rhododendrons*, even our beloved *Christmas Roses* and a host of other things bright and beautiful. Farrer specifies *C. davurica* as the handsomest of the genus, but in my humble judgment those who grow *C. racemosa* and *C. simplex* have got the pick of that basket.—HERBERT MAXWELL, *Monreith*.

THE FLOWERING CURRANT.

I CANNOT help wondering why so many present-day writers on flowering shrubs affect to despise the Flowering Currant, *Ribes sanguineum*. True it cannot be called choice, inasmuch as it is to be seen in many and many a suburban garden, being almost as ubiquitous as *Rose Dorothy Perkins*. I sympathise with those who tire of "Dorothy"; she is very showy, but a trifle blatant and vulgar, whereas the Flowering Currant is neither the one nor the other. There are, of course, many forms of the plant, and having obtained a specially good one it behoves us to increase it from cuttings, though if only the deep-coloured forms are grown, the seedlings which usually come up in great numbers under pergolas and other places frequented by birds do not often fall away appreciably from the parents.—N. H. P.

LILIUM REGALE.

WITH reference to the note on this subject from Mr. J. H. Watson which appeared in your issue of October 20, I am of the opinion that many have not yet realised the possibilities of this exquisite Lily. I have, for example, a batch of bulbs which has not been disturbed for eight years. These bulbs have gone on improving from year to year until this season, when they gave results which surely cannot be rivalled, and which, I think, must be the limit of this Lily. I had many bulbs with two and three stems and

one with four stems. One bulb gave me a stem with thirty flowers. The soil—which is in East Lothian—appears to suit the Lily, but the bulbs receive a liberal top-dressing every spring with decayed grass mowings and leaves. Some of the stems were 7 ft. high. My bulbs were raised from seed. I have a batch of 2,000 seedlings now in their second year, and most of them should flower next season. The roots of this Lily must have shade—mine are among *Rhododendrons*—and they must not be disturbed. I am looking forward to next season's results, and my only regret is that I did not have the plants photo-



A GOOD FORM OF THE FLOWERING CURRANT, *RIBES SANGUINEUM*.

graphed this summer. I had been away from home and when I returned the Lilies were just past the zenith of their beauty. The fact of this *Lilium* flowering when the roots are three years old causes me to wonder what bulbs—properly grown and undisturbed—will do when they attain the age of ten years.—GEORGE M. TAYLOR.

THE PERIWINKLES.

IN addition to the uses made of these plants by "G. G." and noted on page 515, may I add how they are employed here? *Vinca minor* is used as an edging plant to a bed of blue and mauve shaded flowers, while *Vinca major* clothes a steep bit of bank which happens to back part of a flower border. Both varieties are also made use of

rather extensively in the way mentioned by "G. G." as a carpeter in other parts of the grounds here. As a bordering plant *Vinca minor* is quite good and looks uncommon so used, besides being green at all times and pretty when in bloom. Its free habit of growth makes clipping back a necessity at least twice a year if neatness is desired. When attempting to get the lesser Periwinkle established for the purpose I have described, it should be planted somewhat thickly and the longest shoots pegged down. So treated, these shoots soon root and an edging quickly forms. The flowers of *V. major* are distinctly handsome, but the growths are of no use for cut flower work because they flag terribly, presumably owing to their very sappy texture.—C. F., *Amphill Park*.

DIANTHUS MICROLEPIS.

IN the wide range of alpine Pinks there is none which appeals more highly to the lover of the more minute gems of the mountain flora than *Dianthus microlepis*. It would appear that many find some difficulty in its cultivation, but with the writer it was by no means troublesome if given a little attention now and then in a rock garden. Now, the more erudite modern cultivators recommend the moraine for its home. It is, undeniably, very happy there, but it is not everyone who possesses such a capital abiding place for the choicer alpine, and it is well to consider how this precious little flower can be otherwise provided with its requirements. It is worthy of considerable care, so lovely is its tiny mat, rarely more than 6 ins. in diameter, of short broadish leaves. From this mat rise, hardly clear of the foliage, its miniature flowers of starry form and pink or white in colouring. It is, verily, a precious gem of the rock garden or moraine. One need say little about its treatment in the moraine, but it should be planted, for preference, I consider, in the higher parts if an underground water supply is provided. I think a little lime about it, should this not be included in the material of the moraine, is welcome. In the rock garden it wants a thoroughly well drained, light soil composed of loam, sand and leaf-soil with plenty of grit in about equal proportions, but a little more or less of any ingredient will not matter

much. I always made a point of planting it on a level portion, working a little fresh compost of the same material among the leaves in spring and autumn, and not forgetting a soaking of water in dry weather. Soft water is preferable, but I have had, necessarily, to use hard at times and have done so without causing apparent injury. Spring is the best time to plant this exquisite *Dianthus* and its form *Freyii*, which is also charming.—S. ARNOTT.

THE FIFTY BEST ALPINES.

PERHAPS no phase of gardening has gripped the public taste and made such rapid strides in favour with the great majority of garden lovers as the culture of alpine plants. Rock gardening

intense into calm, as, within a comparatively small space, a representative collection of alpine plants can be accommodated typical of the flora of many countries. Through the untiring efforts of enthusiastic collectors so many beautiful and charming plants are now available for this most interesting hobby that it is a difficult problem indeed to draw up a list of the best fifty alpine. One has to eliminate so many choice and attractive favourites that the difficulty is not which to include, but which to exclude. Consequently, your correspondent "Purley" on page 546 has set a rather difficult task before those who have the temerity to write down the names of their best fifty. In the year before the Great War, similar lists appeared in the pages of *THE GARDEN*, compiled by, among others, the late Reginald Farrer and Mr. S. Arnott. Looking over these lists and comparing them with "Purley's," I was interested to find the latter had only nine names on his list of fifty which were included in Mr. Farrer's list, and only eight which Mr. Arnott had on his. In the three lists I have before me, which appeared ten years ago, I find only fifteen names mentioned which appear in "Purley's" choice. So much depends on individual taste as well as difference of locality—some plants succeeding splendidly in one place and proving worthless in another—that, in making a selection of the best fifty, there will obviously be a wide divergence in the varieties chosen. This being so, one hesitates to criticise "Purley's" list, which, however, contains several names I should not myself include in so small a selection. For instance, I would not place *Aquilegia alpina* on the list to the exclusion of *A. glandulosa* as grown and exhibited by Mr. Clarence Elliott; *Dryas octopetala*, although a beautiful little native, is scarcely worthy of a place among the best fifty; *Papaver alpinum*, too, is scarcely quality for so good a position. *Petrocallis pyrenaica* has always been a little weedy in appearance with me and, consequently, must drop out. In the hope, however, that it may be interesting and helpful, I venture to append a list of what I consider the best fifty, including as wide a range of variety as possible, although at the same time feeling that I am excluding fifty perhaps equally as good. *Ethionema warleyensis*, *Androsace sarmentosa* Chumbyi, *Anemone Pulsatilla*, *Aquilegia glandulosa*, *Arenaria balearica*, *A. montana*, *Campanula Portenschlagiana* (*muralis*), *C. pulloides*, *C. punctata*, *Dianthus alpinus*, *D. neglectus*, *Dodecatheon Meadia*, *Erigeron mucronatus*, *Gentiana Farreri*, *G. sinornata*, *G. verna*, *Geranium Traversii*, *Gemma Borisii*, *Haberlea rhodopensis*, *Helichrysum bellidifolium*, *Hepatica angulosa*, *Hypericum fragilis*, *Iberis Little Gem*, *Levisia Lecana*, *Lithospermum prostratum* Heavenly Blue, *Mertensia primuloides*, *Myosotis rupicola*, *Oxalis emneaphylla*, *Phlox divaricata* Laphami, *P. subulata nivalis*, *P. s. Vivid*, *Potentilla* Miss Willmott, *Primula Cockburniana*, *P. helodoxa*, *P. pubescens alba*, *P. rosea splendens*, *P. sikkimensis*, *Ranondia pyrenaica*, *Racoulia australis*, *Sanguinaria canadensis*, *Saxifraga Burseriana* Gloria, *S. decipiens grandiflora*, *S. longiflora*, *S. oppositifolia*, *Shortia galacifolia*, *Silene Schafta*, *Tunica Saxifraga*, *Verbena chamaedryoides*, *Veronica rupestris* and *Viola gracilis*.—ALBYN.

A FINE COLD-HOUSE PLANT.

IN *Clematis Thunbergii* we have a very useful decorative plant for a cool greenhouse or corridor. It has a very graceful habit, hanging in long vertical streamers from 5 ft. to 8 ft. in length, which produce panicles of sweet-scented creamy white flowers at each node. When a number of these long, graceful

shoots are hanging from the root in flower, they give the effect of a beautiful floral curtain. The plant is usually in flower during September and October. In the Cape flora it is said to be readily recognised from other Cape species by its lanceolate sepals and pointed slightly twisted flower-buds. In cultivation the buds are hardly twisted, but the sepals are slightly. The leaves are described as pubescent, but with us they are glabrous; they are sub-bipinnately parted, pinnae distant, leaflets petiolate, broadly ovate, acuminate, with three or more acute teeth on each side. The panicles are described as shorter than the leaf, but they vary in this respect, for while, perhaps, the majority are shorter, some are considerably longer. The flower-buds are ovate and pointed, the sepals spreading, lanceolate, acuminate, while the filaments are hairy at the base, with linear glabrous anthers, and the stigma (which projects beyond the stamens) is densely covered with silky hairs.

The plant, which is very rarely met with, was introduced to this garden fourteen or fifteen years ago by seeds sent by the late Professor Pearson from South Africa, where this interesting and ornamental species is found in the woods of Adow, Uitenhage. It is, under natural conditions, a rambling climber.—F. G. PRESTON. *Botanic Garden, Cambridge.*

ASTER OCTOBER DAWN.

EITHER the man who wrote the notes on the "Shrubs, Michaelmas Daisies, etc., at Vincent Square," is wrong or I am in our description of the new October Dawn in *THE GARDEN* for October 27. On page 555 it is described as "a tall Novi-Belgii variety," while on page 557 I describe it as a "low-growing plant." I took my height from a very healthy plant in my garden which, measured on October 26, I found to be exactly 2½ ft. high. It would not much matter whether the note-maker's "tall" was the same as my "low,"

for, after all, tall and low are relative terms; but it would be provoking to put October Dawn in a mixed border expecting it to grow up and be as tall as Magnet, Edwin Beckett, King of the Belgians and Louvain, which most certainly it is not. Again, I would hardly call it a thread-petalled variety if it is compared with either Heather Glow, Grey Lady or Miss Eisle, and I would never say that the ray florets recurve at their tips. If they did might it not be either that the poor things in the hall wanted water or that the sprays had been broken off where they joined on to the main stem. One does not think of the difference there is between breaking off or stripping off the little branches of a Michaelmas Daisy close to their junction with the main stem, and cutting or breaking them off at a little

distance from it, until one is face to face with the results. I never did until last week, when I completed the wind's work and finally severed the slender connecting link of two fine sprays of Edwin Beckett from the main stem and, to go with them in a vase, broke off another at a little distance from it. The three were duly put in water. The next day the stripped-off branches had the ray florets of their flowers all reflexed at their tips, while the other was looking "in the pink." Now comes the "proof of the pudding." The distressed branches were taken out of the water and a couple of inches of the bottom part of each stem amputated. They were then returned to their old companion in the vase. The first bulletin was "Patients doing well." The second and last, "The operation has been entirely successful and the patients have quite recovered." It



THE STILL UNCOMMON CLEMATIS THUNBERGII.

is something also to know of the good office a hammer can perform for us when we have to deal with refractory cut flowers. Just nerve yourself to pound with gentle blows about an inch and a half of the end of their stems before putting them into water and note the result. It is a floral example of the old proverb, "Spare the rod and spoil the child."—JOSEPH JACOB.

FORTHCOMING EVENTS.

November 20.—Sevenoaks Gardeners' Chrysanthemum Society's Meeting.

November 22.—Royal Botanic Society's Meeting.—Wargrave and District and Gardeners' Society's Meeting.

ARTIFICIAL FERTILISERS FOR WINTER USE

What Kinds to Use, and Where, When and How to Use Them.

ARTIFICIAL manures is a common term, used, after the manner of many familiar terms, with the confident assumption that the sense in which it is used will be readily understood, and yet, when we come to rock bottom, in the majority of cases but hazily understood by those who either use or hear it. The very practical man may wish to set aside argument by remarking that the term is so well understood that explanation of its meaning is waste of time, those who like to be more voluble will explain that artificials are plant foods other than farmyard or stable manures, while the stickler for accuracy will reply that there can be no such thing as artificial manure because artificial has come to mean imitation, and imitation would be no food for a plant.

In point of accuracy the last man has it, but he has told us nothing more than we knew before, and the first man said as much; we get nearest to the point of utility when we accept the explanation that artificials are plant foods other than farmyard or stable manures, or to make it still further exempt from criticism we will substitute the more general term, animal manures. Let us, then, without further parley state that this article is concerned with plant foods in concentrated form, both chemical and organic in character, and while we make no pretence that we have anything new and remarkable to relate, we will endeavour to tell something in plain language of the virtues of various fertilisers, the soils and crops for which they are suitable, and the time and manner in which they should be applied.

The subject is too large to be exhausted in a single article, or even to be compassed within its scope, and our present intention is to confine ourselves to such fertilisers as may best be used between now and early spring. Even with this limitation the article will be very incomplete, for the subject of soil enrichment and plant feeding knows no finality.

We have, at this season, two sections of the garden to deal with, one being the land that has been vacated by summer season's crops and is to be dug and prepared for further planting, and the other that which is occupied by more or less permanent planting, including fruit and ornamental trees, Roses and hardy perennial plants, and also lawns. We have further to consider the character of the soil and the class of plants either growing or to be grown upon it.

Vacant land may more conveniently be dealt with first, because a considerable part of what we have to say will apply also to occupied land. The terms commonly used to describe garden soil are light, medium and heavy, but such terms are too vague and rough to base a discussion of fertilisers upon. A light soil may be a hungry sand almost destitute of humus, or it may be very largely composed of vegetable matter. A heavy soil may be rich and fertile or it may be a lifeless, sour and unwieldy clay. To treat these varying soils in the same manner would be extravagant and quite wrong; in fact, would in all probability defeat the end in view. To study the mechanical condition of the soil should be the unfailing rule, and in actual practice it seems to me we but rarely find sufficient attention devoted to it.

We have one school which professes to despise all chemical plant foods and maintains that "plenty of muck" is all that any soil requires. As a matter of fact, there are many gardens, especially such as are enclosed by high walls or fences, that are actually manure sick, and that

really require "chemicals" for the explicit purpose of cleansing and purifying the soil. On the other hand, we have "lime cranks" whose one theme is "use plenty of lime." Nobody can have a more wholesome respect for lime than myself, and its value is immense, but it is as easy to do damage with lime as it is to ruin a child's constitution by the haphazard use of purgatives and tonics, which are useful under certain circumstances but positively dangerous in ignorant hands.

Caustic lime on a hungry, sandy soil will simply intensify its poverty by burning up what little humus there may be intermingled with the sand. Chalk, or, in scientific language, calcium carbonate, is the form of lime to use on such soil, for it does not burn, but, on the contrary, will help to cool soils that become too quickly parched, and by holding the particles of sand together the chalk assists in conservation of moisture. Chalk is best applied in a fine, dry, granulated form, and may be spread over the surface of freshly dug soil at the rate of half a hundredweight per square rod. Stone fruits, such as Plums, Cherries, Peaches, etc., must have lime, and the best form for use on light sandy soil is chalk, and the best time to apply it is between October and the end of the year. On stubborn clay soils freshly slaked lime or ground limestone is more suitable than chalk; so is it in the case of old garden soils which are overcharged with humus.

It is quite essential that care shall be exercised in treating land that is abundantly charged with lime. Many gardens on chalk downs have ample lime in the soil, and it is in such cases that superphosphates may be used to greatest advantage. It is well to keep in mind that there are various grades of superphosphates, the lowest grade averaging not more than 25 per cent. of soluble phosphates, whereas concentrated superphosphate made from bone ash or bone charcoal may contain over 40 per cent., and a specially high grade sample known as "double" superphosphate will reach 80 per cent. It is as cheap to use the strongest or highest grade as the others, for a reduced quantity will have the same effect, and where carriage is involved there is a distinct advantage in using that which reduces bulk and weight.

A great deal of superphosphate is used on lawns, sometimes with excellent effect, and sometimes with harmful rather than beneficial results. Superphosphate is not, generally speaking, suitable for peaty or sandy soils, but is very useful on chalky soil and on a fibrous loam of good heart. Its benefit to plants consists in the phosphoric acid it contains, but the best method of treatment is to mix it with sulphate of ammonia, using half the bulk of ammonia to that of superphosphate. Such a mixture is excellent for lawns where there is no deficiency of lime; but, where lime is needed, granulated chalk may be used in conjunction, mixing the whole with finely sifted soil, a good top-dressing consisting of 14lb. of sulphate of ammonia, 28lb. of superphosphate (concentrated), 56lb. of granulated chalk, 1 ton of sifted soil. This quantity suffices for a full-sized tennis lawn. The same mixture of chemicals without the soil may be dug into arable land at the rate of 7lb. per square rod or even up to 10lb. or 12lb.

On the peaty soils, for which superphosphate is unsuitable, basic slag may be used, and it is also useful for very wet and for heavy clay soils. Basic slag will not mix with either ammonia or superphosphate, and is best used alone, the present month and on through December being the best time to apply.

Basic slag is a fertiliser that varies greatly in quality, some samples being so poor that they are almost worthless. Purchasers should insist upon a guaranteed analysis, and should select a sample that contains about 20 per cent. of phosphoric acid, and 12 to 15 per cent. of iron. It must be ground to a fine smooth powder, and when distributed should be raked or hoed into arable land, or if used on grass should be well mixed with sifted soil.

The value of potash is freely commented upon, and in the kitchen garden where root crops are grown it is essential that the soil shall not become deficient in potash. Generally speaking, heavy soils contain sufficient, simply requiring lime to liberate the potash. A good deal of potash may be provided by burning refuse and digging in the ashes, but, where necessary to purchase, it is advisable to take special note of the fact that for light, sandy and dry soils, muriate of potash is the best form to use, while sulphate of potash is more suitable for heavy soils and wet situations. If a good grade of either is purchased, shewing an analysis approximating 50 per cent. purity, a dressing of 4lb. per square rod is ample. These are good fertilisers for Roses, hardy perennials and, in fact, for all kinds of plants.

A cheaper fertiliser containing potash salts to a degree sufficient to be beneficial to standard, half-standard and bush fruit trees, Raspberries, Currants, Gooseberries and Strawberries is kainit. This is an imported chemical used just as secured from mines, and may be used at a rate of 7lb. or 8lb. per square rod. It should be applied if possible before the end of November. Kainit is not of pure enough quality to use for pot plants, the best form of potash for this purpose being nitrate of potash, which should be used in water at the rate of 1 oz. to a 3-gallon can. All kinds of foliage plants will benefit by an occasional application, but variegated plants should not be allowed more than half the quantity given to Palms and other green-foliaged plants.

This is distinctly not the time of year to use either sulphate of ammonia or nitrate of soda by themselves. These are useful tonics, to be used with caution and moderation during the most active period of growth. Bone ash is a fertiliser that is deserving of far greater popularity and more general use than it appears to enjoy at present. It must not be confused with bone meal or bone flour, for it is a product of bones burnt to a white ash, and a pure sample will show a percentage of 75 to 80 per cent. of phosphate of lime. It is particularly valuable on old rich black soil that abounds in humus and suffers from sourness or acidity, and is equally beneficial to trees and to plants of a soft-wooded character.

Of bone meals, guanos and other organic fertilisers too much requires to be written to permit of their inclusion in this article, but with the Editor's permission I will deal with the more important of these in a further article. Broadly speaking, the organic fertilisers are more convenient and suitable for working into the soil between standing plants—such as beds of Roses, herbaceous borders, groups of flowering shrubs and permanent fruit quarters—than the inorganic or so-called chemical fertilisers, and a composite manure made up of a properly balanced blend of fertilisers that will not "fight" is generally useful. There are certain substances that should never be mixed; for instance, superphosphate should not be used in conjunction with either nitrate of soda or basic slag. Lime and sulphate of ammonia will not join hands, nor will basic slag agree with sulphate of ammonia. It should be common knowledge that lime and soot fight each other, and yet it is not uncommon to see or hear the mixture recommended. A. J. MACSELF.

COMPOST-MAKING IN WINTER

With the winter solstice comes a great press of work, and, before that date, ample supplies of various composts should be ready.

THE winter months undoubtedly form the best period of all for the making of compost, as there is generally plenty of time then, not only to secure adequate supplies of the right kind of material, but also to mix this together with the care and thoroughness which is so essential to success.

Most of us do not think of compost-making as a winter job on account of the material not being required for several weeks or perhaps not, indeed, for a couple of months. More often than not the work is forgotten until seed-sowing time comes along, when it is found that one's supply of mixed compost has run out, and then it is a case either of buying ready mixed compost and paying dearly for it over the nurseryman's counter or making up a hurried mixture with such materials as can be got at short notice, in some cases one or other important ingredient having to be omitted on account of its not being available before the mixture has to be made. The results of using hurriedly mixed compost or the so-called "ready-made" mixtures are very often disastrous, and it is far better to get to work in good time and make up some really satisfactory potting soil which is sure always to give good results.

Let us look first of all at the materials which are required for different types of potting soil. For ericaceous plants peat is necessary, and therefore a supply of this should be ordered, its amount varying with the number of these plants which are to be potted on or otherwise cultivated. Generally, peat does not occupy more than about one-third of the total bulk of the potting soil, and it will not therefore be necessary to buy a considerable quantity of the material unless one specialises with such plants almost to the exclusion of anything else.

A supply of old hot-bed manure is an essential ingredient of all potting soils, and arrangements must be made for an adequate quantity of this to be delivered, unless one has on the place an old hot-bed or hot-beds to break up now that their heat has gone. Old hot-bed manure is the mildest form of humus which is available, but is quite distinct from the washed out, dried material which is so often offered as "potting manure." The genuine article is of a dark brown colour, only slightly fibrous in character and, while not actually greasy, is distinctly spongy. In addition to this it should be practically odourless.

Cow-manure is another useful ingredient of potting mixtures, and if one has cows within reasonable distance, a load or two of the fresh manure should be purchased at once and made into as large and as truly conical a stack as possible. It should be left undisturbed for at least twelve months, and better still two years, after which period it will be exceedingly mild in character and fairly rich in valuable plant food.

If, however, cows are not within easy reach, it may be necessary to purchase a supply of this manure, partially or completely rotted, but preference again should be given to that which is not more than a year old, as it is possible, or nearly always possible, to store it under more ideal conditions for retaining the full value of its plant food in the garden than is the case on farms.

The basis of all compost consists largely of loam, and it is essential that a good fibrous variety

be obtained if loam itself has to be purchased. When one has enough loam to carry on with for a few more months, it pays to buy turf instead of loam, and this can generally be done if a sharp look out is kept on land which is to be cut up for new houses. Naturally, it does not pay to purchase lawn turf for making into potting soil, but, on the other hand, it will prove a ruination to the grower if he takes any kind of rough turf which may be offered to him, as this is very often full of the foulest weeds, many with creeping underground stems or roots, and its grassy portion may in addition be charged with dormant seeds which will germinate all too readily if the soil is used for potting greenhouse plants. Turf, therefore, before it is purchased should be inspected, and only that of which the major portion consists of the less vigorous grasses should be used for stacking as potting loam.

It is commonly advised to make turf stacks, placing the turf grass side downwards, but where the loam is required in a few months time a far better plan is to make a stack in sandwich form, placing the turves grass to grass and soil to soil. If this is done it follows that on disturbing the heap the grassy portion is not actually mixed with the rest of the soil. A layer of loam can be removed first, and then a layer of half-rotted grass can be removed separately for ultimate return to the stack after sufficient soil has been obtained, and in practice it will be found that the quality of the loam is just as good at the end of the period of decomposition as if made in the other way, provided, of course, that the compost is thoroughly mixed before use.

Another essential ingredient of potting compost is sand, and the great importance of its being silver sand cannot be too strongly insisted. Other sands have been used, sometimes with good results it is true; moreover, they are very much cheaper than silver sand, but it nevertheless is unwise to use them, and that for several reasons. First, because they are not as a rule nearly as sharp in character as true silver sand, and consequently do not add the character of porosity to the compost which is so essential; and, again, they do not undergo any special process of purification, and in consequence are liable to contain varying quantities of all manner of poisonous chemicals.

Other ingredients of compost include wood ashes from the garden bonfire, a good supply of which can generally be obtained at the present time, but which it is essential to store in a perfectly dry state until required for use on account of the readiness with which the fertilising ingredients may be washed out, and in some cases it will be found useful to add to the compost some roughly ground wood charcoal. Bones form a very valuable addition to compost, especially for Tomatoes and Cucumbers. Half-inch bones can be used, but I prefer to mix them in as bone-meal or bone-flour, as they then become available more readily.

It is almost unnecessary to mention, I think, one other essential ingredient of potting composts, viz., leaf-mould, or leaf-soil as some gardeners call it. Leaf-mould is expensive to buy, but very easy to make at home, provided that one starts well in advance of the actual time when it will be required. A large stack of leaves is very easily made in some convenient corner, and on this should be placed either a good covering of garden soil or, better still, a load or two of manure.

Leaf-mould can be made in as short a time as seven months, but it is far better not to hurry the operation, as the longer the leaves lie tightly packed together and in the rotting stack the better will be the quality of the mould. It is, therefore, a good plan to reserve one part of the garden exclusively for the making of leaf-mould, and as soon as all the leaves have been dropped from the trees, to cover with soil or manure and to leave them alone until next year's leaves actually start falling, when the corner can be turned out. After cutting up into slices and running these through a riddle, the mould is ready for use.

May I conclude with a word about the mixing of potting composts and how they may best be stored?

First of all, assemble the various ingredients on a convenient and firm mixing floor. The first heap should be the loam, of which, generally, the potting medium may consist of one or two thirds. Over this may be scattered equal portions of leaf-soil and hot-bed manure, when the compost is what is called a "third mixture." If two-thirds loam, the remaining one-third can be equally divided between either leaf-soil and old hot-bed manure or leaf-soil, peat and sand. With the one-third mixture sufficient silver sand to render the soil nicely porous must be added afterwards, and one or two potfuls of bone-meal or wood ashes per bushel of soil can also be added subsequently.

The best results are obtained by mixing in each ingredient separately, that is to say, starting with the loam heap, one covers it over with the leaf-soil and then turns it over on to a new piece of the floor thoroughly to mix in the addition. After that the pile is again covered with old hot-bed manure or peat, as the case may be, and then it is again completely turned over on to another piece of floor to ensure complete mixing (generally back into its original position).

When one is mixing in various dry materials in small quantities, such as bone-meal, wood ashes and silver sand, these can all be mixed together in a separate pile first and then the mixture added to the soil mixture in the way above described.

I do not know any other way of working, without the use of a machine mixer, by which one can be sure that all the materials are evenly mixed in throughout the whole, and although many gardeners favour less troublesome ways of mixing, they cannot be said to give satisfactory results. The mere single turning of a combined heap of all the varying materials thrown together anyhow invariably causes uneven results.

A reasonably dry place of storage is absolutely essential in the first instance. I do not mean to imply that I should take a potting compost into a greenhouse and dry it through and through, as it would certainly not give satisfactory results were this to be done, but it is absolutely essential that the material should not be made into a stack in the open air, to be drenched through by winter rains. The ideal place for storing potting soil is a shed the front part of which is open, but if this is not available and the heap has to be made outside, be sure to throw over it some thick boards to cover it completely from drenching rain. Special brands of potting soil for the more fastidious plants can be conveniently stored in barrels during the winter in any shed or outhouse which is reasonably cool. If they have to be stored during the summer, the heap should be made up against a wall and a couple of old doors or frame lights be put over it at an angle to throw off the major part of the rain. It is only by careful attention to storage that the maximum results can be obtained from the use of even the best quality potting composts.

E. T. ELLIS.

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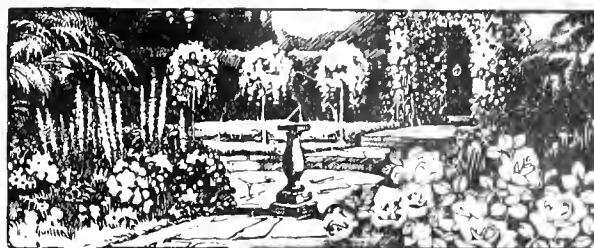


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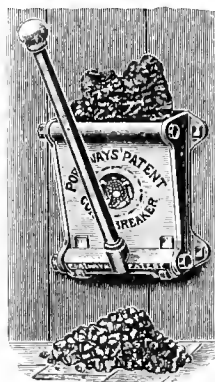
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GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Seakale.—The forcing of Seakale is an easy matter if well ripened one year old roots are available and space can be found underneath the stage of a greenhouse. Large deep pots are suitable, and five or six crowns placed in each, making the soil fairly firm between the roots. Another pot of the same size should be arranged on the top to exclude light, as perfect darkness is necessary. All crevices and holes in the pots should be filled with damp moss or anything that will keep out the light. Gentle forcing should be practised, and a temperature of 45 to 50 will be ample for a start, the temperature being increased a few weeks hence, but it should never exceed 60° or the growth will be weak. Water should be afforded in sufficient quantities to prevent the soil from becoming dry.

Horseradish.—A quantity of this pungent root may be lifted and stored in ashes until it is needed in the kitchen. This is often badly grown and much neglected. If large roots are needed, an open situation should be chosen and single crowns planted about 12 ins. apart.

Leeks. Where these are growing in trenches the final earthing up should take place, but soil should be kept out of the leaves. We grow a crop on the flat, making the holes with an iron bar, and in such cases no earthing up is required, but the ground should be hoed and kept free from weeds.

Chicory.—This is a useful winter salad, and roots may now be lifted and treated similarly to Seakale. Slugs are partial to the young, tender leaves, and so should be destroyed, or the crop will be spoilt.

The Rock Garden.

General Work.—A well appointed rock garden is of more than ordinary interest, especially if new and rare plants are added occasionally and the more robust kinds not permitted to over-run their smaller brethren. These strong growers should be dealt with as the necessity arises, and during the winter months there will be much to be done in the rock garden. Some of the bays, pockets and fissures will be benefited by fresh soil, and many plants will need top-dressing. Shrubs that have outgrown their stations may be uprooted and replaced with smaller examples, unless they may be pruned sufficiently without destroying their beauty. Strong-growing plants in bogs may be lifted if they are overcrowded, divided, and the best pieces replanted in new soil. Slugs are often troublesome, and if they are not kept in check many plants will be ruined. Wahlenbergias are eagerly sought for by these marauders, and unless the plants are protected with wire gauze circles they are invariably devoured. Slug traps will be found most useful.

The Flower Garden.

Zephyranthes candida.—This is a fine bulbous plant, and the flowers, resembling a white Crocus, are produced in the autumn. Bulbs may be planted from November till March, preferably in a warm, sandy soil and where they need not be disturbed for several years.

Galetia candicans is a handsome plant, suitable for large groups in the flower border, growing to a height of 3 ft. to 5 ft. and bearing white, bell-shaped flowers. The bulbs may be planted from November till the spring, and they will succeed in ordinary garden soil.

Fruits Under Glass.

Vines.—When an opportunity occurs the early viney should be prepared for starting the Vines a few weeks hence whenever circumstances will permit. It is a mistake to begin early unless the necessary fuel be at hand. In the meantime, each spur should be cut back to two eyes and the rods thoroughly cleansed. Use a stiff brush and a fairly strong solution of insecticide, first removing all loose bark, under which will often be found mealy bug. If this pest is present, every effort should be made to eradicate it. A close watch should be kept for mealy bug throughout the year, and whenever one is seen it should be touched with a camel-hair brush dipped in methylated spirit. The house should be washed down, the walls linewashed, and if the joints are bad they should be filled with cement, while it would be an advantage to paint the woodwork of the viney. The surface soil of the border should be removed and replaced with fresh loam

and a moderate sprinkling of Thomson's Vine Manure. When the work is completed the ventilators should be kept open to their fullest extent until it is decided to close them in order gently to start the Vines into growth.

Outside Borders.—These may be covered with moss, or ferns, or leaves and a thin layer of straw litter or bracken which may be kept in position by wire-netting.

Midseason and Late Vines.—When the rods lose their leaves the necessary pruning may be done, and the houses and rods thoroughly cleansed.

The Hardy Fruit Garden.

Apples and Pears.—Both in large and small gardens where Apples and Pears are grown, the types of trees known as pyramid, bush and cordon will usually be found in fairly large numbers. The latter can be bought as single, double and triple cordons, and are useful for planting on walls and arches. There is often a little space on a fence or wall which could be utilised to advantage by filling it with a cordon-trained Apple or Pear. These trained horizontally are also suitable for various positions, such as near the walks of the kitchen garden. These should be pruned on the spur system, each growth being cut back hard at this season excepting any shoots needed for extension, which should be slightly reduced. Bush and pyramid trees which have been carefully trained and are in a bearing condition will not require a lot of pruning, but ample light and air should reach the whole of the trees.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chapstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Savoy.—Considerable damage is often done to Savoy—especially to those intended for late use—by rain and melted snow settling in the axils of the leaves and thus causing rotting. As a preventive of this evil the following treatment is to be commended: Lift the plants of the crop intended for late use and lay them in rather thickly well over on their sides. The effect of this will be that instead of the rain and melted snow lodging in the axils of the leaves, it will run off the plants altogether. Ormskirk is the favourite variety for late use.

Celery.—Frosty spells may occur at any time now, and if such threatens it is a wise plan to lift at least a fortnight's supply and store it among soil or sand indoors, or lay it in thickly out of doors, packing protecting material over it to keep it frost-proof. In such circumstances see that the tops of the entire crop are protected by some littery material, and, in addition, make the sides of the trenches of a part of the crop frost proof so that supplies may not be interrupted should the frosty spell prove of a protracted character.

Leeks.—Should severe frost threaten, a portion of the crop should be treated as advised for Celery.

Fruits Under Glass.

Late Peaches.—The trees will now be completely deholed, and as the Peach takes such a short period of rest, the sooner the trees are pruned the better. First regard should be had to the frame work of the tree. In the case of young, partially developed trees, the main extension shoots should have only the immature points cut away; this will cause a break, thus furnishing additional shoots for filling up the expanding area to be occupied by the tree. In the case of established trees any damaged, gummed or otherwise diseased branches should be cut away and means taken to fill up the blank with healthy young wood. Having seen to the general framework of the tree, the shoots that bore fruit this year should be cut back to the base of the succession shoot which was trained to take the place of the shoot now being discarded. The immature point of the succession shoot should be cut away, making sure that it is cut back to a wood-bud. A wood bud is easily distinguished from a fruit-bud by its being less plump and more elongated. Pruning finished, the tree should not be tied in the meantime, only the main branches being loosely caught to the trellis.

Early Peach-House.—The house should now be cleaned and otherwise put in order preparatory to starting for the ensuing season. Commence by tying the branches loosely in bundles so that tree access may be had to the roof. Thoroughly

wash down all the glass and woodwork, and linewash the walls. Next, paint the trees with Gishurst's Compound, dissolving some clay or heavy loam in the mixture so that the dressing will more readily adhere to the branches and shoots; then tie and train the tree branches and shoots—into the correct position. Remove a few inches of the surface of the border and, having pricked the border over with a fork, replace the removed soil with fibrous loam plus a moderate dressing of bone-meal or steamed bone-flour, adding a light dressing of ground lime, and finish by giving the border a moderate watering.

The Flower Garden.

Cuttings in Frames. A sharp look-out should be kept on cuttings of Pentstemon, Pansies, Violas, Phloxes, etc., in frames, first to see that damping does not occur through insufficient ventilation, and, again, to see they do not suffer from lack of water, also to see that mice do not work mischief, which they are apt to do if not sets in and the frames have to be matted up for a time.

Gladioli.—Corms which have become fully ripe should now be cleaned and stored away in a drawer or other dry, cool, but frostproof place.

Roses.—In cold frosty districts some dry earth should be drawn up and around the stems of the Teas and Hybrid Teas; this ensures that at least one or two buds will be safe, although considerable damage may be done to the upper part of the bush. Where a bed or other area is occupied entirely by Teas, it is a good plan, should severe frost threaten, to scatter some bracken or straw among the bushes. The planting of Roses should be completed as soon as possible now, as growth will soon be practically at a standstill.

Hedges.—Any deciduous hedges, such as Thorn, Beech, Common Privet and Cotoneaster Smonsii about the grounds should now be pruned, the hedgebill being the most suitable tool for pruning this class of hedge.

General Work.—On wet, stormy days many jobs may be carried through comfortably indoors. These include the cleaning, grading, tying and storing of stakes, the making of good-sized labels for the bigger herbaceous plants, and if on a fine day a note of such requiring renewal is taken, the writing of the labels may also be undertaken. Propagating boxes may also be made or repaired.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Chrysanthemums.—As the earlier-flowering varieties pass out of flower they should be cut down and some of the best plants retained for stock. They are best stood in a cold frame, where they will get plenty of light and ample ventilation. Late-flowering varieties should be given plenty of standing room and kept as cool as possible.

Clivias which have been kept in a perfectly cool house and somewhat dry at the root will now respond to a little heat; thus, if a succession is required, a portion of the stock may be introduced to a warm house. At the same time some of the surface soil should be removed and replaced with a top-dressing of rich compost. Clivias make an excellent permanent feature in the conservatory, where they may be planted out in beds or borders.

Azaleas of the indica section generally should be kept perfectly cool at this time. Where they are required, however, to flower for early work some of the early-flowering varieties should be selected and introduced to a warm house, starting them in a temperature of about 55°. They should be kept well syringed during bright weather, as dry atmospheric conditions may induce an attack of thrip.

Cyclamens.—The earliest batch of plants that have well filled their flowering pots with roots should be assisted with weak applications of soot water or a little guano. There is a mistaken idea that Cyclamens should not be given manure in any form, whereas they, in common with most plants, readily respond to judicious feeding. They should be kept well up to the roof glass and a moist atmosphere maintained. Although August is the best time for sowing Cyclamen seed, no one need be deterred from sowing at this time, as quite good plants may be obtained from such a late sowing. Young plants raised from seed sown during August should be stood on a shelf well up to the roof glass in a house with an intermediate temperature, affording them water very carefully during the dull days of winter.

Nandina domestica. This beautiful evergreen shrub is very hardy in the South, although it does well in sheltered positions in Devon and Cornwall. It is, however, an ideal plant for a cool conservatory, especially where it can be planted on a well drained bed or border, as it is not so good at its best under pot cultivation. It is best grown in a compost consisting of light leaf-mould and peat, and may be propagated by means of the more slender half-ripened shoots, standing the cutting pots under a bell glass in a cool greenhouse. It is such plants as this that are on the border-line of hardiness that should be more considered for the furnishing of large

cool or even unheated conservatories, for in such house an interesting collection of plants may be grown at little expense.

Buddleia auriculata. This South African species cannot be considered hardy, although it is now flowering freely outdoors in a recess of the temperate house at Kew. Although it is not a showy plant, its brownish flowers are produced in great profusion. It is, however, so sweetly scented that for this alone it is worth growing a few plants for the cool conservatory. It is easily propagated by means of cuttings, selecting the small twiggy side shoots for this purpose.

Royal Botanic Gardens, Kew.

J. COULTS.

BIRMINGHAM CHRYSANTHEMUM SHOW

THIS was the fifty-ninth season of the Show, and the floral exhibits were better than last year, the group and cut-bloom sections showing a decided advance. The fruit classes, however, were not so well filled as last season, for reasons well known to all of us, but what was lacking in quantity was made up in colour and size. The miscellaneous and non-competitive exhibits were, as usual, very numerous and attractive. The vegetable classes were well contested, showing good culture, though to our mind all the specimens were on the "overlarge" side, lacking quality and involving much waste in use. Potatoes were shown in perfect condition, but in too many, far too many, varieties—those standing out prominently being King Edward, Arran Comrade, Arran Chief and Kerr's Pink.

To come back to the Chrysanthemums, Class 1, for thirty-six Japanese blooms, brought only one exhibit; but the flowers were fresh, well coloured and of immense size. The best blooms were Maestrie, Major Wheatley, Rose Day, Queen Mary, Golden Champion, H. E. Converse, Mrs. Rupert Wilkes, Mrs. Algernon Davis, Helmath, Prince Albert and Mrs. George Moore. Mr. H. Woolman was the exhibitor.

In Class 2, for a collection of Chrysanthemums with Ferns and foliage plants, the first prize was awarded to Sir George Kendrick, who had furnished the front of the group very well. Mr. W. H. Cadbury was placed second with a very meritorious exhibit, and Mr. J. Kendrick third.

In Class 3 Mr. Woolman was again to the fore, his group of singles being certainly one of the finest ever staged. Phyllis Cooper (yellow), Portia (red), Bronze Mollie, Mrs. F. Hancock and Langleine were some of the more noteworthy varieties.

The principal prizewinners in the cut bloom section were the Dowager Lady Annaly, Mr. H. Woolman, Mr. W. Gresson, Mr. Keop, and Mr. Robinson.

The dinner-table decorations brought over a dozen contestants, the first prize being awarded to an autumn-tint combination of colours—bronze, crimson, yellow and green. This was arranged by Mrs. H. W. Shipton, and was very effective.

Worthy of note were the first prize twelve Begonia Gloire de l'Oranie in 6-in. pots, many of the plants measuring over 4 ft. across. They were all covered with nice fresh blossom. These were exhibited by Mr. L. Spiers of Edgbaston. A group of *Silene*s brightened up its immediate surroundings, the scarlet blossoms shewing to great effect under subdued light.

The principal prizewinners in the fruit classes were Captain Heales, Foxley, Hereford; Mr. C. Powell, Warburton Hereford; the Marquis of Exeter; Mr. Hugh Andrews, Winchester; Gloucester line; and Captain Drummond, of

Southampton, the last named excelling in all his entries. Mr. Powell exhibited fine dishes of Cox's Orange Pippin, Lane's Prince Albert, Charles Ross and Allington Pippin. Collections of fruit were staged by two exhibitors, viz., Mr. Toolley and Mr. L. Smith, the latter being awarded the premier honour with a very fine collection of Apples, Pears, Grapes, Plums, Nuts, etc.

Mr. H. Woolman staged a handsome group of cut Chrysanthemums; Messrs. J. House and Son shewed their fine forms of *Scabiosa caucasica*; Messrs. E. Webb and Sons (Stourbridge), Limited, a useful collection of vegetables; Mr. Ellison, West Bromwich, Onions and Ferns; and Messrs. Baker, Wolverhampton, shrubs and conifers.

Messrs. J. Waterer, Son and Crisp arranged a group of choice horned plants, flowering shrubs and conifers. Standard and weeping Hollies were conspicuous here; so were many of the great genus *Berberis*, such as BB. aggregata, brevipaniculata and Gagnepainii, also *Cotoneasters* in variety.

Messrs. W. J. Godfrey and Sons staged an effective group of single-flowering Chrysanthemums, obtaining an award of merit for Mrs. T. Hancock (light salmon colour), Rayleigh (deep crimson), Godfrey's Gem and Gorgeous.

Messrs. Daniel Brothers had a collection of Apples, including several new varieties; Messrs. Hopwood of Cheltenham staged a collection of hardy fruits in many varieties.

OBITUARY

MR. HERBERT JONES.

Just as we are going to press we hear with much regret of the death at a comparatively early age of Mr. Herbert Jones, until recently proprietor of the Horsecombe Quarries, Bath, so well known for their stone vases, ornaments, garden houses and such like. Mr. Jones, whose health had for some time given cause for anxiety, passed away on November 3 at Weston-super-Mare. Mr. Jones was a familiar figure to visitors to the great spring shows in the grounds of Chelsea Hospital, where year by year he set up a varied, but always interesting and beautiful gardens.

CONSTANCE TYHURST DAVIS.

READERS of THE GARDEN, especially old readers, will share our regret at learning of the death of our old and valued contributor "Anne Amateur," which took place on Tuesday, November 6, in the Ashdown Forest, whither Miss Davis had repaired for her health's sake. Miss Davis was strongly opposed to very large vegetables as seen on the exhibition table, and many times took up her pen to advocate a saner standard for the exhibition table. Though she seemed glad to enter the arena of controversy, she never descended to personalities. Miss Davis

was the author of a number of useful booklets on home brewed wines, sauces, preserves, etc., and was an acknowledged authority on wholesome English cookery. Her remains were cremated on November 8 at Golders Green Crematorium.

BOOKS

"Lawns, Links and Sportsfields."—Mr. MacDonald's book* will be of immense value to all amateur and to most professional gardeners. The general treatment of the formation and upkeep of lawns, etc., is excellent. There are many professional gardeners who are expert in the production of fruit, flowers and vegetables to whom turf is a closed book. They know it has to be mown, they generally over-rol, but its scientific treatment is to them unknown. In this book the reader has all the information necessary for the making of a good lawn, croquet ground or tennis court. The instructions as to levelling are excellent. So also are those concerned with drainage, which is perhaps the most important factor in the production of good turf. Mr. MacDonald is evidently a firm believer in artificial as against horse manure. It is, however, open to question whether, when preparing a seed-bed, the latter does not give the best help to young grass plants. This is a much debated point, but where turf for golf fairway and putting greens is concerned the use of horse manure in the top compost is almost universal. Speaking of the time for sowing seed the author says: "There is really no fixed season that can be labelled 'the best' for sowing grass seed." This is a statement to which numbers of experts will take exception. It is held by many that the month of August is the month. For the South of England, the last week of that month; for the North, almost any time. Sowing in the spring is a pure gamble. Where a small lawn is concerned, one can chance it and hope for the best; but for a golf course, where the seed bill can run into £1,500, no sane person would risk a spring sowing. Of course, seed can be sown all through September, but the best results are from an August one. The author deals soundly with turfing, but does not impress upon the uninitiated with sufficient stress the numerous advantages of seeding as against turfing. It is true that turfing is as old as the hills and that seeding is quite a new method of turf production; but it is far ahead in every way. Even in point of time it can hold its own, and if sufficient seed is sown in August it is possible to play tennis on the turf in the following May. "Sufficient seed" should be, for putting greens, tennis courts and bowling greens, at the rate of not less than 20 bushels to the acre; for lawns 8 to 12 bushels, according to the richness of the soil. Seeding is also slightly cheaper than turfing. On the other hand, turfing can be carried on right up to December. When dealing with lawn pests the author is hardly strong enough on the absolute necessity of eliminating worms from all turf. This should be regarded as a *sine qua non*. Where one has a fine bit of turf there is one rule which should on no account be broken, viz., "Snow must never be brushed off." On the question of watering grass the author will again find himself in a minority if he consults the golf greenkeepers. The almost unanimous opinion is that for most parts of England it is an absolute essential. Of course, it must be put on under pressure from sprinklers; further, the supply must not be cut off in times of drought. Above are a few criticisms of what is an excellent little book, which will be most valuable to all who are interested in turf. W. H. F.

* "Lawns, Links and Sportsfields," by J. MacDonald, Published by *Gardeners' Life*, Ltd., 20, Tavistock Street, Covent Garden, W.C. 2. Price 5s. net.

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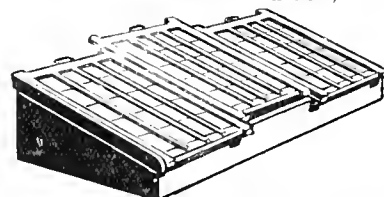
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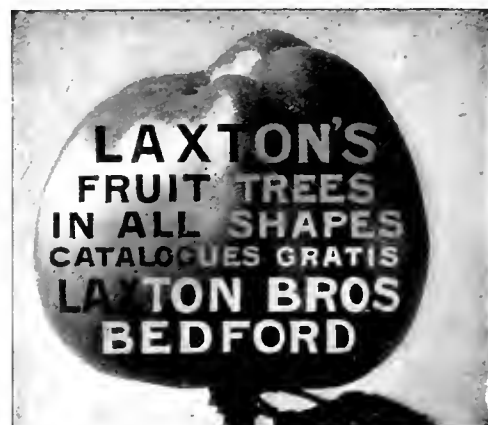
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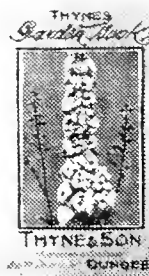
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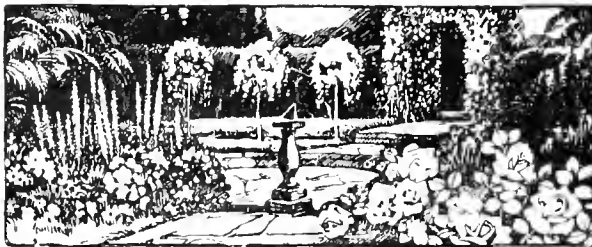
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[NOVEMBER 24, 1923.]

THE KNOT GRASSES

THE genus *Polygonum* (Knot Grass) is a large one, comprising about 150 species, spread over the Northern temperate and Arctic regions, and extending into the Tropics. Of these, however, only a comparatively small number are worth a place in the garden. Some of the stronger and more robust species, like *P. cuspidatum* and *P. sachalinense* are handsome foliage plants, suitable for woodland, wild garden or waterside, where they can have full scope for their rambling habits. Others, like *P. affine* and *P. vacinifolium*, are valuable plants for the rock garden where there are large spaces to cover. Quite opposite in character to the foregoing kinds, which are all of rambling growth, is the choice Himalayan species, *P. spharostachyum*. This is of tufted habit, with small leaves and spikes of deep red flowers. Of the annual species the best is *P. orientale*, a handsome plant with drooping racemes of rosy red to white flowers. It is well worth a prominent place in the herbaceous border. One of the most valuable hardy woody climbers is the handsome *P. baldschuanicum* from Bokhara, with its twining stems and large trusses of white to pink flowers. When well established, it soon takes possession of good sized trees. The best herbaceous kinds are:—

P. AFFINE (syn. *P. Brunonis*).—This handsome, well known creeping plant comes from the Himalaya. It is a rapid grower and soon forms a wide carpet of matted stems and leaves, studded in the summer and autumn with dense spikes of rosy red flowers about 2 ins. long. It is especially valuable for covering banks and ledges in the rock garden with its evergreen foliage, which assumes a rich colouring in the autumn.

P. ALPINUM.—This most variable species is a native of the Alps of Europe, but forms of it are also found in Northern Asia. It is one of the most handsome of the medium-sized *Polygonums* and might be used more often in herbaceous borders. It grows to a height of 3 ft. to 4 ft., and has a free branching habit, each branchlet being terminated by a graceful plume of spirra-like white flowers in July and August. *P. Laxmanni* is a

smaller-growing form of this species from Siberia and has the rambling habit.

P. AMPLEXICAULE.—Though attractive on account of its spikes of rose-red flowers, some 3 ins. long, this is somewhat coarse in habit and only suitable for the larger herbaceous border. It comes from the Himalaya and forms a strong, woody rootstock, from which spring many stems about 3 ft. high, clothed with clasping leaves. The flowers are produced freely throughout the summer months. *P. a. var. oxyphyllum* is a form of this, with spikes of white flowers about 6 ins. long.

P. CAMPANULATUM.—Another Himalayan species,

this forms a bushy, compact plant from 2 ft. to 3 ft. high, with much branched stems, terminating in cymes of pink flowers in September and October. The upper surface of the leaves is green, while the underside is covered with a brown tomentum. It is quite hardy, but direct sunshine causes scorching, so that it should be planted in a rather shady position. It is a recent introduction, flowering for the first time in this country about twelve years ago.

P. CAPITATA.—A pretty little creeping annual, with numerous rounded heads of pink flowers and leaves marked with dark V-shaped bands. It flowers during the autumn till cut down by frost. From the Himalaya.

P. COMPACTUM.—This is considered by some authorities to be only a form of *P. cuspidatum*. It is, however, of very compact habit, growing only 2 ft. high in poor soil. The plant bears erect panicles of white flowers, instead of drooping ones as in *P. cuspidatum*. It is effective for an isolated bed, but in the border is certain to be troublesome on account of its rambling habit. It flowers from July to September and is a native of Japan.

P. CUSPIDATUM (syn. *P. Sieboldi*).—This is a tall-growing species, also from Japan, with leafy bamboo-like stems up to 8 ft. of more high. Grown as an isolated group in the woodland it is very handsome, with its arching stems and drooping panicles of creamy white flowers. It is a rapid and spreading grower, and must be kept out of the border, as once established it is exceedingly difficult to eradicate.

P. CYMOSUM.—Also known as *Tragopyrum cymosum*, this plant has tall stems up to 8 ft. high, clothed with triangular leaves, and bears cymes of pure white flowers in September and October. It is a native of the Himalaya, and is not of a spreading habit.

P. EQUISETIFORME.—A charming late-flowering plant, with stems like an *Equisetum*, and very small leaves; the species is of bushy habit, up to 2 ft. high, with branching stems and long sprays of pure white flowers in August and September. It likes a warm, dry position, and makes an excellent wall plant. It comes from the Mediterranean region, where it grows in dry, rocky situations.



POLYGONUM CAMPANULATUM, A GOOD PLANT FOR A SHADY POSITION.

P. chinensis.—This is a perennial herbaceous plant, with a creeping habit, and is described as being a native of the Philippines. The leaves are ovate, with a serrated margin, and are covered with a dense, silky tomentum, giving the plant a silvery appearance. The flowers are small, white, and are borne in dense, terminal spikes. It is a desirable species, but rare in cultivation.

P. longimanum.—This handsome foliage plant is common in gardens for some thirty years, and is a perennial, but being only half hardy, the leaves are usually killed during the winter. However, it is easily raised from seeds sown in heat in the spring, and the plants will be ready for planting out in June. It grows about 2 ft. high, with branching stems, clothed with leaves that are covered with a dense, silky tomentum, giving the plant a silvery appearance. It is excellent for the sub-tropical garden or mixed border. A native of the Tropics.

P. rhomboides.—A recent introduction from Western China, this is a handsome plant which grows about 2 ft. high. It is of bushy habit, with soft, hairy leaves and large panicles of pure white flowers in August and September. It is in the way of *P. molle* and *P. rade* from the Himalaya, but is not so tall, and has larger sprays of pure white flowers.

P. orientale (Garden Persicaria).—This is a very old garden plant, having been in cultivation since the year 1707. Like *P. longimanum* it is best treated as a tender annual. If seedlings are raised indoors in heat they will come into flower earlier than those raised outside. A rapid grower, it forms large bushy plants 5 ft. to 6 ft. high, and sometimes, in rich soil, 10 ft. high. The deep rose purple flowers are borne in pendulous spikes on the tips of the branches during the late summer and autumn. It is a useful border plant, of which there is also a white-flowered variety. It is spread over the Tropics of the Old World.

P. polystachyum.—This Himalayan plant is one of the most effective and useful members of the genus. Being of non-spreading habit, it may be used in the herbaceous border without danger of its encroaching on other plants. It is of bushy habit, with branching stems about 5 ft. high. In the late autumn, these stems bear large panicles of pure white flowers which often last till cut down by frost. The flowers are useful for cutting for indoor decoration. It thrives in any light, dry soil, and is valuable for the wild garden.

P. sachalinense.—From the Island of Sachalin this may be described as a larger-leaved *P. cuspidatum*, its leaves being up to 1 ft. long and nearly as broad. The stems reach a height of from 10 ft. to 12 ft. in moist, rich soil, and bear axillary racemes of greenish white flowers. It is a strong grower, of climbing habit and is often used as a fodder plant.

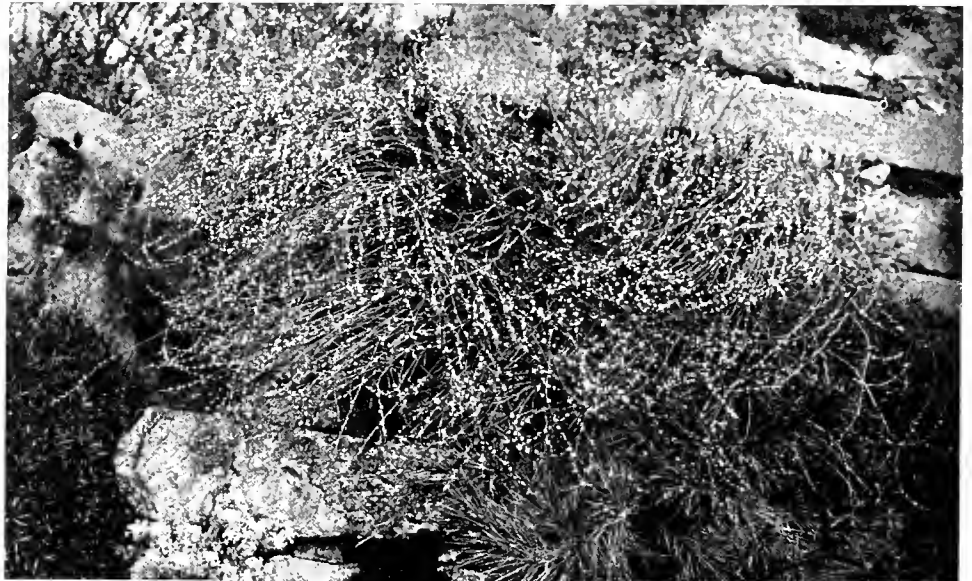
P. sphenostachyum.—A dwarf, tufted perennial from the Himalaya, with narrow, dark green leaves and spikes of deep red flowers from June to September; it is a choice alpine plant and should have a half shady position in moist, loamy soil. There is a variety of this, with more capitate heads of pink flowers.

P. viviparum is one of the prettiest and earliest flowering of rockery plants and one of the most hardy, as well as easy to grow. It forms dense mats of interlacing stems with bright green leaves, covered from July to October, with numerous slender spikes of bright rose pink flowers. In the autumn this plant often becomes tinted with red on the stems and leaves, and is evergreen, making it a most attractive choice for a rockery. It is a Himalayan species.

P. viviparum Alpine Pasture. This is a dwarf plant with spikes of pure white flowers, and is common on the Tibetan Alps.



THE NON-SPREADING POLYGONUM POLYSTACHYUM.



SINGULAR BUT BEAUTIFUL, POLYGONUM EQUISETIFORME.



POLYGONUM COMPACTUM.—RAMPANT BUT EFFECTIVE.

All the perennial species are easily increased by means of division in the autumn or spring, and many kinds are readily raised from seeds sown in

spring. They are all easy to grow in ordinary garden soil, but many prefer a half shady position to protect them from the sun. W. L.

PATH PLANTS FOR WOODLAND GARDENS

WHEN it is one's desire to preserve, as far as possible, a natural effect in the woodland garden, the question as to the best treatment for the paths demands some attention. There are woodland walks, of course, so perfect in their own way that to attempt to improve upon them to any drastic extent would be desecration. For what can be more delightful than a shady track carpeted with mosses, with here and there a tuft of small Ferns, Wood Sorrel, Foxgloves, Snowdrops and the like? But in less shady places one has to face rather a different proposition. The plants mentioned may be delightful for a while, but sooner or later grass will overtake the wild Violets, dwarf Hypericums, Bedstraws, Potentils, and the many other pretty and inoffensive little things which furnish such walks when newly made. Grass means cutting, and while the effect of this may be well enough under some circumstances, it is not so in all, and turf involves constant labour. Heather (*Calluna*) makes a serviceable and attractive path in localities where it does well, but this again needs shearing or mowing and in wet weather is not less objectionable than turf.

The gravel walk may resist the growth of weeds and so save labour, but paths of this kind can be even more out of harmony with the natural features of a woodland garden than is a sward of carefully cropped turf, which, as often as not, is a very shabby makeshift where there is much shade. Still, there is much to be said for gravel in some form, and with the dual object in view of having a dry walk and yet saving labour we have made a kind of compromise in the matter. That is to say, we have, as far as possible, "metalled" the tread of the paths with coarse local grit of a shaly nature, and covered the margins on either side with creeping plants that are robust enough to resist weeds. Moreover, these plants not only eventually save work with hoe and rake, but, if carefully chosen, they bring with them their own charm and interest.

Soil and climate will, naturally, influence one's selection of carpeting plants for paths, but there is a wide variety of inexpensive kinds which will thrive in most places and "do their job" with a minimum of attention.

Taking the shady or half-shady path first, we have the Lesser Periwinkle (*Vinca minor*) in many varieties. These grow quickly and are first-rate for covering wide spaces, whether on the flat or in the form of banks. *Saxifraga umbrosa* and *S. Geum* in various forms are also admirable for such spots. *S. u. primuloides* is especially delightful, making a closely set mat of neat little dark green rosettes which may be left without attention for years. The *Cotulas* (including *Leptinella*) can also strongly be recommended for this purpose, being good doers almost anywhere, while their prostrate, overlapping foliage is distinct and pretty.

Then there are the several *Herniarias*, close carpeters and willing in practically any conditions, nor can one omit to mention the value of *Helxine Solierolii* for our purpose here. If a pest in some places, the very quality which renders this plant noxious in the rock garden is just what we need along the woodland path. *H. Solierolii* is a

speedy grower, soon covering any shady or sunny area of cool soil with its clinging sheet of shiny lettuce green, and even if this little Corsican is not hardy enough for all places, the few bits that generally manage to survive (especially among stones) will ramp away on the return of spring with a determination to make good the loss.

Arenaria balearica is also singularly well adapted for such conditions, and where it thrives few things can be more charming. Though less able to take care of itself in all places, there are occasions when that minutest of all carpeters, the fragrant



A HALF-WILD PATH.

Mentha Requienii, will swarm in a film of green over large areas, reappearing from seed even when destroyed by frost and wet. In half-shade and fairly good soil *Hutchinsia alpina* will be delightful at any season, and under similar or any other conditions the Creeping Jenny, *Lysimachia Nummularia* (the large-flowered form) will not be found wanting.

Linaria aquitriloba is yet another little carpeter of the highest value for our purpose here, nor is *L. Cymbalaria* to be discarded, for its ramping nature is precisely what one wants in any safe place which needs a willing and vigorous carpeter. *LL. hepaticifolia* and *pallida* (both the violet and white) are also first-rate colonisers that will take care of themselves and soon make a beautiful mat of glossy foliage which will be studded with colour nearly all summer.

Tiarella cordifolia is a fascinating little woodlander too good and useful to be omitted from any such list as this, and no less can be said of *Omphalodes verna*, *Sibthorpia europæa*, *Epilobium glabellum* and *nummularifolium* (a pest anywhere else), *Oxalis Acetosella*, *Anemone nemorosa* in

many varieties, *A. trifolia* and the *Pratiens* are a few more suggestions for cool, more or less shady, woodland paths.

While there are few of the above which will not appreciate what share of the sun open woodland affords, the drier, more exposed paths may be margined with such sun lovers as the creeping Thymes, some forms of which are vigorous carpeters in congenial quarters. *Helichrysum bellidoides* is a pretty thing that will also very quickly usurp the place of weeds, and the trailing *H. trimerva* should be given a place. Admirable as they are for our purpose here, one hesitates in recommending the *Accebas*, since their ripe burrs are attracted by one's clothing as by a magnet. Still, one can hardly forego them on that account, and among the prettiest and perhaps the least "burry" are *AA. Buchananii* and *inermis*. These, like the rest of them, are rapid growers, quickly covering the ground with a dense mass of foliage that is attractive at any season. Moreover, they enjoy that blessed quality which every good path

plant ought to possess—they do not mind being trodden on.

Where Thymes do well one may grow masses of *Hypericum Coris* (from seed) and the trailing, moss green *H. repens*. *Globularia cordifolia* and others will also come to mind as ideal for the margins of a sunny path, as will various creeping *Potentillas*, some of which are too rampant for choicer spots. Then there are the *Waldsteinias* in two or three kinds, and some of the lesser *Campanulas* and *Veronicas* will not be out of place or difficult to establish.

Dianthus deltoideus, grown from seed, has made belts of green along some of our paths and, if flowers are comparatively few, the foliage proves a most effectual weed-choker. Any of the more vigorous of the trailing *Phloxes*, more especially those of the *Stellaria* set, which do not look out of place in such circumstances, may be recommended. Then there is that pretty pest *Crucianella stylosa*, which, put to such use as is here suggested, becomes transformed from a rank and irrepressible intruder to a beautiful and respectable member of society. And so one might continue into the region of

lowly, creeping Trefolds to *Lippia repens*, the Bogles (*Ajuga*), the *Hieraciums* and many more. Such prostrate shrubs as the common Ivy in several forms, *Cotoneaster adpressa* and *Polygonum vacinifolium* might be added to the list. *Euonymus chinensis* must not be forgotten, nor can one overlook the charms and adaptability of *Gaultheria trichophylla*, of some of the *Vacciniums* and other creeping ericaceous shrublets

for the purpose under discussion. Enough has, I think, been said, however, in the above paragraphs as to the manifold possibilities offered in the directions indicated. In a matter of this kind one can, for obvious reasons, merely relate personal experience and throw out suggestions. It is for each whom it may concern to adopt, discard or modify as his individual circumstances decide.

N. Wales.

A. T. J.

SOME ERICACEOUS SHRUBS

MOST catalogues of trees and shrubs, when they have given lists and prices of *Rhododendrons*, including *Azaleas*, and Hardy *Heaths*, follow on with a list of "Other American, Ericaceous and Peat-Loving Plants." Such a section contains numbers of very interesting and numerous attractive hardy shrubs. Generally, these plants thrive best in positions shaded, rather than otherwise, from the mid-day sun, though the most desirable cultural conditions are a cool and moist soil, which must not, however, be stagnant and water-logged. Though still termed peat-loving plants, most, if not all the shrubs in such a list will thrive in a loamy soil, to which plenty of leaf-mould has been added; the essential point in the soil composition is that it must contain very little, if any, lime. The positions to avoid are those where the soil is dry and sun-baked.

In common with *Heaths* and *Rhododendrons*, these shrubs do not root deeply into the ground. They form masses of small fibrous roots, or if thick roots are developed these trail near the surface, developing growth buds and stems and thus providing a ready means of increase. Plants prone to such root growth invariably revel in plenty of surface mulching, which at one and the same time conserves moisture and provides plant food. These closely knit masses of roots also tend to make it easy to transplant the shrubs successfully.

ANDROMEDA POLIFOLIA.—In nurseries a dozen or more ericaceous shrubs are frequently included in the genus *Andromeda*. They differ so much in character that it is not surprising that most botanists make at least six, and some more, genera, these including *Cassandra*, *Cassiope*, *Lyonia*, *Leucothoe*, *Oxydendron*, *Pieris* and *Zenobia*. The type plant of the genus is *A. polifolia* of Linnaeus, the Bog Rosemary of Northern Europe (including Britain) and North America. It is a dwarf evergreen shrub, 1 ft. or more in height, with narrow dark green leaves and pink blossoms, at their best during May. The Bog Rosemary is a variable plant in leaf, hence it is not surprising that growers have given varietal names to three of the most distinct forms: *var. angustifolia*, major and *rosmarinifolia*. The *Andromeda* is readily raised from seeds, though to keep them true to name the varieties should be propagated by division of the clumps.

CASSANDRA CALYCULATA.—This evergreen shrub is best known as a native of North America, though it is distributed over the Northern Hemisphere, being found in North Europe and North Asia. It is a bush 2 ft. to 4 ft. or more in height, bearing in March and April dainty small white blossoms. The variety *nana*, as the name suggests, is a dwarf form about 1 ft. high, of compact growth and excellent for an edging to a border or large bed of ericaceous shrubs. In North America, from



THE PENDULOUS RACEMES OF *PIERIS JAPONICA*.

whence the shrub was first introduced in 1748, it is known as the Leather Leaf. Propagation is by seeds, division and cuttings.

CASSIOPE.—This genus comprises about a dozen low-growing alpine shrubs somewhat heath-like in character. The four species brought under notice here are sometimes met with in choice collections of alpinists, none being commonly cultivated. Being natives of Northern regions, the plants require cool and moist conditions. They are, for that reason, better suited to Scottish gardens, though, in the South, damp positions with a northern

exposure may be tried. It is when we get a long spell of drought similar to that of the year 1921 that such moisture-loving plants disappear. A mulching of sphagnum moss and pebbles is very helpful in conserving moisture at the roots. Layering is the best means of increase.

C. TELRAGONA is the best known species. It is a native of Lapland and North America. Growing from 5 ins. or 6 ins. to 9 ins. high the dainty little white bell-shaped flowers open during April. *C. fastigiata*, the Himalayan Heather, is the most showy species. It is a dwarf tufted evergreen growing up to about 6 ins. high, with white bell-shaped blossoms. The flowering season is April and May. *C. hypnoides* from Lapland and North America is a spreading, moss-like plant with solitary drooping white flowers on stalks 3 in. to 4 in. long. *C. Mertensiana*, a native of California and the Pacific coast, is rather upright in growth, averaging 6 ins. to 9 ins. high, with white solitary flowers produced from the axils of the leaves during April.

ENKIANTHUS.—This is a small genus of deciduous shrubs, or small trees, peculiar to Eastern Asia.

The best known species is *E. campanulatus*, a native of Northern Japan. It was first introduced by the late Charles Maries in 1889 when collecting on behalf of Messrs. Veitch. Our tallest plants are about 6 ft. high at present, but Mr. Wilson describes it as a small tree 18 ft. to 30 ft. high. The branches are in whorls, the leaves in clusters at the ends of the twigs, and the flowers very freely borne in racemes during May. They are small and bell-shaped, pendulous, cream-coloured, more or less veined and flushed with chocolate red. This *Enkianthus* is worthy of cultivation for the richness and brilliancy of the autumn tints, varying from rich yellow and fiery red to glowing crimson.

E. japonicus, as the name suggests, is also from Japan. It is a deciduous bush from 4 ft. to 6 ft. high, with nodding white blossoms in April and May. *E. himalaicus* is a large shrub or small tree, introduced first from the Himalayas. Mr. Wilson also found this species in Western China. He describes it as producing a wealth of flowers in June, yellowish-salmon to orange-red with red veins, and wondrous autumnal tints. *E. Meisteria*, better known in gardens as *E. cernuus*, is a dainty deciduous shrub with pretty white fringed blossoms in May. It is a native of Japan.

The species of *Enkianthus* are easily raised from seeds.

Cuttings made of the half-ripe shoots root in a propagating frame with slight bottom heat in late summer. Layering is also practised, the growths bending down readily for the purpose. If the roots are well supplied with moisture the plants thrive best in sunny positions.

OXYDENDRON ARBOREUM.—The Sorrel Tree of the South-eastern United States is one of the few hardy trees flowering during August and September. It carries a cluster of racemes at the end of each branch, the flowers being white. The *Oxydendron* is a deciduous tree, the leaves in autumn turning to

a brilliant red before falling. The best known specimens of *Oxydendron arboreum* in Britain are in Mr. Anthony Waterer's nursery at Knapp Hill, near Woking, being from 25ft. to 30ft. high. The name *Andromeda arborea* is frequently used.

PIERIS.—Under the name of *Andromeda* or *Pieris* we cultivate extensively two most valuable hardy evergreen shrubs, *P. floribunda*, with upright panicles of flowers, and *P. japonica*, with the flowers in pendulous racemes. The flowers of both are white, the inflorescences form in autumn, and gradually developing, the blooms are at their best during March and April. Under happy conditions they grow into large bushes. *P. japonica* from Japan being eventually the taller, though it is not quite so hardy as *P. floribunda*, which is a native of the South-eastern United States. The tallest member of the genus is *P. formosa*, a large evergreen shrub, or small tree, from the Himalayas, with clustered panicles of white blossoms.

In Cornwall, at Pentillie Castle, the height of a large bush, illustrated in THE GARDEN on September 29, 1917, was stated to be 25ft. It is more a shrub for Southern and Western gardens, for even as far north as London it requires shelter. It does well in the Himalayan House at Kew and in tubs for the unheated greenhouse is deserving of attention.

P. taiwanensis is of recent introduction. Mr. Wilson collected seeds during his visit to Formosa in 1918. Those who visited the shows of the Royal Horticultural Society at Vincent Square will remember the beautiful plants growing in pots exhibited in the spring of 1922 and 1923 by the Marquis of Headfort. An evergreen shrub, the pure white pitcher-shaped flowers are borne well above the foliage in a terminal cluster of racemes.

P. mariana is a deciduous species from the Eastern United States. In contrast to the last two species this *Pieris* is very hardy, as our friends at the Arnold Arboretum describe it as one of the most beautiful hardy ericaceous shrubs they grow. The nodding white blossoms are borne in June on ripened wood of the previous season's growth. As it does not, in this country, flower with any degree of profusion and regularity, the desirable condition seems to be plenty of hot sun in summer thoroughly to mature the young wood.

ZENOBIA SPECIOSA.—Figured in one of the earlier numbers of the Botanical Magazine (tab. 970) as *Andromeda cassinefolia*, this very pretty shrub is a native of the Eastern United States. The average height is usually 2ft. to 3ft., but when

growing under very favourable conditions plants exceed this height by 1ft. or more. It is deciduous or semi-evergreen in mild localities. The leaves are shining green on somewhat arching stems. The waxy-white flowers, suggesting those of the Lily of the Valley, but larger, are borne in axillary clusters along the terminal portion of the growths. The variety *pulverulenta* is even more attractive



NODDING WHITE BLOSSOMS OF ENKIANTHUS JAPONICUS.

than the type having glaucous foliage, blue-white beneath. In raising seedlings, which is an easy method of increase, both types and many intermediate forms, usually occur. The flowering season is June and July. *Zenobia speciosa* spreads by means of underground stems, thus providing opportunity for increase by division.

LEUCOTHOE.—This North American genus is included among the *Andromedas* in some gardens and nurseries. It comprises both evergreen and deciduous shrubs. The best known is *L. catesbaei*, an evergreen shrub with slender arching growths, 2ft. to 3ft. or 4ft. high. The small white flowers are freely produced on axillary racemes on the upper half of the stems during May. The variety *Rollisoni* is not so tall in growth and is more compact in habit, with smaller leaves. The young shoots are red in winter and even brighter than those of the species. *L. Davisii* is a most attractive evergreen shrub when in flower. The upright racemes of blossoms are borne in the leaf-axils at the ends of the shoots. The pitcher-shaped flowers are white and freely borne in June on sturdy plants up to 30ins. or 3ft. high. *L. Davisii* is a native of California. *L. racemosa* is the best known deciduous *Leucothoe*. It is a bushy shrub 4ft. or 5ft. high, giving us quantities of white blossoms

during June and is very useful for the shrubbery border.

LYONIA LIGUSTRINA.—This is a free-growing deciduous shrub up to about 6ft. high, more in favourable, moist situations. The white flowers are borne in panicles at the ends of the previous season's growths, and are surrounded by the young shoots of the current year. It is a useful and interesting shrub to naturalise in damp woodland. This *Lyonia*, which is also cultivated under the name of *Andromeda ligustrina* is a native of eastern North America. A. G.

SOME HORTICULTURAL INDISCRETIONS

By MISS GERTRUDE JENKILL, V.M.H.

WHEN one sees some native plant shewing conspicuous beauty or some kind of charm, it is natural that one should wish to bring it into the garden. It may be either of unusual size or colouring, or something that, though quite well known, is not common in one's district, or a plant that has not been seen for a long time and that brings back happy memories of early days. It may be any one of these influences that creates the temptation. But if one who has suffered by giving way, may save others from regretting rash action, these notes may not be without use.

The common Wood Sorrel (*Oxalis Acetosella*) is certainly one of the loveliest of lowly plants and is all the more attractive because it grows in delightful wild places, and especially in sylvan mysteries of natural woodland. But I have never ceased regretting its introduction to the garden, for not only does it increase too rapidly, but it has a way of worming itself into the crowns of plants and Ferns so that it is impossible to dislodge it without breaking up the plant and washing it out. Precious, narrow horizontal ledges, sacred to small alpine Campanulas, attract it irresistibly and there is no way of saving the lawful occupant except by moving the stones and washing it free from the intruder and providing new soil for fear of seeds being left.

Another pretty thing that has become a persistent weed is the Field Scabious (*Knautia arvensis*). During a summer ramble in some pleasant wild ground some plants were found that for colour and size of bloom stood out distinctly from their hundreds of fellows. They were marked and dug up later and put in a garden border, where they thrived amazingly. After the first season, as they had been placed too near the front, they were dug up and put further back. But it became evident that every bit of root tip that had been left in the original place had formed a fresh crown, for the next summer the patch was stronger than before, and all further attempts to clear it out completely failed. Moreover it has strayed into other parts of the garden, where the same trouble goes on. Enchanter's Nightshade (*Circea luteoliana*), though by no means a conspicuous plant, has a certain modest charm that is enhanced by the places where it grows—cool, shady spots near water—dimly lighted—mysterious. But when brought into the garden it positively ramps, with white roots running into other plants and greedily taking up much more space than it was offered. Tansy, which is so handsome in dense masses by the waterside is much too "rooty" to be safely admitted to the garden, but is admirable for wild, watery places.

By far the worst offender, however, is the great yellow Loosestrife (*Lythymachia vulgaris*), a pest that, once established in light soil, has proved impossible to be rid of. It is not common in my

There is a very fine specimen of the plant which has been growing in the garden since it was first brought to the garden. For, besides the place where it was originally planted, it has spread, by what means I cannot guess, as it is never allowed to seed, to a number of different positions. We try to yank it up in small, visible pieces of root must remain, for it appears again and again when one

thinks it has been got rid of. It seems so hopeless that now we merely tug it up whenever it has grown high enough to present a good hold. Many people are baffled by Goutweed, but Goutweed has, at least, visible white roots, and I can undertake to clear it in any open ground, though not when it has got into the roots of shrubs that are not to be disturbed.

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GOLD MEDAL GRAPES AND LATE AUTUMN FLOWERS AT VINCENT SQUARE

It has been one of the most unfavourable years on record for the grape grower, so the exhibit at the Royal Horticultural Society's Fortnightly Meeting on November 13 last was all the more meritorious. In the opinion of the fruit experts there assembled it was decidedly the finest collection of Muscat of Alexandria Grapes that has been seen this year of any of the shows. Not only were the bunches large and shapely, some were said to weigh over 4lb., but the berries bore that rich amber colour that eloquently tells of high-class cultivation and rich flavour. The Hon. Vicary Gibbs sent eighteen bunches of these excellent Muscat of Alexandria Grapes and half a dozen of Cooper's Black equally shapely and of shoe-black colour. This variety is much like Gros Maroc in general characteristics. The exhibit, which was placed in the centre of the hall, was, in view of the season, well worthy of the gold medal which was awarded

A highly coloured collection of Apples was staged by Messrs. J. Cheal and Sons, and many valuable varieties were exhibited. The chief sorts were Court Pendu Plat, Gasconne's Scarlet, Cox's Orange, Blenheim Orange, Paroquet, Buxted Favourite and Incomparable.

The Fruit Committee did not make any award for a novelty, though they considered a few. An Apple named C. B. Stuby was sent by Mr. Thomas McPhail from the County Education Department, Dorchester, with the claim that it keeps in good condition till June, so the Committee expressed the desire to see this variety during that month. It is a medium-sized culinary Apple, pale skinned, but flushed on the sunny side.

In competition for the Bunyard medal, which was offered for the best flavoured new Apple, Messrs. Laxton Brothers shewed Lord Lambourne, and the Committee asked that it should be sent to Wisley for trial in the commercial fruit garden there.

A new red seedling Potato was sent by Mr. I. Buchanan, who said it was earlier than Puritan. This new variety is to go to Ormskirk for trial.

Chrysanthemums again took first place among the floral exhibits. Messrs. W. Wells and Co. had a very imposing group of such exhibition Japanese varieties as William Rigby, Mrs. R. C. Pulling, Mrs. Harold Wells and Majestic in tall stands against the wall. On a lower level there were many good singles and baskets of White Cheer, Primrose and Golden Butterfly, three valuable small-flowered sorts. Sulphur Queen, Roma Baylis and Dr. J. M. Inglis were the principal exhibition varieties staged by Messrs. Keith Luxford and Co., and three attractive Singles included the white Nona, Caledonia (mauve), Florisel (dull cardinal) and Sussex (yellow).

Carnations were particularly bright and beautiful. Messrs. Allwood Brothers had a glowing stand of their vivid Edward Allwood, and also staged



SINGLE CHRYSANTHEMUM PINK BEAUTY (MAUVE PINK).



THE BRIGHT CRIMSON CHRYSANTHEMUM MISS JOYCE MOORE

Maine Sunshine, George Allwood, Mrs. Walter Hemus and the delightful crimson-splashed Chintz. Their little bowls filled to overflowing with *Dianthus Allwoodii* were particularly charming.

Crimson Carnations were prominent in Mr. C. Engelmann's collection: Tarzan, Donal and Topsy being especially vivid. Messrs. Stuart Low and Co. specialised in those of pink shades.



AN ATTRACTIVE DWARF WILLOW, *SALIX BOCKII*.

and in the centre had several vases of the Hon. Nita Weir. Eileen Low of similar colouring was also very fascinating.

Messrs. Barr and Sons had a splendid collection of Nerines, and many of the visitors were entranced by the size and rich pink colouring of Aurora. Of the other sorts, Nancy (deep pink), Mrs. Thursby (deep salmon), Lady Acland (rose), Red Hussar and Mrs. Molesworth (rosy cerise) were of great value. These cool greenhouse bulbous plants are really of very easy culture and should be grown by everyone who has a cool greenhouse, as they produce flowers of uncommon type during the dull season.

A good batch of *Primula obconica* in distinct named varieties was exhibited by Mr. E. H. Causer, who also shewed greenhouse Cyclamens and the fragrant *Bouvardia Humboldtii* with greenhouse Ferns in great variety.

Violets of especially good quality were brought by Miss E. Heathcote. She had many bunches of the single variety Princess of Wales, and we do not remember ever before having seen such long, stout stalks. The flowers were of beautiful colour and most delightful fragrance. Mr. J. J. Kettle had a good variety of Violets, which included some seedlings. There was a single variety of real Cambridge blue colour and a double just a shade darker. He told us that, although unnamed, there was already a great demand for them.

The hardy plant growers are experiencing a very dull season just now, and most contented themselves with the fascinating little conifers used for planting in the rock garden. Mr. G. G. Whitelegg had a very good collection and also shewed a batch of one of the capitata Primulas which gave a note of rich purple, contrasting well with the crimson berries of *Skimmia japonica*. The Orpington Nurseries Company also had

many little conifers, and Mr. J. Klinkert shewed topiary specimens.

In a small general collection of hardy shrubs Messrs. L. R. Russell, Limited, included attractive standards of *Enonymus latifolia alba* and some graceful, freely berried bushes of *Cotoneaster pannosa*. Mr. F. G. Wood and Messrs. Bakers, Limited, both included bunches of hardy

C. Radiant.—A valuable market Japanese variety of almost recurved type. The flowers are of formal type, good substance, and orange buff colouring with rosy purple flushing on the older florets. Award of merit. Shewn by Mr. H. J. Jones.

Salix Bockii.—This, one of the most attractive of dwarf Willows, was represented by a couple of small plants exhibited by Messrs. J. Cheal and Sons, both apparently female. The male form is decidedly the more decorative, but any shrub which habitually flowers at this season must have value.

Odontoglossum Ithone.—A beautiful arching spike evenly furnished with large, rounded flowers regularly marked with bright chocolate on ivory white ground and flushed with rose on the backs of the segments. There is a bright golden crest. First-class certificate. Shewn by Messrs. Charlesworth and Co.

Odontoglossum Purple Emperor.—A fine plant bearing three very large, perfectly formed flowers was shewn. They are of rich purplish crimson colour with a gold crest, and the beautifully waved lip is margined with white. A silver-gilt Lindley medal was recommended. Shewn by Mr. H. T. Pitt.

SINGLE CHRYSANTHEMUMS

THE varieties of so-called Single Chrysanthemums at present in cultivation might be divided broadly into five classes:

Class 1 would include those with recurving florets and might be subdivided again into (a) those with one row of florets (true singles), of which the white variety *Mensa* may be taken as typical, and (b) those with several rows; these latter are mostly new varieties and we may take Mrs. J. Palmer described on this page as typical of this set.

Class 2, with saucer-like blossoms formed of regularly arranged broad-ended florets and typified by the old variety *Edith Pagram*, is sufficiently distinct from the smaller, less formal varieties with incurving petals of which *Mary Richardson* is an example to justify the placing of the latter in a distinct group which we will call Class 3.

In Class 4 we have flowers which are bluntly conical in form, with florets which are practically straight, though they may recurve a little at the tips. The florets in this case are, as a rule, on the narrow side and rather pointed, and the petals are usually somewhat uneven in length, giving the blossoms a shaggy appearance. This class again may be divided into (a) those varieties with one row of petals and (b) those with several rows.

To Class 5 must be relegated the quill petalled *Stella*, which is almost a single counterpart of the spidery *Rayonnante*.

Beyond these, again, we have the Anemone-flowered varieties, which may be said to be single in feeling and which vary a great deal among themselves. They, too, may be broadly divided into two classes, the exhibition sorts (a), typified by *Aphrodite*, being very readily distinguished from the graceful spray-flowered varieties (b), of which *Mabel Weston* may well stand as the type.

It is well that we should sometimes take stock and decide where we stand, so to speak, and whither we are going. The great majority of the new Singles which are coming forward belong to Classes 1b and 4 and it may be well to consider whether these represent in fact the most beautiful types possible with this flower. *Mensa*, when it first appeared, attracted admiration by the unusual smoothness and seemingly machine-made regularity

Chrysanthemums in their exhibits of such as *Helenium cupreum* *Crimson Beauty*, shrubby *Veronicas*, *Erigerons*. Mr. Wood also shewed his miniature rock gardens.

We were reminded that the month was November by a number of exhibits of garden pictures of varying merit and a considerable length of tabling devoted to garden design. Miss G. Dorrien Smith received a silver Grenfell medal for water-colour drawings shewing the subtropical character of the gardens at Tresco, Scilly Isles, and Miss D. H. Monray Reid a bronze Grenfell medal for a few very admirable pen and ink drawings of flower sprays and berries. Mr. Percy S. Cane, the well known garden architect, also received a silver Grenfell medal for a collection of photographs shewing charming gardens of many types completed to his designs.

NEW AND RARE PLANTS.

Chrysanthemum Mrs. J. Palmer.—This is a large Single made up of several rows of substantial white florets which gracefully recurve at the tips. Award of merit. Shewn by Mr. G. Carpenter.

C. Miss Joyce Moore.—A very handsome large Single variety. The broad florets are slightly rolled at the tips, giving them a pointed appearance. The general surface colour is a bright crimson lightly flushed with maroon and relieved by a small golden zone. Award of merit. Shewn by Mr. G. Carpenter.

C. Norman.—Another large Single. The broad florets are of good yellow colour lightly margined with rose, and they recurve at the tips. Award of merit. Shewn by Mr. G. Carpenter.

C. Pink Beauty.—This is a large Single with a big solid centre and stippled with washy lilac. The form is more attractive than the colouring. Award of merit. Shewn by Mr. G. Carpenter.

of the arrangement of the florets round the disk; it certainly did not represent an advance in its recurring form—quite the reverse. It is, no doubt, unsafe to argue about questions of taste, but to the writer, at any rate, a composite flower with the florets for the most part level with disk, and actually falling behind it at the tips, has lost all the life and much of the grace which might dwell in it. Then, to add to it several rows of petals, making it practically a decorative type with the central florets removed, can only be still further to degrade it.

This much of Class 1; we approach Class 4 with a great deal of respect, and it must be admitted that the better varieties in it are very charming indeed, yet raisers would surely do well to bear in mind Class 2 and let us have more stout-petalled varieties of the Pagan type, with almost rudbeckia-like flowers. These are distinct and handsome, long lasting and, owing to their substance, excellent market flowers. We still, from time to time, get varieties belonging to Class 3, and really await an improvement in class in this type; substance of blossom and strength of foot-stalk are not, so far, quite what one could wish.

Class 5, though fragile, has many admirers and my new varieties will, no doubt, meet with a favourable reception. It is almost unnecessary to add that any additions to the ranks of the Anemone-flowered varieties will be welcomed by that great mass of Chrysanthemum lovers which has no

interest in exhibition varieties but loves the Queen of Autumn for her decorative value in the conservatory and on the exhibition table.

Nothing has been said about early-flowering Singles for flowering in the open border. The omission was intentional. The writer's advice to those who may contemplate growing them is that of "Mr. Punch" to those about to marry! There seems no reason why a satisfactory strain of early-flowering Singles should not be evolved. A hundred and one forms of Chrysanthemum roseum, which we call Pyrethrums, stand up valiantly to the elements and the same may truly be said of the very numerous forms of CC. maximum and leucanthemum, and there can be little doubt that a really

early-flowering Edith Paganum would weather an autumn blast and a heavy sprinkle of rain. The early-flowering singles that we know, however, are frail things with petals of a similar texture to those of the "Japanese Mountain" varieties, which are now on their trial and which, no doubt, should have been included in our classification. They would have to be graded as Class 4c. Possibly, readers who grow these single varieties for purely decorative purposes might be willing to assist other readers by submitting lists of what they consider the best varieties, giving at the same time the classes in the foregoing notes into which they fall. R. V. G. W.

PLANTS THAT ARE WORTH A PLACE

MOST of us have our idle, or, shall we say, leisure, hours, during which we love to wander in our dream garden. Free from the trammels of actuality and such mere details as soil and sticks and stems, we picture the things we should like to do and the things we should like to have. A special joy comes to the hardy plant lover in reviewing the many "new" or—to coin a word—"unpossessed" plants that he has seen, either at a show or in another garden. And from this review or from reading up one's notes (oh! those fatal notes!), there emerges an array of desirables that one "simply must" have. I always sort and re-sort, by mental criticism of this and that, until this "simply must" stage is reached. Imagining this, that and the other—here, there and everywhere, until quite sure that just that! . . . just there . . . is what is really required.

Having gone through a course of these revisions and excisions lately, here are some notes on a wide variety of hardy plants that are certainly worth a place in any garden, and, whether this is small or great, the floral year will be richer by their addition. First of all, come three of Mr. Herbert's Pinks: May Queen, a bright pink that is excellent as a cut flower, and leaves nothing to be desired either in size or freedom. Lyric as a colour is simply superb, that strong rich purple which really does satisfy the colour craving. Imperial is a delight, either at the extreme front of the mixed border or in the rock garden, where its dwarf habit, intense crimson scarlet colouring and delightful fragrance endear it to all.

Swinging right away from border plants to the climbing Clematis, let us be extravagant and procure a plant of The Bride. This, among all the other whites, stands forward prominently as a good thing, with very fine white blooms and yellow stamens, while the point that especially appeals is its remarkable freedom in flowering. It is an early bloomer and one must not cut away any of the old wood, for it is this that bears the buds and flowers. Let us to the rock garden again, for it is here that we shall see that glorious little Campanula Bellardii Miranda in perfection. Happily it is an easy doer and not troublesome to grow, while it is covered with a profusion of bloom from June to September, quite a point in making the rock garden attractive after the early summer glory has dimmed. Its habit is a good one. From close tufts of foliage dozens of thin wire-like stems push out, bearing large bell-formed flowers of an exquisite shade of silvery blue. When one has finished satisfying the eyes, one has only to bend down to discover a still further attraction, the scent, for one is immediately conscious of a breath just like honey. For a limitless supply of splendid cut flowers, there is a useful plant in Perry's variety of Coreopsis grandiflora. This retains all the good qualities of the type plant, but has, added to these, semi-double blooms that open widely, are on long

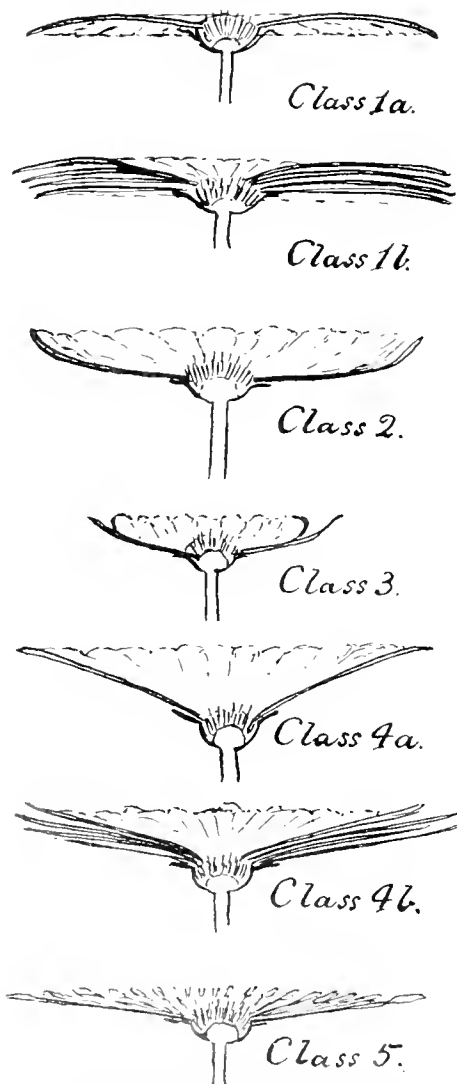
stems and last well. As to the freedom with which these appear, one need say but little, for its parentage is a sufficient guarantee in this direction.

Flaming June has been made even more brilliant than of yore, since we have had that wonderful Oriental Poppy, Lord Lambourne, and one cannot wonder that it is making its way into more and more gardens. It is not the colour, though that is vivid enough for anything—so far as orange scarlet is concerned, but the wonderfully deeply fringed and lacinated edge of each petal that at once draws attention to it. Just a few flowers, set up by themselves in the right surroundings and the right kind of vase, form a picture indeed.

When one begins to wander in the autumn garden among the fine Michaelmas Daisies, then indeed confusion does become more confounded; for there is a host of inerituous forms. Among our own "musts," however, is Aster Amellus King George, with its large trusses of bluish-violet flowers of truly remarkable size, and Perry's White. The latter is fine, where a medium variety is wanted, and in the forefront of the white varieties. The flowers are often 2½ inches across, with snowy white petals and a golden-yellow central disk. It is interesting to watch this disk as it ages and gradually becomes a deep maroon crimson. Grand as are the magnificent Kniphofias, with their wondrous blaze of glowing "pokers" when summer is passing to autumn, do not let us overlook the dainty charms (that are especially revealed in small beds or borders) of the gracilis hybrids. The "pokers" of these are remarkably dainty and shew a wonderful variation in colouring from citron yellow to brick red and orange scarlet.

Those who favour "double" flowers should make a note of that splendid Ox-eye Daisy, Chrysanthemum leucanthemum plenum. This is very hardy, free to flower and fully double, while it has the further claim upon us that it blooms twice during the season. May and June see it covered with a grand display of flowers that are greedily cut by the home decorator; then comes a period of rest followed in autumn by a further period of flowering. The Erigerons are so generally useful that a variety with the merits of Merstham Glory cannot be passed by. This is not only a good blue that flowers continuously, but its habit is not too tall, while the flowers are often quite double, thus lasting well when cut.

Viola gracilis in Huntercombe Purple has provided us with a really splendid little edging or bedding plant, the rich clear purple of which is not a colour to use sparingly or in little dabs, but which should be used in broad sweeps, so that the small flowers may have their chance to shew us what they can do when massed in their thousands. With all their "faces" fronting one way, they form a picture indeed, and it is astonishing, if one picks a single flower and looks from that to the massed plants, how clear a demonstration we have of the power of numbers. H. W. CANNING-WRIGHT.



SECTIONS OF TYPICAL SINGLE
CHRYSANTHEMUMS.

CORRESPONDENCE

THE IMPORTATION OF PLANTS INTO CANADA.

AS information to the public of Great Britain in general I might inform you that the Canadian Government, by an Order in Council, has passed a law whereby we in the Dominion are prohibited from importing plants, bulbs, etc., from the Mother Country, unless—after supplying our Department of Agriculture at Ottawa with the information as to consignor, value of plants, etc., and a description of same—we are able to procure a permit to import. We can only ship here by express, as importing through the mail is prohibited. This means that the amateur specialist will for the most part cease to import, and our gardens will suffer, as we shall be compelled to depend on "stuff" we can procure from the big nurserymen in this country. We gardeners and garden-lovers on Vancouver Island and in Vancouver City are taking this matter up with our M.P. for the Dominion Legislature, and have a petition in circulation to try to have the iniquitous Order in Council wiped out at the next meeting of the Dominion Legislature. Is there anything that can be done from your end to help us? I might add that this seems to be the work of some few nurserymen in Eastern Canada, as I am sure it did not originate from the West.—NORMAN W. F. RANT.

[It is very difficult to see what can be done "at this end"—to use our correspondent's phrase. Any representations made by our own Government would need to be of the most tactful character, as the Canadian Government would, naturally, resent anything which could possibly be construed as interference in their domestic concerns.

At the same time we are bound to say that such Orders are very unfortunate. Very many people will question the *bonafides* of the promoters, just as they did, and do, in the case of the similar law which exists in the United States of America.—ED.]

RHODODENDRONS AND STABLE MANURE.

I APOLOGISE for having inadvertently used the words "stable manure," which, I quite agree with my critics (THE GARDEN, November 3, page 569), would not likely prove a suitable dressing. I have never tried it, however. Of course, what I had in mind and what I have been using was cow manure. No doubt "R. J. F." is correct in saying that moisture at the roots is a most important factor to all Rhododendrons, and this is gained by the use of manure as I suggest, but whether by its

moisture-retaining qualities or the suitable ingredients, certain it is I find that they prosper with it.

I cannot say I think, provided the roots are kept moist, that sunshine or shade makes much material difference, always on the understanding, of course, that the plants have not been caught by frost, in which case sunshine in many instances is fatal. As a general rule, my experience is that it may be taken that those with large leaves prefer more shade than those with small leaves. Of course sunshine in Scotland is a somewhat scarce commodity, and it may surprise some of your southern readers when I say that during the last three months I have registered here, in Renfrew-



A CLEMATIS FROM SEED.

shire, within a fraction of 2 ins. of rainfall, so that it can readily be understood that the sun has got but little chance to shine; this year, of course, has been quite phenomenal.

I noticed at Leonardslee, the late Sir Edmund Loder had quite a number of his Rhododendrons packed with bracken, the object of this being, I presume, that in the event of a severe winter the plants might only be killed down to the protecting line, and would sprout again. The idea seems sound. The same idea is practised at Formakin, but in this instance it is in order to prevent rabbits barking the stems. I am sorry indeed that that monarch of the race, *R. Aucklandii*, is absolutely impossible with me here. *R. Falconeri* struggles for existence, but after all what is there but interesting leaves and that only in its youthful years, for in old age its small foliage is but ill compensated by the very third rate blooms? I think, possibly, *R. Loder's*

White, taken all round, is one of the most satisfactory to grow in our northern clime.

I do not know that Sir Herbert's insinuation that Rhododendrons growing in their natural state, get no manure means that they would not be the better with it. Many a small boy would be the better for a good spanking who never gets it. Eh?—FORMAKIN.

WIND-SWEPT SEASIDE GARDENS.

IN case anyone should be misled by the small misprint, may I point out that, in an article on page 575 in which I recommended certain species of *Metrosideros*, I meant that they are suitable for a "really mild" not a "really wild" seaside climate. They will stand a lot of wind, but little frost.—Z.

CLEMATISES FROM SEED.

IT is, I think, unusual to see a well grown plant of Clematis, such as that in the accompanying photograph, and to learn that it has been raised from seed. This method of propagation has much to recommend it; it is simple, and full of interest, for new and often very beautiful varieties are produced and the young plants have all the vigour that seedlings generally show. In the case of the plant photographed, seed was saved from a specimen grown in a cool greenhouse, as in the North it is unusual for the Clematis to ripen its seeds in the open. When seed is obtained (many nurserymen now offer it for sale) it should be sown in early spring, or better still, as soon as gathered, in pans of light, rich soil, and be placed in gentle heat. If a greenhouse is not available, it will succeed in a cold frame, but this delays germination, which is at best slow and irregular.

When the seedlings are of a size fit to handle, they should be pricked off into small pots of good light soil, and kept in them until the pots are full of roots, when the young plants may be shifted into pots a size larger, and grown on in them till they are strong enough to put out into their permanent quarters. The seedlings flower in from one to three years time; all of them are charming and, in many cases, equal in beauty to the finest of the named varieties.

Plants raised from seed seem to be free from the disease which so often attacks young grafted plants. All the seedlings from the batch of which the plant in the photograph forms one, have grown well and vigorously and proved useful and decorative when they came to maturity. The photograph was taken on November 1 and the flowers remained beautiful until November 8, when they were destroyed by too frost.—L. S. T.

WHAT ARE ALPINE PLANTS?

IT would seem desirable once more to call attention to the loose way in which the term "Alpine" is very frequently given to rock and other plants which are in no sense alpine, however suitable they may be for planting with alpine and sub-alpine species on a rockery or in a moraine. The question is admittedly unimportant, but in many cases the use of the term in catalogues and in the horticultural press is misleading.

Mr. Hadden, consciously or otherwise, was so frank as to preface his excellent list by saying "no true lovers of alpine will ever quite agree as to the fifty 'best' plants for the rock garden"; and he supposed criticism was invited on a correspondent's "selection of the fifty plants best suited to the average type of rock garden (including a small moraine)." And "Purley" gave a "list of fifty best alpine . . . though one or two are not perhaps best described as alpine." It would be nearer the mark to say that a quarter of his should not strictly be so described. The same proportion, or a larger one, in the other lists recently

hold of these plants are not alpine in any sense. Quite a number of plants of the foot in southern countries. I doubt if such genera as *Convolvulus*, *Erodium* and *Helichrysum*, to mention a few, comprise any alpine species (they certainly do not in Europe); and by what stretch of the imagination can forms of *Erica*, *Campanula* and *E. vagans* be considered alpine? Certainly Boraginaceae again has remarkably few alpine plants in any Continent.

Of course hardy-plant nurserymen were the first sinners in listing as "Alpines" useful little plants from the Mediterranean, from Italy, Greece and the hills of Asia Minor, etc. But is it too late to ask that the term "rock plants" should be used more frequently?—H. STUART THOMPSON.

NERINE BOWDENI OUTDOORS.

WE all know by repute that *Nerine Bowdeni* will grow and flower outdoors at the foot of a south wall and in favoured localities, but not all of us have seen it so growing. Even after this year's disappointing summer, however, it has



NERINE BOWDENI, AS FLOWERING RECENTLY OUTDOORS AT KEW

flowered quite well against a warm greenhouse at Kew. Is it too much to hope that we may ultimately get a strain of many-coloured *Nerines* which will prove as hardy as, if not harder than, the species in question, and which will flower outdoors in a favourable aspect in the Midlands and Eastern Counties of England? An immense amount of work has been done with the *Nerine* but there is an immense amount still left to do.—N.

FIFTY BEST ALPINES.

IN response to your invitation to criticise "Parley's" list of the fifty best alpine, before giving my list I should like first to ask him if he really flowers the following plants well, which he includes in his list. If so, I should very much like to correspond with him and learn how he succeeds with plants which are so notoriously difficult. The plants in question are *Aquilegia alpina*, *Cyananthus lobatus*, *Daphne rupestris*, *Ranunculus glacialis* and *Viola Bertolonii*. Also, is he able to call them permanent? The list I

would suggest for those who wish for plants of a fairly permanent character is as follows: *Acemum macrophylla*, *Acantholimon venustum*, *Ethionema Warley Rose*, *Alsine verna* fl. pl., *Androsace lanuginosa*, *A. primuloides*, *Anemone Pulsatilla*, *Artemisia pedemontana*, *Asperula suberosa*, *Campanula Bellardii* Miranda, *C. excisa*, *C. muralis*, *C. Stansfieldii*, *C. turbinata*, *Convolvulus mauritanicus*, *Cytisus Ardoini*, *Dianthus gallicus*, *D. subacaulis*, *Dryas octopetala*, *Erodium corsicum*, *Erythraea diffusa*, *Gentiana Lagodechiana*, *Geranium sanguineum lancastricense*, *G. Traversii*, *Gypsophila repens rosea*, *Helichrysum bellidioides*, *Hypericum Coris*, *H. empetrifolium*, *Iberis saxatilis*, *Iris cristata*, *I. gracillipes*, *Lithospermum prostratum*, *Ourisia coccinea*, *Oxalis enneaphylla*, *Phlox amena*, *P. reptans*, *P. subulata* (varieties), *Polemonium carneum*, *Potentilla Tonguei*, *Primula frondosa*, *P. Auricula alpina* (true), *P. Julia*, *P. marginata*, *P. minima*, *Raoulia australis*, *Saxifraga Aizoon baldensis*, *S. oppositifolia*, *Veronica repens rosea*, *Wahlenbergia serpyllifolia* major, and *W. vincaeflora* or *Viola calcarata*.

In making this list I have adhered strictly to plants which are comparatively easy doors, and which for the most part present a compact and interesting form of growth when not in flower. In concluding I should like to add that I have a plant of *Androsace pyrenaica* growing out of doors which has flowered well these last two springs, and that around it have sprung up eight self-sown seedlings which are all growing well. I thought this might be of interest to your readers, as I believe this is rather a rare occurrence.—H. STEWART WACHER.

THE BREAKING OF TULIPS.

IN the last issue of THE GARDEN I received (October 6) I see that Mr. Dykes is storing his Tulip bulbs in paper bags to see if that will prevent them "breaking" by keeping aphids off them. I have kept mine in paper bags for the last three or four years, but I am sorry to say it has not prevented some breaking. Also, I have never observed aphids in the bulbs when drying off; owing to our dry summers the bulbs are generally

quite dry when lifted and require very little drying off, so they are only exposed for a short time. If "breaking" is a disease, how is it that the bulbs do not die out? I believe Zomerschoon has been known for 250 years, and is probably the result of breaking, but is still growing, though I understand still scarce. If breaking were a disease, it must be either a bacterial or fungoid one. Have microscopic sections of broken bulbs been made to see if they are different from unbroken ones. I think from my own experience that broken bulbs do not increase so well as the breeders from which they came, which looks as if they were weaker, but the flowers and foliage when growing look strong and healthy and as big as those of others. It would be interesting if someone would plant the breeders and their "broken" progeny side by side and see which produced the bigger crop of bulbs, note if breeders planted near broken ones broke more than similar breeders planted some distance away, and also if spraying the foliage to destroy aphids, etc., would help in preventing breaking, and if dusting the bulbs with some powder to prevent insects attacking them when drying, would help. I, like Mr. Dykes, have no time for the work, but it should not be a very onerous one, and there ought to be some tulip-lover who had the time or the necessary assistance to do it, and if once settled it would be a great help.—C. T. HILTON, Port Alberni, B.C.

APPLE DELICIOUS.

SOME years ago there was a vote in THE GARDEN on which were the best Apples. Since then I have been growing in my garden here an American Apple called Delicious, and I enclose you one for your comment as to its quality. I think that it is quite up to its name.—W. F. M. COPELAND, Southampton.

[The Apple sent was of excellent quality, yellow fleshed and juicy, with a very pleasing spicy flavour. It would be interesting to know as to its growth and freedom of fruiting. If satisfactory on these points, this must be one of the very few Transatlantic varieties which are useful on this side.—ED.]

CLIMBING MME. ABEL CHATENAY.

MANY of the old Tea Roses may be seen under glass attaining a height of 15ft. to 20ft. and even more. I remember seeing at Hatfield an old plant of *Souvenir d'un Ami* reaching to the roof of a lofty conservatory. The conditions under glass favour this extended growth. I have seen a plant of *Alman Cochet* on a wall outdoors covering a space of fully 12ft. high, and once in Guernsey I saw a plant of *Marie Van Houtte* on a wall outside fully 20ft. high. Only a few weeks ago I saw at Rayleigh in a private garden a huge shrub of *Anna Olivier* fully 7ft. high and as much through.

As to *Mme. Abel Chatenay* making the growth mentioned, it is not at all uncommon. Had Mr. Dean planted the true climbing form, which my firm introduced, it would have made a far more vigorous growth. Our *Climbing Chatenay* will make the first year (as maiden plants) growths 7ft. or 8ft. long. If we bud, say, a thousand of this variety we obtain fully 60 per cent. of this length, but there are also some reversions which, although not "running," as we term it, yet are stronger than the ordinary dwarf form. This happens, as every grower knows, with most of the climbing Hybrid Teas.

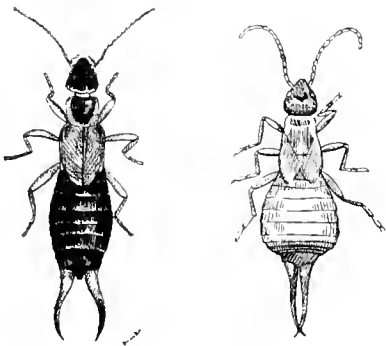
The "rose specialist" referred to evidently was not a commercial grower or he would not have made the statement attributed to him. Until we introduced the *Climbing Chatenay* there was nothing to compare with the growths it will

make, so we truthfully claim that we were the first to introduce a true climbing form of this grand old Rose. I frequently advocated in the columns of THE GARDEN some years ago the growing under glass of the so-called dwarf Tea and Hybrid Tea Roses. They are far more useful than the extra vigorous climbers. It treated on the sparse pruning system one may soon cover with them a wall of a greenhouse, or if they be planted in tubs they can be trained on to the roof and one obtains a more continuous blossoming than from the climbing kinds. For outdoor walls and even for the up-rights of pergolas, Climbing Mine, Abel Chatenay stands unrivalled, as can be proved by the great demand for it.—WALTER EASLEA (of W. Easlea and Sons).

[The rose specialist referred to is a commercial grower, if one who grows rose trees for sale as a sole means of livelihood comes within the definition!—Ed.]

THE EARWIG

WHETHER the subject of the sketches is entirely injurious to the interests of the gardener it is very difficult to say. There is no doubt that it is mainly a vegetarian and that the expanding and expanded blossoms of the Dahlia and Chrysanthemum are frequently mutilated by it. On the other hand, it is stated



AN ADULT INSECT ON THE LEFT AND A YOUNG ONE ON THE RIGHT.

that it has been known to attack small caterpillars. It is, at any rate, uncertain if this occurs often enough to be of any practical use.

In any case, it is a great annoyance to all growers of those blossoms which are perfected towards the end of summer and early autumn and, owing to the presence of its very unobtrusive wings, it is difficult to stop its depredations.

Spraying with insecticide may be a certain discouragement to their efforts, but needs to be supplemented in other directions. Pieces of bamboo, with openings into the hollow parts between the joints may be suspended among the plants it is desired to protect and will probably be thought less conspicuous than the usual reversed flower pots, containing moss, upon stakes. Either trap should be immersed each morning in foiling water.

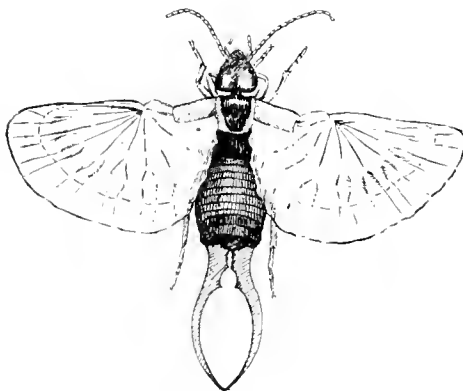
In spring the female lays some oval yellow eggs in quiet corners, under stones, etc., and if a plentiful batch of future earwigs is not desired it will be well to turn over stone heaps and loose bricks, boards, etc., and scatter insecticide freely among them at frequent intervals from that season until the frosts arrive.

There is much to admire about the earwig: the manner in which the wings are folded and packed away under two small scales behind the

THE WHITE-FRUITED SPINDLE TREE.
A FEW years ago I heard of the existence of a variety of our native Spindle Tree, *Euonymus europæus*, which had its fruit capsules white and the seeds scarlet. The description given was most alluring but the plant was evidently very rare, as enquiries in the most likely sources proved vain and its whereabouts remained a mystery to the writer. More recently further enquiries led to its discovery, and it is pleasant to know that it is now being offered for sale, though not at either an exorbitant or a low price. It is not difficult to picture a good plant of the Spindle Tree bearing numerous fruits shewing the striking contrast between the snowy waxy capsules and the bright scarlet seeds or to picture what its effect would be if judiciously planted against a dark background. Many will welcome this Spindle Tree, which boasts of the name of *Euonymus europæus fructu albo*.—S. A.

thorax is very wonderful and the wings themselves, which may be easily expanded on a freshly killed earwig with a pin or two, are marvellously beautiful. Then also the mother shews a great devotion to her young, brooding, feeding and caring for them for a considerable period. The young ones are active from the first and have a general, though not exact resemblance to their parents. In common with other creatures of the same class, young earwigs increase in size until they become literally too large for their skin. This then ruptures and all limbs and appendages are withdrawn from it so that when the process is complete the old skin appears like the phantom of its late inhabitant. On hatching the larvæ are white, but gradually get darker until they first moult, when they again become almost colourless. This alternation of colouring continues with each change of skin. The larva develops into the pupa, becoming more and more like the adult—wing cases and even rudimentary wings being present in the later stages—until the perfect form is assumed with the last moult.

Although apt to hide in dark corners, the earwig has no special desire to enter the human ear. Such an occurrence would be as unfortunate an accident for the earwig as the person, and for the latter might be quickly remedied by filling the



MALE EARWIG IN FLIGHT.

ear with salad oil until the intruder was floated out, which is the safest method of treating any insect intrusion into that organ.

The presence of so many earwigs in autumn is probably due to the fact that no trouble is usually taken to hunt either the adults or young during spring and summer.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broccoli.—Early Broccoli should be examined twice each week, and those plants approaching maturity may have the curds covered to protect them from frosts. As a rule a few of the outer leaves placed over them will suffice, but if we experience much frost more protective measures should be taken. A good plan is to heel the plants over with the heads pointing to the north, at the same time covering the leafless part of the stem with soil. If necessary, mats or fern bracken may be used, but should be removed when the weather is favourable.

Mustard and Cress.—Make occasional sowings in boxes or pans, and arrange them in a warm greenhouse. This salad is very useful during the winter months.

Celery.—The latest batch of plants has been growing freely during the autumn months and, if not already done, the final earthing up should be taken in hand. Choose dry weather, make the soil fairly fine, and press it firmly between the plants.

Lime.—We are often told to place manure on the garden, but seldom is lime mentioned, yet its value is beyond doubt. It will benefit all soils, and especially those of a heavy retentive nature. The lime should be placed in an open shed and remain there until it is slaked by the action of the air, when it may be run through a sieve. A heavy application is not advocated, and a safe dressing would be from 40z. to 80z. to the square yard. It is best applied in winter when the plot is free, and in the form of a fine powder rather than in coarse lumps. The lime should remain on the surface, there is no necessity to cover it with soil.

Cauliflowers.—Where these are pricked out in frames it will be advisable to admit plenty of air when the weather is fine and mild; in fact, the lights should be removed whenever possible, and the plants kept hard and short jointed. Remove any decaying leaves and weeds, and lightly stir the soil at intervals.

The Flower Garden.

Violets.—If Violets in frames are to go safely through the winter, they will need attention in regard to ventilation. This is very important, because, if a close, moist atmosphere is maintained the foliage is sure to become weak and damp off. Remove dead leaves and lightly stir the soil with a small hand-fork. Traps should be laid for slugs, and the lights may be covered with mats when the nights are frosty. During mild weather air may be admitted both day and night.

Gladioli.—The early-flowering Gladioli are excellent plants for furnishing a supply of cut flower from May till July, and they include Colvillei, The Bride, Ackermanni, Peach Blossom and Crimson Queen. Select a spot sheltered from cold winds and where the soil is not too heavy. Plant the bulbs 4ins. or 5ins. deep, and if we experience much frost, the bulbs should be protected with a layer of leaves or any light material.

Ranunculi.—The double turban Ranunculi may be planted from now till March, but where the soil is of the ordinary garden type the earlier the planting is done the better. The Giant French are planted in February or March. They will make showy clumps in the borders, while on the rock garden they are very effective. They may also be placed in lines 6ins. to 9ins. apart and about 2ins. deep. The tubers should be arranged claws downwards and 4ins. apart.

Fruits Under Glass.

Strawberries.—The bulk of the plants in pots ought now to occupy a cold frame, plunging the receptacles in ashes to the rims. The pots should be set on a hard bottom or a good layer of ashes to prevent worms penetrating the soil. Admit plenty of air; in fact, the lights may be removed except during heavy rains and when the weather is frosty.

Forcing Strawberries.—If ripe fruit is required early and the necessary facilities are at hand, a start may be made during the next few weeks. A low pit, where it is possible to make up a mild hot-bed reasonably near to the roof glass, is the best place. When the temperature of the bed is 50° or slightly below that figure, the pots

may be plunged in the material, for it should be remembered that mild bottom-heat is essential for early forcing. Where fruit houses are started early the plants will succeed tolerably well on shelves if these are not too far from the glass. For the first batch, the plants with the best crowns ought to be selected. Pick off all dead leaves and see that the drainage is in good condition; while, if red spider is present, it will be necessary to cut the foliage in XL. All insecticide. Careful watering is necessary, both extremes being avoided. Gentle forcing is advisable: a high temperature at the beginning is fatal, and 50° would be ample to start with, the temperature being raised a few degrees two or three weeks hence.

The Hardy Fruit Garden.

Apricots do not receive the attention in this country that their merits deserve, although in many gardens will be found a wall with a warm aspect where Apricots could be grown successfully. The variety *Breda* is a very hardy kind and may be grown as a standard. The soil should be well drained and not too heavy, but retentive soils can be made suitable by the addition of sand, old mortar rubble and leaf-mould. Unfortunately, the Apricot loses some of its main branches occasionally, and, so far as I am aware, the cause and remedy have yet to be found. Fan-shaped trees are best for a wall, and for a few years they should be carefully trained until they have filled their allotted space. Established trees should have their growths cut back to three buds to produce fruit-bearing spurs. These will form on all the main branches, and should be about 6 ins. apart. Trees that have become unduly overcrowded with fruit-spurs will need to be thinned but only a few spurs ought to be removed in one season. Vacant spaces on the wall can be filled with some of the young growths, no pruning being needed.

T. W. BRISCOE

(Gardener to W. K. Fyssaght, Esq.),
Castleford, Chapstow, Gloucestershire.

NORTHERN GARDENS.

Vegetables Under Glass.

Rhubarb.—If Rhubarb is required about Christmas-time, a few of the roots which were lifted and exposed should be placed in an intermediate temperature. Some soil should be worked in among the roots under a staging, or other means be taken to obscure the light. The soil should be maintained in a moderately moist condition. Lift and expose more roots.

Seakale.—Keep an eye on the early batch and begin to use as soon as it is fit, as the quality quickly deteriorates. Introduce a fresh batch about every three weeks. Any plants still in the open and intended for forcing should be lifted now, prepared as previously advised, and stored in sand or light soil in a cool frost-proof structure.

Mushrooms.—Keep a sharp look-out on the beds and use the produce as it becomes fit. Prepare materials for future work. See that the stable manure is in a moderately moist condition. Shake it loosely into a conical heap, wait until it begins to ferment and then repeat the operation. It is not fit for forming the beds until it has fermented the second time. When turning the beds—which should be 2 ft. deep—shake the fermenting material into position with the garden fork and beat it firm with the back of the fork as the work proceeds. Finish by placing a 2 in. layer of yellow loam on top of the fermenting material. Thrust a stout pointed stick into the side of the heap, and by pulling it out and feeling it one can judge when the bed is in condition for introducing the spawn. It is safer to have the material on the cool rather than on the hot side.

The Flower Garden.

Seed. Seeds that have been suspended in bunches in some suitable structure should now be separated from the seed-pod, made up in packets, correctly named, with any other necessary details attached, and stored away in the seed cupboard ready for sowing in due course.

Pyrethrums, especially the singles, are among the most useful of our June flowers for filling vases. They should be divided and replanted every three years, otherwise they begin to deteriorate. Although somewhat late in the season, this work may still be proceeded with where necessary, as the plants will do better treated now than they would if the operation were delayed until spring.

Hydrangea hortensis. This showy plant proves all but hardy in the milder districts. When once established it will stand a good few degrees of

frost with impunity, but, if severe frost threatens, the plants should have a mat wrapped round them, and this will generally be found to be sufficient protection.

Sweet Violets will now demand close attention should the weather prove changeable. The frames should be freely ventilated on all favourable occasions, but, on the other hand, protection should be given whenever severe weather sets in.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Salvia rubescens is now in flower, and is deserving of more general cultivation for the cool greenhouse or conservatory. Well grown plants attain a height of 5 ft. or 6 ft., and produce their long, graceful sprays of bright red flowers in great profusion. Even when the flowers have fallen, the dark red calyx lobes are very attractive. A large group in flower at the beginning of the month has been in flower for some weeks, and was raised from seed sown during September of last year. They were sown at this time with the idea of getting the plants in flower before the winter fogs came on. In the ordinary way seed may be sown early in the New Year, or this plant may be propagated by means of cuttings. As it is a strong-growing plant generous treatment is necessary, and 10 in. pots should be employed for good large specimens. During the summer months the plants should be grown in a cool house, or they may be stood outdoors. If placed outdoors they should be kept well staked and tied to prevent damage from high winds.

Salvia leucantha is also now flowering. It is very distinct, and should be more generally grown for winter flowering. This species is easily propagated by means of cuttings during the spring.

Ardisia crenata.—This neat evergreen plant with its wealth of scarlet fruit is very useful for conservatory decoration. The fruit lasts in good condition for well over six months. A batch of plants should be raised from seed each year, as this plant takes three years before it first flowers and produces fruit. It grows quite well in any good potting compost, and is best grown in a temperature of about 55°, although, when in fruit, the plants stand quite well in an ordinary cool greenhouse.

Succulent Plants. This term in a broad sense embraces a wide range of plants, such as *Mesembryanthemums*, *Agaves*, *Aloes*, *Cotyledons*, etc. Many of the smaller plants are very useful for the small greenhouse, as, on the whole, they are not exacting in their requirements. During the dull days of winter most of them require very little water, although that section of *Mesembryanthemums* which includes *MM. Bolusii* and *Lesliei* require more water during autumn and winter, as that is their growing season. During the winter months dry atmospheric conditions should be maintained.

Viburnum Tinus.—Although hardy in the South, this plant is very useful for furnishing the cool conservatory during the winter months. Small plants placed in pots are best for this purpose. During the summer they should be grown in the reserve garden, from which they may be lifted at this time and placed in suitable-sized pots.

Viburnum Carlesii, with its deliciously scented *bonvardia*-like flowers, is very useful for conservatory decoration during the spring months. This plant will stand gentle forcing, but this should not be overdone or it may cause the flower-buds to drop. This fine *Viburnum* is usually grafted on stocks of *V. Lantana*, and a sharp look-out should be kept for shoots springing from the stock. This plant may be grown from cuttings, young half-ripened shoots rooting readily in a cool case during the spring months. Although they root readily, they require rather careful handling to get them established when they are first potted off. *V. Carlesii*, of course, is hardy, but as it flowers early the flowers too often get damaged by late spring frosts.

Manettia inflata (syn. *M. bicolor*). This slender climbing plant is very useful for the cool greenhouse, as it flowers more or less all the year round. Small plants are very useful for the stages, while quite large specimens can be grown if the plants are potted on into 10 in. pots. The shoots should be kept neatly tied to suitable supports, or they may be trained up wires under the roof glass. This plant is easily propagated by means of cuttings at any time, the cuttings rooting quite

readily in a case with slight bottom-heat at command.

Passifloras are very useful for draping rafters in the conservatory. They are somewhat rampant growers and require frequent thinning out. As most of them will now have finished flowering, the growth may now be partially shortened back to allow plenty of light to reach the plants standing underneath. *Eynford Gem* is one of the best tree-flowering varieties. It has been in flower all summer and is still producing quantities of its reddish wine-coloured blooms. Many of the greenhouse *Passifloras* are either varieties or hybrids of *P. corulea*, which is sweetly scented. The fine white-flowered seedling variety *Constance Elliott* is a general favourite, and in the South and West is quite hardy outdoors on warm walls. *P. racemosa* with its beautiful scarlet flowers is generally regarded as requiring stove treatment, but really succeeds quite well when planted out in an ordinary heated greenhouse. *P. Hahnii*, although its flowers are by no means showy, is worth growing for its attractive foliage. *P. Imperatrice Eugenie*, a hybrid between *P. corulea* and *P. quadrangularis* or *P. alata*, is a strong-growing variety which has long been grown in gardens, but it requires a rather large house to see it at its best.

Royal Botanic Gardens, Kew.

J. COUTTS.

BOOKS

The French Iris Conference.—There has just been published the Transactions* of the Commission delegated last year by the Société Nationale d'Horticulture de France to hold an International Conference on the genus *Iris*. The Conference was, it is pointed out, originally intended for 1915, the idea having first been brought forward by the late M. Philippe L. de Vilmorin. The postponement was, it is scarcely necessary to point out, brought about by the war. The year 1922 was, however, in some ways an appropriate one, inasmuch as it represented the centenary of the raising of the first varieties of garden Irises by M. de Bure.

This book, of upwards of 200 pages, divides itself naturally into two parts—the Transactions proper, including plants exhibited, excursions to nurseries, a selection of the twenty-five best varieties and similar selections of fifty and 100 sorts, a list of new and little known varieties and another of those most appreciated in the United States of America, and a calendar showing the season of flowering of the various classes in the neighbourhood of Paris. A large and valuable collection of water-colour drawings of Irises was submitted to the Conference by Mme. Philippe de Vilmorin.

Papers read at the Conference and here reproduced include "Some Results in Hybridisation of Bearded Iris," by Mr. A. J. Bliss; "Hybridisation among Irises," by Mr. W. R. Dykes; "The Range and Distribution of Colour in *Pogoniris*," by Mr. R. S. Sturtevant; "How I Obtained Vigour and Branching Habit in Iris Raising," by Mr. George Yeld; "Species, Varieties and Hybrids of Irises of the Groups *Oncocyclus*, *Regelia* and *Regehocyclis*, *Niphium* and *Juno*," by Mjnhr. C. G. van Tubergen; "Garden Strains of the Bulbous Irises: Sections *Niphium* and *Juno*," by Mjnhr. Ernst Krelage; and "The Use of Iris in Medicine and Perfumery," by Miss Helen E. Ricketts. All these, except the contributions by Mjnhr. van Tubergen and Krelage and Mr. Dykes are in English. There are a great number of equally valuable papers included in the book by such French authorities as MM. Mottet, Laplace, Guillaumin and Gerôme. Soresly as one is tempted, it is not feasible to make quotations in the course of a brief review. Suffice it then to say that no one really interested in the genus *Iris* should fail to procure a copy of this Report.

* "Société Nationale d'Horticulture de France—Commission des Irises: Les Irises Cultivées (Actes et Comptes Rendus de la Première Conférence Internationale des Irises tenue à Paris en 1922)." Published by the Society at 84, Rue de Grenelle, Paris. Price 12frs.

MORE ABOUT FERTILISERS

Guanos, Bone Meals, Dried Blood, Fish Manures, etc.

MANY gardeners, who dislike "chemicals," feel themselves more at home with so-called artificials of an organic nature, and for various purposes these are certainly as serviceable and are perhaps sater than chemicals of uncertain strength. Guano is a term that every youngster who takes up gardening learns, and loves to use as a sign of acquired knowledge, and it is amusing to hear the enthusiastic youthful horticulturist advising his friends who are not of the profession to give their plants a dose of guano, or perhaps relating the remarkable results that have followed the "Head's" dressing of guano on the Chrysanthemums or the Onions. It is about eighty years ago since guano was first brought to Britain and for a good many years its name took such a hold on the fancy of gardeners that any sort of concentrated manure in meal or powder form was called guano, and very hazy notions prevailed as to what the nature of guano really was.

The original guano was simply the accumulated filth of the haunts of countless sea birds that congregated among the rocks of the coast of Peru and other distant shores, and consisted of a conglomeration of the bird's excrement, moulted feathers, dead birds (old and young) egg shells and broken eggs, and grit from the feet of a myriad birds. Hardened by time and the constant patter of webbed feet the manure was found in layers of apparently inexhaustible extent, and being rich in all the principal elements of plant food it rapidly became tremendously popular, and it is on record that in one year almost a quarter of a million tons were imported. Partly through the rapid consumption of the apparently inexhaustible supplies, and partly, it is to be feared, through the avarice of unscrupulous merchants, a good deal of faked and adulterated guano was distributed; to such an extent, in fact, that guano lost much of its prestige and gardeners sought something new.

This gave our chemical manufacturers their chance and brought about the introduction of various excellent compound manures in concentrated form. Many of these have long maintained well deserved popularity under such names as Native Guano, Isthemic Guano, etc. We have also, for some years past, received from reputable importers the real Peruvian guano and other natural guanos in an unadulterated form, their variation in analysis being due to age and situation of the deposits rather than to treatment.

It may unhesitatingly be stated that a good sample of guano is about as good as any fertiliser, the range as well as the quality of the plant food contained being such as to make it suitable for most crops and plants. There are two classes of guano, one of which contains a comparatively large percentage of phosphates and a low percentage of nitrogen, and the other a high percentage of nitrogen and less of phosphates. Phosphatic guano is particularly serviceable for such crops as Tomatoes, Potatoes, Onions, also for Strawberries and bush fruits and for Dahlias, Chrysanthemums and other plants that produce numerous and substantial blooms. Nitrogenous guano is more suitable for Ferns, Palms, green vegetable crops, Celery, and anything that is required to support an ample display of foliage.

BONE MANURES.

The term "bone meal" is another that is commonly used, but is sometimes a misnomer, for there is a wide distinction between the various forms of bone manure. Bone meal proper is made by grinding

bones to a particular state of fineness, which may vary from coarse $\frac{1}{2}$ in. cubes, $\frac{1}{4}$ in. or fine meal, and so to the so-called bone flour, which is bone reduced to a fine powder, free from any sizeable pieces. Raw bones thus ground are most suitable for light soils, but not such as are heavily impregnated with chalk or lime, for the lime will hamper the decomposition of the bone and therefore will delay the solution of plant food.

For limestone or chalk soils it is, consequently, preferable to use dissolved bones. These are obtained by spraying a heap of bones with sulphuric acid. The acid attacks the gelatinous matter in the bones, causing them to crumble into small particles, at the same time it brings the phosphates into a readily soluble form, and thus forestalls the adverse effect of contact with lime.

Bone manure forms an admirable dressing for young fruit trees just attaining bearing size, and is equally valuable for older trees that require nourishment on account of the soil under them being cropped. November and December are excellent for dressing fruit plantations because the bone meal or dissolved bones will have time to liberate their nourishing elements by the re-awakening of the trees. The value of bones to Grape Vines is, perhaps, too well known to require emphasis, but for vine borders it is well to use not smaller than $\frac{1}{2}$ in. bones. Five or even six pounds of $\frac{1}{2}$ in. bones may be used per cubic yard. This quantity will release about as much plant food the first year as three pounds of fine meal, but the residue of nourishment will be slowly liberated during the second and third years—a decided advantage in the case of so permanent a feature as a vine border. Roses derive much benefit from bone manure, as also do herbaceous plants, vegetables and Grass. It is always worth while when laying a lawn on rather poor soil to rake in four to six pounds of bone meal per square rod when finally levelling for turf laying.

FISH MANURES.

There is a great deal of nourishment for plants in decayed fish or fish offal, but, unfortunately, it is so malodorous that it cannot be recommended for use in gardens near habitations. On isolated kitchen gardens or allotments fish offal will give a wonderful return for outlay, but it should be dug in now where the ground will be fallow through winter and be planted with Potatoes or green crops in spring.

There are manufactured fish meals on the market that are both more agreeable to use and quicker in action than crude fish offal, and these also constitute excellent fertilisers for vine borders, fruit plantations and the general vegetable quarters.

DRIED BLOOD MANURE.

It must be admitted that dried blood is rather unpleasant to use, but apart from that one blemish on its character it is a most economical and thrifty fertiliser, gentle but lasting in its effects and suitable for practically any class of plants. One has the satisfaction of knowing that practically the whole bulk of a dressing of dried blood will eventually become soluble, and available to the plants. Some considerable time elapses before results are noticeable, and on that account late autumn and winter are good times to apply it where plants will be making early spring growth. Four pounds per square rod makes a good dressing and where only surface feeding is possible 2oz. per square yard evenly distributed and hoed in will shew good results. Dried blood has a marked effect upon bright, rich colours and may be used to good

purpose on red or crimson Roses, Dahlias, Antirrhinums and many other flowers.

HOOF AND HORN SHAVINGS.

Whoever owns a garden near the village blacksmith should make an effort to obtain a supply of the parings of horses' hoofs and dig them in as soon as convenient. The parings are serviceable on any soil and continue their benefits for three years or more. They are particularly valuable on hungry sandy soil and encourage stiff sturdy growth in all classes of plants. The sawdust from factories where horn and bone buttons, knife handles, etc., are made is also a useful fertiliser; especially for mixing with the potting soil for Chrysanthemums, Hydrangeas, Fuchsias and Pelargoniums.

ONE OR TWO OTHER FERTILISERS.

There are still other fertilisers of distinctive character which have claims to attention. Wellson's Plant Food is a manure that we have used for many years with abundant satisfaction. It is giving no secret away to state that its basis is sheep dung combined with the combings of fleeces. It is carefully treated to evaporate all useless moisture and then pulverised so that the excrement and the wool are reduced to a powder and thoroughly intermingled. The wool is still there, however, and in addition to its own rich elements it possesses, as is well known, great absorptive capacity. Therefore, when the beneficent salts in the excrement are dissolved, the particles of wool become saturated and serve as a sponge to hold them available for the roots of the plants.

Wakeley's Hop Manure has advantages to owners of gardens where the soil is of a stiff, stubborn clay, such as that which extends over a large portion of the London area, or again where loose sand or stony gravel has to be dealt with. In either case the absence of humus is even more serious than the paucity of chemical salts, and the hop manure is ideal for adding humus to the soil, while useful chemicals are added to enhance its nutrient value. It is quite unnecessary to deal at length with the various standard fertilisers which have for years been tested and tried and trusted friends of the gardener. Clay's Fertiliser, Bull's Plant Food With's Manure, Carmona, Abunda and quite a number of other compound fertilisers of well known firms are easy and convenient, quick to shew results, and so long as used according to instructions they are perfectly safe. The greatest benefit of the majority of these, however, is derivable from spring and summer use rather than at the present season.

It is customary to speak and think of chemical and other concentrated manures as substitutes for stable and farmyard manure, and so far as the majority of town and suburban gardens are concerned it is almost obligatory to consider them as entirely such. There can, however, be no question that it is immensely beneficial when possible to supplement the applications of these highly concentrated forms of plant food with just a light dressing of stable manure. We must exempt cases where, owing to soil sickness or acidity, lime is used as a corrective and may also dispense with the stable manure when simply top-dressing cropped ground with such things as guano, dried blood or superphosphates. The benefits of stable manure which cannot be adequately supplied by chemicals are the additional humus provided, the warming of the soil and the assistance in the important function of aeration, without which the benefits of any measures of nourishing the soil are to a great extent nullified. Where stable manuring is impossible the use of Wakeley's Hop Manure is indicated, and an effort should be made to bury leaves, weeds and other wholesome but quickly decomposing vegetable matter, sprinkling any chemicals employed along the trenches as the vegetable matter is being buried. A. J. MACSELF.

National Sweet Pea Society.—The annual general meeting of the National Sweet Pea Society at the Royal Horticultural Hall, Vincent Square, on October 30 was well attended. The Committee's report recorded good work done by the Society during the past year. The statement of accounts shewed a loss on the year's working, but as only nine months' income is included against twelve months' expenditure, this deficit is more apparent than real. All accounts are paid and there are a number of outstanding subscriptions, so that the Committee feel confident that at the end of the year the financial condition will be greatly improved. The Henry Eckford Memorial Medal for the year was awarded to Mr. Charles H. Curtis. The annual show for 1924 is to be held in the Royal Horticultural Hall on July 10 and 11. The trials of novelty Sweet Peas have for the past three years been grown by Mr. A. J. Cobb at the University College Grounds, Reading. Next year's trials are to be grown at Syon House Gardens, Brentford, by Mr. F. England. Mr. J. S. Brunton was elected president for the year, to succeed Mr. Edward Sherwood, who has retired after many years. Mr. J. M. Bridgeford was elected hon. treasurer. The secretary, Mr. A. C. Bartlett, 318, Kew Road, Kew, was re-elected; as also were the hon. auditors, Messrs. George Copley, Kay and Co., chartered accountants, 27, Southampton Street, London. All the eligible members of the General Committee, together with Messrs. R. Ascroft, R. Bolton, Dixon, Coates, Wheler and Charles Unwin were elected. The Floral Committee are Messrs. D. Allan, R. Bolton, C. H. Curtis, A. Ireland, Thomas Stevenson, J. Stevenson, H. D. Tigwell and Charles Unwin.

Dwarf Tropæolums at Wisley.—The following awards have been made by the Council of the

Royal Horticultural Society to dwarf Tropæolums after trial at Wisley: Award of merit.—Fireball, sent by Messrs. Nutting, London. Highly commended.—Empress of India, sent by Messrs. J. Carter, Raynes Park.

Hardy Plant Society's Journal.—The second issue (new series) of the National Hardy Plant Society's Journal* (dated November) concludes the first volume. Henceforward the Journal is to be issued as a quarterly. The articles in this number include a very valuable one on Bearded Irises by that well known raiser, Mr. A. J. Bliss, and the first of a series of papers on "Methods of Propagation," the present one treating of seed-raising and giving a very useful table indicating the best times to sow and suitable composts for numerous kinds of hardy plants; this is by Mr. Giffard Woolley. The President of the Society, Mr. Frank Bouskell, contributes an article on "British Plants in the Rock Garden," and other useful features are notes on the new plants of 1921 and 1922 and a short article on staking hardy perennials, while Book Reviews and Correspondence are also included. In a foreword, the Editor appeals for further support for the National Hardy Plant Society, insisting on the immense amount of work which lies to the Society's hand to do, if and when the necessary funds are available. Membership grows steadily, it is true, and many of the members are enthusiastic, and a very considerable influx of members is confidently expected in the near future, also additions to the list of affiliated societies. As, however, these last represent a certain drain upon the Society's resources, there is the more need for a considerable addition to the roll of members.

*"Journal of the National Hardy Plant Society." Published by the Society at 20, Tavistock Street, Covent Garden, W.C.2. Price to non-members 2s. 6d. net.

Osmanthus fragrans (syn. *Olea fragrans*).—Although hardy in the West, this plant, in the colder parts of the country, should be given the shelter of a cool house. It forms a handsome evergreen shrub either in a large pot or planted out in a bed or border in a cool house. The small white flowers are deliciously fragrant, and for this alone it is worth a place in the cool greenhouse. This plant is propagated by means of cuttings of half-ripened shoots dibbled into pots containing sandy soil and stood under a bell-glass in a cool house.

FORTHCOMING EVENTS.

November 20.—Sevenoaks Gardeners' Chrysanthemum Society's Meeting.

November 22.—Royal Botanic Society's Meeting.
—Wargrave and District Gardeners' Society's Meeting.

Answers to Correspondents

FRUIT GARDEN.

APPLE TREE ATTACKED (C. J. L.).—The caterpillar of the wood leopard moth has bored into the stem of your Apple tree. The best method of dealing with this pest (it is still in the larval stage) is to thrust a sharp-pointed wire into the hole so as to pierce the grub.

NAMES OF PLANTS.—C. R. C. Lancing.—1, Chrysanthemum Crimson Pride; 2, C. Crimson King.

CATALOGUES RECEIVED

Messrs. Thorne and Son, 8 and 10, Union Street, Dundee.
—Herbaceous and Alpine Plants, Roses, Fruit Trees and General List.
Messrs. Kelway and Son, Langport, Somerset.—Delphiniums, Gaillardias, Pæonies, Pyrethrums and General Catalogue. Beautifully illustrated in colour.
Messrs. Winder and Thomson, Lingwood Lodge, Lingwood, Norfolk.—Roses, Herbaceous Plants, Fruit Trees and General Catalogue.
Messrs. Chapman and Co., Royal Nurseries, Scraptoft, near Leicester.—Roses.
Mr. E. Harris, Cyprus Road Nursery, Leicester.—Roses.
The Barnham Nurseries, Limited, Barnham Junction, Sussex.—Roses and Fruit Trees; Alpines, Rock Plants, Herbaceous Plants and Dwarf Shrubs, etc.; Ornamental Shrubs, Climbers and General Nursery Stock.

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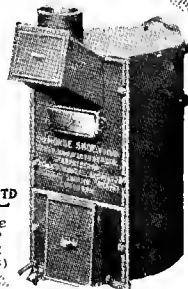
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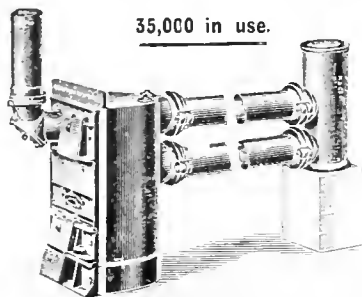
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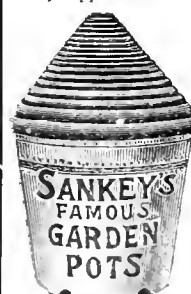
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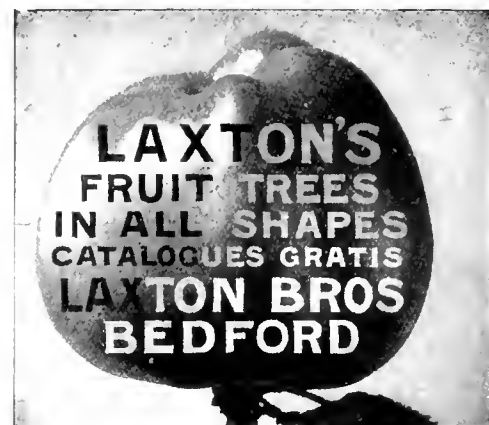
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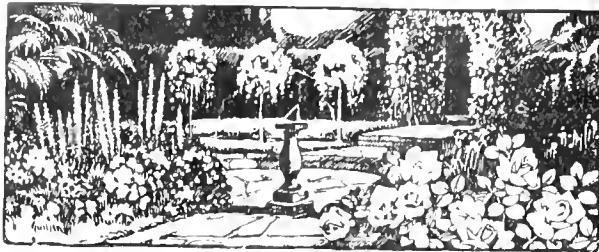
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No. 2715.—VOL. LXXXVII.]

[DECEMBER 1, 1923.]

SOME IDEAS FOR WOODLAND PLANTING

THE possession of a piece of woodland, or of even a small spinney, which can be included in the garden lay-out should be an immense advantage; unfortunately, however, it does not always seem to pan out so. There are numbers of ways in which such woodland can be treated, and perhaps the greatest mistake—and the one most commonly made—is to attempt too much. Well kept woodland has its own natural beauty, but, even here, Nature is not always kind; the tangle of sterile Brambles which one often sees could by no stretch of imagination be called beautiful. Very different is the woodland aisle practically devoid of vegetation in winter but in late spring sheeted with myriads of Bluebells. There is great value in this form of "planting," inasmuch as it detracts in no way from the beauty of the boles of the trees.

„Were we, then, to consider how to get the maximum of quiet beauty from our woodland we should probably leave it very much alone, merely introducing here and there colonies of woodland plants, either native elsewhere in Britain or frankly exotic. Perhaps, however, we have designs upon this stretch of timber to try out some of the many wonderful Asiatic Rhododendrons, in which case judicious thinning may probably be desirable and also the provision of additional shelter from certain points of the compass. The power to visualise a scene when certain particular and bulky features are removed is not given to everyone, and where some trees certainly need removing and there is a doubt as to which should be sacrificed, it is far better to call in expert advice than to run the risk of spoiling the general effect. Many of the Asiatic species of Rhododendrons will ultimately occupy a great deal of space, and they should be planted far enough apart to allow their full development, but there is no possible reason why temporary plantings of other shrubs should not be made to occupy the ground for the lengthy period during which the permanent kinds are growing. Rhododendron ponticum is a beautiful and hardy species for woodland planting,

and forms a splendid screen for more tender sorts, but care should be taken to select a form of pleasing colouring. It is easy (and cheap) to procure plants "for covert planting"—seedlings with no particular colour qualifications—but when they flower a particularly virulent magenta, the purchaser, not the nurseryman, should take the blame. They have now a very pleasing white ponticum at Kew which, so far as the writer knows, represents a new break.

Leaving aside for the moment this question of Rhododendron planting, let us for a while consider

woodland planting in some perhaps more natural aspects. Without in the least destroying the character of our wood or copse we may plant such things as the coloured forms of the Wood Anemone, the hardy Cyclamens, the Dog's Tooth Violets (American and European), Anemone apennina, Scilla campanulata and, in fairly damp spots, the Dodecatheons. The shade-loving Narcissus pallidus præcox should be sure of a place on the woodland fringe where shade is not too dense. Then, while leaving aisles to shew the natural grandeur of the trees, we can introduce

plantings of undergrowth in irregular groupings between them, which, consisting largely of Dogwood, Honey-suckle Azalea, Cornelian and Holly, should add beauty directly by their form and colouring, and at the same time serve to emphasise the height of the trees and, by restricting lateral vision a little, strengthen the cathedral effect we all notice in fine woodland. In addition to all these advantages, and to the plant lover more important, it may be, than all of them, it will form the nucleus of plant groupings which would either be not feasible or else quite ineffective dumped down, as it were, on the open floor of the woodland. Such a grouping, evidently in a rather damp, but by no means boggy, corner is depicted at the foot of page 618. Here Azaleas are used not ineffectively as dot plants.

The Wayfaring Tree, Viburnum Lantana, beautifies many a copse in Southern England, and might usefully be introduced into the margins of woodland elsewhere. Nor is this the only native species which is attractive for the purpose in mind. The Lily of the Valley (*Convallaria majalis*), will have occurred to most people for the purpose, so will the Solomon's Seal (*Polygonatum multiflorum*) and the Foxglove. Other native plants which may not so readily spring to mind are the Martagon Lily (*Lilium Martagon*) the Drooping Star of Bethlehem (*Ornithogalum nutans*), Herb Paris (*Paris quadrifolia*) and the Spring Snowflake (*Leucojum vernum*). The Primrose in its typical form will in some localities be too common to make it worthy of encouragement beautiful though it admittedly is



AZALEA DAVIESII IN WOODLAND.

Many of the hardy terrestrial Orchids are woodlanders, and one of the most beautiful of them all, *Cypripedium calceolus*, was until comparatively recently not too rare in the limestone woodland of the Craven Highlands of Yorkshire. It is almost extinct there now, yet if a healthy plant could be found in the first place, it should not be difficult to cultivate in our cold-wooded woodland where it once grew. In such conditions suit most of the following species, including *C. calceolus*, *areolaris*, *puberulum*, *fasciculatum*, *ovoides*, *virginicum*, *puberulum*, *parviflorum*, *pinnatifidum*, *pubescens*, *puberulum*, but not the North American *C. speciosum*. Such likes were grown at Kew and several other



THOUGHTS ON MICHAELMAS DAISIES

I VISITED a sick man on the eve of St. Martin. The night before, there had been some seven or eight degrees of frost, and what Dahlias there were were a mass of slimy, sad-looking brown, the rows of yellow and other hued Chrysanthemums were lying flat on the ground; their bedraggled blooms had obviously shot their bolt, but a little off on the left of the door there was a bright row of rose looking as unconcerned as you please, as if there had been no soaking week of wind and rain and no nights of trying frost. Of course, I knew at once it was a row of Michaelmas Daisies, and I have since learnt that almost to a certainty the name of the variety was Marne. This, then, is my text—the beauty and utility of the Michaelmas Daisy as an autumn flower. The three “big” children of Flora that come to us modern gardeners in the third season of the year are named Michaelmas Daisy, Chrysanthemum and Dahlia. Each has done his bringing up vast credit. Each has taken kindly to his adopted country and taken out papers of naturalisation. We know them all. We know their good points and their bad points; each of them. Mrs. Malaprop was often muddled and sometimes wise. Never perhaps more so than when she uttered her famous dictum, which, by the way, was not really her own, “Comparisons are odorous.” I leave it at that, lest perchance in the near future issues of THE GARDEN should smell of the sulphur of a wordy war. Michaelmas Daisies have proved their utility this year up to the hilt. It is true that we have had (here at all events) a frostless September and October, but, all the same, the garden has not been an

“island-valley of Avilion,
Where falls not hail or rain or any snow,
Nor ever wind blows loudly.”

—(“The Passing of Arthur.”)

Very, very much the reverse, and yet when I went out this same St. Martin's eve to gather a bunch for a kind lady who had brought us some Flanders Poppies to aid the British Legion I was able to gather quite a nice bunch of Belgian Queen, Brightest and Best, Marne, Ribston, Gladys Donellan, Maidenhood, Blue Star, Bianca, Hilda Mona, even a bit of Edwin Beckett and Climax, to which I might have added others, but the bunch was already large for a lady's hand.

What a season we have had to be sure! What a happy idea it was to fill all the long scar-like beds on the lawn with Michaelmas Daisies! The whole became at a little distance a sea of foam on which Messrs. Sun and Shade continuously played their ever-changing jazz limelight of white and all shades of rose and pink, and all shades of lavender, mauve and heliotrope, now and again almost a blue when it lighted up the Rev. C. Nunn, Blue Gem and Little Boy Blue.

Personally, I do not in the least mind bare beds when I know that it is only a question of time when a transformation will take place and the dingy chrysalis will become a Red Admiral or a Tortoiseshell, or, it might be, a still rarer butterfly of more subdued but just as beautiful colour—a Camberwell Beauty. This is not the way of the world. “Colour all the time; give us colour,” is the cry of the majority. I know how it is, and so, on one scar, I made an experiment. All along the bed in the centre of the double row of Daisies I put rose-coloured Antirrhinums. They looked very well, especially as one stood at one end of the avenue when the Michaelmas Daisies (all *Novi-Belgii*) were starting to flower. I see no reason why the idea should not be extended and enough interplanting done to give three

displays. There might be an early one of something bulbous; then might come the Antirrhinum show, which would last until the Michaelmas Daisies began, and if the seed-pods were cut off from time to time it would not be half bad for a longer period still. I left here yesterday morning. Now, when I resume, I have to chronicle a curious coincidence. My next sentence would have been to suggest Michaelmas Daisies as being one of the flowers that are indispensable if a bright garden is wanted, or if something is wanted to cut for autumn shooting parties. In the afternoon I met a friend. We got on gardening. I said I had had a fine show of Michaelmas Daisies. “I wish,” he said, “you could tell me a few good ones to add to our collection, *we find them so useful for our week-end shooting parties.*” My friend's wife joined in with some such remark as this: “Yes, we find them better than anything for cutting.” They might have been thought-readers. Partridge parties presuppose such varieties as the Rev. C. Nunn (a very blue mauve), Wonder of Colwall (medium mauve), Lavender (large lavender mauve), Lady Lloyd (rosy pink), Jupiter (pale mauve), Pioneer (pink), Feltham Blue (rich blue mauve with an orange centre), Pink Perfection (rosy), King of the Belgians (tall helio), Bees Blush (a fine-petalled deep blush), Perry's White (in my opinion the best white, all things considered, although Maid of Colwall is also good, and Albacross useful because it is so early), Edith Goodwin (a marvel for lasting, blue-mauve), Dainty (a bushy rose), Grey Lady (large, grey coloured, spidery petal) and Ribston No. 10 (small daisy-like pure white, a first cousin to Tennyson's Brook). Good pheasant party varieties are Edwin Beckett (lavender, absolutely “top hole”), Louvain (pink), Climax (pale blue mauve), Sunset (an *A 1* rose), Blue Gem (soft blue-mauve), Connelness and Little Bo Peep (two splendid cordifolius varieties), Bianca (small white, grows like a Cedar of Lebanon with an abundance of horizontal branches), Mons (rose), Maidenhood (a very beautiful pure white *ericoides*), and Esther (dwarf narrow-petalled pink). I might go on and on, but in a more prosaic article I hope, with the Editor's permission, to try to reduce my favourites to reasonable proportions. Few who have never made the attempt know how hard it is to make a selection out of a catalogue. It is not many removes from making a silk purse out of a sow's ear. Hence, when my lists are produced, I hope critics will take this into consideration.

I have another suggestion to pass on to readers. A lady who I know has never been to Japan,

but who evidently has been carried away by the descriptions she has read of the cherry blossom-time there, said, “What a sight it would be to have nothing but masses of pinks and roses! The sight would equal the wonderful Cherry blossom-time in Japan.” I, too, think it would be a fine sight, and if only one could always have the Michaelmas Daisies between the declining sun and ourselves, I doubt if any sight in Japan could surpass it. There are few who would give up the whole of their gardens to carry out the idea, but there may be some part, some isolated bit or odd corner, where the experiment might be made. It will not lack varieties to make the season long, for there is a big space between the flowering of Pioneer and Ribston or Marne. Nor will there be a lack of divers shades from a pale blush like Bees' Blush to the deep rose Brightest and Best. Nor, yet again, will there be any difficulty as to heights. On the low-growing side



THE WELL NAMED ASTER PIONEER.

there are the pink Esther and the pale blush The Pearl—possibly the new Bijou, a pink-mauve, might be judged of sufficient pinkness—while on the tall side we have Louvain. Between these extremes we might make a long list. If neither a garden, nor a part of a garden, nor an enclosure be practical politics, how about a good big bed, something like what we know as a herbaceous border, from 8 ft. to 10 ft. wide and of any length? A round bed of sufficient size would make a fine feature on more or less dressed grass. Naturally, what my friend suggests as a sort of English copy in Michaelmas Daisies of the Cherry blossom in Japan might be changed somewhat, and blue-mauves, mauves, lavenders and heliotropes might take the places of the pinks, roses and blush. They would have a quiet but real beauty.

JOSEPH JACOB.

THE GENISTAS

In garden the popular name of Brooms is used for both Cytisus and Genista. A frequent question asked is, "How can they be distinguished?"

AS a few plants in growth and culture, with their lilac and drab-hues, there is no difference between Cytisus and Genista. The botanists' first point of difference is in the seed. Near the hilum there is a wart-like excrescence in the Cytisus, which is absent in the Genista, or at least not so strongly marked.

The main details in the culture of the Genistas are sunny positions and very well drained soils. It is not advisable to plant Brooms in rich, deeply dug and well manured ground. This produces an abundance of sappy growths, whereas to get well flowered Broom, hard, well ripened branchlets are required. For poor soils and sunny banks the Genistas have few rivals when planted in

large masses. Seeds provide a ready means of rapidly increasing most Genistas. When these are not available, cuttings may be inserted in August. These root under cloches or handlights in very sandy soil. The best wood for cuttings consists of growths 1½ ins. to about 3 ins. long taken off with a thin beel of old wood.

Genistas, because of their long, wiry roots, are not easy to transplant. It is, therefore, desirable to grow the young plants in pots until large enough to place permanently in the flowering positions. There is no need to protect the plants in a frame; in fact, they will do better and are less troubled with the pests plunged in the nursery beds.

The Genistas do not require much, if any, pruning. In the first few years of their growth the tall species—*G. cinerea*, *tinctoria* and *virgata*—benefit by a little shortening of the branches to induce bushy growth.

G. TENENSIS is one of the largest-growing of the genus, varying from 10 ft. to 20 ft. in height. It has very few leaves, and these are quite small, but the bright green branchlets of healthy young bushes are a good substitute for an evergreen shrub. Old specimens become somewhat gaunt, and often they are not upright, but when in flower during July and August some lovers of hardy shrubs would acclaim this characteristic a good feature rather than otherwise. Thinly planted along a wide and open shrubby border, the Mount Etna Broom with its graceful habit is very attractive when laden with its clear yellow blossoms. It is a native of Sardinia and Sicily. A flowering spray is well shown in a coloured plate which appeared in *THE GARDEN*, March 18, 1893.

G. ANGLICA, the Petty Whin or Needle Furze, is a spreading shrub growing up to about 2 ft. high. The yellow flowers are freely produced from May to July. It is a not uncommon plant of our heaths and moors, and is a widely distributed plant over Western Europe. For sunny banks the Petty Whin is valuable and attractive when gay with bright yellow blossoms borne in leafy clusters on the upper branches.

G. CINEREA.—This species is the most attractive of the taller Genistas, flowering freely in June and July, when the majority of flowering shrubs are past. The average height is from 9 ft. to 12 ft. The bright yellow flowers are freely produced in small lateral clusters on the slender branchlets. This Broom is a native of Spain and other parts of the Western Mediterranean region. Though it grows and flowers very freely at Kew in lawn beds, shrubberies and open woodland, I have seen no seeds matured, but cuttings provide a ready means of increase.

G. GERMANICA is a useful June-flowering shrub from 1½ ft. to 2½ ft. high. Widely distributed as a wild plant over Central and Western Europe, this species is distinguished from *G. anglica* by its hairy leaves and branchlets, while isolated plants are more sturdy in habit.

G. HISPANICA. For massing on dry banks and sunny slopes the Spanish Gorse is the most showy and useful plant of the genus to plant in quantity for effect. During the closing days of May and until well beyond the middle of June the rich golden yellow blossoms supply valuable colour. The average height is about 1½ ft. The Spanish Gorse makes an excellent permanent edging for a wide shrubby border in a sunny position, bordering a carriage drive, for instance, and when in flower the plants are frequently covered with blooms. It is a native of South-Western Europe. The variety *pumila* is a valuable dwarf shrub, forming needle-like cushions of greenery for sunny positions in the rock garden.

G. MONOSPERMA being a native of Southern Europe and North Africa, is on the borderline of hardiness, but it is a really elegant shrub for a



GENISTA HORRIDA, ONE OF TWO SPECIES WITH OPPOSITE BRANCHES AND LEAVES.



ONE OF THE MOST USEFUL FOR THE ROCK GARDEN, GENISTA DALMATICA.



GENISTA HISPANICA AT HALLINGBURY PLACE.

low sunny wall or fence. Here, in a warm and sheltered position with light soil, the slender pendent growths are dotted with milky white fragrant blossoms.

G. RADIALA.—Though perhaps not one of the most attractive Genistas in flower, this species is very distinct in habit. It forms a rounded bush of thin, wiry branchlets up to about 2 ft. to 3 ft. high. I always associate this species with *G. horrida* because they are pointed out to the student of botany as the only two hardy Genistas with opposite branches and leaves. The rich yellow flowers attract attention in June. It is a wild plant of Central and Southern Europe.

G. TINCTORIA.—In addition to the dwarf-growing species and the double variety so valuable

in the rock garden, there are several distinct forms of taller habit. The two usually listed in the nursery catalogue are var. *elatio*, a tall, erect growing shrub 4 ft. or 5 ft. high with large panicles of yellow blossoms, and var. *mantica*, earlier in flowering and not so tall in growth, with more or less down on the branchlets and leaves. To keep these true they must be propagated from cuttings. In the garden, seedlings are equally valuable, or more so, because one gets a very variable batch of shrubs flowering most of the summer. As an indication of how this plant varies, the Kew Handlist of Trees and Shrubs gives fourteen synonyms.

G. SAGITTALIS, so named because of its flattened stems, is a very distinct and interesting plant. It is a dwarf species some 6 ins. to 1 ft. high. The

plant is a native of Central and South-East Europe. At Kew it is effectively planted along a gravel walk as an edging to a border, the well drained condition of the position being evidently favourable, judging by its free growth. The yellow flowers commence to open in May and extend through June.

G. VIRGATA is a native of Madeira, and particularly interesting as being one of a very limited number of plants from that island that are hardy near London. It forms a bushy wide-spreading shrub up to 10 ft. or 15 ft. high and as much through. The flowering season is from June to August, with the bushes aglow with yellow blossoms about midsummer. The Madeira Broom was figured in the *Botanical Magazine*, tab. 2265, as *Spartium virgatum*. For light well drained soils it is one of our most valuable tall shrubs for pleasure grounds or open woodland. If the seeds fall in favourable positions there are always plenty of young plants coming up to perpetuate the species.

THE ROCK GARDEN GENISTAS.

G. DALMATICA is a valuable alpine Broom from Dalmatia and near by. It forms low-growing tufts of branchlets 5 ins. to 6 ins. or 8 ins. high with age, covered in June and July with masses of golden yellow blossoms.

G. PILOSA forms a dense-growing prostrate shrub, and is one of the most valuable Brooms for the rock garden, threading its roots between the crevices in the stones with the growths clinging to and hanging over the boulders. The flowering season is May and June—when good clumps form a bright yellow carpet of blossoms—with, often, more flowers in autumn. In addition to being a common wild plant of the southern half of Europe, *G. pilosa* is one of the three British Genistas, the other two being *G. anglica* and Dyer's Greenweed, *G. tinctoria*. The latter is from 1 ft. to 2 ft. high, and flowers in June and July. It is not much grown, however, being quite surpassed as a garden plant by the double-flowered form (*flore pleno*). This is a semi-prostrate plant with rich yellow blossoms lasting in beauty from July to September. In common with many double flowers, the Double Dyer's Greenweed does not produce seeds, but is readily increased by cuttings. A. O.

AUTUMN TINTS IN BERRY AND LEAF

IF it does not always exceed in brilliance of tint some of its rivals, the Maples for example, the old *Azalea pontica* can claim a foremost place among the general run of autumn-colouring shrubs. Individually it may, indeed, sometimes assert itself with a crimson-scarlet so fierce that the most gorgeons of its neighbours must "pale their ineffectual fires." For myself, I always think that the great charm about the autumn tints of this shrub lies not only in the wide variety of rich colouring which the foliage displays, but in the extraordinary length of time for which the display is maintained. This year some groups had surrendered their green for a warm bronzy-purple at the end of August, and from that time onwards to mid-November *A. pontica* will usually provide us with an ever-changing feast of colour. Soil and position, naturally, have considerable influence in deciding the date, as well as the intensity, of the leaf coloration of the plant; those specimens in the hottest, poorest land being the first to yield. For that reason, if for none other, we always grow this old favourite in detached groups in various parts of our woodland garden.

At the moment of writing, the most fiery leaf colour happens to be that of *Berberis Coryii*, a ruby-crimson vivid enough to make *Vitis amurensis* look dull. Near to this comes *B. Prattii*, with its fine fruit clusters, and *B. dictyophylla*, of which the crimsoned leaves are subdued by the glaucous hue that pervades the branches, will not be passed by unnoticed. Among these and others, however, not forgetting *B. vulgaris*, the beautiful little *B. Wilsonae*, which can hardly claim such wonderful leaf colour, can still hold one's admiration and affection. No other species grown here has such charming elegance as this one, in none does the lovely bunches of translucent salmony-red fruits in their setting of fresh green make so strong an appeal.

The birds having suddenly devoured the fruit of most of the more lowly Cotoneasters, which carry their berries so invitingly and conveniently on the upper surfaces of their spreading planes, it is up to the taller and later species to carry on the good name of the race. Among these, *C. Simonsii*, despite the familiarity from which it suffers, can still maintain its ground as a shrub of remarkable beauty at this season. *C. frigida* is carrying clusters of berries like a Mountain Ash,

but they will not remain any longer than those of the latter, and the drooping branches of *C. pannosa* are laden with their ripening crop. If this evergreen species is one of the latest to colour its fruit it is one of the most attractive of the taller members of the genus, a regular and prolific bearer of pendent clusters of blood red berries which hang well into winter, and one that has a singularly graceful habit. The still newer *C. Harroviana* comes close to the foregoing and has a splendid reputation, but it has not yet gone beyond the trial stage in this garden. *C. Franchetii*, greyer in leaf and more angular in growth than *pannosa*, is another good and late-fruited species of the same class as the latter, and the more aspiring, whip-like branches of *C. Dielsiana* can always be depended upon for a good berry crop in the later autumn. The smaller (5 ft.) *C. Zabelii*, a deciduous species with an attractive, arching habit, affords good leaf colour at this season and the comparatively large fruits glow with a bold crimson when, in early November, they have thrown off the downy felt of youth.

Though the rich wine-reds, crimsons and scarlets of autumn foliage may pass in a gradation of

From green to some late shades down to orange, the yellows (which an artist might call greens), are set apart, with a tender loveliness peculiarly their own. The Common Ash, especially in the sapling stage, often affords a good example of this soft, clear yellow, but it has to be seen at the moment of its fullest splendour for the leaves of few trees are so quick to fall. The same primrose-yellow pervades Forsythia suspensa which, grown as a bush against a dark green background, is hardly less bright and attractive than it will be in March when flowers instead of leaves adorn its slender twigs.

The creamy pallor of leaning Bracken and frond of Male Fern gleams with a weird cold light in shadowy places that are dim with the heavy verdure of creeping Ivy, and a somewhat similar tone invests the stately ranks of Solomon's Seal. I think this fine old plant is never quite so handsome as it is at this season and in such a situation as the above. If it can be grown on a level with the eye, the shoe-black fruits which hang below the sheltering leaves will seem to be suspended in a radiance of golden light.

Also very effective in these shady places is the dying foliage of the Funkias Sieboldii and Fortunei, the reds and yellows of Cornus canadensis, the straw-coloured leaves of Anemone trifolia, which have until lately been increasing in size and stature ever since parting with their pretty flowers, and the elegant foliage of the Dicentras formosa and eximia.

A fuller yellow, that of an unripe orange, has taken possession of the Tulip Tree (Liriodendron tulipifera), and the large saddle-shaped leaves of this noble species maintain their colour for several weeks. The Judas Tree (Cercis Siliquastrum) also assumes a good, if more subdued yellow. Cornus florida and Amelanchier canadensis adopt red and gold for their parting flare, and this combination is nowhere more strikingly seen than in some of the Roses, of which the crimson, scarlet and orange fruits enhance the effect of the yellowing foliage. The Ramanas varieties are especially noteworthy in this way just now, but RR. lucida and alpina, which have a finer grace, are not less lovely. Indeed, most wild Roses yield an autumn colour in fruit and foliage, or both, so attractive that a page or two might be written upon this feature in them alone. Yet one cannot pass over the genus without a mention of little R. nitida which, in leaf and stem, becomes fired with a blend of blood-crimson, vermilion and orange more vehement in tone than that of any other member of the race that I have seen.

Although the Azaleas alluded to are second to none in their bronzy and vinous hues, the blue, more plum-coloured shades of purple are claimed by some of the Elders, a few of the Vacciniums and the beautiful lance-shaped leaves which adorn the rigid and upright branches of Forsythia viridissima. Seen in combination with the pale yellow which flecks the drooping, willow-like wands of Exochorda grandiflora, or, as I once saw it in a neighbour's garden, in conjunction with the delicate gold of Ginkgo biloba, this Forsythia was a very beautiful object. Liquidambar styraciflua must also come into the plummed list, and then there is Vitis vinifera var. purpurea, which is a Vine of much more moderate growth than most, and thus suitable for gardens where accommodation for such things is limited. The Claret Vine, as it is called, keeps its foliage in full autumn colour for a month at least in normal weather, and the deep vinous red, just the hue of a ripe Victoria Plum, becomes an intense blood crimson when the leaves are seen against a low sun.

The foliage of most of the ash-leaved Spruces goes off in a subdued orange, and the leaves of

some young specimens of S. arborea are a curious blend of orange and plum-purple, the ribs and veining being of the latter tint. The double-flowered S. prinifolia also has a reputation for colouring well in some gardens, but its efforts in that respect in our own have not been very inspiring. Euonymus europæus, the Spindle Tree, makes a wonderful display when the foliage

has changed to ruddy bronze and the coral-pink fruit capsules gape open to reveal the bright orange-coloured sacs which contain the seed. E. obovatus, the only other deciduous species grown here, is a trailing bush of straggling habit. Its fruits are not as showy as those of our own native, their colour being an unhappy combination of crimson and scarlet. NORTH WALES.

GARDEN DESIGN—IV

Herbaceous Borders.

EVERYONE grows perennials. In extensive grounds there will be long borders filled with great masses of different plants and in the tiny garden they will be grown in proportionally smaller groups or even as separate plants. Herbaceous plants alone might make a garden full of interest and colour for six or eight months of the year, if the selection is carefully made.

Positions for herbaceous borders should be suitable ones. The single border may face south or west, although I have seen some of the most successful under a north wall, especially in a hot, dry summer. Such a position would not be very good for those plants that flower early, but for a summer border, the plants in it would flower for an extended period of time. In borders flanking a turf or other path, and forming a herbaceous walk, there must be a balance of the principal masses, that is to say the eye must feel that the taller groups on one side are properly balanced by the taller groups in the opposite border, and strong colours on side should be balanced by colour of equal strength, although not necessarily the same hue, in the opposite border.

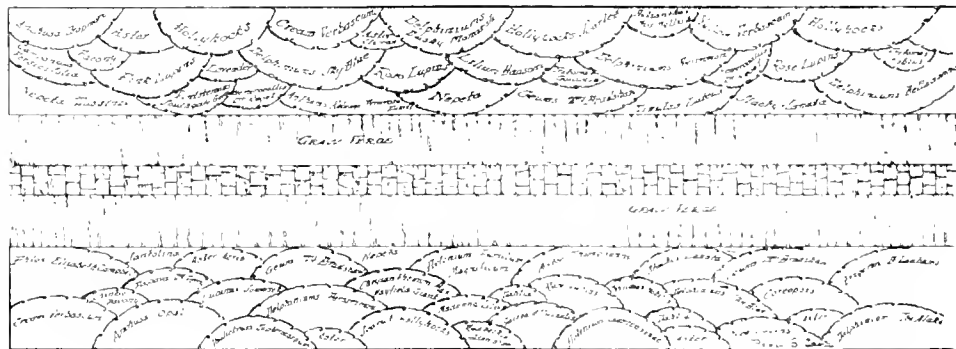
It is well to decide before planting the borders what the colour scheme is to be; for the principal border it will probably be desired to have all the stronger colours—yellows, oranges, blues, reds, etc.—toning to many of their paler shades. Where there are other borders as well as the principal ones, perhaps smaller, there can be other interesting colour schemes, a blue border or garden is always beautiful, especially in the hottest part of the year, or a border of soft pinks, creamy yellows, pale blues and greys might be made very charming.

among or with a background of shrubs, will give effective masses of colour.

Tritomas (Kniphofias) form another particularly handsome genus of plants, their flower spikes in all shades of yellow, orange and red being especially striking at a time of the year when the summer flowering perennials are past their best. There are now such a number of perennial Asters (Michaelmas Daisies) that the difficulty is to know which to exclude, rather than to have the separate borders filled with them. The range of soft colours in Michaelmas Daisies makes them particularly attractive.

There are so many plants with which one can fill the principal borders, all of them almost equally beautiful, that it is difficult to make a selection. Delphiniums may be considered essential, being, indeed, among the aristocracy of the herbaceous world. They should be planted in soil that has been deeply dug and liberally manured with well rotted manure, and then be left undisturbed for several years at least. They are to be obtained from the modest price of 6d. or 1s. each up to, for certain triumphs of the skill of the hybridist, a couple of guineas or even more a plant. It is well when planting these more expensive varieties to guard them against the depredations of slugs or other pests, which seem to have a pronounced liking for their tender young shoots just as they appear above the ground. This can be done by surrounding each plant with a ring of cinder ash, across which the slugs will find it difficult to lay their slimy trail.

For the back of the border, where tall plants are generally necessary, large groups of single and double Hollyhocks may be planted; they are



PLAN FOR A HERBACEOUS WALK.

As well as borders of separate colours or colour schemes, some herbaceous plants are never seen to so much advantage as when planted entirely by themselves, their different varieties being massed in groups proportional in size to the size of the border or ground to be planted. This applies particularly to the taller growing Phloxes, Delphiniums and Michaelmas Daisies. Phloxes grown by themselves in some outlying parts of the grounds,

deep-rooting and appreciate generous treatment, but should be watched for rust, a remedy for which is to spray the foliage with a weak solution of sulphate of copper at half the strength that would be used for potato spraying.

Anelusa italica, with its varieties, such as Dropmore variety and Opal, is another effective plant for the back of the border, where also Verbascums and Tree Lupinus are very valuable.



A HERBACEOUS WALK AT CRANBOURNE COURT, WINDSOR FOREST.

Most of the *Anchusas* and *Verbascums* are but short lived perennials and do best if treated as biennials, young plants being planted every year. After the first season it will probably be found that so many self-sown plants will appear in the borders that a drastic thinning out will be all that is necessary.

Where it is possible, always have dark backgrounds for the borders; an old red brick wall is perhaps the nicest thing possible, but hedges of Yew or Box or even Evergreen Privet can be very good. It is advisable, where there is room, to leave a path of 2ft. or 3ft. between the hedge and the back of the border; the hedge plants will take most of the nourishment from the ground and it will enable the hedge to be clipped and the plants in the back of the border to be staked and tended easily.

Although the lowest-growing plants should be planted in the front and, speaking generally, the tallest in the back rows, yet the groups must be so arranged that there is a pleasing variety of outline, taller plants or groups of plants being brought forward, maybe, into the middle of the border and here and there lower-growing things being carried well back among the medium and taller plants; this will give shadow and that variety of light and shade that is so essential if the borders being made are to be really beautiful. For the same reason, and to give solidity, a few shrubs may be introduced here and there among the herbaceous planting. Green and golden Box and Yews would be suitable with, carefully placed among them, an occasional flowering tree or shrub. Evergreen shrubs, as well as emphasising formal design, will help to furnish borders during the winter, when the majority of herbaceous plants are only in evidence by their short, dark brown stalks, the remains of their summer's growth.

Although principally herbaceous in character the planting for the front of borders in the now so popular paved garden is quite different from that bordering grass walks. In the latter, although the border should be full and plants should grow quite to the edge of the turf, they should not grow actually on to the path. In the

case of the paved garden, plants are intended to grow right on to the paving, and such kinds should be chosen as will do this.

Of these there are a number with a prostrate or semi-prostrate habit of growth that renders them especially suitable for such a purpose. *Nepeta Mussini* is invaluable and the grey leaves and soft pink flower of *Stachys lanata* can be used in tiny gardens. Most of the *Dianthus*es are suitable, and the stronger growing of the dwarf *Campanulas*, the forms of *C. pusilla*, being among the best. *Alyssum saxatile compactum* and the paler variety called *citrinum* may also be planted to grow on to paving, and other equally suitable plants include *Violas* in their different colours. The *Helianthemums* and the dwarf species of *Cistus* give masses of colour and pleasing mounds of foliage for quite a long time. The *Mimulus* (Monkey Flower) has a very pleasing habit of spreading from the border into crevices in the paving; there are several good varieties; *luteus*, a pleasing soft yellow, while *cupreus* and *Wargrave Fire Flame* are respectively coppery crimson and coppery scarlet. These *Mimulus*es are moisture-loving plants and, if given liberal supplies of water, may be relied upon to flower freely for a long time. PERCY S. CANE.

OVERHAULING THE ROCK GARDEN

THIS is the best season to rearrange and, if necessary, partially to rebuild the rock garden, provided the taking up and replanting is executed expeditiously and only during open weather. It is a common failing to the majority of rock gardens to dry out during the hottest months of the year, and in the drought of 1921 many just accepted the inevitable and let things go. Those of us, however, who made notes, mental or otherwise, during that time of anxiety noticed that certain plants pulled through. In every such case the plant was found to have its roots under,

around, between or among stones and rocks. Here, then, was a lesson, the learning of which should benefit us very considerably. Those who failed to learn it have suffered fresh losses in the interim, and should now see that more stone—of a porous nature if possible, but failing such, any kind—is buried throughout the soil in bank, ledge and pocket. This matter of buried rock cannot be too strongly emphasised. The rock which is exposed is very ornamental no doubt, but unless plenty of it, from quite large pieces to fine grit, be buried everywhere in the soil, our rock garden will never be what it should be. Another potent factor in the conservation of moisture is humus. This is best provided by well rotted leaf-mould or old hot-bed material. Half-decayed leaves are quite useless for the purpose; indeed, are likely to accentuate the dryness. Anyone who has tried to moisten partly decayed leaves which have become "bone-dry" will appreciate this point. Do not add the material, whatever it may be, in wads or layers, but fork it evenly throughout the soil. Finally, remember that stone chippings on the surface after planting prevent excessive evaporation. If for any reason these cannot be procured, place some stones immediately round the plant on the advent of hot weather. Where the soil is excessively wet, it will be necessary to put in some kind of drainage, but do not forget to remove all the sour soil and to replace it with fresh.

Another failing many of us probably noticed was the lack of blossom for quite a large part of the year in certain parts of the garden. This is a common fault, and one of the most difficult to overcome. It is due largely to our eagerness to produce certain effects in the way of contrasts and combinations of colour without giving sufficient thought to the duration of flowering, and to our failing to visualise the aftermath.

Again, we may have noticed, and been irritated by, a "spotty" effect, more particularly when the garden was viewed as a whole, and it is in correcting this fault that we inadvertently commit the one mentioned above. In order to remedy this "spotty" effect, it is necessary to plant as far as possible in bold masses and drifts, but in deciding to heighten the effect by a daring contrast of colours we too often commit the error of planting the varieties concerned next to each other, with the result of a large space devoid of colour perhaps for months. There are two ways of avoiding this: (1) By using continuous flowering plants for one of the colours, thus reducing the amount of space left bare of flower. (2) By planting the contrasting colour on a different level but in such a way as to produce the desired effect. "But surely," I hear it said, "it would be a simpler and better way to use two continuously flowering kinds?" This would tend towards monotony, especially so if the effect be one of colour contrast, and monotony is a bad fault in gardening.

Another point which may have struck us as unfortunate was the number of "dot" plants which evidenced themselves in whatever direction we happened to gaze. We frequently see some plant we have not got and instantly covet it, or friends give us from time to time desirable plants. We seldom stop to consider whether we have a suitable spot for them, but just put them in where there is room at the moment, with, naturally, a spotty result. A "dot" plant must possess some striking character before it can justify its rôle of exclusiveness; moreover, it must be in the right place, so let us make a rule—and at least endeavour to keep it!—that we will never acquire a plant we cannot "place."

Possibly we notice, too, an overcrowded appearance due to the planting of too many shrubs and

which probably looked very charming when first planted but have now outgrown the positions they occupy. One should never plant shrubs and trees in a rock garden unless there

is a sound reason for doing so, and then only the most suitable for the purpose and position should be employed. C. S. G.

(To be continued.)

THE VINE WEEVIL

THE vine weevil, *Otiorhynchus sulcatus*, is one of the most voracious and destructive of greenhouse pests, and each year much damage is done by this insect to Vines and Peaches, and also to various pot plants, Cyclamens being particularly liable to attack. During May and June of this year the weevils were very numerous in the West of England and it is probable, therefore, that many gardeners and fruit growers will be troubled with their grubs this winter and on into the spring.

The weevil, which is about half an inch long, is dull black in colour and has a short trunk or snout to which are attached slender, clubbed head feelers or antennae. The legs are stoutish and black and are clothed with dark pubescence. The thorax is coarsely punctured and the wing covers, or elytra, are roughened and granulated. There are no membranaceous wings, consequently the insect cannot fly, and the area over which its depredations occur is somewhat limited. The weevils are to be found in the spring, in April, May and June, their maximum appearance depending on prevailing weather conditions. They feed at night on the green leaves of Vines, Peaches, Nectarines and other indoor fruit, and during the day remain hidden in crevices in the walls, in soil under pots and in other available shelter. The damage done by the weevil is characterised by semi-circular or irregular patches eaten out of the leaves and the tender skin scaled off the young shoots, which may be bitten partly through and remain hanging down from the point of injury. Besides attacking indoor fruits and pot plants the weevil is very injurious to Strawberries and Raspberries out of doors and has been found doing considerable damage to grafts by eating out the buds, usually in association with the clay-coloured weevil, *Otiorhynchus picipes*, which is smaller, but quite as destructive. In a case of a bad attack on Strawberries by these weevils, the writer found that, as well as destroying the young folded leaves in the crowns, the insects gnawed shallow holes in the developing fruit. During the day the weevils hid among the foliage, under the straw or under clouds of soil about the Strawberry beds.

The eggs are white and oval and are laid in clusters in the soil. They vary slightly in shape and size, depending on the position of the eggs in the cluster. Their colour soon changes from white to brownish and they are most difficult to locate in the soil. After some days they hatch and give rise to legless grubs which are whitish, much wrinkled and clothed with hairs or bristles, which facilitate movement. The head is distinct; it is highly polished and brownish in colour and bears strong biting jaws. The young larvæ or grubs are very active and work their way to the roots of plants where they feed and grow, undergoing numerous moults as they increase in size.

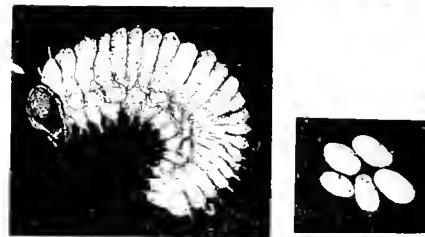
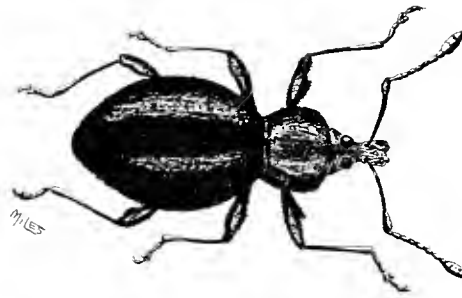
The grubs feed on the roots of various fruit trees and bushes and on Strawberries out of doors and indoors at the roots of pot plants. In the case of Cyclamens, they feed at the base of the bulbs and eat out penetrating cavities; decay follows and the bulbs become utterly worthless.

Feeding continues throughout the winter and in the spring the grubs follow out cavities or cells in the soil at a depth of pins, or gins., and after a period of quiescence, change into pupæ or

chrysalids, which are creamy in colour and have transparent outer skins through which the outlines of the developing weevils can be seen. After a fortnight or so the pupa becomes brownish in colour and, finally, the outer skin splits, allowing the weevil to make its way out. After emerging the insect gradually assumes the dark brown or blackish colour of maturity.

CONTROL MEASURES.

When the weevils are found in vineries or peach houses all pot plants, or as many as possible, should be removed; this will prevent eggs being laid in the soil of the pots. Since the weevils have the habit of dropping from the plant on which they are feeding at the slightest touch or jar, it



IMAGO, LARVA AND EGGS OF THE VINE BEETLE (ALL MUCH ENLARGED).

has been found useful to spread sheets of brown paper below the vines or fruit trees during the daytime and at night to enter the house with a brilliant light, whereupon many weevils fall from the plants, disturbed by the light and the rest may be dislodged by sharply tapping the rods or trees. The fallen weevils are easily seen on the paper and should be collected and destroyed. In the spring of 1923 a badly infested vinery in Gloucestershire was cleaned by this method of catching the weevils. Where cracks and crevices occur about the houses they should be carefully searched for weevils: the holes in vineries through which the rods run into the outside border frequently afford shelter and obscurity to numbers of these insects.

Where plants in pots are attacked by weevil grubs, it is advisable to repot them into clean soil, swilling their roots thoroughly to free them from the grubs before doing so.

When young fruit plantations or nurseries are infested with weevils it is advisable to protect the young trees, especially the newly grafted ones, with grease bands; for, since the weevils cannot fly, they are thus effectually prevented from reaching the buds. If, for any reason, this method is not employed, a lead arsenate spray, 1lb. per 25 gallons of water, should be used. Jarring the

trees at night over tarred sheets has been found to yield very good results, especially when adopted on cordon or trained trees.

Where Strawberries and Raspberries are attacked by the grubs, the infestation is difficult to deal with, though spraying as above mentioned is quite satisfactory for checking the adults. The best way of destroying the grubs is by means of a soil dressing made by adding one pint of carbolic acid to one bushel of sifted ashes. This should be scattered over the beds and lightly forked in, one or two applications being made in late August and early September. This treatment will probably destroy a considerable number of young grubs and prevent serious injury. HERBERT W. MILES.

MAKING AN ALPINE MEADOW

WHILE one cannot claim for the "alpine meadow" that it is a novelty, one can at least assert that it is not commonplace nor hackneyed, and also that it does approach as nearly as possible to Nature and Nature's way of growing and displaying many of her most beautiful children. Stated in the briefest manner, what is proposed is to transform a piece of uninteresting short rough turf into a flowerful stretch of meadowland where alpine flowers of suitable growth enrich the spring days with colour and fragrance.

The ideal spot, of course, is a sharply sloping bit of hillside covered with rough turf; but, failing this, a corner in an orchard or any similar spot may be used with good effect. Many of these spots are mown down about midsummer, either with a view to hay or to give an air of neatness, so that suitable plants must be chosen to permit of this. Bulbs readily answer the purpose, which is doubtless the reason why naturalising has made so much greater progress than our alpine meadow; but by a judicious choice of kinds there is no reason why plants should not be used just as freely. A study of our own fields and the plant groupings will do much to enable planting to be done in easy and natural-looking masses, which are far more effective than indiscriminate dottings. Do not forget that in the alpine meadow a far more luxuriant growth is permissible than when dealing with the rock dwellers, so that many "drifts" of taller plants are desirable.

In this connexion do not overlook the capabilities of the old-fashioned short-spurred Columbines. These are among those sturdy plants which are perfectly able to look after themselves and their progeny, and will sow themselves freely all over the place, falling into artistic and delightful groupings without any guidance from us. Anemone alpina sulphurea is a splendid little early Wind-flower that may well be used in company with the better known apennina, which carpets the ground with its sheet of rose, white or blue starry flowers in such amazing multitudes when the April sun is shining. A blaze of starry gold in clear outstanding patches may be secured by the generous use of the *Doronicums*, which serve the double purpose of decorating their own particular bit of the garden and providing a supply of long-stemmed flowers which are ideal for cutting purposes.

The hardy *Geraniums*, sanguineum and pratense, are also both splendid space fillers that never fail to give a good account of themselves. The Martagon Lily, though far from a pleasantly smelling plant, is most striking when seen rising

from among a mass of one or another of these *Geraniums*, and the partnership is in every way a most happy one. If—as was suggested earlier—the ground chosen for such a scheme is a sloping piece, plants of the magnificent *Trollius* or *Globe Flowers* should be used at or towards the bottom, for these are such moisture lovers that it is hopeless to grow them on an elevation. *Viola cornuta* may be planted everywhere, and the sooner it can be encouraged to become a wildling, in fact as well as in name, the better for the charm of one's meadow. This little gem is obtainable in shades of white, pale mauve and deep purple, all equally valuable as a carpeting to the various other plants employed.

For autumn days one may have a rich store of beauty in the various autumn *Crocuses*—which are really *Colchicums*—and the numberless winter-flowering species of the real *Crocuses*, both of

which take no harm at all from the midsummer cutting of the grass. This list of plants might be extended almost indefinitely—are there not the Meadow Saxifrage (*S. granulata*) and a host of other plants that leap to mind?—but sufficient has been said for a start to be made.

As all the plants are absolutely hardy, such work may be taken in hand either in spring or autumn, according to the nature of the soil and the plants, for it will be obvious when dealing with such diverse material that all cannot be put in at one single time or period. The best way of all for carrying out the ideal of the alpine meadow is for this to lead by imperceptible transition from the rock garden, so that as one wanders on and on the discovery is made that the high alpine have been left behind and one is treading the flowery way of an excellent imitation of alpine pasture.

H. W. CANNING-WRIGHT.

FLOWER-POTS AND BULB BOWLS.

HAS the writer of the article on "Flower-Pots and Bulb Bowls" in *THE GARDEN* for November 3 ever seen the Silchester ware bowls and vases? Flower-pots I have never seen. The bowls and vases are made by hand outside Reading. They are of a dark brown colour, slightly glazed and of good shapes, and are supposed to be reproductions of pottery from the Roman villa at Silchester. There is an agency here and I met with them at Cambridge.—(Miss) A. E. ROSS, *Newbury*.

POLYGONUM BALDSCHUANICUM.

I COULD have wished that in his article on the Herbaceous *Polygonums* "W. L." had turned aside a little longer to sing the praises of that splendid and rapid climber *P. baldschuanicum*, as one who has little use even for *P. compactum* or *sachalinense*. An old gardener of mine who grouped them all together as "chock"—he generally eased his feelings in an opprobrious adjective—would, I know, support me in banning them even from woodland, for their advance may not be withstood. *P. baldschuanicum*, however, is a "grey horse of another colour."

CORRESPONDENCE

TULIPS IN GRASS.

I HAVE read with interest in Sir Herbert Maxwell's new book, "Flowers—A Garden Notebook," the interesting information given regarding Tulips flowering in grass at Caerbays Castle in Cornwall. Further, it is most interesting to hear that these bulbs were planted forty years ago. Unfortunately, in most places, it is useless planting Tulips in grass as they cease to flower after a year or two. It would be interesting to know the exact reason why they flower at Caerbays Castle in grass and whether it is due to any special treatment or conditions.—CARDROSS, *Mid-Calder, N.B.*

THE FIFTY BEST "ALPINES."

I HAVE read with pleasure the notes in *THE GARDEN* upon the fifty best alpine, or rock plants, and thought that possibly a list from a Northern garden might be of interest; let me say that it is an exceedingly dry garden, having a deep bed of sandy rubble below. With the exception of the *Helianthemums* I have omitted all shrubs and bulbs, though I should like to include *Daphne Blagayana*. The list is: *Aethionema warleyensis*, *Anemone nemorosa* *Robinsoniana*, *Anthemis Cupiana*, *Arenaria montana*, *Astrantia gracilis*, *Aubrietia* Fire King, *Campanula collina*, *C. pusilla* Miss Willmott and *C. muralis* major, *Cheiranthus mutabilis*, *Cardamine rotundifolia* and *C. pratensis* plena, *Dianthus neglectus*, *D. superbus* and *D. sylvestris*, *Cypripedium Calceolus*, *Erodium chrysanthum* (for foliage), *Gentiana Lagodechiana*, *Geranium Pylzowianum* and *G. Russell* Prichard, *Geum Borisii* and *G. bulgaricum*, *Gypsophila repens* rosea, *Hypericum olympicum*, *Iberis Climax*, *Helianthemum* Mrs. Earle, Jubilee and the single red, *Lychnis alpina*, *Morisia hypogæa*, *Onosma albo-rosea*, *Orobis vernus*, *O. albo-rosea*, *Omphalodes cappadocica* and *O. Lucilia*, *Oxalis enneaphylla*, *O. floribunda* and *O. magellanica*, *Pentstemon Davidsoni*, *Patrinia gibbosa*, *Phlox Sprite* (syn. *Vivid*), *Potentilla nitida*, *Primula Julia*, *P. rosea* and *P. acaulis* alba plena, *Saxifraga Irvingii* and *S. Bursleriana* Gloria, *Sedum stoloniferum*, *Spiræa digitata*, *Veronica saxatilis*, *Viola Alannah*. I recently saw in Mrs. Saunderson's garden at Wenington, a glorious Milkwort called *Polygala calcarea*, a lovely deep blue.—T. O. WALKER, *Annas Bank, Carnforth*.

THE GIANT LILY.

WHEN the beautiful *Lilium giganteum* of the Himalayas was introduced into Great Britain I do not know, certainly it was rather widely

distributed more than fifty years ago, and as it is easy of cultivation and appears to be objectionable to rabbits, it is both a wonder and a pity



THE FREE-GROWING *POLYGONUM BALDSCHUANICUM*.

so few people give themselves the trouble to provide in their pleasure grounds for such an ornament as a group of these stately flowers. An open space about 20 yds. across in a wood or shrubbery, in a cool situation for choice, and if possible in lightish soil, a load or two of farmyard manure, and patience for one year or two, and then a never-ending succession of graceful giants which may well average 1 ft. in height with stems 12 ins. round near the base—some more and some less—clothed with foliage which alone would make them worth growing, all leading up to the fragrant blossoms of which the scent is carried far beyond the sight of this gem of the grove; it is difficult to think of anything better. I have lately seen at Hoveton St. John in East Norfolk, where Mrs. Blofeld lives, an ideal group of nine flowering stems with their candelabra-like clusters of seed-pods and next year's plants among them. The offsets are taken from the old stems and replanted, as otherwise they would not have room to develop well; and by no means may manure be forgotten, and in a season of drought water may be acceptable.—T. REDEN COLWIN, *Ketton Hall, Stamford*.

and quite indispensable where a beautiful screen is wanted quickly, and no one need fear to introduce *PP. vaccinifolium*, affine or *equisetiforme*.—N. H. P.

STILL FROST.

I DARE say there are not many gardeners who welcome the late autumn and the winter months, with their frosts and snows. I don't at least, far from it; but I make a point of snatching from the adversity of winter any "sweet uses" it can serve—the fleeting joy of trees, for instance, under a fresh fall of snow. So also a still frost, such as we have been having for a few nights lately, has its delights—a still frost, be it noted, not a black frost, most hateful of Nature's humours, blown hither by a north-east wind from the Pole. The still frost is that which crusts your window-panes with tropical forests of bewildering perspective, done in ice-crystals. One recent morning when I looked through the ice jungle on my window without being able to see beyond it, I surmised that things in the garden, herbaceous or shrubby, would be finely trimmed with crystal; and so they were. We profess to be fond of grey plants—at

Like *Geraniums*, *Centaureas*, *Stachyses*, *Campanulas* and what not. On a frosty morning the whole garden is grey, each individual species having its leaves and, it may be, even its branches decorated, sometimes with a fringe, sometimes with a hem, and sometimes with a mere gilding or wash of frost. Take, for instance, a flat leaf of some size, a leaf, say, of Foxglove or *Verbascum*. In its ordinary unfrozen state you would never have supposed that the leaf had all those corrugations—so many, relatively speaking, deep valleys and lofty eminences. But the frost gives a Rembrandtesque emphasis to the relief of a rough leaf, leaving the valleys, where, low down, run the veins, in green shadow, and “gilding” the heights with a wash of silver. Very different is the frost effect on the Mossy Saxifrages. We are too apt, some of us, to lump the Mossy Saxifrages as things much of a muchness as regards foliage; but the frost discriminates each pattern sharply—stag’s horn, rosette or mossy spray. No need to leave the matter. Each plant has its own way of getting frozen. *Berberis Darwinii*, for instance, makes a light and graceful spray. But the two most sensationally beautiful effects in my garden that morning were those produced by *Senecio Greyi* and *Cotoneaster horizontalis*. Those who grow the *Senecio* will have perceived how in the small canoe-shaped leaf the silver of the undersurface is brought round to form a narrow hem on the dark upper surface. The effect of a still frost is to make this hem into a fringe of icicles, while the valley of the canoe remains deep green. As for the *Cotoneaster*, with its fan branches, scarlet berries and frosted leaves—words fail.—SOMERS.

“MOUNTAIN” CHRYSANTHEMUMS AND OTHER THINGS.

THE Monte Carlo Chrysanthemum Show took place on November 1, on a day of such unusual heat that it was hard to believe it was not the month of August. The arrangement was artistic, but perhaps not so beautiful as last year. The feature of the show was the cleverly grown “standards” of Chrysanthemums, most wonderful examples of careful culture, but as no names were attached to the plants one is at a loss to describe them. The little Japanese Mountain Chrysanthemums (single) in various colours made effective edgings and neat beds. They are a decided acquisition, but need rather late propagation to keep them sufficiently dwarf. One variety, rather blue lilac in colour, is quite an example of vegetable mimicry; it is so like a dwarf Aster. The tall and well grown specimens of *Phoenix Robelini* made one long to see more of such a lovely decorative plant; few gardeners can have any idea of its beauty. Norimes are, I am glad to say, finding their way down to these coasts at last, but to do them justice it is best to grow them in pots and rest them in the shade all summer. The freedom with which they flower is very encouraging and the variety in colouring and sequence of their time in blooming is gradually increasing. The Manselli and Bowdeni hybrids, moreover, bloom with their young foliage, while the Pothergillii strains are both earlier in flower and leafless when they do bloom, so it is to these two hybrids or strains that we must look. In capable cultivators’ hands they should be very valuable in late autumn. The Tree *Salvia*, *S. frutescens*, is a splendid mass of colour just now, its branches weighed down by the weight of the clusters of smallish scarlet flowers and the Tree *Dahlia*, *D. imperialis*, with its tall nodding sprays of lily-like flowers, contrasts admirably with it. There are few things that cannot be grown to perfection in English gardens, but this is one of them. That fine autumn Snowdrop, *Galanthus byzantinus*, is already shewing a flower or two

despite the unusual heat and severe drought. It must have a very different constitution to the average Snowdrop. It is a fine thing, and seedlings from it vary considerably in earliness and size of flowers, but keep the robust constitution of their parent. We shall, I hope, hear more of it.—EDWARD H. WOODALL.

CALCEOLARIA POLYRHIZA.

MOST folks look upon *Calceolaria polyrhiza* as a kind of “freak of nature” because of the curious shape of its flowers, which are not quite in accord with those of the gorgeous *Calceolarias* of the conservatory or the equally shapely ones of those of the bed in the garden. But the lover of alpinas appreciates these yellow, spotted blooms and the plant, as a whole, because it is a curiously pretty plant which is hardy and can be planted in his rock garden with every prospect of success. It comes from Chili, I believe, and one who travelled extensively there told me how plentiful it was in many parts of the country. It has proved a good grower here in Dumfries and can hold its own and more in the rock garden or in the



THE QUAIN CALCEOLARIA POLYRHIZA.

dryish parts of the bog. It runs about too freely for the comfort of some of its neighbours, but is not happy when confined to a limited space. In a dry place I have seen it flag and suffer in long periods of drought and have felt constrained to give it a soaking of water to make it look happy again. It flowers in July and August.—S. ARNOT.

BERBERIS BERRIES.

RECENT importations and the multitude of hybrids arising therefrom have endowed us with a wealth of berries of which advantage is being taken in our gardens. The fruit is often of more consequence than the flower. I am writing this note to ask if anyone has attempted to use any of them in a culinary way? Some of the *Cydonias* make excellent jelly and fine flavouring for apple tarts—Mauli, in my opinion, being an easy first. Once upon a time the *Barberry*—I presume the Common *Barberry*, *Berberis vulgaris*—was used as a preserve or candied. Hazlitt in his “Old Cookery Books” says it came into favour about the beginning of the eighteenth century. I think he might have fixed an earlier date. I have a small book by an unknown author entitled “A Closet for Ladies and Gentlemen” and dated 1618, in which there is a recipe “To preserve Barberries.” Then nearly eighty years later in “The True Way of Preserving and Candyng and Making Several Sorts of Sweet-Meats” there

are two. One is “To preserve Barberries” and the other is “To make Consarve of Barberries.” This book, the Epistle Dedicatory tells us, is also for “Ladies and Gentlewomen.” The actual date of my copy is 1695. Later still, in 1744, in a rare book, “Adam’s Luxury and Eve’s Cookery,” we again find how “To preserve Barberries.” What’s what in the cookery of her time we may be sure to find recorded by Mrs. Raffold in her famous book, “The Experienced English Housekeeper” (1769), which book seems to suggest that there were more kinds than one which it was possible to use. On page 206 recipes are given for preserving Barberries in bunches and also for their use in tarts. Each one says “Female Barberries” must be used. What does this mean? Are not all the Barberries hermaphrodites? Anyhow it suggested to me the possibility of variation in the flavour of the berries of the different species. On account of my bushes being young I have at present but three different kinds to try, yet I found that, although *Wilsona* and *polyantha* were simply acid, subcaulialata had a delightful aroma. Half of the scanty crop was consumed by birds in a half-ripened state, so willy-nilly, to save the few that remained, they were gathered and made into jelly. Their delicious aroma had vanished (possibly because they were but partly ripe), and the result was something so like gooseberry jelly as to be indistinguishable if one ate it without knowing what it was. It would be of interest to hear of the experiences of others who have made jellies or preserves of *Berberis* berries and who have tried them themselves or who have done what Sir Herbert Maxwell suggests (see his article in the last R.H.S. Journal) primitive men did when they wanted to know what a fruit was like—given some to their poor relations to try!—JOSEPH JACOB.

THE GENTIANELLA.

I WAS much interested in the points raised by Mr. Ingwersen (page 501) with regard to the difficulty in flowering this lovely Gentian experienced by numbers of people who are able to grow other members of the family successfully. His suggestion that its well-being may possibly be dependent upon bacteria is ingenious, but if he meant this to be taken literally surely the theory will not “hold water.” There are not a great number of plants which derive benefit directly from bacteria, those belonging to the Natural Order Leguminosæ being notable exceptions. If, on the other hand, he meant indirectly benefited by bacteria, surely this may be said of every plant in our gardens. My experience has been that this Gentian will flower well in a soil rich in humus with a firm and moist rooting medium. I have known it to grow well and flower freely as an edging in the kitchen garden, where the soil was particularly rich in humus, and refuse to flower in any other part of that garden. Now, I think I am right in saying, the more humus contained in the soil the greater the number of bacteria. If this is so, of course Mr. Ingwersen is right in his theory that the Gentianella is dependent upon bacteria for its welfare, but not more so than other plants, and only indirectly. With respect to the nomenclature query, Mr. Ingwersen is able to speak with more authority than many, being intimate with this beautiful family in its native haunts. I have always held the opinion that it is a “lowland form” of *G. excoisa*, not in the accepted meaning of that term, but a form which has been evolved from generations of garden culture. Possibly the present-day plants are all derived from one planted, say, a hundred years ago and have no affinity with any native form in the Alps.—C. S. G.

EARLY-FLOWERING CHRYSANTHEMUMS

Trials at Wisley.

A VERY useful and interesting trial of early-flowering Chrysanthemums was carried out during the past season at Wisley under the auspices of the Royal Horticultural Society. The manner in which the trial was conducted was most satisfactory, and much credit is due to those personally responsible for all that was done in connexion therewith. It is unfortunate that the weather during the growing period was so abnormal, as this fact is responsible for many curious results which were never anticipated when the trial was in contemplation. Instead of the plants being at their best during the month of September, it was not until the beginning of the second week of October that a sufficient number of plants were in flower to justify one in making an inspection of the trial. A second inspection was made a fortnight later, when quite a large proportion of the plants were in full blossom or had concluded their display. Even at this late date there were many well known sorts that had not come into flower, and probably would never be seen in flower during the current season owing to the interference of frost.

That such a trial was necessary cannot be questioned. Many members of the Society are keenly interested in the early-flowering garden Chrysanthemums, and would be pleased to learn what are the better and more reliable sorts for embellishing their gardens during the autumn months. The awards made by those who adjudicated upon this trial should be followed with more than ordinary interest, as the selected varieties possessed points of merit above the majority and were generally free-flowering plants, possessing a good garden habit of growth. Most of the awards were made in favour of plants producing flowers of warm colours, such as yellow, orange, bronze, apricot, crimson, chestnut and other intermediate tones of these colours. There were some very excellent white sorts and just a few varieties yielding flowers of claret, purple and other closely allied colours, for which there is an occasional demand and for which some persons have a partiality.

A few single-flowered sorts were favoured with recognition, and a small selection of pompon varieties, several of them very old, were included in the list of those selected for award.

Altogether there were about 450 stocks sent in for trial, but several of these were sent in by as many as four firms, and there were instances where as many as six stocks were sent in of one variety. More often, however, there were two stocks shewn of one variety. There were in all about 115 varieties, but many of these were classified by the Committee as synonymous or too much alike. There were instances where one variety appeared under three distinct names. It is of great value to have this cleared up, and the public will doubtless take full advantage of it.

Three plants of each variety were grown in the trial, and the condition of the plants during the usual period of flowering was an excellent testimony to the care bestowed upon them during the past extraordinary season.

One fact that impressed itself upon the mind of the writer on the occasion of both visits was that there was room for considerable improvement in these early-flowering garden Chrysanthemums. This section has not made the progress that is so noticeable in the early-flowering market varieties. Leading market growers have been particularly careful for some years past as to the

varieties which they cultivate so largely, usually as disbudded plants, and they have certainly produced many very beautiful kinds. Few raisers have devoted their attention to the early-flowering garden sorts, and, as a consequence, present-day lists contain a large number of mediocre sorts that are grown by many, not necessarily for their beauty, but because there are no better varieties to grow. In the writer's opinion what are needed to-day are more sorts possessing the branching characteristics and constitution of the Mme. Marie Massé family of the early Chrysanthemums with the beautiful form and character of the more recently introduced

Normandie.—A well known free-flowering dainty sort producing pink flowers of a distinct colour.

Freda.—This is a new mauve pink flower, the plant being about 2ft. high.

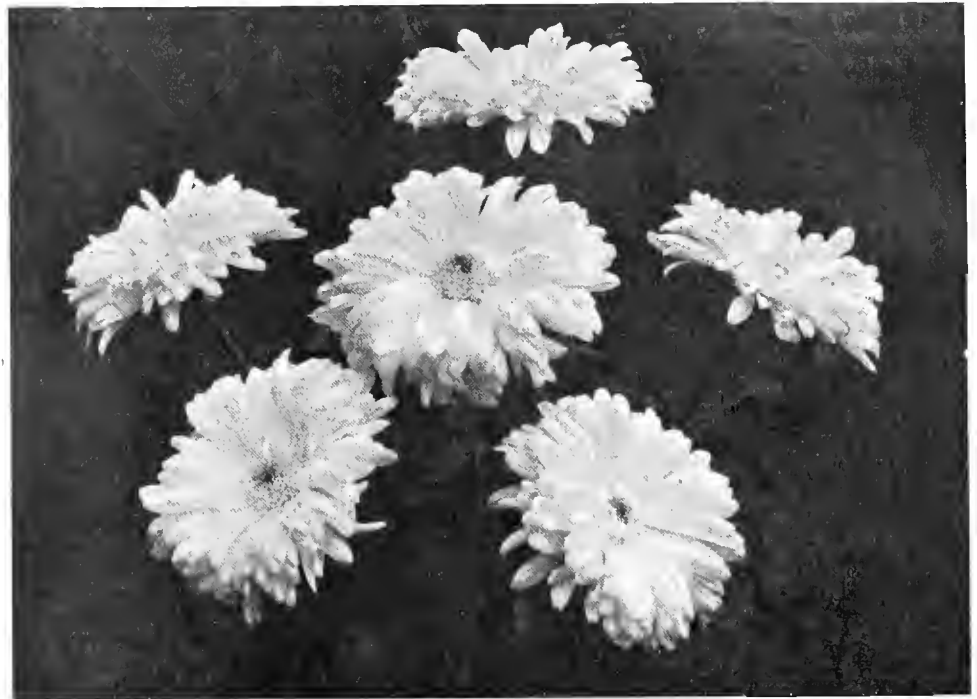
Mme. Marie Massé.—Still one of the best. Extremely free-flowering and bushy, with a good constitution; colour, mauve pink.

Claret.—For its striking bright claret colour this free-flowering sort has a value; 2½ft.

Jamie.—This was a plant bearing striking purple flowers.

Lichfield Purple.—This plant is fully 3ft. high and bears, in the greatest profusion, blossoms of a striking purple colouring—beautiful in the autumn sun.

Ralph Curtis.—Plants of White Massé, Mrs. Bailey and Tuckswold Early were similar in every way to the variety under notice, and the three sorts were too much alike to be regarded as



THE BEAUTIFUL ANEMONE-FLOWERED CHRYSANTHEMUM SNOW QUEEN.

This attracted considerable attention at the National Chrysanthemum Society's recent Show.

Almirante and *Red Almirante* (syn. *Alcalde*). These latter varieties are among the best of present-day early-flowering sorts, which for the garden and cut-flower uses are unsurpassed.

The following are the awards made by the Committee at the Wisley trial.

AWARDS OF MERIT.

Candida (also known as *Sanctity* and *Excelsior*), a pure white sort, useful in sprays (undisbudded), beautiful when disbudded.

Framfield Early White (syn. *Framfield White*).—A sturdy-growing plant, pure white.

Roi des Blancs.—A small-flowered pure white sort of very Japanese type especially useful for cut flowers; 3ft.

September White.—One of the most remarkable pure white sorts in the whole trial. The plant is about 2½ft. high, and is literally smothered with beautiful chaste blossoms.

Silver Lining.—Some plants sent in as *Miss G. K. Thorpe* were similar to the variety under notice. The plant is of slender, wiry growth and the blossoms are of a bluish colour.

Pearl.—A charming dwarf plant bearing pretty pink blossoms.

dissimilar. Colour, creamy white. This is one of the members of the "Massé" family.

Charming.—This is a new sort of a beautiful primrose colour. It is free-flowering and is also good disbudded; 2ft.

Framfield Early Primrose.—Southover Yellow and Willington Early Yellow are regarded by the Committee as synonymous with the variety under notice; pale yellow.

Horace Martin.—Elstob Yellow and Maggie are both bracketed with the first mentioned as synonymous. I question, however, whether the last-mentioned stock was true. Free-flowering and branching; bright yellow. A member of the "Massé" family.

Hollicot Yellow.—Goldfinder and Philip were classified as synonymous with the variety under notice. Stiff, upright habit. Good disbudded or otherwise. Bright orange yellow; 2½ft.

Golden Polly (syn. *Florrie Wilkinson*). A beautiful orange yellow sort. Rather slender growth, dwarf.

Golden Almirante (syn. *Vinstone Bronze*).—A beautiful orange yellow form of the "Almirante" family, and, as such, worthy of attention.

E. Miller.—A most attractive orange flower worthy of special notice.

Polly.—This variety when well grown is most attractive; colour, bronzy orange, passing to yellow.

Verona.—A charming little flower of the brightest orange terra-cotta colour. Beautiful in sprays, and dwarf.

Phania.—A somewhat unique sort, bearing pretty little flowers with twisted florets. The latest flowers are almost scarlet, earlier flowers, rich terra-cotta.

Wells' Scarlet.—This is a small crimson-scarlet flower with gold reverse to the florets; 2½ft.

Mrs. Jack Pearson.—Regarded by many as one of the very best sorts in the trial, this is a perpetual-flowering plant, beginning in August and continuing until November (under protection). Colour, bright bronze; 3ft.

Hollicot Beauty.—September Glory and Shirley Conquest were regarded as synonymous with this variety; colour, bronze.

Bronze Goacher.—The variety Mrs. J. Fielding as sent to the trial by some firms is synonymous with this variety. This was another of the better plants in the trial, flowering in profusion; colour, bronze.

Crimson Polly.—Abercorn Beauty as sent to the trial was similar to the sort under notice, but really it is quite distinct from that variety; colour, deep chestnut crimson; dwarf.

Crimson Marie Massé.—Another member of the "Massé" family; crimson bronze. A most reliable sort.

Mrs. J. Fielding (true).—One of the very best sorts in the trial. Very free, good habit and constitution; bronzy chestnut.

Ernest Ballet.—A well known October-flowering variety; colour, red; 3ft.

Fidelity.—Another free-flowering, branching plant; colour, chestnut crimson. Pretty Japanese flower.

Ethel Blades.—A small-flowered decorative sort, useful in sprays for cut flowers; colour, chestnut crimson.

Alcalde (syn. Red Almirante).—One of the brightest flowers of the whole series and one of the best of the later introductions. Colour, brilliant chestnut crimson; 2½ft.

Almirante.—The original of many varieties, all sports from the parent plant. Ideal as a cut flower; bright orange bronze; 2½ft.

Goacher's Crimson.—Still a very popular garden variety. Flowers of good form; colour, deep rich crimson; 2½ft.

Dick Barnes.—An English-raised seedling, dwarf and bushy; colour, a somewhat unique burgundy crimson.

Mrs. W. Sydenham. This is a plant with a rather spare habit; 2ft.; colour, rich crimson.

Badia Ferrer.—An attractive plant seen for the first time in this trial; colour, rosy crimson, yellow reverse; 2ft.

POMPONS.

Flora.—A very old bright yellow Pompon, begins to flower in August and continues to bloom for a long time. Dwarf and bushy.

Orange Pet.—Another useful Pompon, rather larger than most others. Useful as a cut flower. Bright terra-cotta.

Little Bob.—One of the oldest of the Pompon sorts. This variety is also known under the name of Scarlet Gem. Slender stems; colour, crimson-brown; small flowers in sprays.

SINGLES.

J. Woolman.—A charming little plant bearing pretty pink and white single flowers with a yellow disc.

Golden Firebrand.—A useful garden Single of an orange yellow colour.

Midnight Sun.—This is another useful single-flowered sort for garden decoration; colour, terra-cotta; 2ft.

Firebrand.—A pretty chestnut crimson Single producing excellent sprays for cut flowers; 3ft.

Ruby.—Another useful garden Single; colour, deep crimson; 2ft.

Garnet.—Still another attractive Single for the garden; colour, crimson; 2ft.

Chickadee.—A comparatively new Single of a brilliant crimson colour; 3ft.

Mrs. S. Smith.—This is a new Single of beautiful form; colour, reddish crimson; 2ft.

Glorious.—A new Single with three rows of florets; colour, crimson; 3ft.

Laplow White.—The most beautiful of all the early Singles; pure white; extremely free-flowering; 2½ft.

The following varieties were highly commended: *Blanche du Poitou*, white; *Miss G. K. Thorpe*, white; *Bijou*, pink, charming dwarf plants; *Provence*, pink; *Bonquet Rose*, bright rose; *Eden*, rosy mauve; *Rubis*, rose; *R. Pemberton*, rosy purple; *Cream Perrier*, creamy yellow; *Chatillon*, pale yellow; *Golden Diana*, yellow; *Miss Ethel Harvey*, yellow; *Leslie*, bright yellow; *Carrie*, yellow; *Guinea Gold*, orange yellow; *Harry Thorpe*, orange yellow; *Nina Blich*, chestnut bronze; *Golden Goacher*, golden bronze; *Bronze Provence*, bronze; *No. 1 Bronze*, bronze; *President Maugy*, chestnut; *Red Cross*, chestnut crimson; *L'Argenteillaise*, chestnut crimson; and *Fleuve Rouge*, chestnut crimson.

Pompon Varieties.—*Mr. Selby*, blush; *Gladys Gray*, yellow; *Craigmillar*, rich yellow; *Mignon*, soft canary yellow; and *Perry's Seedling*, bronze.

Single Varieties.—*Rose Perfection*, mauve pink; *Mizpah*, amaranth; *Fairy*, pale mauve pink;

Rosamund Hall, pale rose pink; *Rosea*, deep rose pink; *Canary*, yellow; and *Shrapnel*, rich terra-cotta. D. B. CRANE.

During the progress of the extensive trial of Early-flowering Chrysanthemums just concluding at Wisley, members of the Garden Committee were deputed to select the twelve varieties which, in their opinion at the time they saw the trials (when most of the varieties were in full bloom), were the most desirable for growing in the majority of gardens. Their choice fell upon the following:—

White.—SEPTEMBER WHITE and CANDIDA (also sent as Sanctity and Excelsior).

Pale Yellow.—FRAMFIELD EARLY PRIMROSE (also sent as Southover Yellow and Willington Early Yellow).

Yellow.—HOLLICOT YELLOW (also sent as Goldfinder and Philip), and HORACE MARTIN (also sent as Elstob Yellow and Maggie).

Orange Yellow.—GOLDEN ALMIRANTE (also sent as Vinstone Bronze).

Bronze.—MRS. JACK PEARSON and BRONZE GOACHER.

Chestnut.—ALMIRANTE.

Chestnut Crimson.—RED ALMIRANTE (also sent as Alcalde).

Pink.—NORMANDY.

Purple.—LICHFIELD PURPLE.

[The above selection is interesting but scarcely convincing in some particulars. Few practical growers will consider Bronze Goacher, for instance, as better than say, Harrie, while throughout there appears to be a disposition to select large-flowered varieties, whereas for border decoration the sorts with smaller blossoms are often more satisfactory. It must be an unusual stock of Elstob Yellow, too, which is synonymous with Horace Martin.—ED.]

THE PROPAGATION OF CHRYSANTHEMUMS

Cuttings should be rooted from December to March if a prolonged display of blossom is to be obtained a year hence.

ACTUALLY, long before the flowers of one year have faded or been gathered the stock of young plants for the next year must be propagated, which shews that the successful cultivator must look well ahead. There are several reasons why early propagation is advisable in many gardens. Naturally, late-flowering varieties require a long season of growth; the large pots in which the old specimens grew take up much valuable space, their sucker cuttings do not when they are placed in a propagating frame. The following are some of the late-flowering sorts to root first: *Mrs. Gilbert Drabble*, white; *W. Rigby*, a yellow sport from the latter; *Victory*, a large white when early crown buds are secured; *Queen Mary*, white and waxy; *Princess Mary*, a yellow sport from the last; *Majestic*, golden amber; *Louisa Pockett*, a large reflexing white; *Mrs. Charles Davis*, also a large refined white flower; *Mrs. R. C. Pulling*, lemon yellow; and *Mrs. M. Sargent*, white, shaded or suffused green. These are grown chiefly to bear large exhibition blooms, and the cuttings should be rooted singly in tiny pots. The propagating frame should be placed on the greenhouse stage or a similar position in a low-rooted pit where the temperature ranges from 48° to 60°. A very mild bottom-heat would hasten root formation, but it is not absolutely necessary, as roots will form in due course in a cold structure. Frost will not kill the cuttings, but it retards root action, so it is advisable to keep them safe from frost at every stage. My ideal propagating

frame is one runs high at the back, 12ins. at the front, containing a bed of coconut fibre 4ins. deep in which to plunge the small pots to their rims; this helps to conserve moisture evenly, hastens root formation, and with it the cuttings at this season rarely need watering after the "settling in" at the time the cuttings are inserted. My ideal compost is made up as follows: Old fibrous loam (a year old or so), two parts; sweet leaf-soil, one part; pounded bricks—old ones—and old mortar rubble, one part. The sand used should be very coarse and clean and dry, one pinch being dropped in the hole made in the compost so that it will rest at the base of the cutting.

Under rather cool conditions these early cuttings require five weeks in which to root; four weeks when artificial heat is used. Insert stocky sucker cuttings and keep them sturdy by removing them from the frame to more open quarters directly they are rooted; but full exposure to air should be gradually brought about by ventilating them liberally in another temporary frame for one week.

The second batch of cuttings should be dealt with about the first week in January, and these will root in one month's time or, with the aid of gentle bottom-heat, in three weeks. The following are a few of the good sorts to insert: *Dawn of Day*, orange and bronze; *Edith Cavell*, orange, flushed red; *Golden Champion*, golden bronze; *Mrs. John Balmer*, red and gold; *Mrs. Charles Curtis*, white, flushed mauve; *Mrs. A. Davis*, pink; *Mrs. G. Monro*, Jun., rich crimson; *Mrs. J. Gibson*, pink; *Mrs. Peter Murray*, rich purple;

Mrs. Spencer Chichester, primrose yellow; Rose Day, lovely pink; and Viscount Chinda, a magnificent yellow.

At this season, also, batches of cuttings of the autumn and winter decorative varieties should be rooted, followed in another month's time by the single-flowered. The very earliest border

and indoor sorts should finish the work of propagation by about the end of March.

The propagation of the later batches of cuttings may be carried out in boxes in cold frames, transferring the rooted plants to other boxes or beds in cold frames prior to planting them in their flowering quarters.

GEORGE GARNER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Winter Spinach.—This crop should be examined from time to time and any dead or decaying leaves removed, while if the soil is dry enough the hoe should be used. A light dusting of soot will be beneficial, and at the same time it will check the slugs from eating the leaves.

The Warm Border.—In many kitchen gardens there is a warm, sheltered border, which will be found very useful a few months hence for early crops. In the meantime it should be thoroughly dug or trenched, at the same time incorporating a liberal quantity of manure. This border requires doing well, and we always save all the old soil from the potting bench, which is very useful for a border of this description. It makes the soil light, and the surface dries more quickly in the early spring.

Salsafy.—If not already done, the roots may be lifted and stored in sand or ashes. A cool shed should be chosen for storing the roots, and it should be freely ventilated on all possible occasions.

Preparing Soil.—To obtain vegetables of good quality the soil should be well tilled, and although manure is essential, in all probability deep cultivation is the secret of success. At this season deep digging and trenching should be proceeded with, and if the garden is divided into four portions, one section could be trenched each year. It is not such a laborious task as many imagine, and even the amateur would soon make considerable headway in a few Saturday afternoons. Unless the soil is of a loamy nature 2ft. or 3ft. deep, I prefer to leave a cold, heavy subsoil at the bottom, merely turning over the lower spit, incorporating long manure and any light soil that may be at hand. This will not only improve the root-run, but assist the drainage, and the effect of a dry hot summer will not be so disastrous. A garden which is dug one spit deep every year eventually forms a hard pan, which restricts the roots and prevents moisture from rising or entering the soil. Deep cultivation should be the rule and not the exception.

The Flower Garden.

Sloping Banks.—Where there is a fair depth of soil it is not difficult to furnish banks and make them quite attractive. Many of the Rambler Roses will succeed, especially those of the Wichuraiana type, while if shrubs are needed that will bear cutting back, then the Common Laurel, Aucuba and Eonymus may be chosen. For dry, stony positions Common Furze is excellent, while for more or less shady places the St. John's Wort, Ivy and Periwinkle will be available.

Specimen Trees.—Conifers should be examined and all secondary leaders removed, while deciduous trees should be pruned, where necessary, to enable them to develop into well balanced specimens. In this district Ivy is a pest, and it becomes a necessity periodically to go round the trees in the pleasure grounds and woodland and cut the growths of the Ivy. If left for several years it makes considerable headway.

Michaelmas Daisies.—These are quite a special feature in many gardens, a border or several beds being devoted to their culture. Frequent division is needed, and the young pieces on the outside of the clumps should be chosen when replanting. The soil should be dug deeply and given a liberal dressing of manure. No attempt is made to furnish a full list of these delightful plants, but the following have given satisfaction this autumn: Climax (one of the best), Brussels, King of the Belgians, Blue Gem, Robinson V.C., Brightest and Best and Amellus King George.

Spartium junceum.—This is an excellent plant for arranging in bold clumps or patches in the wild garden or shrubbery. It produces

numerous golden yellow flowers in July and August when flowering shrubs are past their best. It is readily raised from seeds.

The Hardy Fruit Garden.

Gooseberries.—These delicious fruits are usually met with in bush form, but they are also well adapted for growing as cordons, from which some excellent fruit can be produced. For small gardens a larger number of trees could be grown, and with a suitable selection of varieties and positions, the supply of ripe fruit could be prolonged. Moreover, the berries are easily gathered and protection from birds rendered less difficult. Many firms offer trees trained as cordons.

Quince.—This is a late autumn fruit highly prized by some for cooking and preserving, and as a rule one or two trees are sufficient. The pear-shaped variety is perhaps the best for general use; The Portugal is also a good kind, but does not ripen its fruits so well in a cold wet season. The Quince enjoys a somewhat moist position, but it will succeed almost anywhere. Thin out the shoots occasionally and cut back any long growths to six or eight buds.

Fruits Under Glass.

Planting Vines.—Where it is intended to replace old Vines the work should be proceeded with. When the old rods are removed the soil should also be taken out and a fresh start made. Good drainage is essential, and the best fibrous loam should be employed for the border. This should be made quite firm, and only half of the border need be made at the present time. No artificial manure will be needed, but half to three-quarters of a hundred-weight of quarter-inch bones to every cartload of loam may be added. A barrowload or two of broken bricks and old mortar rubble is also desirable.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),
Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broccoli.—Unless precautions are taken the crop in the colder districts is not infrequently either partially or totally destroyed by frost. By heeling the plants over to the north the crop stands a much better chance of escaping injury. Practical gardeners know well the damage often done to more or less tender plants by the morning sun playing on them after a night's frost. To heel them over take out some soil with the spade immediately behind the stem, then push the plant over, place the excavated soil on the south side of the plant and with the foot tread the soil firm.

Kohl-Rabi.—The few who grow this vegetable should draw some earth over the bulbs, just leaving the foliage exposed. This will protect the bulbs from frost and will also help to keep them tender; when exposed, they tend to harden.

Brussels Sprouts.—Any late batches should be gone over, all decayed leaves should be collected and transferred to the heap for vegetable mould. If the leaves are rather abundant, some of them—the green leaves—should also be removed, giving the sprouts a better chance of developing by enjoying an increase of light and air. Early batches when stripped should be cleared away so that the ground may be manured and dug.

Fruits Under Glass.

The Late Peach-House should be thoroughly cleaned and the border top-dressed. The ventilators should be left open night and day except in severe weather.

Late Grapes, whether hanging on the Vines or stored elsewhere, should be frequently examined and any decaying berries promptly removed, or they will infect others.

The Early Vinery.—If ripe fruit is wanted at the beginning of summer, the house should now be shut up, and, at the end of ten days or so, sufficient fire-heat should be applied to maintain a night temperature of between 45° and 50°. It is understood that the border was attended to as regards water when the house was cleaned and the border top-dressed, but if that was not the case attention should be given to it now.

The Flower Garden.

Christmas Roses.—This is the month in which the true Christmas Rose, *Helleborus niger*, flowers, and the plants should be protected by means of a frame, handlights or sheets of glass supported by metal standards furnished with clips to keep the glass in position. This protection keeps the blooms clean.

Carnations.—Autumn-planted layers are apt to get slackened by frost, so should therefore be examined after a spell of frost, and if damage has been done they should be made firm. Layers in pots in frames should receive abundance of fresh air, and a close watch should be kept that mice do not attack them.

General Work.—Advantage should be taken of this quiet month to do some planning as regards planting schemes for next summer, so that one may form an approximate estimate as to the quantity of different plants to be propagated by cuttings in the spring, also the kinds and quantities of seeds which it will be necessary to order next month. Instead of trusting to memory, it is advisable to have a record of one's intentions either in the form of a marked plan or simply in notes, it being understood that such conclusions are subject to modification.

The Pleasure Grounds.

Laburnums seldom develop any length of bole, but make a break within 1ft. or 2ft. of the ground. As the trees advance in years they often split at this first break. When this occurs they should be banded with an iron band, the band being tightened up with a bolt and nut. The fissure should then be filled up and nicely finished off with pitch, which can be painted in an inconspicuous shade.

Lilacs when not regularly attended to as regards pruning generally develop two or three extra strong branches which overtop the general growth. When taking these in hand they should be sawn off about halfway down the bush, so that the growths which will break away from the cut portions will come into line with the rest of the growth.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Lapagerias.—Now is a good time to plant out young plants from pots. Although they may be successfully grown in large tubs, they are only seen at their best when they are planted out in a cool house. As they enjoy cool and moist atmospheric conditions, they are best placed in a position where they are partially shaded for at least a part of the day. For this reason they are useful for planting in that part of a house which enjoys least sunshine. If planted out in a bed they should have ample drainage, as they run very much underground. It is wise to confine them to a certain space by enclosing a portion of the bed with slates or bricks. If this is not done some of the strongest shoots are sure to come up in unexpected places and thus run the risk of getting damaged. The compost should be in a rough, lumpy condition, consisting of equal portions of good fibrous loam and peat, with enough clean coarse sand and charcoal to keep the whole open and porous. During their growing season Lapagerias require almost daily attention as regards training and regulating the young growths, which are very brittle and easily damaged. As growth is now finished and the foliage hard and matured, this is a good time to give the plants a thorough cleaning; they are subject to attacks by mealy bug and scale insects. When they start growing next year a sharp look-out should be kept for slugs, which are very fond of the young ground shoots.

Tydæas are very useful for furnishing the warm greenhouse during the autumn and winter, and they should be more generally grown for this purpose, as their pretty and quaint markings always attract attention. There are a number of named varieties which, of course, must be grown from the dry rhizomes. These plants are easily raised from seed, and a pinch sown early in the New Year should give all the variety necessary.

On younger stages they are best grown in a cool house in a temperature of about 50° and as they increase in size they should be grown in cooler conditions. During the summer months they may be grown in cold frames, keeping them fairly close and moist and shutting them up early with plenty of sun heat. Grown fairly cool they are much sturdier and stand better when moved to the greenhouse.

Astilbes are very useful for the greenhouse. A japonica and its varieties have long been popular for this purpose. There are now a number of pink and rose-coloured varieties which are largely grown for this purpose. As they are strong-rooting plants it pays to give them fairly large-sized pots, according to the size of the roots. After potting, they may be stood in cold frames or placed outdoors, plunging the pots to the rim in ashes until such time as it is desired to introduce them to a warm house. A house with an intermediate temperature is best for this purpose. When in full growth they take almost unlimited supplies of water at the root, and it is a good plan to stand them in shallow saucers of water.

Spiraea palmata should be given the same treatment as that advised for *Astilbes*.

Michelia fuscata (syn. *Magnolia fuscata*).—This small evergreen shrub is worth planting out in the cool conservatory, and it succeeds quite well in a mixture of fibrous peat and loam. The small reddish brown flowers are not large or showy, but they are so deliciously fragrant that this plant is always worth a place in the cool greenhouse. It is not long happy under pot cultivation and is best planted out.

Lomatias with their elegant foliage are very useful for the cool conservatory. *L. ferruginea*, with its beautiful pinnate evergreen foliage, makes a splendid specimen when planted out in a cool house. As this plant is more or less hardy in the South and West, it is well suited for planting out in the unheated greenhouse. *L. silaifolia* is a much smaller growing plant with very elegant, finely divided foliage. It makes a pretty pot plant, and also does well planted out in the front of a bed or border in a cool house. This plant is easily propagated by means of cuttings, but *L. ferruginea*, like most Proteaceous plants, is by no means easy to propagate. Cuttings should be selected from the smaller side shoots and inserted in pots containing sandy soil, standing them under a bell-glass in a cool house or cold frame.

Acacia platyptera is very distinct and is now in flower, and on this account is very valuable, as it affords a welcome variety in the greenhouse at this time. This *Acacia* is propagated by means of cuttings during the spring.

Royal Botanic Gardens, Kew.

J. COURTIS.

BOOKS

The Celmisias.—It is a little strange that, while British plant- and seed-collecting expeditions to the wilds of Asia have been so common during recent years, we have in the gardens of Great Britain so poor a representation of the, generally speaking, very beautiful flora of New Zealand. The thought is one which often recurs, but it is brought forward at this moment by reading a very interesting little book on the *Celmisias* and *Olearias** by Sir George Fenwick and James Speden. Quite a number of *Celmisias* are illustrated in half-tone, and it is evident that the smaller species are among the most beautiful of alpine plants—exquisite in foliage, beautiful in flower. Those which would not flourish outdoors with us would be splendid for the alpine house. The larger growers are equally beautiful in their way and there is a good selection, thirty-one species being described in the book, while a large number of natural varieties are also in existence. Botanically, the *Celmisias* seem to be practically herbaceous forms of the genus *Olearia*, of which twenty-one species are described by Mr. Speden. Some of these are tender in less sheltered places in New Zealand, so that they will be no use outdoors in Britain, but such finds as *O. macrodonta*,

ilicifolia and *nummularifolia* and the Tasmanian *O. stellata* undoubtedly withstand our winters better as they become acclimatised.

The Orchids of Europe.—M. Correvo's new edition of the "Album des Orchidées d'Europe" should be in the possession of all lovers of the remarkable and, generally speaking, beautiful terrestrial Orchids. In the text, fairly copious references are made to hardly non-European terrestrial Orchids, but the detailed descriptions, of course, and the splendid plates deal only with the European species. Of the forty-three British species enumerated in "Druce," forty-two are illustrated in this work—*Spiranthes Romanzoffiana* in black and white, the rest in colour—the exception being *Habenaria* (*Orchis*) *intacta*. *Spiranthes aestivalis* is, however, inadvertently labelled *Serapias aestivalis* on the plate and in the Index to the plates, and those who procure the book will be well advised to make the corrections. The descriptions of the various species are excellent, and the cultural directions (where the species are amenable to cultivation) clear and simple. M. Correvo, not without reason doubtless, labels all the saprophytic and parasitic species as impossible of cultivation, but one would think that they might be naturalised on their host plants from seed. The author seems to have found English names for all the species illustrated, but many of them are not exactly happy and some affect the risible faculties. The gem is, perhaps, *Serapias longipetala* (*Serapie à long labelle*), of which the English equivalent is supposed to be "Long-labelled *Serapias*." We can, I think, safely call that a *wrong-labelled Serapias*!

It has often seemed regrettable that the cultivation of hardy Orchids has not extended farther in England, and it is, in a way, consoling to find that M. Correvo seems to think that we have done more than our part in this country in the way of their successful cultivation. He mentions the Rev. Wolley Dod and Mr. G. F. Wilson as veritable pioneers, while he considers Mr. W. H. St. Quintin's collection at Scampston Hall a model arduous of imitation. It is pleasant to lay "this flattering unction to our souls," but with a climate more suitable than most for the cultivation of the generality of species, it is something of a reproach that more has not already been done. Will not more hardy plantsmen be up and doing with these most interesting plants? A necessary preliminary, however, must be the possession of this admirable monograph. R. V. G. W.

* "Album des Orchidées d'Europe," par H. Correvo. Published by the Author at "Floraire," Chêne-Bourg, Geneva. Price 25 francs.

Garden Ornaments.—These are one of the most expensive items which help to adorn the garden, therefore care should be taken to use them to the best advantage. They should serve a purpose as well as be ornamental. In a formal garden statues are often used with the idea of breaking up the formality, and yet if placed correctly they are quite in harmony with their surroundings. Sundials make good objectives for the terminations of paths and serve well as centrepieces where two or more paths cross, providing the crossing is in the open. Bird baths are sometimes used instead of sundials, and are far more interesting near the house, where a good view can be obtained of the birds' appreciation of the facilities for bathing. Too many ornaments in a garden spoil everything else; they are like specimen trees or shrubs, to be admired singularly and not in a bunch. Garden ornaments are, perhaps, not a necessity, but if used in the right place they help to give form to the garden.

Some Beautiful Late-flowering Heaths.—The Dorset Heath, *Erica ciliaris*, does not seem

to be as widely grown as it deserves. This is the more strange when one realises that it is practically the only *Erica* species of lowly habit which is in full flower during the later autumn and right on to winter. The singular attractiveness of *E. ciliaris* consists not only of its fine spikes (2ins. to pins. in length) of large, rosy lilac flowers, but the trailing masses of foliage in a soft glaucous green are very delightful. This species may be a little tender compared with *E. cinerea* and others, but it is quite hardy enough for most places, and will thrive in any lime-free loam that is freely drained. The blossoms in the form known as *E. c. Maewana* are even larger than those of the type and a bright rosy crimson, the foliage being greener and the branches rather more upright in habit. Closely resembling *E. ciliaris* is *E. Watsoni*, a natural *ciliaris* × *Tetralix* hybrid. This is also a good late bloomer, and while the grey-green, hairy foliage comes near to that of the Dorset Heath, the rosy lilac blossoms appear in rather a flatter terminal head suggestive of its other parent.

Veronica Lyallii.—This is a charming little shrublet of a few inches, with small, almost round, glossy green leaves very slightly notched at the margins. About midsummer and thence to autumn it maintains a succession of pretty, white, pink-veined flowers which are borne on elegant, branching sprays to a height of about 6ins. The habit of growth is almost prostrate, the tiny branches taking root as they progress. *V. Lyallii* is quite hardy in most places, given a well drained soil. A position that is screened from the noonday sun appears to be the most suitable. There are, doubtless several forms of *V. Lyallii*, as there are of its near ally *V. Catarracte*, and the latter is, as often as not, seen bearing the name that rightly belongs to the former. *V. Catarracte*, however, is considerably larger in all its parts, and more erect in habit. A notable distinction may be observed in the leaves, which in the last mentioned are not merely much larger, but narrower, more pointed and sharply indented. Both of these *Veronicas* are ideal shrubs for the rock garden.

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FORTHCOMING EVENTS.

December 4.—Sevenoaks Gardeners' Chrysanthemum Society's Meeting.—Royal Caledonian Horticultural Society's Meeting.

December 5.—Lewes Horticultural Society's Meeting.

December 7.—Bath Gardeners' Society's Exhibition.

* "New Zealand Native Flora," 1. *Celmisias*, by Sir G. Fenwick; 2. *Olearias*, by James Speden. Published by the *Otago Daily Times and Witness* Newspapers Co., Limited, Dunedin, N.Z. Price not stated.

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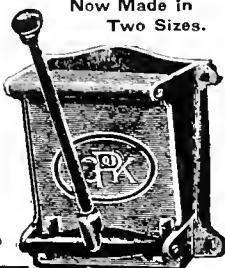
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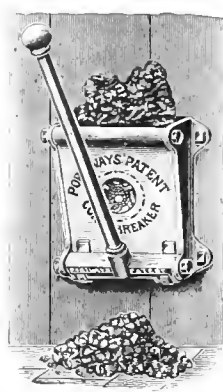
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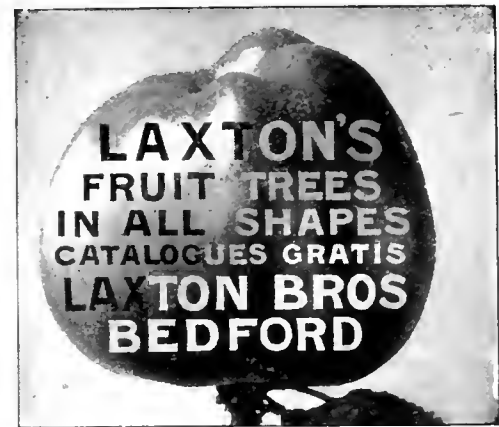
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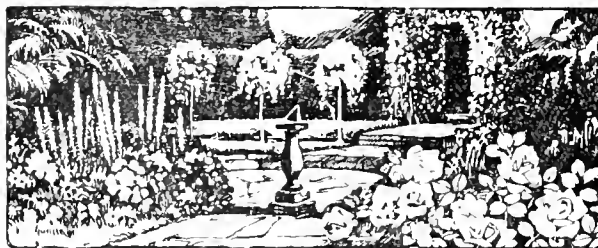
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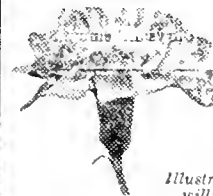
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SUITABLE WALL PLANTS

IT is regrettable that when writing of wall plants one's first thought has still to be of sounding a warning against their abuse. The function of climbers on a house wall should be to adorn, not to conceal. There are, doubtless, exceptions to this rule, since there are houses of a hideousness so peculiar that all we can do with them is to conceal them. This should, however, be a last resort; many structures which look bald and uninteresting as they leave the builder's hands may be made quite seemly by judicious planting. A long, blank wall may be broken up by the use of "pilasters" of *Pyracantha* and other shrubs of similar habit, while the *Wistaria* seems to have been "designed" to replace missing cornices and string-courses.

People are always inveighing against Ivy as a destroyer of trees, but it is comparatively seldom that one hears, or sees, it assailed as an obliterator of architecture. Undoubtedly the Ivy is no friend of the forester, yet in the purlieus of the home it may be forgiven for its strangling grip on account of its beauty of leaf and berry. On a house wall, unless most carefully handled, it obliterates what a climber less dense would have emphasised, yet it must be owned that it has its practical uses. It will keep dry a wall which could otherwise be rendered damp-proof only by rebuilding—always provided that the mortar has not already perished badly. The presence of Ivy on partly-ruined buildings of architectural interest is all to the bad, for the penetrating roots quickly dismember the fabric.

Vitis inconstans, best known in gardens as *Ampelopsis Veitchii*, is valuable not only for its brilliant autumn colour, but for the tracery it stretches over ugly stretches of facing bricks—especially the unsightly deep ones seen in the Midland Counties. On really good walls, whether of brick or stone, it is less satisfactory, and it should never be allowed so to smother chimneys and gables that it destroys their apparent form. In short, this, like the Ivy, is a useful, even a beautiful, plant, but one easily misused. *Vitis quinquefolia* (true), now often listed as "*muralis*," is the

large-leaved, self-clinging Virginia Creeper, which colours so delightfully before the fall. This also needs careful training and, at the proper time, severe restraint. The Common Virginia Creeper, *V. vitacea*, is almost exactly similar except that it is not provided with clinging suckers to the tendrils and, consequently, needs additional support if grown against a wall. It colours quite as well as *V. quinquefolia*. Its need for something to cling to may be utilised by providing wires to encourage its growth just where a line of shadow would be advantageous, and it will then more than repay any necessary training and tying.

It is exceedingly useful, too, for summer-houses and garden pavilions where trails of growth may be allowed to drape the entrance.

There are, of course, other useful climbers which have little or no attraction in flower or in fruit, but there are so many kinds which, otherwise ornamental, are beautiful either when in flower or, later, when the fruits ripen that, except for certain bleak corners, the kinds which do not possess these attractions might well be neglected. Of flowering climbers or, to speak more accurately, of flowering shrubs for walls, the principal genera are *Wistaria*, *Clematis*, *Jasminum*, *Ceanothus*, *Lonicera* and, of course, *Rosa*.

All the *Wistarias* are beautiful climbers, but the kinds common at present in gardens are *WW. sinensis* and *multijuga*, the latter being the one with the very long and elegant trails which certainly have freer scope on a pergola than upon a wall. Like the very long-tasselled forms of *Laburnum alpinum*, these long chains are liable to be damaged, and twisted up, too, in rough weather. From which it will be gathered that our old friend *W. sinensis* can still make out a considerable claim to attention. There are good white varieties of both species and a rosy one of *W. multijuga*, but what we will call the typical forms of both are the most attractive, though, except as regards colouring, both species vary much from seed, which accounts for the poor forms and the shy bloomers often seen in gardens. A good form is worth taking care of and propagating.

The genus *Clematis* embraces a number of somewhat diverse but all very beautiful climbing plants. For house walls the large-flowered hybrids belonging to the *lanuginosa*, *Jackmanni*, *patens* and *florida* sections are the most useful. *Clematis montana*, which is apt to be overwhelming in such a position, is excellent for covering unsightly buildings and, of course, for growing on trees. The same remark applies to the beautiful natural forms of this plant known, respectively, as *grandiflora* and *rubens*. Of the forms of *Clematis* *Jackmanni* it is doubtful if any really surpass the original plant



THE BEAUTIFUL EVERGREEN CLEMATIS ARMANDI.



THE ROSY CLEMATIS MONTANA RUBENS ON A BLANK WALL.



A GROUP OF CEANOTHUS THYRSIFLORUS EFFECTIVELY PLANTED TO FURNISH A WALL.

sent out by the famous Woking house; *C. Jackmanni* *supra* is larger, however. The beautiful Snow White Jackmanni is also in considerable request. Other excellent sorts belonging to the same section, but perhaps less well known are Comtesse de Bouchaud, satiny rose; Mme. Edouard André, velvety red; Mrs. Cholmondeley, pale mauve; and Star of India, reddish purple.

There are so great a number of beautiful sorts of the lanuginosa section that it is difficult to make a selection. The following, however, are all excellent: Beauty of Worcester, bluish violet, white stamens, produces single and double blooms on the same plant; Mabel Moser, mauve violet, barred with red; Nellie Moser, mauve, also with a red bar; Queen Alexandra, soft lavender; and W. T. Gladstone, large, fine lilac.

Of the earlier-flowering florida type Belle of Woking, double silvery grey; Comtesse of Lovelace, bluish lilac; and the double white and fragrant Duchess of Edinburgh are most noteworthy; while of those which flower in May and early June Lady Lonsborough, silver grey, barred paler; Lasur-stein, blue purple; Miss Bateman, white with chocolate anthers; Mrs. George Jackman, white and cream; and Stella, mauve and reddish purple, are among the best. For a wall with a west or south-west aspect the evergreen Clematis Armandi is fine, but there are two types of the plant in commerce, one much better than the other.

The genus *Jasminum* from the standpoint of a lover of hardy climbers seems always to promise more than it performs; indeed, there seems to be a good opportunity here for the hybridist. The white and fragrant *Jasminum officinale* and the winter-flowering, golden *J. nudicaule* are too well known to need description. *Jasminum revolutum*, though of shrubby habit, may be trained against a wall—indeed, needs to be in most districts, for it is not very hardy, and the allied *J. floridum* is a useful climber for favoured localities. The two last mentioned are yellow flowered. The rosy *Jasminum Beesianum* needs heavy pruning to produce satisfactory blossom, and even then it just muses being a valuable addition.

The *Ceanothus* family is an extensive one, but many of the species are hardy only against a wall in all but very favoured districts and, to do them justice, almost without exception they make excellent wall plants. Even the garden varieties of hybrid origin typified by the well known Gloire de Versailles may be trained on a wall, but they are less suitable for the purpose than such kinds as *thyrsiflorus* and its variety *griseus*, the related (probably hybrid) *Lobbianus*, *Veitchianus*, *velutinus* var. *levigatus*, *floribundus* and *rigidus*. Each of these produces a distinct effect, the beauty of *velutinus* var. *levigatus* consisting largely in the tough glossy foliage against which in late autumn the privet-like inflorescences shew to advantage.

The Honeysuckles attract largely by their fragrance, and, despite the very distinct colourings given in the books of reference, there is a general sameness about the whole family, at least as far as the climbing species of *Lonicera* are concerned, which we envisage under the English name. All of them are liable to attacks by aphids, especially against a south wall, and this should be borne in mind when planting. *Lonicera Periclymenum* is our well known hedgerow species, and the so-called Dutch Honeysuckle is var. *belgica*; it is easily distinguished by the more purple colouring of leaf and flower. *L. P. serotina* (or *sempervirens*) is an excellent late flowerer. The Pertoliolate Woodbine, *L. Caprifolium*, differs from our native plant in that the upper leaves on the shoots are united around the stem to form a cup. *Lonicera italyca* is a hybrid (perhaps a natural one) between *L. Caprifolium* and *etrusca*, and is, on the whole, the most desirable of them all; the variety *atrosanguinea* has reddish purple flowers. Very distinct in the terms of the Japanese Honeysuckle, *L. japonica*. The best known is probably *aureo-reticulata*, of which the veins and mid ribs of the leaves are bright yellow.

Of the multitude of excellent climbing Roses, Teas, Hybrid Teas and Noisettes, it is impossible here to write; they are worthy of an article to themselves. Besides, nothing is so uncertain as the growth of climbing varieties of ordinary bush Roses.

TOADFLAXES AND SNAPDRAGONS

THE Toadflaxes (*Linaria*) belong to the Natural Order Scrophulariaceæ, the genus comprising about 150 species, mostly found in the North Temperate regions. Consisting of both perennials and annuals, there are few plants possessed of a more elegant and attractive appearance than the various species mentioned below. For the rock garden or border many kinds are exceedingly useful and ornamental, while others may be used for the decoration of old walls. The Toadflax seems peculiarly suitable for the last-named kind of gardening, whether in shade or sun. The minute *L. hepaticifolia* and *L. pilosa* may be used for converting shady corners and crevices into attractive green carpets, studded thickly in summer with lilac or purple flowers. For the moraine garden there is the charming little *L. alpina*, with its rich purple and orange-coloured flowers set above the glaucous foliage, while for the border many of the taller kinds, such as the Dalmatian Toadflax (*L. dalmatica*), make handsome specimens and produce masses of flowers during summer and autumn.

All are of easy culture, succeeding well in light rich soil, the annuals being best sown where they are to flower. They should be well thinned out when the seedlings are large enough to handle. The autumn-sown ones make the best plants, and come into flower earlier, but where the seedlings are liable to suffer during the winter months, sowing is best deferred till spring. The perennials are also readily raised from seeds, which afford the best method of increase, although the plants may be divided in late autumn or spring. Some of the best kinds are:

L. ALPINA.—A charming little alpine from the European Alps, of perennial tufted habit, with numerous stems 2 ins. or 3 ins. high clothed with fleshy glaucous leaves and terminating in racemes of bicoloured rich purple- and orange-coloured flowers from June to September. Although it will flourish in well drained pockets in the rock garden, it is more at home in the moraine garden, where it quickly establishes itself by means of self-sown seeds, which germinate freely round about the old plants. In colour the flowers vary a good deal, there being white, rose and self-coloured purple forms.

L. ÆQUITRILLOBA is a little evergreen creeper from Corsica and Sardinia, with small, cordate-reniform leaves under ½ in. across, three, rarely five-lobed, and purple flowers in June.

L. ANTICARIA.—An annual, about 9 ins. high, with beautiful flowers varying in colour from violet to white in summer. This is a native of Spain.

L. BIPARTITA.—This North African annual grows 1 ft. high, is of tufted habit, has numerous stems, and bears racemes of violet-purple flowers from June to September.

L. CYMBALARIA (Kenilworth Ivy, Ivy-leaved Toadflax) is found wild in many parts of this country clothing old walls with its graceful procumbent stems, clothed during the greater part of the year with bright lilac flowers. A pretty form is var. *alba*, with white flowers, having a pale lemon-coloured lip. The green leaves are over 1 in. in diameter and deeply five-lobed.

L. DALMATICA.—A handsome, vigorous-growing perennial, from 2 ft. to 3 ft. high, erect stems, glaucous leaves and large yellow flowers in loose racemes. This is an excellent border plant when grown in good loamy soil, keeping up a display of bloom from June to September. The yellow flowers are characterised by the orange blotch on the lip. Native of South-Eastern Europe.

L. GENISTIFOLIA.—From South-Eastern Europe and Asia Minor, this is somewhat similar in habit to the above, but is of more slender habit, has narrower leaves, and bears slender racemes of light yellow flowers from June to October.

L. HEPATICIFOLIA. A pretty little plant for shady nooks in the rock garden, where it forms a dense neat carpet, with fleshy, entire leaves 1 in. across, green in colour, veined with white. The pretty lilac flowers are produced from June to September. It hails from Corsica, and should not be introduced among other small-growing plants as it is liable to be aggressive.

L. MACEDONICA is similar in height and habit to *L. dalmatica*, but has longer racemes of deeper-coloured yellow flowers and broader glaucous foliage. Flowers from June to September and comes from Macedonia.

L. ORIGANIFOLIA.—This is a neat little rock plant of decumbent habit, hairy foliage, and racemes

L. PURPUREA.—A good wall plant, but owing to its size, 2 ft. to 3 ft. high, it is more suitable for the wild garden, where it soon makes itself at home by means of self-sown seeds. It is of bushy habit, annual or biennial, with glaucous leaves and long racemes of rich maroon-purple flowers all the summer. It grows best in rocky places on the margins of shrubberies, often reaching a height of 4 ft., and is a European species.

L. REPENS (syn. *L. striata*).—A good border plant of spreading habit up to 2 ft. high with pale purple flowers having deeper-coloured lines. The variety *alba* is a most charming white-flowered form with elegant sprays of white flowers from June to October. This plant is found wild in parts of this country.

L. RETICULATA.—A charming annual from Portugal, growing about 9 ins. high, with deep purple, reticulately veined flowers, the palates of which are copper coloured or yellow, marked with deep purple lines. The racemes are short and crowded, and produced from May to August.

L. SAXATILIS is a yellow-flowered annual from



THE BEAUTIFUL PINK FORM OF LINARIA ALPINA.

of violet-coloured flowers having orange throats. It is an annual, but frequently reproduces itself in suitable positions, such as on old crumbling walls and rocky ledges with perfect drainage. It may be increased by means of cuttings in autumn, but is best raised from seed in the spring. It is a native of Spain and Portugal.

L. PALLIDA.—This is similar in habit to Kenilworth Ivy, but likes a moister position, and the leaves are only three-lobed. The purple flowers are of relatively large size, borne freely on procumbent stems from May to September. A good plant for the crevices of a paved walk, this comes from Italy.

L. PILOSA.—Somewhat like *L. hepaticifolia* in appearance, this species is larger and hairy all over. The leaves are seven-lobed and sometimes as much as 1 in. in diameter, green above and bright reddish purple beneath. From June to September the purple and yellow flowers are produced in great abundance. This species prefers a shady position in rocky crevices, and is, like the above, a native of Italy.

Spain and, like the above, useful for filling in gaps in the herbaceous border.

L. TRIORNITHOPHORA.—A desirable and charming perennial, the shape and arrangement of the flowers suggest, in miniature, the appearance of birds perched in threes upon the stems, hence the name. It grows about 1 ft. high, with broad, somewhat glaucous leaves, and purple and yellow flowers in summer. Not quite hardy, it is best treated as an annual and raised in heat in spring. It hails from Portugal.

L. TRIPHVLLA.—This species of Toadflax is easily distinguished from all others by the peculiar disposition of its leaves, which grow three together on the upper part of the stem. In colour the flowers vary from purple to yellow, sometimes combining both, and often one or the other. It is a native of South Europe, and is a hardy annual which may be sown outside in March or April.

L. VULGARIS.—This is our native Toadflax, common on railway and other banks. Its bright yellow and orange flowers are very attractive; Var. *Peloria* is a curious form with five spurs,

the forming a regular flower. This form is also persistent and reproduces itself true from seeds.

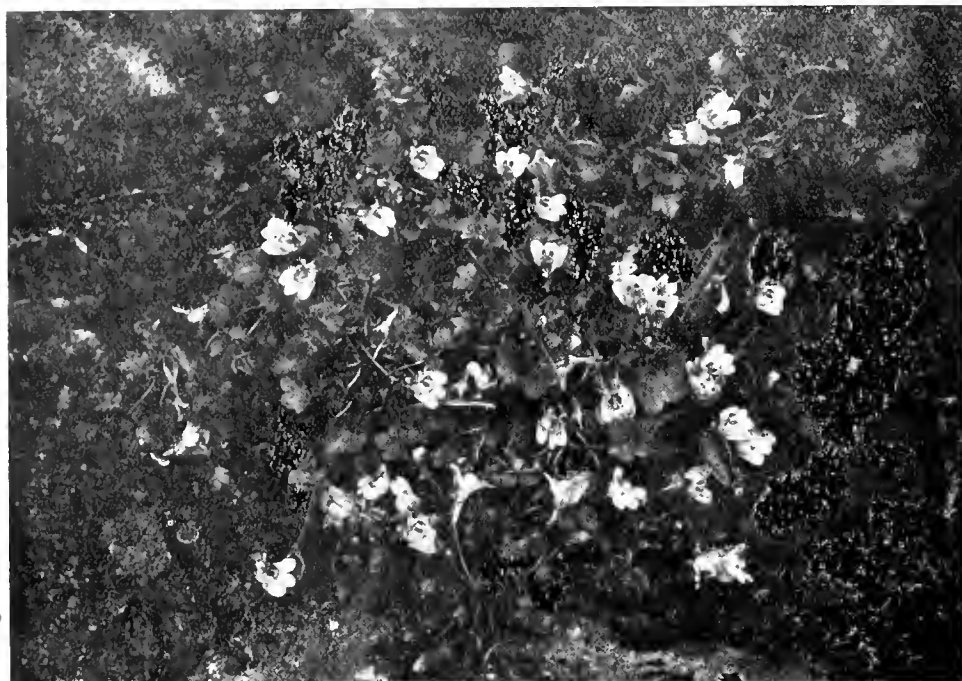
SNAPDRAGONS.

Very closely related to the *Linarias* are the Snapdragons (*Antirrhinum*). The genus *Antirrhinum* is not a large one, but it contains one or two species of great value for the garden. Few plants vary more than the Common Snapdragon (*A. majus*), which is frequently found growing wild on old walls in this country, and for beautiful colouring few flowers can match the popular race of garden plants derived from this species. Their period of flowering may be extended over the whole season, from early summer to late autumn, by means of sowings at intervals, and they are greatly appreciated in masses, either in the border or in beds by themselves. When the many beautiful forms are grown together they hybridise freely, with the result that flowers with a wide

It has procumbent stems thickly set with small, alternate, soft leaves grey with the silky hairs that cover both surfaces. The whole plant is sticky to the touch, as its specific name implies. It is rather tender, but easily propagated by means of cuttings and also raised from seeds, which it produces freely. It is quite at home as a pot plant in a cold frame, and is useful for the alpine house, growing about 6 ins. high and making quite a bushy plant covered with its white flowers from early May onwards.

A. ORONTIUM.—This annual is a British plant growing about 1 ft. high with rosy purple flowers. It is commonly called Calf's-snout, from a fancied resemblance between the seed-pod and the head of an animal.

A. SEMPERVIRENS.—In habit this is somewhat like *A. glutinosum*, but is rather more erect and is not so sticky to the touch, while the white flowers have a pink veining on the upper section. It is



THE PRETTY ROSE FORM OF THE KENILWORTH IVY, *LINARIA CYMBALARIA*.

range of colouring are produced. By selection, however, a number of varieties have been obtained which come true to a great extent. They may also be obtained in three distinct groups according to height, tall, medium and dwarf, ranging in the taller from 2 ft. or more to the dwarf ones, only 6 ins. or so in height. Other species worth growing are:

A. ASARINA.—This is a very pretty species, and particularly suited for a sunny ledge in the rock garden. It is of procumbent habit, with pubescent foliage and flowers generally produced in pairs in the axils of the leaves. The flowers are large and yellow, with an orange mouth, and are produced during the summer and autumn months. It cannot be considered hardy, and is often killed in winter, but as it sets seed freely and is easily propagated by means of cuttings, it is well worth a little trouble. It is a native of Italy, and has been in cultivation some two hundred years.

A. GLUTINOSUM. This is a Spanish plant which is said to grow freely in the great walls of the Alhambra at Granada, and is at its best as a wall plant. In dry walls this little Snapdragon finds a congenial home and bears its white flowers profusely through the summer and autumn.

also more hardy, being found higher up in the Pyrenees than *A. glutinosum*. Given a position on a sunny, well drained ledge or in an old wall, it forms a bushy plant, flowering profusely during the whole of the summer months. The two species cross readily, and intermediates are found in gardens combining the characters of both parents. *A. glutinosum* has also been crossed with *A. majus*, producing a plant of the habit of the latter but with paler-coloured flowers. W. I.

CAMPANULA ALLIONII

A GREAT many years ago, when I first became acquainted with *Campanula Allionii*, I treated it with the utmost awe and respect. Many picturesque things had been written about it. It was a rare, rare, high, high alpine, frightfully difficult to obtain, and when obtained most difficult to grow. To flower it would seem almost to entail a V.M.H. for the successful cultivator. So much was I in awe of Allionii that I largely left its cultivation to my very clever foreman of those days. After watching his methods of

propagation for some time, however, I came to the conclusion that he was on the wrong lines with this particular species. He was striking cuttings of it, and I do not know which detested the process most, the heads he chopped off or the roots that remained in the ground. But the heads available for cuttings were all too few in number, and when they had grudgingly rooted they were poor apologies for plants. So I grew on our best stock plant in a big pot for some time, and then one day, when the foreman had gone home to dinner, I took my big pot specimen plant, shook and washed out all the soil from its roots and pulled the white twitch-like roots into a couple of dozen separate pieces and replanted each singly in a smaller pot in a sandy, gritty scree-soil. My foreman thought this all very drastic and crude, and was sure that I had killed a valuable stock plant. Not a bit of it. Every piece grew, and from that time on our respect for the imagined whims of *Campanula Allionii* has shrunk to vanishing point, and our success in its cultivation has grown with every year's increasing confidence.

In those days I grew the magnificent old Backhouse variety of *Campanula Allionii* with enormous bells of deepest richest purple. This has now become extremely scarce in gardens, and between 1914 and 1918 it became altogether lost at Stevenage. Fortunately, I have recaptured from a friend a piece of this best of all forms, and this is now increasing steadily, so that a few years of patient cultivation and propagation should bring it back into the gardens of those who like the very best. I have collected *Campanula Allionii* many times, and although I have been to several stations where the species was extremely abundant, I have never come across anything quite so magnificent as the old form. The nearest approach was in the Maritime Alps. In a tiny border by a chalet in a valley near Tenda was a form which the owner had collected locally, and this was almost, but not quite, up to the Backhouse variety. At Mt. Cenis, *Campanula Allionii* is quite fairly abundant, but not particularly good. The bells are mostly smallish, lilac, and rather pinched into a waist. But in the neighbourhood of the Lautaret two years ago I struck a very good patch. Here the flowers were large, many of them extraordinarily long and of excellent colour—strong violets and lilacs—and the plant was growing in the wildest profusion, great patches a couple of feet across, studding the ground with dozens of huge bells, like Canterbury Bells, huddled almost stemless on the ground. Many were close to the roadside, and one could scramble far up the scree and still see Allionii far above. Although it was still gloriously in flower, and I could select the best forms, it was yet late enough in the season to harvest great stores of seed.

Campanula Allionii is a scree plant, and enjoys running about in the loose, free, stony soil of a scree garden. But it is almost equally happy in a light loam. In stiff clayey soils it is not at home. It is almost as easy going as *Campanula pusilla* if only one does not make too much fuss of it. If one fusses it, it plays up to invalid treatment and shams sick. The "moraine" garden, i.e., a scree garden made by a plumber, is quite unnecessary for Allionii. It may grow in spite of underground irrigation, but it will grow perfectly well without. In a note in THE GARDEN a little while back M. Correvon mentioned the white form of Allionii as growing in Dr. Jenkin's garden, but Dr. Jenkin tells me he has not the plant. As far as I know, live plants of *Campanula Allionii* all have never reached this country.

Stevenage.

CLARENCE ELLIOTT.

SOME OF THE NEW ROSES OF 1922

A FAIR start was made this year in the testing of some of the 1922 new Roses, though it was not found possible to get all the British varieties, and, of the foreigners, only a very few were obtainable. Taking the Hybrid Teas first in alphabetical order:

ADMIRATION (S. McGredy and Son). The creamy pink blooms are nicely shaped, though a little flat; the buds very pretty. This should make a good exhibitor's Rose. The growth is good and bushy, though rather dwarf, reaching only about 15ins. in height.

BETTY UPRICHARD (Alex. Dickson and Sons). — The excellent blooms are of a colour a little difficult

to describe; outside the petals are coppery carmine, while inside they are a lighter carmine, quite a unique combination. The blooms are not heavy, which is an advantage. The growth is bushy and tall, some shoots measuring 3ft. in height. The foliage is good, and a strong point in favour of the Rose is the mass of beautiful blooms it gives in autumn. Gold medal, National Rose Society.

CAPTAIN KILBY STUART (Alex. Dickson and Sons). This hardly comes up to expectation, perhaps, after the high standard set by Betty Uprichard. The blooms are large, deep crimson in colour and, while lacking in form, they make up for it in excellent scent. The growth is rather

dwarf, but perhaps the single plant tested was none too strong originally.

CLARA CURTIS (Alex. Dickson and Sons). The blooms are deep golden yellow and a little flat, but shapely in the bud, the growth excellent just right for a bedding Rose—about 24ins. high. It is a protuse bloomer, continuing through the autumn. The foliage is tough and dark, combining well with the yellow blooms. Gold medal, N.R.S.

COURTNEY PAGE (S. McGredy and Son). The scarlet crimson blooms are similar to those of H. V. Machin, though inclined to discolour on maturity. It is very sweet scented. The growth is good, about 18ins. high, and the foliage also



QUITE UNIQUE IN COLOUR, ROSE
BETTY UPRICHARD.



MABLE MORSE, THE BEST GOLDEN YELLOW
ROSE SO FAR.



AN EXCELLENT NEW TEA ROSE—
MURIEL WILSON.



CLARA CURTIS, A FINE BEDDING
ROSE.



PHOEBE, A PRIMROSE TONED ROSE OF
QUALITY.



THE GLOWING SCARLET CRISP
LADY INCHQUIN.

can and good. Probably it will do best in a wet season, as our plants did not seem to like drought. Gold medal, N.R.S.

DIADYM (S. McGredy and Son).—Another variety difficult to describe as regards colour, this is catalogued as a deep crimson suffused salmon and coppery yellow, but our first blooms came salmon pink and not unlike those of Los Angeles. The blooms are very large and good enough for exhibition, though a trifle flat. It is a splendid autumn bloomer. The growth is good, reaching about 2ft. in height, and the foliage also good.

FRANCESCA (J. H. Pemberton).—The small apricot yellow, semi-double flowers bloom in clusters. The buds are very pretty. It is a strong grower, making bushes 4ft. in height with good, clean foliage.

INNOCENCE (Chaplin Brothers).—This has large, single, pure white blooms with curious reddish stamens. It was very effective when exhibited at the previous summer shows arranged in vases or baskets. The growth is strong and upright, about 30ins. high, and the variety blossoms well in autumn. Certificate of merit, N.R.S.

JOHN HART (Elisha Hicks).—The bright cherry pink blooms are carried on erect stems. All the blooms come a good shape and of reasonable size, though they are not big enough for an exhibitor's box. It is a buttonhole Rose and a free bloomer through autumn as well. Described as an improved Lady Battersea, it should make an excellent bedding Rose—about 2ft. high. The foliage is good, the leaves large, and the new growths are of reddish colouring.

KATHLEEN (J. H. Pemberton).—A cluster Rose with very small pinkish bluish flowers in big trusses. The buds come red, making a pretty effect in combination with the pink blooms. It is free-flowering and the growth bushy—about 2ft. high.

LADY INCHQUIN (Alex. Dickson and Sons).—The very bright and startling orange cerise colour attracts universal attention. The growth is erect, about 24ins. high, and the foliage is small-leaved and light in colour. This is an excellent bedding Rose, a free bloomer and a wonderful sight in autumn. Gold medal, N.R.S.

LADY VENABLE VERNON (Jersey Nurseries). The blooms are creamy saffron colour with pink centres. It is a clean grower, though dwarf height only about 12ins. Origin, Mrs. A. Hammond & Sir A. N. Rockford.

LADY VEREA (Elisha Hicks). The small pink blooms have a yellow base. It is a buttonhole Rose which makes strong growth 24ins. in

height and the foliage is large and good. It produces good trusses of blooms and plenty of autumn flowers.

LORD CHARLEMONT (S. McGredy and Son).—The dazzling crimson flowers are very rich in colour and not heavy. It is a good dwarf bedding Rose height 15ins. to 18ins., and produces an excellent crop of blooms in autumn. It is said to be one of the best Roses for potting.



THE SINGLE WHITE INNOCENCE FLOWERS FREELY IN AUTUMN.

LUCILE BARKER (Elisha Hicks).—Apricot yellow blooms and good pointed buds surmount the clean and erect, though thin growth—about 30ins. high. It makes good trusses of bloom and is very free-flowering; a good bedding variety.

MABLE MORSE (S. McGredy and Son).—The bright golden yellow blooms are very full and very clean. Every flower comes a perfect shape, and it is a really free-flowering variety. Although we had regarded Golden Emblem as perfection so far as yellow Roses are concerned, this new Rose is even better, and should prove the crowning point, unless, of course, the raisers have something even better coming along. The growth is about 18ins. high, and the shoots are thrown with a branching habit. The foliage is good, the leaves being a dark bronze red. In autumn the plants are again a mass of blooms—all as perfect in shape as ever. Gold medal, N.R.S.

MRS. ALFRED WEST (Frank Cant and Co.).—This has bright pink blooms which are large and pointed. Unfortunately, our plant was not a strong one, but the growth seems to be somewhat dwarf.

PRIMA (B. R. Cant and Sons).—Creamy yellow blooms with long pointed buds and sweet scent

combine to make quite a useful and promising bedding Rose. The growth is upright but not tall—about 15ins. to 18ins.—the foliage good (leaves large), the new shoots and foliage being almost purple coloured. It is recommended for pot culture. Gold medal, N.R.S.

PRINCESS NAKAGO (J. H. Pemberton).—This is a Rose with a curious blend of colour—fire shaded yellow—which has small, semi-double rosette-like blossoms. Of bushy growth, it is about 18ins. high.

THE ADJUTANT (J. H. Pemberton).—The semi-single dark vermilion-coloured blooms are quite startling in colour. Of good tall growth, running up to nearly 3ft., the foliage is large and leathery. It threw some good autumn blooms.

WATTHAM CRIMSON (Chaplin Brothers).—The dark crimson blooms are rather like those of Elizabeth Cullen. The growth is dwarf—about 12ins. high. Too many of these very similar varieties are being put on the market.

Three varieties of Pernetiana Roses have been tried here, viz.:

MRS. BECKWITH (J. Pernet-Ducher).—The pale yellow blooms are medium full, the growth none too strong, and the height about 18ins. Of this type also there are too many similar ones being marketed, and only the best should be selected.

PRESIDENT CHERIOUX (J. Pernet-Ducher).—Quite a striking novelty. The colour is coral with the base of petals shaded yellow, and it is very fragrant. The growth is good, the habit branching, and the shoots about 15ins. to 18ins. long. This should make a wonderful show when massed in a bed. Gold medal of Honour, Bagatelle.

SOVEREIGN (B. R. Cant and Sons).—The golden yellow buds and blooms are of good shape and it is a good strong grower. The height is about 2ft., the foliage excellent, the leaves being large. It throws splendid trusses of bloom in autumn and is altogether a fine bedding Rose.

One new Tea Rose was marketed in 1923, emphasising the unfortunate decline of this once-popular race:

MURIEL WILSON (George Prince).—This has very pale lemon-shaded blooms, almost white. The growth is good, and here it does considerably better as a dwarf than on a standard. The foliage is excellent and disease-proof, and it threw some fine blooms in autumn. This will no doubt be most popular with lovers of the good old Tea Roses.

One dwarf Polyantha, viz.:

LAXTON'S PINK DELIGHT (Laxton Brothers).—Although described as a "Dwarf Poly," it has grown to a height of over 2ft. here in its first season. The blooms are single pink, and it is very free-flowering in large and erect trusses. This is a fine-weathering Rose, the colour becoming dirty in wet. It should, preferably, be classed as a single-flowering bush Rose.

It is difficult to flower climbing Roses the first season if they are properly pruned, so at present we are more concerned with habits and growth than blooming:

CLIMBING MRS. AARON WARD (Alex. Dickson and Son).—This is a climbing Hybrid Tea of excellent promise. The growth is good and strong—about 5ft. long shoots in the first year—and the foliage large and clean.

CLIMBING STEVENS (J. Pernet-Ducher).—A climbing sport of Mrs. Herbert Stevens, this in its first year has made wonderful growth—shoots 7ft. and 8ft. high, and plenty of them, too. It should be a very valuable addition to outdoor climbing Hybrid Tea varieties, provided, of course, it blooms as freely as it grows. The foliage is excellent, large and tough.

SNOWFLAKE (Frank Cant and Co.).—This is a very strong-growing Wichuriana—if anything a little too strong, though that is hardly a fault.

The large trusses of pure white blooms are carried on long shoots. It is late flowering, and should make a splendid weeping standard. We have here the best addition to the *Wichurianas* for many a day. Gold medal, N.R.S.

The above list of 1922 Roses is, of course, by no means complete, for, besides other British raisers, there is also a big list of Continental new varieties. Several of those described above stand up immensely superior to others, and they

will, without a doubt, become popular Roses of the future. Exhibition Roses seem to be on the wane—the great, heavy blooms never did seem to take the popular fancy, and with all Rose growers surely it is bedding Roses, and real good ones, that are desired.

The best yellow of the year is undoubtedly Mable Morse. The future of this should be assured, and when known to the public it will be found in every garden. Sovereign comes

second. Of reds Lord Charlemont has so far proved the best, while John Hart is runner-up. Betty Uprichard and Lady Inchiquin must be grown in every garden and massed in beds. There is little to choose between them as regards novelty and brightness. Diadem is the best pink of the year, while Phoebe, President Cherieux and Lucile Barker are all promising, and a more definite opinion on their merits can be given after another year's trial.

H. L. WETTER.

FOG AND FLOWERS AT VINCENT SQUARE

THE Royal Horticultural Society is very fortunate in the exhibitors who make its fortnightly meetings so attractive. On November 27 last the weather was so discouraging and unsuitable for transporting plants and flowers that it would not have been surprising to have found practically an empty hall. But sufficient exhibitors braved the fog and frost with their plants and flowers to make a very bright show at Westminster, though Mrs. Constance Joy had the disappointment of finding the beautiful plants of *Begonia Gloire de Lorraine* which she sent from her gardens at Maryland, Bentley, badly nipped by the frost. Although the flowers were hanging in a sad fashion, however, and the leaves had lost all their green colour, it was fully evident that before being frozen they were admirable plants.

Better fortune attended Mr. J. B. Body, who exhibited from Hindhead Court, Hindhead, a large group of magnificent *Begonia Gloire de Lorraine* in perfect condition. These were all plants in very large pots, and displayed the highest

degree of cultural skill. A silver-gilt medal was awarded, but had it been the higher award of a gold medal, no one, taking into consideration the excellence of the plants, their unusual size and the difficulties of transporting so many large *Begonias* from Hindhead, could have criticised the award.

Although Mrs. Constance Joy was unfortunate with the *Begonias*, her three specimen plants of *Chrysanthemum Mrs. R. Luxford* were in perfect condition. These model plants were of the type now but rarely seen in this country, though they are still popular on the Continent. There was little to choose between them and, curiously enough, two bore 150 flowers each, while the third had 146 blooms, and they made a bright and attractive display.

In a corner of the hall Mr. L. R. Russell set up a dozen or so beautiful plants of the orange-coloured *Jacobinia chrysostephana*, a warm greenhouse plant which is rather neglected these days. He also shewed the beautiful blue *Tillandsia Lindeniana*.

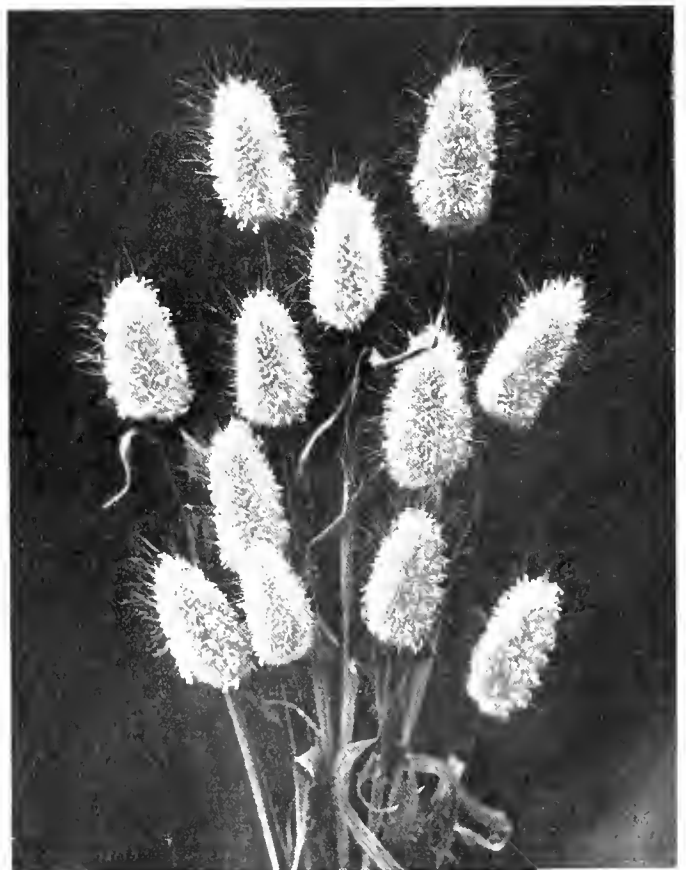
An uncommonly artistic display was made with Cacti and allied plants by Mr. Sidney Smith. Such succulents as those on view are really more valuable than is generally realised, for they do not require much heat during the winter, when the plants are at rest and should be kept quite dry. They also are very good plants for the living-room.

Another very uncommon exhibit was that of "Everlastings" set up by the French Intensive Gardens, Limited, who had grown large quantities of *Acroclineums*, *Statice*, *Helichrysums*, *Physalis*, *Tamarix*, *Gypsophila* and *Agrostis* for drying. In this they had been very successful, so that an attractive display was the result. Their idea of writing the names in white paint on the green leaves of the common Cherry Laurel was uncommon and effective. The beautiful Hare's-Tail Grass, *Lagurus ovatus* was especially appreciated by visitors.

Carnations were, of course, to be seen in bright colours and goodly quantity, and Messrs. Allwood Brothers are still able to show their dainty and



ONE PLANT OF A FINE GROUP OF *BEGONIA GLOIRE DE LORRAINE*.



THE BEAUTIFUL (ANNUAL) HARE'S-TAIL GRASS, *LAGURUS OVATUS*.

lowering *Diathus Allwoodii*. Among their combinations proper the large vase of Edward Allwood was especially brilliant. Not only is the vivid colour so valuable but the flowers of this variety keep fresh unusually long in a cut state. Jazz, Tarzan, Circe, Chintz and a vase of mixed sorts were also admirable.

Bright colour was noticeable, too, among the Carnations of Mr. C. Engelmann, who shewed Tarzan, Laddie, Topsy, Peerless, Delice and Enchantress Supreme with many other sorts. Eileen Low, their new pink variety, was prominently shewn by Messrs. Stuart Low and Co., and from the quantity to be seen it would appear to be a good winter-flowering Carnation. Two fancy varieties, Coquette and Amos Grove, were also very attractive.

On either side of the entrance there were splendid groups of *Chrysanthemums* arranged by Messrs. W. Wells and Co. and Messrs. Keith Luxford and Co. Both exhibitors had a number of excellent exhibition Japanese varieties, and also shewed many Singles and the market-sized Japanese sorts which are valuable for ordinary decorations. Messrs. Luxford and Co. had some most delightful vases of tiny Pompons of charming colouring which would help to make an uncommon decoration for a dinner-table.

Spray-flowered *Chrysanthemums* were shewn, with other cut flowers and plants, by Mr. F. G. Wood and Messrs. Baker, Limited. The latter included *Veronica salicornoides* and *V. cupressoides*, while Mr. Wood shewed his miniature rock gardens. Mr. G. Reuthe set up many sprays of interesting and useful conifers, and in some cases these bore their cones. Near his *Bromeliads* Mr. Russell had an attractive group of ornamental shrubs, which included a standard *Rosemary* in full bloom.

The Countess Cawdor sent an attractive selection of *Pernettya mucronata* which were heavily fruited. Among the several distinct forms there was one with almost transparent crimson berries which will be of great value.

The only group of Orchids in the body of the hall was a beautiful one by Messrs. Sander and Son. They displayed splendid plants of *Cymbidiums*, *Brasso-Cattleyas*, *Cattleyas* and *Cypripediums*.

The superb qualities of the rich pink *Rose America* was again fully evident in the excellent vases shewn by Mr. Elisha J. Hicks. A collection of well trained topiary was arranged by Mr. J. Klinkert.

Messrs. G. Bunyard and Co. had a small collection of beautifully coloured Apples in such sorts as Cox's Orange Pippin, Rival, Peasgood's Nonsuch, Allington Pippin and Baumann's Red Reinette.

During the winter the exhibition of paintings and garden sundries is encouraged, and on the present occasion Miss Winifred Walker, Mrs. Townsend, Miss Ellen Warrington, Miss A. F. Wilkinson, Mrs. Adie and Miss Maude Angell took advantage of the opportunity to shew paintings of beautiful and interesting gardens and studies of flowers; while Miss G. Dorrien-Smith had interesting paintings of such subtropical plants as *Mesembryanthemums* and *Metrosideros*, which thrive in the mildest parts of the country.

NEW AND RARE PLANTS.

Cypripedium Chrysostom Amy Moore.—This is a splendid example of the large *Chrysostom* type of *Cypripedium* *insigne*. The flower is immensely enlarged and of perfect form. The broad upstanding standard is pure white on its upper half, spotted with crimson-chocolate, while the lower portion is a metallic green with chocolate markings. The lip and sepals are of *C. insigne*

colouring, but more shining, and the broad leaves are a dark pea green. First-class certificate. Shewn by Mr. G. F. Moore.

C. Chrysostom Richard Fort.—This is another immense bloom of the same type as the foregoing. The erect standard is well marked with rosy spots on white ground on the upper portion and chocolate on green below. First-class certificate. Shewn by Mr. G. F. Moore.

C. Gwen Hannen.—Although not quite so large as the two previous varieties, the flower is very large and of similar type. There is much more white on the standard and a line of crimson-

chocolate spots runs up the middle of the standard. First-class certificate. Shewn by Mr. G. F. Moore.

C. Prince Albert var. Mecca.—The colouring in this variety is delightful and uncommon in its type of *Cypripedium*. The standard is faintly tinged with blush and heavily spotted with crimson-chocolate. The sepals are definitely marked with shining chocolate colour along the upper half, and are shining green with chocolate spots below. The lip is the same as in *C. insigne*. It is a more rounded flower than the foregoing. First-class certificate. Shewn by Mr. G. F. Moore.

THE ALONSOAS

Wanted—a Developer.

NATURE is full of undeveloped plates. Ought human beings to try to develop them? Different temperaments will doubtless answer the question in different ways. Again, human agency differs from "Rytol" (a famous developer) in that it has more power of influencing the negative. What is the kind of influence that we would wish to see? The answer is as before. Different temperaments have different ideals. This is the point where the fat gets into the fire. There is as it were but one garden, but there are diversities of opinion as to what should go into it. Because it is so must all of us rest content with the happy-go-lucky development of Nature, which, in other words, is being content with the wilding treasures which are sent or brought from other lands? Their most ardent lover surely has a vulnerable heel which at some time or another has been pierced by the spear of some man-made beauty. Nature as often as not invites us to begin the work. Among the gardeners who appreciated to the full natural forms may be numbered the late garden-genius, Reginald Farrer. Have I not heard him talking about his well beloved *Eritrichium nanum* when on one occasion he staged a large exhibit of it at one of the great Shrewsbury shows? All were beautiful but the flowers were not all alike. This blue was better than that; this flower had wider petals than the other; and there was no comparison about habit of these two. Farrer was not satisfied with taking quietly all that Nature gave him.

I feel sure Nature did not blame him for picking and choosing—nay, by her presenting him with a choice, she invited him to do so. I am not an alpine man, but I believe this tiny plant is very tricky and difficult in English gardens, so perhaps no development has been attempted. But this is far from the case with everything we are given. Last summer "that ever was" I collected together all the species and varieties of *Alonsoas* that I could lay my hands on. The chief impression that remains with me now the venture is over is that the *Alonsoas* are a neglected family. There are potentialities lying dormant which only need a Mr. Human Rytol to come along and take them in hand. Nature herself "gives the tip" in the little differences that may be seen in the build and colouring of the species and varieties which we now have. Encouragement is at hand not only in the inborn curiosity of mankind to see the pig that is in the poke, but in the more tangible reward that arises from the desire of the novelty-loving public to possess themselves of the "latest out." Mr. Human Rytol has, nowadays, an easier task than he would have had a quarter of a century back, for he has Mendel's "hypo" to help him in his work

and to shorten his labour. Even this is being altered, and William Bateson's Improved Mendelian Hypo is, in this connexion, a gift from the gods.

Last summer I saw with my own eyes something of what I may call the innate variability of the race, and I believe it was no fool's paradise that I filled with my imaginings, but a veritable *paradisus terrestris* made beautiful by new and fascinating flowers. Not that all developments are on right lines. I could not bring myself to care for the wretched-looking dwarf *Mutisii* any more than I like Cupid Sweet Peas. *Mutisii* in what I believe to be its primitive state, has pale and washy pink flowers, and there seems to be no gain in associating the colour with dwarfness. But other changes in other directions are possible. Visitors to my garden this year saw a beautiful mass of bright salmon rose *Alonsoas*. It all came from a solitary plant in a large bed of *Mutisii* which had brighter and deeper-coloured flowers than the others. Then Warszewiczii has told me that it is not wedded to one particular shade of red for the colour of its coat. I have had some getting on to the yellowy red of the *Tulip Marksmann*, while others have been of a deeper dye and have recalled the dark blood red of *William Pitt*. A slight difference, too, was observable in the shape of the blooms. Some surfaces were all in one plane and in some there was the usual depression of the centre.

When one sees the straight branches of *Myrtifolia* it is only natural to suppose that those of *acutifolia* might be straightened by rigid selection. The great big reddy orange flowers seem to ask us to do at least this favour for them; but if only we could give them the grand leafage of *myrtifolia* (*Vilmorin*)! You know the garden Stinging Nettle. Imagine its really beautiful leaves made of a fresher and a more glossy green, and then you will know what it is that *acutifolia* is longing for. The flowers of *myrtifolia* are much smaller, rather paler in colouring, and more sparsely placed on the shorter spike. They see those finer ones of their brother's and in turn beg us to do something for them. *Linearis* or *linifolia* is characterised by the narrowness of its leaves. It has orange flowers with a small dark depressed centre—as in *myrtifolia*—and extra long spikes of bloom. Surely something might be made out of this last-named characteristic. If I were a younger man how I should like to have a go at them. From what others have done in dwarfing *Mutisii*, from my own experience in deepening its colour, and from the variations which I have observed in Warszewiczii, it would appear some Mr. Human Rytol ought to set to work to develop the possibilities of this charming family. All floral development work is both exciting and fascinating. There is an old local saying of which

the first meaning is very plain, but which with a changed application puts my case in a nutshell. "He's too far gone with the brandy bottle to turn back to the buttermilk ladle." I have tried to be a developer of Nature, and I can only say that the continual pleasure which I derive from the attempt is such that it would be sorry to have to turn back to the buttermilk ladle of more or less aimless gardening, which appears to be "the end-all and be-all" of many. I know, too, of a certain young man who had to bear as his lot in life anything but robust health, who in the occupation of trying to raise new or better forms of garden plants found a something which quite counterbalanced his being unable to take part in games or ride or shoot as others of his own age and standing were wont to do. Bacon, if we may gauge his mind by his posthumous "*Sylva Sylvarum*," if he had had a modern gardener's knowledge of the potentialities which lie hidden under the outward faces of many natural forms of flowers, would have had an additional reason

for describing gardening as "the purest of human pleasures and the greatest refreshment to the Spirits of man." Alonsoas are among those which are waiting to be taken in hand. If so much has been done with the *Clarkia* and the *Schizanthus*, why should Alonsoas lag behind?

Cultural hints are outside the purpose of this article, but in case anyone feels he would like to grow them it may be pointed out that seed should be sown, if possible under glass, in February, so that there may be good strong plants ready for potting in their permanent quarters in May. They require a long season in the open if we are to get any seed. If, however, bad weather comes before this is ripe, the plants should be lifted and put into the greenhouse to complete the process. I have never tried increasing them by cuttings, but dictionaries tell us it may be done, for most of the species in their own homes are perennials. I have used the names I have found in seed lists, but I very much doubt if they are correct.

JOSEPH JACOB.

CORRESPONDENCE

THE OLYMPIC MULLEIN.

I HAVE already said so much in *THE GARDEN* about the Olympic Mullein that I must apologise for saying yet another word or two about its persistent flowering. My plants began flowering in the last week of June. They were still, on November 8, quite four months later, putting forth blossom. On the last two days of September, two of the finest days of the year, the plants were covered thick with bloom, almost as much so as when they were at their best. This long period of bloom is, I fancy due partly to the exceptional wetness of the season and partly to the absence of frosts. A vaseful of *Verbascum* sprays gathered a few days ago is now in full beauty, fresh bloom coming out day by day. I notice also for the first time that the flower has a fragrance—slight, but sweet.—SOMERS.

Last autumn I went with a botanist on some interesting trips from my little mountain cottage. We have, growing among the mountain debris, several



THE CHINKERICHEES.

I ENCLOSE a photograph of two kinds of *Ornithogalum*. The cut specimens were received from South Africa on October 22, having been sent over in cold storage during the three weeks' voyage. The flowers were exhibited at the Royal Horticultural Society's fortnightly meeting on November 13, and this photograph was taken on November 21, at which date they were still in excellent condition.—(Miss) IDA E. WRIGHT, *Kew, Surrey*.

NEW ZEALAND RANUNCULI.

I HAVE had so many interesting and delightful correspondents in answer to my little articles on New Zealand alpine, that I feel tempted to try to describe a few more.

TWO VARIETIES OF CHINKERICHEES, *ORNITHOGALUM LACTEUM* AND VAR. *CONICUM*.

Ranunculi. One, *R. Haastii*, has a leathery, brown-grey, much cut leaf—I say leaf because each plant has only two leaves at the most, generally only one—and one blossom is thrown up about the size of half-a-crown. *R. Enysi*, with smaller leaves, is a smaller plant altogether.

R. paucifolius has a whole article to itself, by Professor Wall, in the transactions of the New Zealand Institute. It grows in a basin in the limestone district of Castle Hill. This is the only place where it has ever been found. The leaves are leathery, it dies down completely in the winter and has a blossom 2 ins. across. The New Zealand Institute says: "Originating in a very remote drought period, somewhere within an extensive

area of Tertiary limestone, this plant acquired xerophytic characters and flourished. Then followed the glacial period, which gradually covered all the area except this small basin which escaped."

There are now about 300 plants left of this, one of the oldest living kinds in the world. Then, of course, there is the wonderful *R. Lyallii*, white, with the huge round green leaves, so handy for drinking cups, but my favourite is the old, old *R. paucifolius*. I hope to collect seeds of several kinds this season, especially of *RR. Haastii*, *Enysi* and *paucifolius*. Would anyone like to try them? If so, I will gladly send some.—MARY POULTON, *Shirley, Christchurch, New Zealand*.

THE COLIN PULLINGER MOUSE TRAP.

IN February of last year I addressed a letter to you with regard to my experience of the usefulness of the "Colin Pullinger Balance Mouse Trap" for the capture in a garden of field mice and voles, and have been much surprised to receive letters from different parts of the country stating that the traps had not caught a single mouse.

Knowing how well the traps work it did not occur to me until recently to enquire of my gardener how my own had been catching and I was astonished to learn that they had not caught any mice for a long time, although a drop of oil of aniseed had been placed on the flannel of the bait rack every few weeks.

As oil of aniseed has been the only bait used for my traps for the last forty years and only now has failed to attract, it occurs to me that during the war some alteration was made in its manufacture, but it will be very difficult to prove this, for on enquiry I have learnt that most of this oil is distilled in China. I am also informed that there are several common brands on the market from which a portion of the active constituent (Anethol) has been removed, so this may be the cause of the failure of the oil to attract. Several specimens have been sent to me, but according to my sense of smell they are neither as pleasant nor as strong as the oil of years ago.

I am informed that Messrs. Duke, Waring, Crisp and Co., who are now the sole manufacturers of the trap, on seeing my letter, attached a slip recommending oil of aniseed as a bait, and this probably has led to it being used more widely than it would otherwise have been done.

However, knowing the fondness of mice for cheese, I had the scented flannel removed and replaced with a slice of cheese about 3 in. in thickness (the size of the bait rack) and since this was done the traps have caught as well as they used to do.

I feel it a duty to let you know what has occurred, for many of those who purchased traps on seeing my letter have probably been disappointed with the result, if they have followed the advice given to bait only with oil of aniseed.—MARK HOVELL.

THE YEAR'S FRUIT CROP.

THE season has been a remarkable one for most kinds of fruit, and especially so as regards the contrast between gardens and orchards in close proximity. The show of Apple blossom was all that could be wished, and generally, in spite of a cold May, the fruit set well: but then came disaster. In this district we had a bitterly cold drought from the middle of May to almost the end of June, with the result that the Apples neither grew nor thinned themselves, and this was followed by a terrible plague of green fly; I only remember one year when fly was equally bad and then the conditions were the same. The fly seems always with us and only waiting favourable conditions to multiply by myriads, and as soon as there is a check to growth the fly appears. This year, the attack was so bad that where the

trees were not pruned, nearly all the foliage was destroyed, necessitating new growth, which speaks badly for next year's crop. I found a mixture of paraffin and soft-soap was amply sufficient to destroy the pest, and on the Apples one application enough if done thoroughly, but the difficulty with large trees was too great for my appliances, so I concentrated on smaller trees bearing valuable crops. Unhappily, this was not all. The fruit hung in bunches, the one chance of decent Apples being persistently to thin, and only the thinned trees produced fruit of any quality. Some of the larger trees, such as Dunelow's Seedling and Branley's Seedling, were smothered with crowds of little Apples only fit for pigs. While in some orchards there was an immense crop of Apples, good and bad, in other orchards close by there were few or none. I came across two large orchards of young healthy trees without an Apple. I cannot explain these vagaries. I have heard several explanations, but careful investigation shews that none of them will solve the riddle. Nature has her secrets which we cannot yet fully fathom.

Pears were almost a blank and, I think, not for climatic reasons, but because the enormous crops of last year were too great a strain for a crop this year. One of the banes in fruit growing is over-cropping, with the result of poor fruit and little or none the ensuing year. Of the wall fruit, Apricots and Nectarines did well, but Peaches were scarce. Plums were, generally speaking, a failure. I had plenty of Victorias and Orleans, probably owing to vigorous thinning last year and spraying for fly this summer. Strawberries were badly affected by the drought and cold June, and in some places the crop was nil. It is rarely the case but that we have a dry spell in June or late in May, and I find that the only way to get a crop in a rather light soil is to drench with water during this spell. If sufficient water is given to get as deep as the roots and the plants are then strawed, one or two applications are sufficient. Raspberries and Gooseberries were, on the whole, a good crop, but Currants suffered severely from the drought and cold.

On the whole, the year has been a disappointing one, and probably those whose Apple and Plum trees bore no fruit will be better off next year than those who had large crops of inferior and, in many cases, useless fruit this year. Looking over the Apples I have been surprised to find very few diseased ones. The maggoty ones seem to have fallen before the crop was gathered, and I noticed at that time how few were attacked. Some of my neighbours complain of Apples failing to keep an annual complaint—but I am sure in most cases it is the result of bad gathering and storing. My gardener handles Apples as he would eggs, and he does so with excellent results. It must be understood that I am not writing of the fruit crop generally, but only in my own district (the East Midlands), but I believe my remarks apply to the Cambs. and Isle of Ely orchards, with, no doubt, many exceptions.—J. H.

NERINE BOWDENI.

[NOTED with interest the article by "X." on *Nerine Bowdeni* outdoors at Kew in THE GARDEN for November 24, page 612. We have here an old-established bed of *Nerine Bowdeni* situated at the base of an 8ft. Yew hedge facing full south from which this year we have cut over eight dozen spikes of flower. The bed (area about 6 square yards) was one blaze of colour and a sight not to be forgotten. It is remarkable that *Nerine Bowdeni* is not more generally grown in gardens considering its beauty in the garden and its usefulness as a cut flower for indoor decoration. This, with the *Belladonna Lily* and *Crimm Powellii*, the two latter of which have

flowered most profusely here this year at the foot of south walls, gave a choice supply of cut flower from early August till the end of October.—HERBERT J. BECKINGHAM, *Exhurst Park Gardens*.

ILEX VERTICILLATA.

THOUGH usually included with the evergreen species in the genus *Ilex*, this interesting deciduous shrub retains Linnaeus's name of *Prinos verticillata* in a few gardens. A native of



CRIMSON BERRIES OF ILEX VERTICILLATA, A NEW-WORLD DECIDUOUS HOLLY.

Eastern North America, the Winterberry was first introduced in 1736. That such a beautiful and distinct berried shrub is comparatively little grown is not easy to understand. My theory for its want of popularity is that the deciduous Hollies are frequently unisexual. Hence, to be successful, they should be planted in colonies, as is done with the evergreen Hollies, to ensure pollination; whereas, what usually happens, is that an isolated bush or two is planted and, failing to fruit, the plant is not persevered with.

At Kew the large bed devoted to the culture of the deciduous Hollies contains five species and several varieties. These are *I. Amelanchier*, *decidua*, *levigata*, *serrata* (syn. *Sieboldi*) and *verticillata*. A sixth species, *I. geniculata*, is in the arboretum nursery.

They thrive best in a moist loamy soil, a mulching of manure in summer being beneficial. Seeds and layering are the favoured methods of propagation.

I. verticillata is a shrub of spreading habit, 6ft. to 8ft. high, a beautiful sight just now with myriads of scarlet berries glowing in the autumn sunlight. Next in point of value is *I. serrata* (syn. *Sieboldi*) from Japan, where it is said to form a large bush, or small tree, up to 15ft. or 20ft. in height.—A. O.

STRAWBERRIES AND CLEMATISES.

WHEN I read the culture of Strawberries by Mr. Copley (page 412), I thought, "What a sensible article," and made up my mind then and there to adopt his plan in future, even after reading Mr. Engleheart's methods of culture on page 409, which, I think, is rather an expensive way for those who have only a small garden, setting quite aside the risk of a doubtful stock. In an editorial to a

further note (page 506) you say "it is not easy to follow our correspondent, Mr. Copley," but had you obtained some maiden plants and half of them turned out practically worthless, as mine have done, with a kind of malformed fruit about the size of a Hazel nut and not worth picking, and which had to be dug up and burnt, then you would realise that this sort of thing would be less likely to happen if the runners were obtained from one year old plants that had fruited, as Mr. Copley suggests.

I would also draw your attention to Mr. C. Comfort's remarks in "Gardening of the Week," page 472, where he writes, . . . "not merely to set fruit. . . ."

There was another subject I was greatly interested in and that was the controversy some while ago on the Clematis. Notwithstanding what nurserymen say, I think your Gravetye correspondent's method of culture is sound, and I should like to try Clematises on their own roots, if he would inform me where I might obtain them; I have purchased from our local nurserymen three Jackmanni and all have failed.—W. GATER, *Sheffield*.

[Mr. Robinson's method at Gravetye with newly-bought-in stock of Clematises is to wash away all the soil from roots and then, with a sharp knife, to sever the already rooted scion from the stock. If any readers know where layered plants may be procured, perhaps they will share the information with our correspondent.—ED.]

THE SLUG NUISANCE.

HAVING read with much interest the articles on "Slugs Rampant," by "T. A. F.," on page 557, and "A Slug Trap," by "E. F. S. W.," on page 583, it might be of interest to many of your readers to know that a spoonful of golden syrup or treacle in a tin half filled with water makes a good slug trap. Plunge the tin up to the rim where slugs are troublesome. It is surprising how they find it out after a day or two. The trap may be left for a week and then the slugs which have drowned themselves may be thrown out and the tin refilled. Syrup tins are most suitable. I get them unwashed from the kitchen, half fill them with water and they are ready for use.—P. T.

ALPINES FROM THE PASS OF MONT CENIS

LEAVING London on the very hot evening of July 14 last I arrived at Modane, on the borders of Italy, the next evening, and up on to the top of the Mont Cenis pass by the midday following, being whirled up by motor. There are magnificent views of the mountains on either side of the Valley of the Arc, which was traversed by Termignon and Lanslebourg, the pass diverging away from the Arc at the latter place. Passing glimpses were had of dwarf Campanulas, Dianthi and many others *en route* which would have pleased one to have made a closer examination of. I was, however, one only of a number of passengers, most of whom were too intent on arriving at their destination to brook delay for the examination of plants, no matter how rare or beautiful.

However, when well on to the higher part of the pass something went wrong with the car, and advantage was taken of this for a little exercise. A look round about revealed a few plants of interest, including *Silene acaulis* in flower, but past its best at this level—probably a little over 5,000ft. up. In a very short while we were away again, and from this point it was rather a heavy grind, but about midday we arrived at the top of the pass and the Hotel de la Poste, which was the terminus and my destination. The view from the top of the pass (6,893ft.) is magnificent, with the lovely Lac du Mout Cenis below in the foreground, and, beyond, the encircling mountains, including the Little Mont Cenis and the higher snow-capped mountain peaks, also a fine lake. A splendid setting and probably containing one of the richest floras in the whole of the European Alps lies within a not very large radius of the hotel. Other "alpine" enthusiasts were in residence (all boarded out in the "dependence" above the cows and other inhabitants of the lower part of the premises) and others of note had just left. There is no wonder at the locality being an attractive one when you have within a stone's throw of the hotel, on the quartz outcrop, a bewildering number of good plants either on the tops or in the deep limestone-like potholes such as occur in the limestone region of North-West Yorkshire and which here are clothed with plants from top to bottom, many probably existing in the shelter provided by these that would not survive if exposed to the occasionally rough weather conditions on the pass.

It must be rough up here at times to warrant twenty-three refuge huts being provided in a comparatively short distance on the upper portion of the pass. The plants on this ground and also around the lake are noticeable for their luxurious growth and brightness of colour, many of them very different from similar species seen in other localities, reminding one more than anything of the luxuriousness of the plants in the New Forest at home as compared with the same in less favourable districts. Sauntering round the rocky outcrop on the hotel side of the lake revealed, among many other interesting species, *Alissum alpestris*, shrubby and somewhat leggy; but, higher up, this was much smaller and quite compact, as was also *Biscutella laevigata*.

That is the way with many alpenes: they would be desirable if they would maintain their dwarfness and compactness at the lower levels, instead of, as too often when tried in our gardens, developing into larger and looser and much less desirable plants. *Calamintha alpina grandiflora* with its lovely masses of violet blue flowers, was noticeably abundant, even on the banks along the roadside, together with a very fine form of the shrubby *Thymus Chamadrys*, and one of the best

dwarf creeping Veronicas, *Veronica Allionii* with its shrubby foliage clinging to the ground and delicately beautiful blue upstanding flower-spikes. A striking contrast to this was the Alpine Sainfoin, which was quite a feature in places, with its drifts of brilliant red flowers, and well worth reproducing in our gardens, that is, if sufficient space could be spared to make it an effective feature. *Potentilla aurea* with its orange-spotted bright yellow petals and the large yellow-flowered *Helianthemum grandiflorum* were well distributed, but the shrubby and smaller-flowered *Helianthemum alpestre* occurred more rarely. The *Bupleurum ranunculoides* was quite a good flowered form. *Asperula cynanchica*, the somewhat uncommon English Squinancy Wort, has very much finer and larger flower-spikes than is usual and is known as *Asperula cynanchica* var. *Jordanii*. The Alpine Skullcap, *Scutellaria alpina*, here has strikingly large violet-blue flower-spikes that would be a desirable

the purplish blue *Campanulas rhomboidalis* and *linifolia* with the fine stately blue-flowered *Phyteuma spicatum* and the rarer dark purple-flowered *Phyteuma Halleri* were quite a feature on the southern side of the lake. In the wetter parts *Polygonum bistorta* was the outstanding flower with its coral-coloured short flower-spikes, large masses of which were very effective. In the adjacent pastures was the smaller white Viviparous Knotweed, *Polygonum viviparum*, a plant that occurs quite freely in some parts of North-West Yorkshire that I am familiar with, and of which I have plants in the garden of some years' standing. *Allium roseum* was fairly plentiful at the west end of the lake, many of the flowers just having their heads above the water-level.

Leaving the vicinity of the lake and following a stream valley a little distance back from and parallel to the road leading from the top of the pass towards the Italian Donane, on the



SILENE ALPESTRIS IN THE ALPS.

addition to any garden and very different from so many of the plants one sees under this name. *Cerinth minor* was one of the more interesting plants in the "potholes" with its not very striking greenish flowers, also a Lungwort, *Pulmonaria angustifolia*, and *Senecio Doronicum*, one of the finest of the larger alpine *Senecios*. It was much too late for the "masses" of *Gentians* which are in bloom hereabouts earlier on, and, due to the hotter season than usual, many flowers were over that are usually at their best at this period.

While *Anemone alpina* was plentiful in the district, it was altogether out of flower, but I could not understand there being practically no visible sign of its striking fluffy seed-heads. They could hardly have "flown" at this early date, and it was scarcely likely that they could have been collected. The only reason I could see was that, possibly, frosts at the time of developing might have prevented them from setting. The rich meadows that were uncut had quite a good sprinkling of the always beautiful *Salvia pratensis*, which is of rare occurrence in the wild state in England. Drifts of

lovely green grassy banks *Viola calcarata* was at its best, very fine and interestingly variable, blue, beautiful yellows and almost white flowers occurring, but usually in dainty simple colours (except for the dark markings at the base of the petals)—one of the daintiest and sweetest of this lovely group. But I am not inclined to admit that our mountain forms of *Viola lutea* in the North of England are not equally beautiful and interesting, especially so as seen in the upper pastures and rich meadows in June, and which not only have considerable colour variation, but also, in addition to the simple colours, have a more extensive range, in that you find flowers with the two upper petals a deep velvety purple with the lower petals yellow, or the two upper petals a deep purple blotch encircled with yellow (a very striking and beautiful variety), or, again, with the upper portion of the two upper petals purple and lower portion yellow. Yet another has just a purple fringe (or picotee edge) to the yellow upper petals. All the above have the lower petals yellow. You also have an interesting range among the blue flowers, including the variety *amena*, and forms

with upper petals deep velvety purple with lower petals paler, purplish flushed, sometimes with yellow shading from eye upwards. All these forms I have at present, raised from seedlings taken from the wild plants. Pardon this digression, which I hope the Editor will pass and readers excuse; but it had to come out: I have a very fond liking for our native, which I am inclined to think does not get the praise it merits. Continuing along the stream more *Viola calcarata* together with quite a number of *Gentiana verna* were seen in flower, but not in the sheets that you have in these parts earlier in the summer and only lingering here along with *Primula farinosa*, a usual associate owing to the valley lying towards the north and being to a considerable extent sheltered from the sun. Further along, *Ranunculus aconitifolius* was in abundance. Coming up from the valley towards the pass a very fine stretch of outcropping schist was beautifully relieved by masses of *Dianthus neglectus*, *Sempervivum arachnoideum*

and Alpine Sainfoin, all in varying shades of red and providing an effect, if it could be reproduced, that would be a revelation, say, among the embankment rock gardens at the Chelsea Show. Crossing the road leading down to Lanslebourg, the Alpine Toadflax was fairly plentiful, including a noticeable variety with petals of a delicate, almost lavender blue without the usual orange markings, which gave it quite a distinctive appearance. Since returning I find that this form is already recorded from this district and is known as the var. *concolor*. *Campanula pusilla* was abundantly in evidence. It is extremely pretty and very much at home in most of our rock gardens. One of my greatest difficulties is to keep it from over-running rarer, if not choicer, plants. Some belated *Soldanella alpina* was seen and the extremely pretty *Saxifraga androsacea*, like an *Androsace* (one of the best) as its name implies.

Middlebrough. T. ASHTON LOFTHOUSE.

(To be continued).

THE MECHANICAL TREATMENT OF SOILS

THERE is a very great deal in the skilful management of soil; more, in fact, than in the judicious application of manures, animal or chemical, and, while it is sheer folly to be niggardly or neglectful in the matter of replenishing nourishment, it is a certain fact that much manure is put into land that fails in the purpose for which it is applied, not by reason of any shortcoming in the manure, but because the mechanical condition of the soil has not been carefully studied and taken into account.

To a great many people the one idea is that, apart from manure, what the soil, any soil, requires is lime, and only quite recently I read in a newly published book that the gardener should never be afraid of using lime.

There are, it may be readily granted, few things so valuable to the gardener as lime, but it is going too far to make so sweeping a statement as that the gardener need never be afraid of using lime. Many soils contain sufficient lime, and to give more is waste, to say the least of it; worse than that, there are many soils that are not in a condition to stand lime, and it may be distinctly injurious to such soils. As a matter of fact, lime, although so constantly talked about, written about and so largely used, is very imperfectly understood by quite a large proportion of horticulturists. It is highly essential that we should study carefully the nature or mechanical condition of the soil before applying lime, and we must also keep clearly in mind that there are several forms of lime, and their action varies so much that upon the character of the soil depends the particular form of lime that may safely be used.

SANDY SOILS.

Let us consider a very sandy soil, loose, porous and excessively dry. It consists mainly of finely pulverised particles of stone and, as every gardener knows, it is most essential that humus shall be added, without which plant life cannot thrive. Even if sandy soil contains less lime than should be found in a soil of well balanced analysis, it would be very unwise straightway to apply a dressing of ground lime, caustic or fresh slaked lime, because as soon as the lime is buried in the soil it will seek something to attack, and since it cannot burn the sand, which is nothing but particles of stone, it will burn up what little humus is present and thus leave the soil poorer than ever.

The only safe form of lime to use on a sandy soil is chalk in powder form, and before even that is used it is advisable to test the soil for lime. The simple test is to place a little soil in a

convenient vessel, such as a jam jar, with about three times its bulk of water, stir it up until the soil is thoroughly mixed with the water, and then pour in a little hydrochloric acid. If there is considerable effervescence, there is plenty of lime in the soil, the effervescence being less vigorous in proportion to the deficiency of lime. There are various methods of mechanically improving sandy soil, first among which, of course, is the incorporation of marly clay, but this must be properly done. It is useless merely to dig in rough lumps of clay. It should be evenly spread over the surface before Christmas and left until a fine dry spell in February, when the frosts and air will have pulverised it so that it may be raked down to form an even mulch. In that condition it may be dug in, but stop digging if rain comes on to make the clay pasty. A vast amount of benefit may be afforded a sandy soil by sowing some cheap annual Lupin seed and, when the plants are just shewing flower-heads, digging them in. It is possible to raise and dig in two crops in a season, and the benefit is most remarkable. It is after such treatment as this that both animal and chemical manures may be used with advantage, whereas, previously, they would do but little good because the same rain that dissolved them would wash away all their nutrient salts.

CLAY SOIL.

Next in point of difficulty, so far as improvement is concerned, is the stiff, tenacious clay that cuts like soap when moist and bakes like bricks when dry. Yet, with all its faults, clay may be made better garden soil than sand or gravel.

Where the subsoil only is clay, covered with light soil, the first thing to do is bastard trench, but where the clay comes to the surface and has not previously been well cultivated, it is quite unwise to attempt to tackle the subsoil until the top spit has been dealt with. Ridge digging is the first step, throwing the soil into ridges roughly in clods with intent to leave as extensive a surface exposed as possible. Stiff clay is bound to be deficient in lime, otherwise it would be less adhesive. It will, therefore, be well to sprinkle among the clods as ridging proceeds a pound of ground lime to every square yard.

It possible, dig a good-sized hole and excavate a quantity of subsoil clay from a corner of the garden and thoroughly burn it on a smother fire. After pulverising the burnt clay spread it evenly over the ridges. It will help immensely to open up the soil. Either leave the hole created open to form a drainage pit or fill it to within 18 ins. of the top with brick rubble and stones to form

a soak-away. Early in spring apply river sand or sea sand if available, or as a last resort finely sifted coal ashes, spreading evenly over the surface, and then digging and levelling. After this treatment the whole plot will benefit by bastard trenching, and another pound of lime per square yard may be worked in as digging proceeds, but not if stable manure is dug in at this time.

One must not expect to make a stubborn clay a freely working soil in one winter, but the work the following winter will be far less arduous,

SICK AND SOUR SOILS.

There are more manure-sick soils than is generally supposed, and also in town gardens soils that are sour and acid through the constant burying of green garden refuse and house garbage, and sometimes from saturation with soapsuds, which are so often reputed to be "good for the garden." Here again lime becomes essential, and two dressings during the winter will do a power of good. The object of making two dressings is not for the purpose of increasing the quantity so much as to prolong the period of activity of the lime. If a soil is very sour and, as we may term it, "stale," it will not hasten its recovery to put a very liberal quantity of lime into it, because the pace at which chemical conversion of organic nitrogen in buried vegetable matter can proceed is slower than the pace at which the caustic properties of the lime will exhaust themselves. On the other hand, a mere sprinkling of lime will start the process of sweetening, and if followed up by further light applications at intervals of a few weeks, the work will proceed unabated and the utmost benefit will be derived from the lime. If sour land can be forked over three or four times during the winter, much benefit will accrue, but with the proviso that it shall not be dug when in a saturated condition nor when hard frozen.

Probably the most baffling proposition the town gardener may have to face is the question of drainage of a water-logged soil. Even in large establishments it is no trifling matter to have to deal with stagnant water, but with careful planning it is generally possible in gardens of wide scope to devise a drainage system even if it involves digging pits, cutting ditches and laying field drain pipes. Such plans and schemes are frequently impossible in gardens hemmed in by other people's property, but something has to be done because a water-logged soil cannot make a satisfactory garden. Obviously, it is utterly futile to bury drainpipes if no outlet can be provided for the water that enters them, and one may not simply discharge surplus water into neighbouring property. To describe a perfect system of drainage is simply vexatious to those who cannot possibly carry it out. It becomes a question of compromise.

In a London garden I occupied for a number of years the ground lay in a hollow with the water frequently standing a foot from the surface. I opened a good-sized pit at the end, near the drain that took the rainwater from the house roof, and into this pit I ran a single drain pipe diagonally across the garden, and simply baled the water from the pit into the rainwater drain which, of course, ran into the sewer. Had I laid side drains as well, the influx would have overwhelmed the capacity of my pit, so, instead, I made a soak-away in the farther corner of the garden by filling a hole with brickbats and stones. Around the soak-away I planted strong-growing *Polygonums* and one or two other rank-growing shrubs that absorb a great deal of moisture, and this dual scheme, rough and ready though it was, and certainly economical, very well answered its purpose and enabled me to grow practically anything I wanted. The point to note is that without some such scheme no amount of manuring would have made that spot a fertile garden. A. J. MACSELF.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—A few early Potatoes are always appreciated, and where the necessary heated pits exist a start may soon be made. The tubers should be set up in trays or shallow boxes and stood in a warm house or pit fairly close to the roof glass. When the tubers are nicely sprouted some tin. pots should be well provided with drainage, over which is laid a portion of rough turfy loam. The tubers should be placed midway between the top and bottom of the receptacle and the shoots just covered with soil. Ordinary loamy soil will suffice, and later on as growth develops more compost may be added. Encourage a short, sturdy growth by keeping the plants well up to the glass, and do not subject them to a higher temperature than 50° to 55°. Afford water in moderation, but do not let the soil become dry.

Rhubarb is often in great demand, and it is a crop that pays for good cultivation. Few plants respond more freely to deeply dug ground and plenty of manure. If the roots have not been transplanted for several years, half the bed should be lifted, the roots divided and replanted 4ft. apart. Strong single crowns are the best, and the top of the crown should be about 2ins. below the surface. Make the soil fairly firm around the roots and then lightly prick over the soil between the plants, afterwards keeping the ground free from weeds. During the first season the plants should be allowed to get well established and not a single stalk be removed. Beginners often err in this direction and wonder why they never secure those long, luscious stalks which the plant can produce.

The Flower Garden.

Planting Trees and Shrubs.—When making a selection of these a thought should be given to the berry-bearing section, and in these days the Berberises, both species and hybrids, play an important part. Since the introduction of *B. Wilsonæ*, others have been imported, and some very fine hybrids have been raised. I have found that the *Wilsonæ* section bear their fruits most profusely if planted where the soil is not too rich. They are very effective when planted in suitable positions in the rock garden. Other noteworthy berry-bearing plants are the various *Cotoneasters*, especially *CC. frigida* and *bullata*; *Pyracanthas coccinea*, *Lalandei* and *angustifolia*. The *Ericas* constitute a beautiful group of plants, either for beds or in front of taller shrubs. Where the soil is free from lime they will succeed, but most positions chosen for *Ericas* may be improved by adding sandy peat and leaf-mould. Here, *E. carnea* is associated with *Rhododendron Early Gem*, and in some seasons when the weather is congenial the effect in February is very charming. Other useful Heaths are *Veitchii*, *cinerea*, *mediterranea*, *codonoides* and *arborea*. Some of the *Lilies* would succeed in the *Erica* beds, but there are a few exceptions, such as *L. Henryi*, which will only thrive in a loamy soil. Another group of plants to remember comprises those that produce beautiful autumn tints. It includes the Japanese Maples, *Parrotia persica* and *Liquidambar styraciflua*. Of flowering trees and shrubs also there is a wealth from which to choose, and, when planting, make the holes large enough to take the roots without any cramping. The soil should be trod firm and, where necessary, a stake should be employed to keep the plant in position until it becomes established.

The Hardy Fruit Garden.

Propagation.—The small or bush fruits may be increased by cuttings, and in two or three years they make quite nice bushy specimens. Gooseberries, Red and White Currants may be taken in hand during the next few weeks. Healthy shoots should be selected and made into lengths of 1ft. or 1½ins., removing the basal buds, with the idea of forming plants on a single stem. They may be set in lines 18ins. apart and a distance of 1ft. allowed between the cuttings. Choose an open site and keep the ground free from weeds during the coming season, no other attention being required. Black Currants may be treated likewise, but it is not necessary to remove the basal buds. See that each cutting rests on a firm bottom and is not suspended, which occasionally happens with the beginner if a setting pin is used.

T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castleford, Cheltenham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—Owing to the cool, sunless summer, many Onions were imperfectly ripened, and are therefore not keeping well. Go over the stock frequently and remove all decaying bulbs, as, if left, they will infect those around them. Retain the well ripened bulbs for late use.

Parsley.—Those who made a sowing in a frame for winter use will now be reaping the benefit of their forethought. Failing this, or the placing of a frame over the outdoor crop, a few light Yew or Fir branches thrown over a portion of the crop when hard frost threatens will prove of considerable benefit.

Foot Scrapers.—Every well appointed garden is provided with a footscraper at the junctions of the walks, for, failing this, the walks cannot be kept clean, more especially on heavy soils. The following is an efficient and inexpensive type of footscraper: Materials required for each, two redwood standards 24ins. long by 2½ins. square and a piece of light, narrow bar iron 15ins. long. Make an incision 1½ins. deep with a saw on one end of each standard and point the other end. Smear the entire standards with tar. When the tar has dried fit the bar of iron into the incisions in the standards, leaving a clear space of 12ins. between them. Stand them in the position they are to occupy and make a slight impression on the soil with the points of the standards. Pierce the ground a little with a stout iron rod to make it easier to drive the standards. Place the scraper in position again, then with a heavy wooden mallet drive the standards 15ins. into the soil and the work is complete, except that the standards may be painted green or some inconspicuous shade.

The Hardy Fruit Garden.

Gooseberries.—Bushes often get thrown out of perpendicular by the action of storms. If taken in hand soon after the mischief has been done, they can generally be restored to their original position by slackening the soil a little with a fork on the windward side, then, having carefully pushed the bush back into place, the ground on the leeward side should be trodden firm. Where this work has been neglected for a year or more it will be impossible to restore the bush to its original position without injuring the roots. In this case endeavour partially to get it back into place, and to keep it there support it by means of a stout forked piece of branch, the one end inserted a little way into the ground, the stem of the bush being caught in the fork at the junction of the lowest branch with the stem.

The Fruit-Room.—Keep the room closed during windy weather, also during rain, fog or frost. If frost is severe it may be necessary to protect the fruit with some light material, such as clean wheat straw or a double sheet of tiffany. Remove the protecting material, however, as soon as the frost gives way. Ventilate the room freely on calm, dry days. Keep a close eye on the fruit and remove any decaying specimens. Should any variety show signs of shrivelling, it should be used as soon as convenient, although it may be a late-keeping sort.

The Flower Garden.

Plants in Frames.—These include such kinds as *Pentstemons*, *Chrysanthemums*, *Pansies* and *Violas*, and *Lobelia cardinalis*. Damp is the chief enemy to contend with during the winter months, so the frames should be kept closed during frosty and wet weather. During mild, dry weather the lights should be entirely removed during the day to keep the plants as sturdy and hardy as possible.

Covering Unsightly Objects.—There are sometimes undesirable objects about a garden which cannot well be removed. It is desirable, therefore, that they should be hidden, more especially during summer, when one wants to take full advantage of the garden. The following rapid-growing climbers are all more or less suitable for this purpose: Among *Roses* can be recommended *American Pillar*, *Blush Rambler*, *Carmine Pillar*, *Electra*, *Félicité et Perpétue* and *Mme. Alfred Carrière*. Other suitable plants are *Clematis montana*, *C. m. rubens*, *C. Vitalba*, *C. Viticella*, *Forsythia suspensa*, *Jasminum nudiflorum*, *J. officinale*, *Polygonum baldschuanicum* and *Lonicera Periclymenum* (Common Honeysuckle).

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Hydrangea paniculata grandiflora.—This fine plant is very useful for conservatory decoration. Assuming that the plants have just been obtained, they should be placed in 7in. or 8in. pots. After potting, they should be stood outdoors, plunging the pots to their rims in ashes or surrounding them with hay to protect the pots from frost. When they are taken indoors during the spring, they should be pruned hard back, as the flowers are produced at the end of the current year's wood. They do not require a high temperature, 50° to 55° being quite high enough, and when in full growth they enjoy ample supplies of water at the root.

Hydrangea Hortensia Varieties.—Where it is desired to have an early batch in flower a number of plants that show prominent flower-buds should be selected and placed in a warm greenhouse, watering them carefully until growth becomes active, when they enjoy ample supplies of water at the root. The main batch of plants in cold frames should be kept as cool as possible, taking care, however, that they are not exposed to severe frost, as this might injure the dormant flower-buds.

Frames.—Plants in frames should be carefully watered during the dull days. Any necessary watering should be done during the morning, as this will allow excessive moisture to dry up somewhat before night. So far as possible, bright mornings should be selected for this purpose; while, on bright days also, the cleaning and rearranging of the plants should be carried out. Where the frames are heated, special attention as regards watering should be given to the plants standing near the hot-water pipes. Protecting material in some form should be used even if the frames are heated, as protection conserves the warmth during the night and does away with the necessity of hard firing during cold spells. According to the class of plants in the frames ample ventilation should be given, regulating this, of course, in accordance with the outside weather conditions.

Hippeastrums.—Where it is desired to have plants in flower early in the New Year bulbs should now be selected. For this purpose select from plants that were started early last season. It is also an advantage if they are in good condition at the root and do not require repotting. After soaking them thoroughly at the root some of the surface soil should be removed and replaced with a top-dressing of rich compost, at the same time examining the bulbs for mealy bug, which, if unchecked, will soon ruin a collection. It is a great advantage, especially for early work, if the pots are plunged to the rim in a bed with bottom-heat at command. Water should be sparingly given at the root until the flower-scapes are well advanced and growth commences.

Fabiana imbricata.—This pretty and interesting plant, which looks as though it should be a Heath, is a native of Chili, and is hardy, especially on walls, in the South and West. It is an ideal plant for the unheated greenhouse or conservatory, either planted out or grown in pots. This plant is easily increased by means of cuttings of half-ripened shoots during the spring, inserting the cuttings in pots containing sandy soil and standing them under a bell-glass in a cool greenhouse or cold frame. It grows freely in any good potting compost.

Erica australis, *E. codonoides* and the hybrid *E. Veitchii* are hardy in the South and West, but in the colder parts of the country require the shelter of a cool greenhouse during the winter months. They are all ideal plants for the unheated greenhouse and it is surprising that they are not more generally grown for this purpose. Their successful cultivation presents no difficulty; in fact, if so desired, young plants may be planted out in a bed of light loam and peat during the summer months, lifted during the autumn and placed in suitable-sized pots. By this means much better plants can be obtained than if they are grown throughout in pots. They are easily propagated by means of cuttings during the spring or autumn, using small twiggy shoots for this purpose. Insert the cuttings in pots containing sandy peat and stand them under a bell-glass in a cold frame, or they may be dibbled in patches in a prepared bed in the open and covered with bell-glasses. In the colder parts of the country *E. carnea* and *E. mediterranea* might also with advantage, be used for the decoration of the unheated greenhouse.

Royal Botanic Gardens, Kew.

J. COUTTS.

The Variegated Wax Flower.—The variegated Wax Flower, *Hoya carnosa variegata*, is very handsome and attractive. The green of the type plant is streaked and splashed with creamy white, so that, as the plant is an evergreen, its decorative value is high in winter as well as in summer and when flowering. It is capable of attaining a length of 10 ft. and does well either planted out or in pots, while a winter temperature of 50° to 60° is ample to ensure its comfort. The soil should be used in lumps—the roots do not take kindly to it when made too fine. Water freely all through the summer, but reduce the supply as autumn draws on, until, from November to February, only very moderate supplies indeed should be given. Each spring, a portion of the surface soil should be scraped away and replaced with fresh loam to which a little peat has been added. Many growers of both the green and variegated *Hoya*, get into trouble because they grow it in too high a temperature, with the inevitable result that mealy bug makes its dreaded attack and is then difficult to dislodge. The temperature advised above is a sufficient one, and where this is not exceeded, the plants keep singularly free from pests of all kinds. The variegated variety is a free-flowering one, the blossoms being of the typical waxy appearance and spilling their excess of honey upon anything that happens to be growing beneath them. Care should, however, be taken to grow the plants—whether on the roof or clothing a pillar—so that the shoots are thinly disposed and that light and air can circulate very freely between them. Light is absolutely essential, and the *Hoya* always flowers best when absolutely unshaded and close to the glass.

Euphorbia Cyparissias.—For the good border or rock garden this *Euphorbia* should be tabooed,

but there are many places where it might be introduced with profit. These are wild or semi-wild places, and, for example, on a dry sandy bank, where little else will grow, it will prove an acquisition. It grows about a foot high and has very beautiful finely formed foliage of a pretty green, which in autumn changes into a delightful variety of hues, from yellow and orange to reds of different shades. The clustered heads of flowers, which are individually small but in the mass are not ineffective, are of a greenish yellow, rather brighter than this term would suggest. They last a good while in good condition, and are not at all to be disdained in the summer months. The fault of this Cypress-like *Euphorbia* is its inveterate tendency to roam about and send its shoots up all about the neighbouring quarters. By means of its underground runners it soon occupies a considerable space, hence the suggestion that it is most suitable for a rough spot or a sandy bank, where it may be planted without injury to choice flowers. But for this failing of spreading too freely at the root *Euphorbia Cyparissias* would be much more frequently cultivated.

Answers to Correspondents

FLOWER GARDEN.

PRIMROSE FOLIAGE ATTACKED (G. L.).—The Primrose leaves appear to have been attacked by red spider during the past summer and possibly also by green flies. It would be well to see the conditions are moist enough to prevent the red spider attack in future, and, possibly, sulphur might be dusted on the foliage—if the underside can be reached—with advantage.

THE GREENHOUSE.

CHRYSANTHEMUMS UNSATISFACTORY (Hants.).—The Chrysanthemums have probably had a check since the buds began to form, possibly through low temperature or mistakes in watering.

FRUIT'S UNDER GLASS.

GRAPES UNSATISFACTORY (U. W.).—Either some scale insect or mealy bug is attacking the Vines or plants growing near them. These should be sought and destroyed during the winter, and all seen should be killed by touching them with a brush moistened with methylated spirits.

TREATMENT OF NEWLY PLANTED VINES (Hants.).—Any time during the last half of December the Vines should be pruned. The young canes should be cut off 18 ins. above soil level. Dress the cut ends with styptic or painters' knotting to prevent bleeding when the sap rises. Allow the Vines to start their new growth slowly early in March; train up a leader and two side shoots—one on each side—stop the latter when they are 3 ft. long and the leader when it is 6 ft. long, but allow another shoot to grow on from the extreme end of the stopped leader. Next winter, prune back the side shoots to two eyes or buds and the leader to 2 ft. from point of current year's growth. It would be good policy not to allow any bunches to ripen the first year.

MISCELLANEOUS.

POINSETTIA FLOWERS (S. B.).—We presume our correspondent refers to *Euphorbia pulcherrima*. The stems should be cut off through a joint early in a morning, the cut end being at once dipped in dust-dry sand or charcoal, or the cut ends may be seared with a red-hot poker. When placed in water as much as possible of the stem should be immersed. Usually, to avoid loss of sap through cutting, these flowers are used for decoration growing in the pots. The yellow *Arum* should be treated much the same as the white-flowered variety; but, as it is less robust, smaller pots are advisable and a lighter compost.

NAMES OF PLANTS.—T. H. Cumberland.—*Polypodium polystachyum*.

FORTHCOMING EVENTS.

December 10.—United Horticultural Benefit and Provident Society's Meeting.—Bath Gardeners' Society's Meeting.

December 11.—Royal Horticultural Society's Fortnightly Meeting.—Jersey Gardeners' Society's Meeting.

December 12.—East Anglian Horticultural Society's Meeting.

December 13.—Heathfield and District Horticultural Society's Annual Meeting.—Wargrave and District Gardeners' Society's Meeting.

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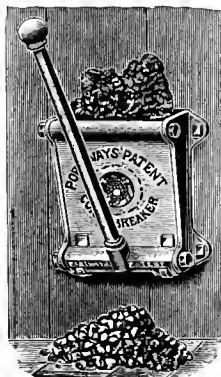
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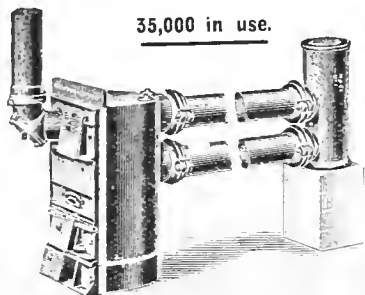
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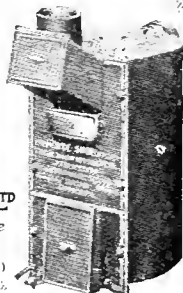
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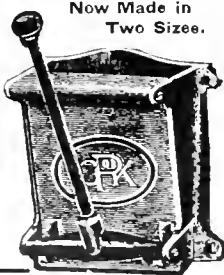
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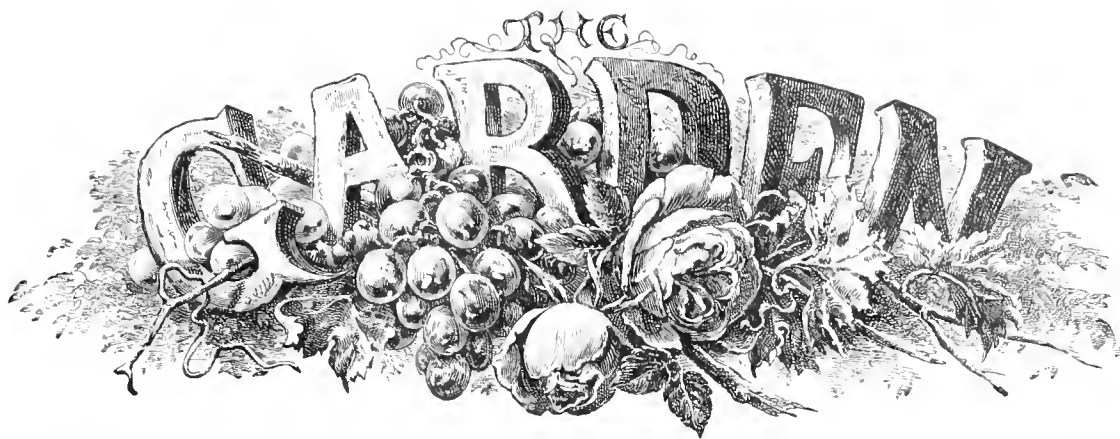
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No. 2717.—VOL. LXXXVII.]

[DECEMBER 15, 1923.]

SEEDS AND SEEDLING RAISING

Some Essentials to Success.

SOME months ago (August 18, p. 421) we discussed seed-raising fairly closely as it applied to alpine and herbaceous plants. To-day we propose to view the matter from rather a different angle. Many amateurs find that their own self-saved seed germinates better than that bought in—this especially with regard to certain families of plants. The inference is often drawn that the purchased seeds are either old or diluted with old seed, but it may safely be stated that in the case of reputable firms there is no ground for such a suspicion, the fact being that many seeds deteriorate rapidly after cleaning. Others which are equipped with a feathery pappus to facilitate distribution, such as those of Aster, Cineraria and Gerbera, may not suffer actual damage in the cleaning, yet may fail to germinate through the unnatural manner in which they are sown. Carried by the wind on their pretty "parachutes," they settle down, in a state of Nature, in some sheltered corner, the weight of the seed just sufficing partially to bury the seed in the earth. Germination is then rapid and easy. When, however, the seeds are sown broadside-on in a pan and covered entirely with compost, decay is very apt to set in. In the case of large seeds, such as those of Gerbera, it is not difficult to distinguish the blunt end, which bore the pappus, from the pointed one which should enter the soil; the seeds may then be placed one by one on end and half-buried in a compost with a very sandy surface. With smaller seeds of the same class we can but employ a very sharp compost, sow thinly and take care not to overwater until

germination has taken place. Thick sowing is especially detrimental, because if rot once starts it is then quickly communicated to the whole of the seeds in the pan.

Seeds which have a very hard cuticle represent another problem. Generally speaking, such undue hardness develops after the seeds are gathered, so that freshly gathered seeds germinate fairly quickly and quite readily, yet it is wiser on the whole, if saving one's own seed, to gather such before they are quite ripe. All Sweet Peas look much alike when ripe, but every practical grower is aware that while the lavender varieties have small wrinkled and mottled seeds so soft as to be readily subject to decay before germination can take place, many other sorts have seeds—especially when grown and ripened in California—as hard as those of Canna and approaching that of the Nelumbiums. The careful filing of a notch through the epidermis opposite to the scar,

though a tedious business where many seeds have to be sown, is the generally accepted way of solving the difficulty. Soaking in water at a temperature of 100° F. or so for twenty-four hours is also helpful but less reliable than the filing, and it is by no means certain that it does not affect the vitality of the germ.

Hard seeds, however, need not be large. The slowness of germination of the seeds of most Gentians must be due to hardness, since, given appropriate treatment, they usually give an excellent percentage of germination when, at length, they put in an appearance. Treatment with hot water of the temperature stated appears to have no effect, detrimental or otherwise, in their case, though to keep the seeds, when sown, in a warm greenhouse temperature is, oddly enough, fatal.

A phenomenon well known to chemists but, so far as we are aware, still imperfectly understood is the increased chemical activity of nascent gases.

Though no chemical change is involved, water in a similar way certainly has a greater penetrative power when newly thawed from snow than it otherwise possesses, and top-dressing pots of slow-germinating seeds with snow, so that they may be saturated with snow-broth, is a time-honoured and proved method of hastening and, in some cases, even of ensuring germination.

Seeds of hardy Primulas, though not exactly on all-fours with those of the Gentian family, inasmuch as the fertility of the seeds falls rapidly when there is delay in sowing, nevertheless may have their germination facilitated by the snow treatment. It is passing strange that while



THE BEAUTIFUL LITTLE CYTISUS ARDOINI.
All Broom seed should germinate readily.

only of the *Androsace* in the closely related *Primula*. In some instances the botanists have disagreed as to which of the two genera should be credited with certain species, yet the seeds of *Androsace*, almost without exception, keep better and germinate more quickly than those of the *Primula*.

Not is it always the rarest and most precious *Primulas* which present the most difficulty in raising from seed kept for half a year. Seeds of the easy and beautiful *Candelabra Primulas* seem to resent storing as badly as any, but if sowed before fully ripe and stored in a cool place in pods (this necessitates keeping the pods upright), they keep better than if packeted.

Seeds with very oily envelopes, such as are borne by many umbelliferous plants notably by the species of *Fernula*, are exceedingly slow to germinate. Probably germination might, in their case, be expedited by treating them with dilute hydrochloric acid just as is done, commercially, with Tomato seed. Such treatment, however, is best left until a very short while before seed-sowing, and there lies the difficulty, for the amateur does not like to "mess about" with acid and the seed-houses do not sell all their packets at the same time of year. Fortunately, comparatively few amateur growers have any desire to raise the Giant Fennels. With regard to Tomato seeds, since we are on the topic, there seems no sufficient reason for treating these, since they undoubtedly germinate better, albeit more slowly, when left untreated.

It is a fairly frequent complaint that various choice forms of Saxifrages are difficult to germinate, but this, in our experience, is not so. It is far more probable that, in such cases, the seeds have either been washed away by rough watering—they should always be watered by dipping the pan almost but not quite to soil level—or have been sown on an unsuitable compost and have germinated—they are very tiny at first—and died. The seed is so very fine that even when one has made a special effort to sow thinly they come up almost like "Mustard and Cress."

Enquiries come to hand occasionally as to the raising of *Broomus* from seed. Now, given fresh seed, there is nothing easier to germinate, and few things which more quickly grow up and get out of hand than the various species of *Cytisus* and *Genista*. In the case of bought seed, however, which it is intended to sow early in the year, it is well to soak it for twenty-four hours in water immediately before sowing, to sow in pots—pans are not deep enough—and place in a rather cool greenhouse. Germination may then be erratic, but it should be fairly certain.

The *Ranunculaceae*, for the most part, have hard seeds by no means easy to germinate, especially if kept. Their hardness, too, is a little deceptive, as they are, very generally, green in colour. The Hellebores, for instance, typified by the Christmas and Lenten Roses, are slow to germinate although germination is commonly very even when it takes place—and very slow-growing indeed. The choicest of the *Ranunculi* are equally slow and far more uncertain, and the same applies to some of the *Anemones*, but those with flutty seeds are, as a rule, quicker to germinate, but easily destroyed by rot before germination can take place. The likes and dislikes of the particular species as regards lime must always be borne in mind when preparing the compost.

If a very soft and porous compost is necessary for *Linum catharticum* and Saxifrages, it is still more essential for succulent plants, which, as far as hardiness is concerned, hints itself pretty much to *Sedum*, *Sempervivum* and *Opuntia*, with *Lewisia* and *Mertensia* rather than for favoured scabrics. Too much importance cannot be attached to the selection of a good pot.



THE HARD-SEEDED *TROLLIUS ASIATICUS*.



PRIMULA PULVERULENTA BY WATERSIDE; *PRIMULA* SEEDS QUICKLY PERISH



ANOTHER HARD-SEEDED PLANT, *HELLEBORUS CORSICUS*.

ORNAMENTAL BRAMBLES

THE species of Rubi include a number of ornamental shrubs, some of which are climbers, valuable for the embellishment of the garden. They include both evergreen and deciduous plants, varying considerably in habit of growth and leafage. The non-climbing species are adapted for planting in the shrubbery border, or as groups in the pleasure grounds, wild garden or woodland. The climbers are well suited for training over arbours and pillars.

The introduction of many new species from China has at least doubled the number of Rubi which we may consider good garden plants. From a purely ornamental standpoint a number of the Chinese introductions are of little value. The botanist, however, has a rich field of interest. During one expedition alone, that of 1907-8, Mr. E. H. Wilson collected seeds of fifty-one species and varieties.

The Rubi grow in most soils and positions, but to obtain the best results the ground should be well cultivated. The section for which most attention should be given to the soil comprises those with attractive stems in winter. To aid in the production of the vigorous young growths trench and liberally manure previous to planting.

PROPAGATION.

Seeds provide a ready means of increase, and seedlings as a rule grow vigorously. As, however, Brambles cross-pollinate readily unless the clumps are more or less isolated, there is always the possibility of the seedlings not coming true. Those which form large clumps or rootstocks can usually be increased by suckers or offsets, such as are produced so freely with cultivated Raspberries. Quite a considerable number are readily increased by root cuttings, a notable example being the white-stemmed Chinese Bramble, *R. Giraldianus*. One of the simplest methods of propagating most of the Rubi is by layering. This is a very simple matter in most cases, inasmuch as the ends of long arching shoots frequently develop roots where they touch the soil. Though rooting from cuttings is not much practised with Brambles, it is quite feasible, the best results as a rule being obtained by the use of a sand frame in full sun.

For pruning, the Rubi can be readily divided into two types. Those with biennial stems, which are in the majority, should have the older ones cut out to the base after fruiting. These include the popular white-stemmed Brambles and *R. odoratus*. With *R. deliciosus* and the evergreen species—*R. bambusarum*, *R. flagelliflorus*, etc.—it is simply a case of thinning and removing pieces of the older stems when crowded.

The annual cutting down of the stems, in time, causes the development of large woody rootstocks. These maintain the development of vigorous young stems for some years, and then, as in the case of Raspberry plantations, the young shoots weaken. It is time then to renew the stock with young plants.

A number of species form large clumps with stout stems and more or less arching branches from 6ft. to 10ft. or more in height. These are attractive for massing in the pleasure grounds and woodland, particularly those with white stems, which are especially effective with an evergreen background.

The species with long, slender, trailing shoots, more especially the evergreen type, are useful for pillars, arches and arbours, the evergreen kinds providing a permanent feature throughout the year.

The most beautiful Brambles in leaf are found among the newer Chinese species, for in addition to the evergreen species *R. bambusarum* and *R. flagelliflorus*, the white-stemmed *R. Giraldianus* and *R. thibetanus* have very attractive foliage.

Half a dozen Rubi, at least, should find a place in a representative collection of hardy flowering shrubs. These are *RR. deliciosus*, *nigrobaccus flore pleno*, *nutkanus*, *odoratus*, *thyrsoides flore pleno* and *ulmifolius var. bellidiflorus*.

As these notes are intended to draw attention to the decorative uses of the Brambles in our gardens, their best known value as fruit-producing bushes need only be mentioned in passing. The Blackberry as a cultivated plant is far from receiving its due value as an autumn fruit, especially for preserves. Because it is a common wayside

for the vigorous spiny stems, which are often 3ins. in circumference near the base and 10ft. or 12ft. high.

THE BEST FLOWERING BRAMBLE.

Pride of place at the head of this list must be given to the Double Pink Bramble, *Rubus ulmifolius var. bellidiflorus*. This is a very valuable summer-flowering shrub, producing quantities of blossoms on cylindrical panicles during July and August. Growing well in sun and partial shade, this flowering Bramble is useful for sunny banks and shrubbery borders, open spaces by the side of woodland walks, and valuable for a boundary hedge where the space is not too limited.

A useful companion plant is the double white variety *R. thyrsoides var. flore pleno*. Both



FRUITS OF THE "WHITE-WASHED" RUBUS BIFLORUS QUINQUEFLORUS.

fruit its very much improved value when cultivated in the garden is by no means recognised.

WHITE-STEMMED BRAMBLES.

R. biflorus, the Himalayan Bramble, is the best known of these "white-washed" species, but it now has at least four rivals among the Chinese introductions. One, the most vigorous of the group, has been named *var. quinqueflorus*. It has vigorous white stems 10ft. or more high and matures a very good fruit (a golden yellow Raspberry) in late summer.

R. Giraldianus, which Mr. E. H. Wilson first introduced from Szechuen in 1907, is a vigorous species with long, arching stems 10ft. to 15ft. long, but as they curve gracefully the height does not often exceed 8ft. or 9ft. This and *R. thibetanus*, which has blue-white stems, have very handsomely cut foliage. The latter, when first introduced by Mr. Wilson from Western China, was named by the late Mr. Rolfe and exhibited as *R. Veitchii*, but, unfortunately, the name of *R. thibetanus* had been previously given to dried specimens by Franchet and, being the older name, must be adopted. *R. lasiostylus*, introduced by Dr. Henry, has blue-white stems, and *R. niveus*, introduced by Mr. Wilson, is notable

are forms of British wild Brambles. If layering is not practicable, these double-flowered Rubi can be increased by cuttings. Healthy young side shoots taken off with a thin heel of old wood root quite well in a heated or cold frame from July to September, using sand or a very sandy compost. Readers who have a sun (Paris) frame can readily root the double Rubi therein.

R. deliciosus has pure white flowers in May, 2ins. across. It is a very beautiful shrub, quite distinct in habit from all other Rubi, being a spreading bush more like a Ribes than a Bramble when not in flower. In flower, it suggests a single white Rose with a Currant leaf. A native of the Rocky Mountains, *R. deliciosus* was first introduced in 1870. The origin of the name is obscure, for the flower is scentless and the fruit, at least on cultivated bushes, of no value. This is one of the few Rubi that should be planted in rich well prepared ground. Layering is the best method of propagation.

R. nigrobaccus, the High Blackberry of Eastern North America, has rim. wide white flowers freely borne on terminal inflorescences up to about 11t. long. June is the flowering season. Even better and more lasting in flower is the double-flowered variety *flore pleno*.

Another common Bramble from Eastern North America is *R. odoratus*. Though first introduced in 1860, it has not a superabundance of hardy flower-lovers. *R. odoratus* with its fragrant purple blossoms is not much grown. This and the next two Brambles are readily increased by division, as they sucker and the clumps spread freely over the surrounding ground. *R. nutkanus*, the Salmon Berry, is a strong-growing deciduous species 3 ft. to 6 ft., sometimes more in height. It has pure white flowers about 1½ ins. across in terminal clusters during June. The Salmon Berry is a Western North American species. *R. nobilis* is a hybrid between *R. odoratus* and the Raspberry, *R. idaeus*, with purplish red flowers during June and July.

THE CLIMBING BRAMBLES

are best represented among the Chinese species. *R. bambusarum* was introduced by Mr. Wilson in 1900. The slender, clinging, spiny stems and dark, usually trifoliate, green leaves are perhaps seen to the best advantage when twining round a stout wooden pillar in a shrubbery or mixed flower border. *R. flagelliflorus* is another evergreen

species from China with attractive metallic green leaves, the undersides clothed with light brown felt. A third species also introduced by Mr. Wilson is *R. Henryi*. This has a three-lobed leaf, not trifoliate as in *bambusarum*. Another elegant evergreen Chinese species for pillars is *R. Playfairi*.

Asked to name the best ten species, my choice would be: For flower, RR, *dehensis*, *odoratus*, *ulmiflorus* var. *helidiflorus* and *thyrsoides* fl. pl. For winter effect (white stems) RR, *bulbosus* and var. *quinqueflorus*, *Grahamii* and *thibetanus*. For evergreen foliage, RR, *flagelliflorus* and *Playfairi*. A. O.

THE DAY LILIES

THE Day Lilies belong to the Natural Order Liliaceae, the genus *Hemerocallis*, consisting of some ten species, members of which are found from Central Europe to Temperate Asia, China and Japan. They form a group of very hardy, easily grown and ornamental perennials, which are admirably adapted for the herbaceous border or for forming effective masses in wild garden or woodland. Many of the taller-growing species are handsome plants of tufted habit, long arching foliage and tall flower-stems carrying several large and beautiful flowers. This fine genus of hardy plants has been much improved during the last few years by the addition of several new species and hybrids, and the flowering period of the whole is spread over from May to September.

The prevailing colour of the flowers is yellow, but of many varied and beautiful shades, commonly tinged with bronze and coppery red. One drawback to the popularity of the genus is the short length of time the individual flowers last in good condition, but in the case of some species, like *H. flava*, which produce quantities of flowers daily, the brief life of the individual is less noticeable. All are moisture-loving plants, they increase freely, and many require frequent splitting up to keep them within bounds in the border. This freedom of growth renders them valuable for informal gardening where broad groups are required, and where the plants can spread at will. Some



A "CLOSE-UP" OF *HEMEROCALLIS FLAVA*.

of the smaller kinds, like *H. minor*, may even be introduced to the rock garden, where places could be found for them among taller-growing plants at the back. All are easily propagated by means of division either in autumn or spring, and seeds germinate freely when sown as soon as they are ripe. The following are some of the best species and hybrids of the genus in cultivation:

H. AURANTIACA.—A little-known plant, supposed to be a native of Japan, forming a clump over 2 ft. high and as much in diameter. The flower-stems are carried above the leaves and bear from five to eight orange flowers 6 ins. to 7 ins. long and 6 ins. across. It does fairly well in light dry soils.

H. A. VAR. MAJOR is one of the finest plants in the genus. The leaves are arranged in broad distichous tufts that are quite characteristic of this plant. It is somewhat erratic in flowering, some blossoms being produced in July, while others do not open till September. The flower-stems are about 2 ft. high, reaching just above the foliage, but not erect, and bear from five to nine flowers of a rich orange colour, the segments of which are exceptionally broad and long, forming flowers some 8 ins. in diameter. This plant likes plenty of moisture and requires to be well established before it flowers freely. If the site is dry, the plants should have heavy and frequent waterings to develop growth. Manure is not required, simply moisture and a sunny position.

H. CHINA.—This is one of the newer species from Northern Shensi in China, having been introduced into cultivation at the beginning of this century, when it was distributed by Lemoine of Nancy. It forms a handsome tuft in the way of *H. flava*, with long, arching leaves and flower-stems reaching to a height of 3 ft. to 4 ft. These bear several citron yellow flowers, the segments of which are from 4 ins. to 5 ins. long and ¾ in. wide. There are two plants in cultivation under this name, one of which is merely a form of *H. flava* with shorter and deeper yellow flower segments. It flowers in June.

H. DE MORTIERII (SYNS. *Sieboldii* and *rutilans*).—This is a plant of small habit, making graceful little tufts 1 ft. high and producing soft yellow



HEMEROCALLIS FLAVA BOLDLY GROUPED.

coloured flowers on stems over 1ft. high in umbels of four or five. They average 2½ins. in length and width, and are heavily flushed with reddish brown on the outside of the outer segments. A peculiarity of this plant is that the flowers do not always open to their full extent. The leaves are slender and grass-like, while the flower-stems are not erect but stand out at different angles from the plant. It is a neat little plant, well worth a place in the border, and flowering in June.

H. FLAVA.—The common Day Lily is a European species, and one of the best for all purposes. It produces ample leaves in dense but graceful tufts 2ft. high and as much through, and numerous flower-stems towering high above the foliage. These each bear about a dozen canary yellow flowers from ½ins. to 1ins. long and ½ins. across, with broad inner segments and narrower outside ones. Alike suitable for the border or wild garden, this species is a general favourite with its perfectly shaped and beautiful fragrant flowers, which are borne from the beginning of June to August. There is a hybrid between this species and *H. fulva* of intermediate habit.

H. FORRESTII is a new species from Yunnan, China, where it was found by Forrest in 1906 growing in dry clefts and on ledges of cliffs in side valleys of the Lichiang mountain range at an elevation of 9,000ft. to 10,000ft. It is allied to *H. fulva*, but differs in its narrower flower segments and remarkably short flower tube. It grows from 12ins. to 18ins. high, with deep reddish orange flowers in June. It was introduced into cultivation by Bees, Limited.

H. FULVA (syn. *H. disticha*).—A European species, but also found in Siberia and Japan, this is a strong-growing plant of rambling habit with broad green foliage and tall flower-stems reaching a height of 4ft. The coppery red, crimson-shaded flowers, ½ins. across, with crimped segments, are produced freely from June onward. It is one of the best for the wild garden, as it grows in almost any kind of soil, preferring a strong loam, but is at its best on the banks of a small stream where the water is within reach of the roots. There are several varieties of this species, one, called var. *Kwanso* with large double flowers of a coppery orange shade. Var. *variegata* has silver striped foliage which is very effective in contrast with the orange flowers.

H. MIDDENDORFII.—A native of Eastern Siberia and Japan, this species makes a compact and dense tuft of narrow foliage 18ins. high, and produces quantities of stems bearing deep, orange-coloured flowers flushed on the outside with reddish brown. These are like those of *H. Thunbergii* in size, but are arranged in a close umbel of five each, borne just above the foliage. It is a good garden plant of neat habit and moderate growth, free flowering and one of the earliest, coming into bloom in May. The flowers are somewhat variable in colour, especially in the amount of darker marking on the outer segments.

H. MINOR (syn. *H. graminea*).—This plant makes a neat tuft only 6ins. high, and is well adapted for a place in the rock garden, where it will thrive in a warm sunny position. The pale yellow flowers, in umbels of five, are produced in July. It is a native of Eastern Siberia, China and Japan.

H. THUNBERGII.—A fine late-flowering species from Japan, this is one of the taller kinds, reaching a height of 4ft. or more. It produces dense tufts of somewhat narrow foliage 2ft. high, above which are borne large quantities of pale sulphur-coloured flowers each 2ins. across and ½ins. long. A very free grower, it makes a great display of bloom in July and August, especially when growing near water or in good strong soil. There are several forms of this species in gardens, and it is one of the parents of *H. × luteola*.

HYBRIDS AND CROSSES.

Hybrids in the genus are numerous, of which one of the best is *H. Apricot*, with richly coloured flowers of a shade of apricot. *H. Aureole* is a beautiful new variety which is evidently a hybrid between *Dumortierii* and *Middendorffii*. It forms a compact tuft 2ft. high with narrow foliage, and bears on each stem five or more deep glowing orange flowers, the outer segments of which are coloured a rich brown on the outside. It flowers in June. *H. Lemon Queen* is a distinct form with flowers of a lemon yellow colour inside and

tinted bronze on the outside. *H. × luteola* is a hybrid between *H. aurantiaca* and *H. Thunbergii*. It combines the free-blooming qualities of the latter with the vigour of the former parent. The stems reach a height of 4ft. and bear, on the average, five to eight flowers of a pure golden yellow, each flower measuring ½ins. across. The habit of the plant and its flowers vary a great deal, some inclining to one parent while others more nearly resemble the other. It was raised by Messrs. Wallace and Co., and flowers from June to August. W. L.

MICHAELMAS DAISY NOTES

A FEW matter-of-fact notes on some of the 130 to 140 varieties in the rectory garden may be of general interest and possibly a help to those who are thinking of buying for 1924. We have had such a miserable time of wind and rain during their flowering season that we have not had as many visitors as usual to see them—not only have humans been scarce, but, alas! there have been hardly any butterflies. Visitors are a great help. By their pointing out the ones they like and by their comments on those that I tell them are my favourites, I am able to adjust my own opinion from time to time before my final verdict for the season is given in that *ex cathedra* sort of way which we writers are expected to assume when we pose as guides. In my collection there are no *Nova Angliæ* varieties and no *Amellus* varieties, so, of course, none of these will be mentioned.

In the course of my note-taking I decided a system of grouping would be more generally useful than an alphabetical jumble. After all, there is a convenience in seeing "form at a glance." My groups, then, are as follows: 1, earlier-flowering varieties for out of doors; 2, later-flowering varieties for out of doors; 3, small-flowering varieties—all, that is, but the *Novi Belgii*; 4, varieties to use as cut flowers; 5, "stand-out" varieties; 6, new varieties. One last word before I get to business is to say that I call no variety of Michaelmas Daisy blue any more than I would call any Sweet Pea blue. Some doubtless are getting on in that direction, but to call them blue is but to give them a courtesy title, which I for one am not disposed to do.

GROUP 1.—Some of the best earlier varieties for the garden. *Perry's White*, a white that keeps white. *Edith Goodwin*, most floriferous, a pretty shade of bluey mauve. *Feltham Blue*, an old stager, rich blue mauve, with an attractive orange centre, very early. *Pink Perfection*, a

well feathered marvel of branched beauty with heaps of rosy pink flowers when grown on the one-stem principle. *Lavender*, well named. It



THE GIANT ASTER QUEEN OF COLWALL, WITH ONE FLOWER OF THE HUGE *A. AMELLUS* KING GEORGE, ON THE RIGHT.

is a pretty shade of true lavender. Very early, large flower, not over tall. *King of the Belgians* a giant in height; large, semi-double, rosy-toned mauve flowers. *Lady Lloyd*, free blooming, flowers with pink centres, going more rosy towards the circumferences. Medium height. *Rev. C. Nunn*, selected for colour, which is a very blue toned mauve; unfortunately, rather stiff-looking as a plant, as the flowers come in a mass at the top of the stems. *Bees' Blush*, a little too spidery-petalled perhaps, but it is a real pale pink, quite away from rose, and stood out so well that it always caught my eye. *Grey Lady*, a paler-flowered and taller *Lavender* with more spidery petals, early; perhaps both *Lavender* and *Grey Lady* are not wanted together. *Wonder of Colwall*,

very pale blue of mauve—semi-double, rich flow centre. Dainty, a visitor's tip. At the height of its flowering it is a rosy, elongated dome of hundreds of small double flowers; 2½ft. to 3ft. high. Most effective.

GROUP 2.—*Late varieties for out of doors.* Edwin Beckett. Luckily, it is so different it does not put Climax's nose out of joint, but—

words can exaggerate the beauty of this plant as it came to me from Mr. Amos Perry of Enfield. It has a sort of cordifolius look about it. All down its stem it sends out delightfully light-looking branches, which bear a nice sufficiency of pretty pale helio flowers. It lasts a long time in bloom. Climax.—Late, large pale bluey mauve flowers borne somewhat sparsely on the long branching side shoots. This arrangement gave it its outstanding character and charm. Blue Gem.—If I were to break the rule I have laid down for myself I would write "powdery blue" for its colour. In some lights it does look quite blue; very beautiful. Louvain, tall, graceful pink. It has not for some cause which I know not been Louvain's year, but it would take more disappointments than one to make me think less highly of it than I do. Sunset, such a bright little rose; plants about 3½ft. high. Very floriferous and much branched. Mons, a good tree rose; a good companion to Sunset. Brussels, about 4ft.; pretty pale mauve blooms. Cattleya, very taking rosy mauve, spidery, semi-double, about 4ft. high. Very much a lady's flower. October Dawn, dwarf, large heliotrope mauve flowers 2½ins. in diameter, very free. An excellent novelty. Purple Emperor, another dwarf grower, rich red-purple flowers which give one another plenty of room; no colour in the Novi Belgii like it. Heather Glow, large spidery rosy blooms, very late, most attractive, tall, robust. Mrs. H. Morris, a real rich pink, very late. I see my 1922 note says "flowers rather like those of pink Rhodanthé." Sirius, rose, is excellent. Attraction is still bad to beat, and Belgian Queen and Ribston for extra late varieties deserve mention.

GROUP 3.—*Small-flowering other than the Novi Belgii.* Bianca, a diffusus. Grows like a Cedar of Lebanon, the long flat branches covered with pure white blooms. Comeliness, a pretty pale helio. I think a cordifolius, but probably it has some ericoides blood in it. Very good indeed. Height about 3½ft. Little Bo-Peep is somewhat similar, but not quite so taking. Comeliness and the last named are my favourites of the cordifolius-looking varieties. Failing these, try Ideal, a beautiful rosy lavender. Delight and Decorator (early) and Maidenhood (late) are all excellent examples of the ericoides section with white flowers. Esther is a dwarf thin-petalled pink with heath-like foliage; most popular. Blue Star is one of the best pinky mauve ericoides.

GROUP 4.—*Varieties to use for cut flowers.* By way of preface I want to say that the idea in my mind is to point out the varieties that look best when used by themselves, that is, one variety only in one vase, although the combination of a good cordifolius like Ideal or Comeliness with a fair-sized Novi Belgii like Climax or Wonder of Colwall is most effective. Gladys Donellan, a pale Climax with a soft yellow centre. Climax, wonderfully nice as a cut flower. I do not know which I like best, this or Gladys Donellan. Louvain, tall and stately in large vases. Edwin Beckett, very graceful and light. Roddy.—The white circle round the yellow centre and its general colouring make it a gem for small vases. In growth it is similar to Esther, but rather taller. Belgian Queen (deep mauve) is one of the varieties that have flowers more or less bunched at the end of the side stems, but, all the same, it makes a capital cut flower, and when its lateness is taken into

consideration it is distinctly one to have. Cleopatra, after the way of Belgian Queen, but a very pale mauve is A 1. Pioneer, an early pink with a graceful habit and the flowers not too crowded. Ribston, very late, deep rose, more pleasing shade than Brightest and Best.

GROUP 5.—*"Stand-out" varieties.* Climax and Edwin Beckett in the mauves; Pink Perfection, probably the best rose; Comeliness, my favourite cordifolius; Blue Gem, the bluest of the paler bluey mauves; Rev. C. Nunn, the bluest of the darker bluey mauves; Bianca, the best diffusus; Maidenhood, the best ericoides; Grey Lady, a very beautiful French grey—my favourite with spidery petals; Edith Goodwin, a splendid general utility plant of great freedom in flowering; Gladys Donellan, I think so much of having nice cut flowers, this must be included; King of the Belgians, so stately and tall; Sunset, the most beautiful late rosy pink; Ribston, the most taking shade of deep rose; Feltham Blue, so early and so distinct; Purple Emperor, nothing like it in colour, a rich red-pink; Bertha Cubitt, a prim-looking round flower with a raised rounded centre—very striking, but its peculiarity gives it its place; Pioneer, very early and very pink. I limited myself before I started to make the

list to eighteen, and having done it one cannot omit the very much worn remark about there still being some good fish in the sea. Will any reader pull some out?

GROUP 6.—*New varieties.* Queen of Colwall has, I fancy, the largest flowers of any Aster; Little Boy Blue, a disappointment; Purple Emperor, dwarf, but a very rich colour; Pink Perfection, probably the best rose; Acme, immense deep lavender blooms 2½ins. in diameter—a little large for its height; Bijon, a finely proportioned dwarf, not more than 18ins. high here; pretty smart-looking pinky mauve flowers; Maid of Colwall, not worth its A.M., as not one of my six plants keeps the flowers white to the end. All whites should be judged on their last legs or nearly so. Perry's White, too, is a better and a whiter white. Bees' Pink, a real beauty; there are none too many of these pale pinks in commerce. October Dawn, fine colour and free flowering, dwarfish. Mauve Beauty, shapely flowers of a pretty mauve-pink. Heather Glow, large, spidery, free, late, rosy and most attractive.

I end with an apology to the doubles. I own I have passed them by on the other side, but they are, I am sure, sufficient "sports" to spurn insincere soft soap.

JOSEPH JACOB.

ALPINES FROM THE PASS OF MONT CENIS

(Continued from page 642.)

PLANS for visiting the "higher" parts were seriously interfered with through the operations of the military, who seemed to be extremely active during the whole of my stay in the district. They were a disturbing element from the early hours of each day (5 a.m.) when the mountain artillery calvalcade passed my window, consisting of officers and soldiers with their mules, loaded up with "gun parts" from which they were later on going to pour out shell and shrapnel

into the quiet abode of Eritrichium and other choice alpinists—and it was no place even for an alpine enthusiast. However, we found that operations usually ceased about 11.30 a.m., so that the earlier part of the day was spent in examining the plants around the lake, working as near to the sentries as they would permit, and thus being ready to make the best of the time left to get on to the higher ground after the "aerial fireworks" display, which signified that firing was to cease for the day. In these



MONT CENIS LAKE.

In the foreground the quartz outcrop noted for its rich flora.

waiting periods *Orchis globosa* was seen, fairly abundant on the marshy ground, along with *Orchis latifolia* and quite a nice lot of the lovely *Gentiana bavarica*, one of our most difficult moraine plants—not in moraine here, but in very boggy ground—and the sweet vanilla-scented *Nigritella* with its dark red prominent flower-heads. New paths are being made at a higher level round the lake owing to the lake at the present time being dammed up for the purpose of supplying water and power for generating electricity for the city of Turin, between forty and fifty miles away, and this, apparently, will involve a considerable portion of the lower lying ground being wiped out, along with many interesting plants, owing to the raising of the water level of the lake; in fact, a considerable part has, I understand, already been swamped. Along the banked-up sides of these new paths, where the soil had been disturbed, were some magnificent spikes of *Campanula spicata*, quite a good blue and well proportioned. Unfortunately, it is only an annual. The somewhat singular yellow *C. thyrsoides* was also in evidence in places, and *Saponaria ocymoides* (according to a friend known as "Bouncing Bet" in America) was in beautiful masses of rose-coloured flowers on some parts of the bank sides. The woodier, dwarfer and much rarer *Saponaria lutea* with its pale yellow and not at all striking flowers was also seen on the hill sides above the lake. *Linum alpinum* with its pretty blue flowers fairly frequent, and *Campanula barbata*, one of the best of the alpine meadow "Bluebells," with its delicate pale blue flowers, were prominent. On the dry pasture banks occasional masses of the deep reddish-flowered *Crepis aurea* were very effective, contrasted, as they usually are, with short green grass.

I was anxious to visit the higher ground south of the lake up to the so-called Lago "Fresco" (Farrer). One seems impelled when in the delightful mountain air to get up to the higher parts bordering on the snow, where the visible lives of the plants are so short and where the common Cresses of lower elevations take on an air of distinction in their compactness and have more refined flowers, which makes them almost indistinguishable from the *Androsaces* and other aristocratic companions. It being very wet and the prospect of improvement not very promising, my companions were not keen on venturing into the upper regions, but my time being limited, and as there is always a chance of weather conditions becoming worse in the mountains, I was determined to make the attempt, and my companions agreed to chance it. In recent years considerable numbers of military mule paths have been constructed in all directions in the frontier mountains. This makes it somewhat difficult to hit off the proper tracks, and the Italian Ordnance sheets are not of great assistance, as the military tracks are not indicated thereon. However, we hit off the direction very well, although we did not know with certainty until two days later, as on this, the first outing, we failed to reach the desired lake, although we were within a very few minutes' walk when we turned back, owing to our timekeeper pressing upon us the fact that it was time to make tracks if we wished to be back at our quarters in reasonable time. On the earlier part of the route, mounds of *Silene acaulis* were seen, in some cases covered with their beautiful rose-coloured flowers, others only sparsely covered with the deep green cushion as a pleasant foil. This species was especially fine all over this district and very variable, the flowers in some cases being on lengthy stems and of large size, while others were "squat" on the hard and very compact plants. This form known as var. *exscapa* was more noticeable at

the higher levels, although not confined to them, nor does it take the place altogether at the high levels of the stemmed forms, some of the finest of the latter being seen well on to 8,000ft. up.

(To be continued).

TWELVE GOOD PLANTS FOR THE ALPINE HOUSE

THE alpine house should afford endless interest, especially if the plants chosen are rather difficult under ordinary cultivation in the rock garden. Indoors they may be kept near the eye, and their progress and welfare may be seen at a glance; this is particularly necessary and easy during the

This plant, unfortunately, has never been satisfactory in the garden, becoming looser and flowering very sparingly and, in my experience being hardly worth troubling with. T. ASHTON LOFTHOUSE.

flower-spike, ultimately bursting out into delicious soft lavender Primroses, which are greatly enhanced by the rich apricot eyes. Although very partial to moisture at the root, it resents too much water overhead. Firm planting in a good fibrous loam suits it admirably. During the summer it should be given a cool and moist northerly exposure,



GOOD FOR ROCK GARDEN OR ALPINE HOUSE, PRIMULA × PUBESCENS ALBA.

winter months, when work in the open is often impossible. Excellent results may very easily be obtained in growing choice alpinists in pans. The alpine house need not be an elaborate structure. Any well ventilated cold glasshouse quite in the open will answer, but it should not be higher than is really necessary. There is, of course, an immense number of species and varieties suitable for culture under glass, but I am limiting myself to twelve kinds which do particularly well grown as alpine house specimens, which are beautiful and choice and worthy of the extra care afforded them.

PRIMULA ALLIONII.—A really delightful plant and one of the gems of a lovely race. It appreciates a limestone crevice and has a strong objection to wet hanging about its foliage. It may be grown successfully wedged tightly between two pieces of limestone with a root-run into a mixture of limestone chips, leaf-mould and sand. In May it is spangled with large rosy pink blossoms which "sit" closely on the flat and somewhat sticky green rosettes. I believe that, in its natural haunts, the best specimens are to be found in places where the sun's rays cannot strike directly upon the plant, but I have found it to be a good alpine-house plant, even with a due south aspect.

PRIMULA WINTERI is a charming plant for winter flowering. From November onwards, for a month or so, it continues to develop its powdery

otherwise it may fall a victim to red spider, which, indoors, seems to be its greatest enemy.

PRIMULA PUBESCENS ALBA.—This is one of our real Old-English garden plants, and is better known in gardens as *Primula nivalis*. It is splendid grown in the alpine house. In the early weeks of each year it bears clusters of flowers of the purest white, which have a notable fragrance. The plant has, unfortunately, become rather rare, but no doubt there are still a few old cottage gardens which possess it.

DAPHNE PETREA (syn. *D. rupestris*).—This is one of the choicest of the *Daphnes*. Of great rarity and wonderful charm, it is a hard-wooded plant of very slow growth, a plant a few inches through being quite a good specimen. This is another plant that prefers to be wedged between limestone rocks, and it revels in rich well drained soil and a sunny aspect. About May, it clothes itself with a mantle of waxy pink trumpets deliciously scented, which are not likely to escape notice. Plants may be had on their own roots or grafted on the *Mezerion*. In my experience the latter type are most satisfactory.

ANDROSACE HELVETICA.—This is a dainty little treasure which I feel sure benefits by alpine-house treatment. It is far easier under glass to keep its tiny, downy leaves free from excessive wet in winter, which it dislikes so much. It makes a tight little hummock and adorns itself—in fact, smothers itself—with pretty white flowers

in spring. It enjoys a limestone crevice in full sun, and a gritty compost.

ANDROSACE ARACHNOIDEA VAR. **SUPERBA**.—As the name suggests, this plant is a really superb form of *Androsace arachnoidea*, which cropped up in Mr. Clarence Elliott's nursery a few years ago. It has a stronger constitution than the type, and the flowers and silky rosettes are considerably larger and more vigorous. Limestone-scrce mixture and sunshine are its chief requirements.

CAMPANELA ZOYSII.—A perfect treasure and quite an easy doer, the principal difficulty with this plant is to keep it free from the slugs which seem always to be waiting to devour it. I remember only too well putting into sand about seventy cuttings. On the following morning I was horrified to find that not the smallest fragment of the cuttings remained above the surface of the sand. However, these difficulties can be overcome, and then one may await the glory of the flowers when they make their appearance. These are blue, very quaint and tubular, and the curious puckering at the mouth is the most striking feature of the plant, which appreciates an abundance of limestone chips, together with loam and leaf-mould.

CAMPANELA ALLIONI.—We have here a capital plant when well grown. It comes from granitic rocks, but is not a lime-hater; it will, indeed, grow to perfection in limestone scrce, but at the same time, if it is to be grown as a pan specimen, it is well to give it a granite-scrce mixture. Although the plant grows but 2 ins. tall, it bears giant violet bells about 2 ins. in length by 1 in. in diameter. The foliage takes the form of grey-green, strap-shaped leaves, making a rosette from which underground runners are put forth to come to light and form new rosettes.

DRABA IMBRICATA.—This is a most dainty little plant which gives flowers in early spring. In winter each tiny rosette rolls itself into a little brown ball, which on the coming of spring untolds to assist in forming a shining emerald green mat. The flowers are borne in heads on thread-like stems and are of a golden yellow colour. It requires a very gritty compost.

PHYTEUMA COMOSUM.—This is another plant which does best in the alpine house; it is much beloved by slugs, which are far easier to exterminate in the alpine house than on the rock garden. It is perhaps more quaint than pretty—certainly very quaint. Numerous flowers contribute to form a head, each being Indian club-shaped and deepening in colour from cloudy blue at the base to violet at the tip. Being in nature a crevice plant, it is most satisfactory when planted firmly between rocks.

SAXIFRAGA BURSERIANA GLORIA. In spite of new-comers, *Gloria* still remains one of the best of the early-flowering Saxifrages. All alpine enthusiasts are familiar with the splendid snow white blossoms atop of reddish stems, which it produces so freely in the early year. When not in flower its spiny grey cushions are always handsome. A typical limestone scrce mixture is the key to success.

SAXIFRAGA GRISEBACHII WISLEY VARIETY.—This represents a considerable advance on the typical plants. It has a stronger constitution and is, comparatively speaking, an easy doer. More robust than the type in every way, it produces larger grey leathery rosettes and really fine crimson flower-spikes in spring, which grow from 3 ins. to 6 ins. in length and droop very gracefully towards the top. The whole spike, except the grey bracts, is covered with rich crimson silky hairs. After flowering the rosette breaks up readily into three or four new rosettes which carry the next crop of flowers. It also seeds readily and is a lime-lover.

F. BARKER.

AN AUTUMN VISIT TO WISLEY

A REALLY fine day in November, a fresh wind and a warm sun, a treat after the many dull days that have been the rule of late, and I find myself in the neighbourhood of the gardens of the Royal Horticultural Society, often the end of my pilgrimages, and during the years of the war a temporary home and a haven of peace to me and mine. What if it is wet under foot and the roads newly metalled and thickly creamed with yellow mud, we must see once again this garden of many memories, some of them sad ones but more that are happy, and although one of the companions of those days is no longer with us, her memory will still make those spots the dearer to those of us that remain.

To get the most out of these gardens one must visit them often and see them at all seasons and in all weathers that permit one to remain in the open. A cursory walk through from end to end will leave no lasting impression upon the mind. There is nothing spectacular about the grounds, but there is a quiet charm that is captured only after closer acquaintance, and a charm that is absent in most other gardens that I know—and I am familiar with a good many in various parts of the world. Yet I fear me that much of this is lost to the casual visitor unless someone in real sympathy with the spot, and able to convey his feeling, be his guide; hence no doubt the adverse criticism one hears here and there of people who had heard wondrous tales of the spot and its charms and came and found them not. There is too much to see and the grounds are too wide to judge the whole, or part, after a single visit. The place must be explored again and again before its real charm is captured, and once it has revealed itself to you you will never be able to be anywhere within a few miles of it but it will draw you as it draws me and others, and on each visit you will discover beauties that had eluded you before. On this occasion our time was limited. Three and a half miles there and the same back left us little more than an hour to revisit old favourite spots and discover fresh revelations, and so we restricted ourselves to the part where the floral trials are held, the newly laid out seven acres, the wild garden and the rock garden, and here are some of the features or individual plants that claimed our attention, even so late in the season, and cheered us on our weary trudge towards the distant station from whence we were to return to our still more distant home.

We approached the gardens by the unofficial entrance from the footpath leading to Ockham Mills and, crossing the Pinetum, emerged upon the seven-acre field with its new lily pond and new plantations of ornamental trees and shrubs, many of them fresh introductions from far-away China and Tibet; but this part is too new to hold us for long at this time of year, though, no doubt, next spring or early summer it will claim our critical attention if fate brings us that way, for, unluckily, we are not entire masters of our time and cannot always choose where we would spend our leisure.

The Azalea Garden next claimed us, and I hope to be forgiven for continuing the older name instead of speaking of *Rhododendrons*, as I well know they are nowadays, but I wish to avoid confusion, and some of my readers might think I was referring to the part of the wild garden devoted to these plants. Well, the autumn glory of the Azaleas was a thing of the past, only here and there lingered a brilliant leaf, witness of past splendours; but we came to see what the new Barberries and the wonderful range of hybrids

that originated at Wisley were doing this season, and amply were we repaid. *B. polyantha* and its seedlings could scarcely be finer, and seemed likely to last in full beauty for some time to come; indeed, one form in particular was extra late and not likely to be in full beauty for a week or two. *B. rubro-stilla*, a Wisley creation, is truly marvellously beautiful, and bears out all its early promise and more. It is one of the plants that rouses a feeling of covetousness in me, and I should have found difficulty in refraining from annexing a few berries if there was a chance of it coming true from seed. Knowing this to be hopeless I remained virtuous and hope that at next distribution time the ballot will be kind and bring me a packet of its seed. I saw some time ago a seedling of that plant, raised by an amateur, that was a worthy offspring of so beautiful a parent. *B. Wilsonae*, too, bore a heavy crop of berries and *B. Vilmoriniana* was most attractive in its rich dress of highly coloured foliage. There was a host of *Cotoneasters*, too, in that part of more than passing interest, teaching a lesson of what to use to extend the period of beauty in our gardens until late in the season.

A little further on we came upon a *Hypericum* that was new to us. It still carried, on the ends of gracefully arching shoots, fairly large soft yellow flowers, mostly in clusters of three. The branching was similar to that seen in *Cotoneaster horizontalis*; this was labelled *H. uralum*. I have looked this up since in Mr. Bean's fine work and note that this plant was introduced over a hundred years ago from Nepal. I had rashly concluded that it came from the Ural, as the name suggested, but find it is derived from its native name, "*Urala swa*." If it always continues to flower so late I should call it distinctly an acquisition and wonder it is not seen more often. Under a large Weeping Cherry were great masses of Mrs. Berkeley's very fine strain of *Polyanthus Primroses* that should be worth close inspection next spring. An old friend of ours in the woodland, *Liquidambar styraciflua*, still retained sufficient of its glorious autumn foliage to draw one's attention from the rich golden brown of the dying tresses of the Royal Fern, and near by some large bushes of American species of *Vacciniums* were startling in the richness of their autumn leaves.

A little further on we noted a good contrast in *Cedrus atlantica glauca* ear a greenish golden *Cupressus* that appeared particularly happy under the lighting of the sunrays slanting through the bare branches of deciduous trees. There were late blooms lingering on *St. Dabeoc's Heaths* and on various other Heathers. Along the south-facing border by the series of lily pools the *Cistus*es scented the air with their keen fragrance, and *Nerine Bowdeni* still carried a handsome head of flowers. Having passed through districts where autumn frosts had cut down all that was perishable in plant life, it came as a surprise to see the giant leaves of the *Gunneras* still untouched here in a damp hollow where early and sharp frosts are the rule rather than the exception, and a *Pampas Grass* with truly astounding plumes against a background of the common Japanese Bamboo was a picture that will linger in one's mind as a useful object-lesson for the placing of this decorative plant. Turning into the rock garden we were reminded of the possibilities of *Viburnum Carlesii* clothed in handsomely tinted leaves which, in addition to the sweetly scented flowers it carries so freely in the spring, give it a doubled value in the garden. *Euonymus latifolius*, judging by a few remaining leaves and fruits, must have been a sight for the gods; this is a

plant that might be used much more frequently. *Abelia rupestris* (*A. sinensis*) is much harder than most gardeners realise and, being still full of flowers, should be noted by intending planters. On a bank above the bog was a fine plant of the rather uncommon *Primula megacalyfolia*, introduced years ago by Miss Willmott and found a bad doer in most gardens, in full bloom, and really at this season one has to be super-critical to find fault with its colouring. There were also belated tiers of flowers on odd plants of *P. japonica*, and the *Veronicas cataractæ* and Miss Willmott's form of the false *V. lidwellii* were simply covered with fine white and mauve flowers respectively. A small plant of *Oxydendron arborescens* was a glowing mass of intense crimson and should be used wherever the soil is suitable. Peat and moisture would seem to be essential for this. *Eucryphia pinnatifolia* was a pyramid of glistening golden brown, and recalled to the mind the time when we had admired the tree covered with the exquisite white flowers in the days of the past. *Primula juliae*, which has given us such a host of good, bad and indifferent hybrid offspring since its comparatively recent introduction, was making a great effort of giving an autumn display, and a group of *Schizostylis corceia* associated rather cleverly with *Sisyrinchium convolutum* provided a striking combination. There were still a few flowers lingering on the double white form of *Colchicum autumnale*, a rare plant in gardens, yet of the easiest cultivation and with a long season of beauty. One can only suppose that the plant is unknown to the majority of garden lovers to account for its scarcity. *Verbena radicans*, a ramper, to be introduced with circumspection, and then only where ample space is available, gave a very handsome account of itself. I believe this to be the hardiest of the creeping *Verbenas* one sees nowadays quite commonly in rock gardens, and, personally, I prefer its presence to that of the intense *V. chamædrysoides*, which has such an awful bedding-out look about it somehow. Another plant to be used with care was *Hieracium rubrum*, which flaunted some late but richly coloured blooms. I believe it to be a little less fecund "Grim the Collier," *H. aurantiacum*, but I know I should watch it carefully in my own place and remove the flowers before ripe seeds are formed.

There were two good patches of *Gentiana sinuata* doing their best to continue a display that must have been fine a short time ago, and *Primula Winteri*, that is so entirely happy at Wisley at the foot of a north-facing cliff, where I have known it for several years, was opening the first of its charming flowers and gave ample promise of continuing its display for months to come. This plant, reputedly difficult, is not really so if the right place and conditions are found for it, and a study of this at Wisley should lead to better success in other gardens. *Wulfenia ambergiana*, comparatively rare in gardens, was still in flower, and is more attractive than its European relative, being so much more graceful.

A hurried glance into the alpine house concluded our visit. *Saxifraga Kellereri*, always the earliest of the hybrid *Kabschias*, was on the point of opening its flowers. *Sedum Palmeri*, that is so much more hardy than it looks, carried fine golden flowers, and *Saxifraga Fortunei* bore aloft panicles of its uneven petalled white flowers. *Parochetus communis*, of which Wisley boasts two distinct forms, were each represented by a good pan carrying a few of the pretty blue pea flowers. I had recently seen this plant in a Sussex seaside garden, where it evidently intended to continue to bloom right through the winter, as it will when really happy. I am inclined to think that the form raised at Wisley, which has

a more hairy leaf and a slightly crenulated leaf margin, carries the finer flower and seems better adapted to survive our winters. *Saxifraga Balfouriana*, with yellow flowers, is of considerable interest, but will, I fear, never become a popular

plant in our gardens. Hybrids of *Primula juliae* were just opening early flowers, and there were many fine pans of good plants giving promise of a charming display after the turn of the year. W. E. TH. L.

CORRESPONDENCE

QUERCUS ILEX AS A SEASIDE PLANT.

IN THE GARDEN for November 10, your correspondent, "Z," in dealing with plants suitable for "Windswept Seaside Gardens," seems to be in doubt as to the suitability of *Quercus ilex* (Evergreen Oak) for such a position. As your correspondent invites information from the experience of others on the subject generally, I beg to give my experience with this one tree. A few yards from where I write—on the southern shore of the Firth of Forth, e.g., at Musselburgh—is an aged specimen which has year in, year out borne the full

THE LAVENDER WALK.

A LAVENDER walk is a garden in itself, admired by everyone. Even a sprig of this fragrant plant is appreciated, but to be able to walk through it is pleasant indeed. In a large garden the lavender walk may be used as a division between one garden and another, as in the accompanying picture of the one at Oxted Place, where the lavender walk divides the rock garden from the rose garden. The walk is about 100ft. long, and the path itself 6ft. wide between the lavender. A wide grass path is preferable, as it is easier for mowing. To obtain enough plants for such a walk is not a very expensive item, as one



THE LAVENDER WALK AT OXTED PLACE.

blast of the north-east wind coming right up the Firth from the North Sea. The tree, which has a clear bole of about 12ft., has an umbrella top of clean, healthy foliage although the leaves are not such a bright green as those on four noble specimens in a mausoleum garden about a hundred yards distant. This quartet, although not in "the first line of defence," get a good sweep of the wind from the Firth, which is always more or less salt-laden. They vary in height from 15ft. to 25ft., and are of bush form, with a spread of from 12ft. to 15ft. The dark glossy green foliage is spotless. I agree with "Z" however, as a result of forty years experience that, planted where things are expected to be kept tidy, they are very tiresome, because, like evergreens in general, they go on dropping their dead leaves throughout the summer, and these, half curled up and with sharp edges, stick to grass and gravel (especially grass), like limpets to rocks, so that it is most difficult to sweep them up.—CHAS. COMFORT.

fair-sized plant will produce enough cuttings to go a very long way. The method I find best is to root the cuttings in spring in a cold frame and plant them out about 2ft. apart the following autumn; they will then form nice plants by the following summer. The plants should be cut hard immediately the bloom has died off, to prevent their getting bare at the base and to keep them shapely. The old-fashioned lavender is now supplanted by the variety *Grappenhall Variety*, which is more vigorous in growth and constitution, blooms more freely and is hardier. There is also a white form, *Lavandula spica alba*, but it is not so free. The dwarf varieties are excellent for some purposes, the two best being called *atropurpurea nana* and *Munstead Variety*.—R. C. JOLLIFFE.

WEeping STANDARD ROSES.

I WELCOME the article on "Weeping Standard Roses," and wish it had been published two months ago. May I say however that although

I have tried Paul's Scarlet as a weeper and found it refractory. I have, on the other hand, no fault to find with American Pillar. I have had one ten years which is everything that a weeping standard Rose should be. I wonder why growers confine their lists to such a few varieties. I tried to get Sanders' White this autumn, but was not successful.—(Mrs.) C. F. T. WOLLERSEN.

A CURIOUS MALFORMATION.

THIS Savoy Cabbage, of which I enclose a picture, was found growing among a batch in an allotment garden on the outskirts of London, and formed a perfectly shaped gramophone horn. These queer freaks of Nature are, so many authorities believe, generally caused through injury to the plant when quite young. Such fasciated growths are very rarely seen among the Brassica family. They are more frequent among herbaceous plants, particularly Delphiniums, also among trees and shrubs. They generally take the form of a wide flat stem. It is best always to cut these growths out of plants, as they are never any good and look unsightly—except when they take the growing gramophone horns!—H. C.

A PICTURE IN BLUE AND GREY.

A BORDER which looked particularly attractive here last season was planted almost entirely with Larkspurs and Nepeta Mussinii. There were, though, two other kinds used, each having its own distinctive charm in helping to create the desired general effect. These were bushes of Lavender and the lovely blue annual, Phacelia campanularia. Two varieties of Larkspurs were used, namely, the tall stock-flowered blue and the mauve-toned one. These were chiefly employed in bold masses at regular intervals where the rather long border widened somewhat. The narrower stretches had a good row of Lavender in the background, with Nepeta and Phacelia in front of it. Looked at from either end, and, I think, more particularly towards evening, the picture was a pleasing one, and the length of border, about a quarter of a mile, enhanced it. Those interested in any such colour arrangements who may not have tried the above will, I think, find this worthy of their notice.—HENRY TURNER, *Albury Park, Guildford*.

NOVEMBER ROSES.

ROSES have done very well here this year; flowers have been fine and plentiful, and the foliage fresh and clean. The winter of 1922-23 was remarkably mild, and I gathered Roses in profusion throughout December and January, the last bunch of last season being gathered in February, 1923! The flowering was only ended eventually by severe spring pruning, but, all the same, the plants have shown no sign of exhaustion and have flowered this summer as well as they have ever done. The following is a list and description of a few varieties which are particularly noticeable at the end of November: Mme. Segond-Weber.—Produces beautiful buds and is good to cut at any stage. The flowers hold their heads up and are carried on stout stalks. Hugh Dickson is full of buds. It has dark green foliage, which looks very well with the crimson flowers. Antoine Rivoire.—In October I cut one single

stem with twenty expanded blooms! It is a delicate ivory colour shaded with pink, and throws fine flowers now and throughout the season. The foliage is very healthy and the stalks red. Countess of Hebe.—A bright pink variety which produces masses of buds. There are thirty-five on one stem at the time of writing, twenty-one on another. Triumph.—A little-known Rose and one of the very best, this has a perfectly erect habit and an inexhaustible supply of bloom. The colour is a beautiful crimson which does not fade or turn blue in the sun. Indeed, it is of much the same colouring as Liberty,



A CURIOUSLY FASCIATED SAVOY LEAF.

but a better Rose in every way. The foliage is very good and it is full of flower now and has been throughout the summer. It is sweet scented. Entente Cordiale (Hybrid Tea).—Not so strong as some, this forms a beautiful bud. It is free to flower and pale ivory yellow in colour. We have kept no record of the date when these Rose trees were planted beyond the fact that it was before the war.

Climate and soil vary, of course, so much in different parts of the country that a system which suits our garden may easily fail elsewhere. We find "summer" pruning improves the second blooming enormously. As soon as the last flower on a stem is faded we prune the stem immediately hard back to a leaf bud which shows some sign of movement. This may be anywhere on the stem, the lower the better. Practically all these pruned stems will eventually produce flowers. The summer pruning removes also all the weak, useless young wood, leaving only the strongest young shoots of the year coming up from the ground and, unhindered by the greedy exhausted flower-bearers, they grow with remarkable vigour, producing the fine heads of flower mentioned above.

I should like to add that, of course, I do not consider very late autumn—or winter—the ideal time for judging the merits of the different varieties of Roses! Some of the old favourites are doubtless still to be found basking their own here on a summer's day, but I do think that late autumn beauty is a great virtue in a Rose.—RUTH BICKERSTETH, *Cottingham, East Yorks*.

EARLY CHRYSANTHEMUM ALMIRANTE.

IT is what a person grows for his own use, either for garden decoration or for cutting, that, more than anything else, gives us an indication of what he considers the best "practical politics" plants. It was a veritable pat on the back that Mr. Crane undesignedly gave me when I read his remarks about Almirante in THE GARDEN of December 1, when he was writing about the trials at Wisley. In the days before Marie Massé I used to have a fair number, but since its appearance I have been out of touch with named varieties, for a packet or two of seed from Sutton's has amply provided for my wants and saved us all the bother of taking cuttings, because we grow the plants as annuals. However, when I was at Myddelton House this autumn I made a special note of Almirante and told my host how much I liked it. "Yes," said Mr. Bowles, "one of the very best." Now, my good friend, when you get him away from Crocuses and "the lunatic asylum," is, in a way, like us ordinary people, only that we have to remember that his sharp eye has seen pretty well all that is to be seen in English gardens of hardy plants. Thus praise from him is praise indeed. Backed with the imprimaturs of Messrs. Bowles and Crane I do not think I am far out of it when I advise those who do not know it to give this beautiful early-flowering variety a trial in 1924.—J. J.

PAPAVER UMBROSUM.

SOME annual flowers are so free in their self-sowing of readily germinating seeds that they are for many purposes equal to perennials, except that the seedlings do not always come where they are wanted. Among these I always place Papaver umbrosum, referred by the "Index Kewensis" to P. Rhoeas, the Corn Poppy, but generally considered by gardeners as distinct enough to retain its specific name. That it is so useful that it may almost be called perennial is a statement supported by the writer's experience. It must be more than twenty years since it was first grown in my garden, and no seed beyond the first packet has ever been purchased or has ever been given to me, nor have I ever saved seeds for my own sowing. Yet with the exception of a year or two I have had plants of P. umbrosum in flower throughout the intervening years. The exception was caused by a disastrous spring frost which destroyed every seedling annual Poppy in the garden, together with seedlings of Limnanthes, Nemophila and almost every hardy annual and biennial in the place. In a year or two, however, seedlings of P. umbrosum appeared from seeds which must have been turned up nearer the surface and which had escaped the massacre of the others. This is, I consider, a good record for Papaver umbrosum, which has beauty of the highest order, with its pretty leaves and brilliant, deep crimson flowers with their well defined black blotches on plants not more than 18ins. high and frequently less. The best plants are from self-sown seedlings which are left to bloom where they spring, but seeds sown at the usual season for hardy annuals will bloom the same year, though not giving such good plants. The seedlings ought to be well thinned out—to 1ft. or so apart at least.—S. ARNOTT.

FORTHCOMING EVENTS.

December 18.—Sevenoaks Gardeners' Chrysanthemum Society's Meeting.—Winchester Horticultural Society's Meeting.

December 22.—Dunfermline Horticultural Society's Annual Meeting.

SOME HINTS ON THE CULTIVATION OF SEAKALE

SEAKALE is universally appreciated and its culture very simple. Yet one meets with many gardeners, both amateur and professional, whose knowledge of its requirements is very imperfect, judging by questions put when they see a plot of several hundred crowns growing. Often they try to excuse themselves on the ground that they have no proper place provided for forcing. Neither have I, but I force annually never fewer than 400 crowns. We have a good range of glass-houses, and gardeners, quite naturally, think that a proper forcing-house has been provided for such crops. It is true there was one, but places change hands and new owners often change the place—not always to its improvement. Here, at any rate, the mushroom and forcing house was converted to other uses many years since and its heating apparatus ruined, so that its chance of being ever restored to its first use is very slight. Many have expressed great surprise when shewn the simple means by which the supply of Seakale has been provided over more than three months in the year.

Under a large stepped stage in a three-quarter span greenhouse they see two large packing cases measuring inside 25ins. in length, 22ins. in width and 18ins. deep. Each will accommodate six dozen crowns. The covers and joints are made quite light-tight, and to protect them from drip a covering of waterproof roofing material is used. They stand on tiles placed on a 4in. flow and return pipe where a gentle warmth can be maintained. Five inches of sandy soil is deep enough, and while forcing is going on this should always be kept in a moist condition. Never allow it to become dry or soddened with water; both extremes do much harm. Other makeshift methods will occur to those who are really determined to succeed, and the rules to be observed are the same in all cases. Introduce only as many crowns as are strictly necessary in each batch at intervals of about a week or so. As soon as the heads are ready use them quickly, as from this point the quality rapidly deteriorates. Gentle forcing gives the best results, so try to strike the happy medium as regards heat and be careful with the watering. Whatever the means adopted, all light must be absolutely excluded or the produce will be purple instead of white.

Seakale is propagated by seed and root cuttings, which are known as sets. The best are made from roots of half an inch and upwards in diameter. The length of sets varies, but I prefer them about 4½ins. The upper end is cut off level and the lower slantwise, this to prevent a mistake at planting-time, as, of course, buds grow only on the upper end of the root. Those commencing the cultivation of Seakale invariably find it difficult to buy sets. Instead of sets the trade growers usually offer only the crowns which are too small for forcing—poor, weakly things which lacked the vigour necessary to grow into a root of forcing size. One sees them offered for sale in seedsmen's catalogues as "third size roots, good for planting." Are they? I think the unsatisfactory state of many a little plot of Seakale could be traced to the use of these mis-called "good planting roots." If one is compelled to "chance it" with these, see that the prominent bud is cut clean away—this to prevent formation of flowering-stems. I would advise, too, a sowing of seed at the same time, thus providing another string to the bow. The only objection to the use of

seed is the loss of a year in growing a good crown as compared with the root-cutting or set.

The cultivation of Seakale, whether from seed or sets, for annual lifting or permanent plot, should be on the most generous scale which can be afforded. The spot chosen for either should be open and sunny and deeply worked, with plenty of manure

Liberal soakings of liquid manure will be appreciated right through the summer. Procure sets if possible, or if unprocureable, roots in good time; if the latter, cut away the bud and stand them loosely on end in a box slightly deeper than the sets or roots and fill in with sand level with the tops. Place the box in a light cool place and keep them moist. Here they will callus and buds will form. If, as the season advances, they shew signs of making growth, remove them to a cold frame or even the north side of a wall, it being much better to have only buds at planting



DIGGING THE SEAKALE AND TRENCHING SIMULTANEOUSLY.



PREPARING THE SETS FOR PLANTING.

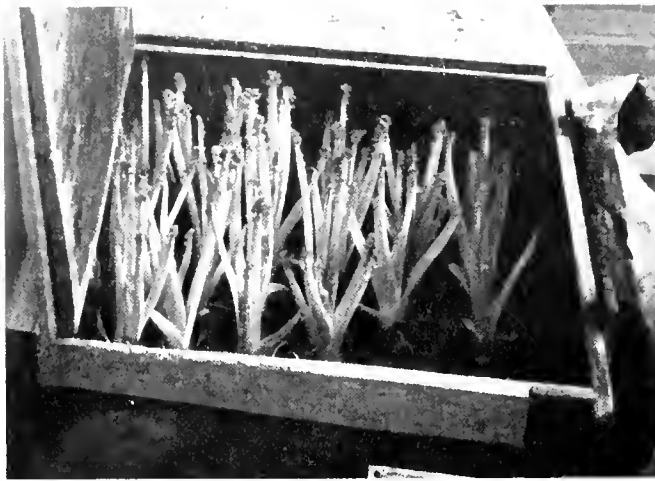
or material from the rot-pit or heap incorporated with the lower spit. Salt is very beneficial to the crop, and dressings of roz. per square yard may be given two or three times during the summer or before the foliage has met across the rows. If growth is slow, nitrate of soda is a good stimulant, so is good guano or fowls' droppings, all to be well hoed and if the weather is dry watered in.

time than to risk having tender growths cut down by bad weather.

If the sets are put outside to retard growth, the tops of the sets should be protected by adding extra sand, otherwise slugs may do much damage. Many growers just bury the sets in sand or sandy soil until planting-time, but I find a great advantage in boxing them and making sure of a good

inside. A quite small box will take 500 sets. Planting may be done from the middle of March to middle of April. The roots are hardy enough, of course, to be planted at any time during winter, but slugs, especially, can do much damage to them, and planting slightly started sets in spring is preferable. Thinning of the growths should be attended to in good time, as several growths may start from each root, and these should be reduced to one, the strongest. For the finest crowns, with liberal cultivation, the sets may be planted 18 ins. apart in rows 2 ft. 6 in. asunder, but good serviceable crowns can be grown 1 ft. apart and 2 ft. between the rows. For the permanent bed, to ensure a fuller crop the first season, the sets may be planted in groups of three well inside the circumference of the pot to be used for blanching, allowing not less than 3 ft. between the groups. When our crop is lifted for forcing, which is begun as soon as the foliage dies down or is cut down by frost—or if growth continues late in a mild season, a few roots may be dug and exposed to the weather to give them a check preparatory to forcing—the plot is measured off exactly as for bastard trenching and the top spit from the first trench deposited near where the work will end. The worker has a basket, and as each root is lifted bodily out he will break off all the best roots to be used for sets, and these he will lay at one end of the basket with the upper ends together. The crowns will go in the middle and the small waste portions of roots at the other end, and thence to the garden fire as the basket fills. The selected roots are stored in a shed to be made into sets during bad weather, and the

crowns are heeled in thickly on the north side of a wall in sand or sandy soil to be used for forcing as required. When the first trench is clear the bottom spit is well dug and any remaining roots cleared out and manure added. Thus during one operation the plot is deeply dug, thoroughly cleared of roots and manured and the top spit thrown up into ridges for the winter. If necessary, the same plot may be used for Seakale year after year. Set-making is simplified by having the roots selected and laid ready as dug, it takes no more time and is a great improvement upon the



SEAKALE FORCED IN A PACKING CASE.

method many use of throwing all the roots together, having subsequently to sort them out again. When the sets are made, a brick is placed on the bench 4 ins. from the edge and a supply of roots laid near to the operator's hand. He will take a root and with a sharp knife cut the upper end squarely across, place it against the stop and cut it through slantwise at the edge of the bench, and in this way a few hundred sets are accurately made in little time. H. C. W.

A GARDEN NOTE BOOK

SIR HERBERT MAXWELL is a charming writer who knows more about gardening than most men, but makes no pretence to knowing everything; indeed, in this book* he very frankly confesses his limitations. The scope of the book may partly be gathered by the titles of the chapters; these are: Some Hardy Bulbs, The Herbaceous Border, Some Flowering Shrubs, Some Rhododendrons, Wild Gardening, The Choice of Plants, Some Plants for Walls, Rockwork and Edgings, Some Failures, Some Weeds, and Some Plant Names. The spirit of the man comes very clearly forth in a passage such as this: "Truth to tell, my heart goes out far more readily to a natural species and its spontaneous varieties than to the more showy, but often coarser, manipulated products of the florist. . . . The primary merit of a flower is its appeal to human perception being beauty, none of the myriad forms into which the Magni-Coronati or Trumpet Section of Narcissus has been coaxed can be deemed to excel our common wild Daffodil, *N. pseudo-narcissus*, and its natural

varieties, bicolor, minor and minimus. Nevertheless, the most exclusive collection should also embrace *N. Johnstoni* Queen of Spain, reputed to be a natural hybrid between *N. bicolor* and *triandrus*, originating in the mountains of Portugal." This is a spirit with which the reviewer sympathises very strongly, though it is necessary to point out that the majority of gardeners would not, but the particular instance selected does not seem a very fortunate one, for the Lent Lily is not a specially gracious or attractive wildling.

After the extract given above no one will expect to find in these chapters lists of the best florists' varieties. There are, however, plenty of books to give such guidance, whereas there is but one Herbert Maxwell, and he gives first-hand information which is often of the utmost value; for instance: "Anyone who has seen the meadows at Lilley, near Oxford, in late April, or those near Azay-le-Rideau in Touraine earlier in that month, crowded with the chequered bells of the Common Fritillary *Fritillaria meleagris*, may well have wondered why such a choice display has not been prepared in other districts. There is only one hindrance to doing so, for the plants, once established, increase rapidly by seed. That hindrance exists in that child of Belial—the rabbit."

Extremely helpful and pertinent is the advice Sir Herbert gives about Lilies, while of his beloved Rhododendrons and such choice shrubs as the *Eurythias*, the *Desfontainea*, the *Ceanothus* and *Buddleia Colvilei* he writes with justifiable enthusiasm and absolute knowledge. Not every garden writer has the courage to pen a chapter on failures, yet this is one of the most helpful chapters in the book. The weeds to which reference is made in the penultimate chapter are plants beautiful in themselves and deliberately introduced, but which prove themselves an intolerable nuisance in the garden.

The last chapter, it may be remembered, is about plant names, which brings to mind that Sir Herbert appears to have unorthodox views about the use of "capitals" for specific names. Thus he does not employ the capital for old generic names now degraded nor for generic names borrowed from the animal kingdom (he writes *Cypripedium calceolus* and *Fritillaria meleagris*), but he employs capitals indiscriminately for species named after people and after localities. Thus he writes of "*Primula Japonica*," *Rhododendron Sutchuenense* and *Piptanthus Nepalensis*. This, it is to be feared, will trouble more orthodox botanists, though it is evidently deliberate, but the book shews evidence of hasty proof-reading. There are more slips than there should be in a work of this character, especially in the case of specific names in the Genitive case, thus we find "Fargesii" for "Fargesii" and so forth. More serious, perhaps, are *Aubretia* (constantly) for *Aubrietia* and *Penstemon* for *Pentstemon*. In one place there is a singular miscalculation. Sir Herbert is comparing the growth of Shirley Poppies at 4 ins. apart each way and 1 ft. each way, and says that in the former case there will be three times as many as in the latter. Oddly enough, he elaborates the idea without noticing the slip, and states that whereas in the one case there will be thirty-six plants in a patch 6 ft. square, there will in the other case be 108! The printer's reader should surely have noticed a slip such as that.

On the whole, however, the blemishes are like the beauty-patches of the days of powdered hair—they only serve to bring into relief the many good points of the book, which include, in addition to the excellent matter, splendid printing on good paper and twelve beautiful plates in colour depicting *Eucryphia pinnatifolia*, *Lilium regale*, *L. Brownii*, *Cypripedium calceolus*, *Meconopsis simplicifolia* Baileyi, *Helicodiceros crinitus*, *Desfontainea spinosa*, *Ceanothus puniceus*, *Buddleia Colvilei*, *Rhododendron Souliei*, *Alstroemeria Hookeri* and *Prionia Cambessedosi*.

R. V. G. W.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—Make periodical examinations of the tubers in store and promptly remove all diseased ones. Keep the shed as cool and airy as possible, but the tubers should be protected from frosts. The "seed" of the early varieties may be set up in trays or boxes and the main crop spread out thinly on the floor. These need not be covered, but light should be excluded from those intended for the kitchen.

Rhubarb and Seakale.—To keep up a supply more roots should be introduced to gentle heat, and at this season both will force more readily than a few weeks ago if the roots have been lifted and exposed.

Mint.—This is always in demand, and roots may be lifted, placed closely together in boxes containing light soil, and then covered with an inch or so of old potting compost. Gentle forcing with a temperature not exceeding 50° will give the best results.

* "Flowers: A Garden Note Book," by the Right Hon. Sir Herbert Maxwell, Bart., F.R.S., LL.D., D.C.L., V.M.H. 16 + 250 pages, 4to. Published by Messrs. MacLehose Jackson, and Co., 73, West George Street, Glasgow. Price 25s. net.

Parsley.—Plants in the open are still producing a good supply, but it is necessary from time to time to pick off all the dead and decaying leaves, and when the soil is dry enough it may be lightly hoed over or pricked up with a fork. We rarely get much snow in this district, but if there is any likelihood of it coming, the parsley-bed should be covered with a few mats; then the snow can easily be removed. Plants in frames or pits should be kept as cool as possible or growth will be weak.

Carrots.—Where early young Carrots are appreciated and the necessary facilities exist, a sowing of an early Horn variety may be made. Brick pits are advised, the base of which should be filled with leaves, well trodden in and brought up to within 2ft. of the lights. A layer of rich soil to the depth of 5ins. will be required, and the seed, which should be sown broadcast, covered with a thin layer of finely sifted soil. If the soil is fairly moist, no water will be needed until germination has taken place.

The Flower Garden.

Iris stylosa.—Slugs are very partial to the buds of this beautiful Iris, but a sprinkling of lime, Slugs or soot around the plants will ward off this destructive pest. The flowers should be cut in the bud stage, and if placed in a warm room or greenhouse they soon expand, and are excellent for decoration.

General Work.—At this season any alterations or improvements should be proceeded with and completed as soon as possible. With the arrival of the New Year the days soon begin to lengthen, and other important work will need attention, hence the necessity for pushing on with the regravelling of walks and drives, filling up holes and repairing bad patches on lawns, and trimming of verges. Box edgings may be made tidy and gaps filled by lifting a portion of the plants and dividing them. Lawn-tennis nets should be overhauled and repaired when the weather is wet, and garden seats, etc., painted. Drains should be put in order and new ones made where needed. All walks and paths should be well rolled after frosts, but if lawns are rolled it should not be when they are in a very wet condition.

The Rock Garden.—Many rock gardens are situated near large trees and, if not already done, fallen leaves should be collected, otherwise some of the plants may decay. Set traps for slugs, and see that the plants are correctly labelled.

The Hardy Fruit Garden.

General Work.—Whenever the weather is favourable, continue to push on with the planting of fruit trees and the root pruning of others where such is considered necessary. Some trees, and especially those growing at the base of walls, may be unproductive and the growth made of an inferior nature. Where such cases exist it is usually advisable to lift the tree, cut away any dead roots and replace some of the old soil with fresh material; at the same time ascertain if the drainage is in order. When replanting make the soil firm and bring the fibrous roots tolerably near the surface. Lime in some form is essential for all stone fruits, and at this season a sprinkling over the soil will be beneficial. The pruning of Apples and Pears should be continued and completed as soon as circumstances permit, the prunings being collected and burnt and the plantation made clean. The fruit-room will require attention from time to time to prevent decaying examples from affecting the sound fruit. There is very little fruit this year, and that from orchard trees is not keeping as well as one would like.

Figs.—If severe weather sets in it will be necessary to protect the trees in some districts or the first crop next year may be light. Mats of the Archangel type make very good protecting material. Trees not overcrowded with sappy young growth and with roots more or less restricted are not so likely to be injured by frosts.

Vegetables Under Glass.

Cucumbers.—Seeds may be sown singly in small pots containing warm light soil and then placed in a warm propagating house. When the seedlings have filled the pots with roots, transfer them to receptacles 5ins. or 6ins. in diameter and grow them in a light position to prevent the growth from becoming weak and spindly. These will make nice plants for planting out in the New Year. Everyday is a good variety, and should be given a trial. T. W. BRISCOE

(Gardener to W. R. Lysaght, Esq.),

Castleford, Chepstow, Gloucestershire.

FOR NORTHERN GARDENS.

Vegetables Under Glass.

Rhubarb. Introduce a few more stools into moderate heat according to prospective requirements, and lift and expose a few more for future forcing.

Tomatoes. A sowing should now be made in a temperature of about 60° to furnish early supplies. A short jointed, free-setting variety bearing medium-sized fruits, such as Holmes' Supreme or Carter's Sunrise, is most suitable for sowing at this time. It is advisable to sow in pots or an earthenware pan and to use a rather light sandy compost, as damping has to be guarded against.

Lettuces in frames should be fully exposed on all favourable occasions. Stir the soil between the plants with a stick to prevent damping and, should slugs threaten, give a light sprinkling of soot. A partly scooped-out half orange skin slightly tilted on one side is considered to be an excellent slug trap.

Mustard and Cress.—Continue to make sowings every ten days. If sown too thickly these are apt to damp off during the short dull days, but I have found that Brown Mustard is less liable to damp than the white variety. It is unnecessary to cover the seeds at this season. As a matter of fact, some cultivators sow on a wet cloth instead of on soil.

Cauliflowers.—The directions given for Lettuces are also applicable to Cauliflowers.

Fruits Under Glass.

The Early Vinery.—Sufficient fire-heat should now be applied to maintain a minimum temperature of 50°, allowing the thermometer to run up to 60° with sun-heat. Advantage should be taken of every hour of sun-heat, not only with the idea of keeping down the coal bill, but because solar heat is more to the liking of all kinds of vegetation than fire-heat. Damp the pathways morning and evening and lightly spray the rods with tepid water when closing the ventilators for the day.

The Late Vinery.—The pruning of the Vines should no longer be delayed, even if there is still some fruit hanging on them. Evaporation is so slow at this season that if the bunches are cut and hung clear in a cool, dry room they will keep for weeks without shrivelling. Of course, if one cares to take the trouble of bottling them they will keep in good condition for a longer period.

The Early Peach-House.—A start should now be made if an early crop is expected. The Peach being naturally an "early riser" and easily excited into growth, comparatively little forcing is necessary even at this early date. If the house is shut up for a fortnight and is freely ventilated during bright sunshine, a minimum temperature of 45° will be quite sufficient for the next fortnight, at the end of which the trees will probably be opening their flowers, should the weather prove propitious.

The Rock Garden.

Winter Protection.—Some of the choicest rock plants require protection in winter, not to protect them from cold, but from excessive moisture; the reference is to woolly-leaved plants of which the foliage is apt to be injured in our moisture-laden atmosphere. *Androsace sarmientosa* is an example of this type, as well as several other species of the genus. A sheet of glass about a foot square is suitable as a form of protection. These sheets of glass, with the necessary supports provided, may be obtained through any nurseryman or seedsman. At least two forms are on the market, one with a stiff support, the other with a universal hinge which can be adjusted to any angle.

Extensions.—This is a suitable time for making extensions so that things may be in readiness for planting in early spring. In constructing rock-work those who have not had experience of such should note that at least three guiding principles should be observed as essential to the successful cultivation of any class of alpine. First, avoid all appearance of formality both in the general conformation and in the execution of the details; secondly, provide a liberal depth of rooting medium. Novices think because they see a plant luxuriating on the surface of a rock that it is a shallow rooter, oblivious of the fact that its roots extend 5ft. or 6ft. down a fissure of the rock where there is perpetual moisture. Thirdly, each pocket should be so constructed that it will retain its share of

the rainfall, even although recourse may have to be had to the use of a little cement.

The Flower Garden.

Sweet Peas which were sown in autumn in small pots should now be shifted into 5in. pots. Avoid using a rich soil and depend upon fibrous loam with a little sand and a very little bonemeal.

Geraniums.—Examine young stock in boxes and any specimens that were potted up for tilting vases, and remove all decaying leaves; and in the case of the latter cut away any decaying shoots. Keep the plants on the dry side so long as the stems do not shrivel.

Lawns.—On all but clayey soil, worms will be carrying on their beneficial work. Scatter their casts occasionally with the broom and then apply the roller; hush up any turning that has to be done.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mans, Midlothian).

GREENHOUSE AND CONSERVATORY.

Acorus gramineus variegatus.—This pretty little plant is of neat habit and is useful for growing in small pots for the cool greenhouse. It also makes an excellent permanent edging plant for a bed or border in the conservatory. This plant is easily increased by division in the spring, and grows freely in any good potting compost.

Liriope spicata variegata makes a fine permanent edging plant for beds or borders in the conservatory. If grown in pots it is very useful for decorative work in the dwelling-house. It grows freely in any ordinary potting compost, and should be given perfectly cool treatment at all stages of its cultivation; in fact, it refuses to grow in a warm temperature. For decorative work the most useful examples should be grown in 48-sized pots.

Helxine Solierolii.—This dwarf bright green carpeting plant is very useful for a variety of purposes. It makes an ideal edging for stages, a band some 6ins. wide giving quite a finish to the front of the benches. In such positions it succeeds perfectly on little more than 1in. of soil laid on the bench, placing a few crocks or some gritty material underneath the soil. Small pieces of the plant dibbled into the soil will in a few weeks cover it with a fresh green carpet. However, it will grow almost anywhere, along the edge of paths or underneath the stages. It is also very useful for growing in pots or shallow pans and used for decorative work in the dwelling-house. As it is more or less hardy in the South, it is a very useful plant for the unheated greenhouse.

Iris japonica (syn. *I. chinensis*) is a very pretty plant, and may either be planted out or grown in pans in the cool greenhouse. Its pretty lilac-coloured flowers, which are marked with yellow and white towards their centres, have their edges finely fringed. This Iris flowers during the spring, and although the individual blooms only last a short time, they are so charming that they always appeal to the true plant lover. The plant is evergreen, and is easily increased by division, growing readily in any good potting compost. There is a variety with variegated foliage.

Iris Wattii is of more recent introduction than *I. japonica* and somewhat resembles that species, but has smaller flowers. *Iris Wattii* is a much taller-growing plant, the annual shoots reaching a height of 2ft. to 3ft. The flowers are produced on the ends of these. After flowering, a portion of the shoots should be cut out to give room for the young growth. This plant is very nearly hardy, and is therefore very suitable for the unheated greenhouse.

Lygodiums are climbing Ferns, and most of the species require a warm temperature for their successful cultivation. However, *L. japonicum*, which is the most elegant of them, is perfectly happy in a cool house, and is a fine plant for training up under the roof glass. The long growths, when matured, are ideal for decorative work, and it is surprising that this plant is not more generally grown for this purpose. Good specimens can be grown in 8in. or 10in. pots, but where it is desired to grow it in quantity for cutting it is best planted out in a narrow border or in boxes, training up each shoot separately on fine twine. This Fern grows freely in any good potting compost. Ample drainage should be provided, as this plant enjoys plenty of water at the root during the growing season.

Adiantums that have done service in the dwelling-house or conservatory generally become

slightly at this time, and it is desirable to keep them on the dry side for a while. Early in the New Year before they start into growth they should be shaken out of their pots and repotted, dividing them if necessary. Afterwards start them into growth in a warm, moist house. Water should be applied carefully at the root until the plants have made some fresh growth and got well away from the root. The pots should be well drained. These plants enjoy some old mortar rubble in the potting compost.

Libertias are natives of New Zealand, Australia and Chili, and are more or less hardy in the South and in favoured situations further North. They are, however, excellent plants for the cool conservatory either planted out in beds or borders or grown in pots or pans. Their cultural requirements are not difficult, as they thrive in any good potting compost. They can be increased by careful division or by means of seed, which is best sown when ripe. The most useful species are *L. formosa*, *L. paniculata* and *L. pulchella*.
Royal Botanic Gardens, Kew. J. COULTS.

HOW TO KEEP THE VINE BORDER SWEET

It is well known that deciduous plants require less water in winter than in summer because there is little or no transpiration taking place, but it is a great mistake to keep the soil containing their roots really dry. In a natural state they are in a more moist medium during winter and spring than at any other time, yet it seems to suit them. Healthy plants are never really quite dormant; they must have at least a little water to draw on, although it may be very little indeed that they take up.

The difficulty we have with inside borders arises from the fact that plants are often placed on them which must have a liberal supply of water, and they cannot have this without the surface of the border getting more than is good for it, which causes a growth of moss and lichen and prevents aeration. At the same time the soil below may be really too dry. Now aeration of the soil containing the roots is one of the principal necessities for a plant's health.

Dr. Masters tells us in "Plant Life" that "roots have the power of absorbing the oxygen contained in the soil, and if a supply of oxygen is cut off, the roots will die from suffocation. One use therefore of ploughing and harrowing is to keep the soil open and thus allow access of oxygen to the roots." That, however, is not the only thing to be considered in respect to aeration. Frequently the roots get down too deep for air to reach them sufficiently, and they never ripen. Ripening is as necessary for the roots as it is for the branches; in fact, one is dependent to a great extent on the other.

Another reason for encouraging roots to remain within a reasonable distance from the surface is that the friendly bacteria, which modern science has taught us form so important a factor in plant life, are not found at any great depth below the surface, and without the assistance of these a soil is infertile. One may apply artificial nitrogenous manures, such as sulphate of ammonia, etc., by the ton and get no return. Happily, the desirable members of the bacteria family occur in all fermenting material, especially in farmyard manure, and it is impossible for healthy plant life to exist without something to be continually decomposing.

We read of the pioneers in uncultivated districts having good crops for a time till the humus left by the decay of the original vegetation is exhausted and then moving to "fresh fields and pastures new." The deserted land in time becomes the home of herds of cattle and then fertility returns.

I should like to think that the days of deep and wide borders are over, especially the deep

ones. It used to be thought that abundance of muck and plenty of heat were the principal necessities for indoor Vines and, to go a step further back, that a few carcasses of worn-out horses were desirable. It is now known that even an excessive dose of manure is absolute poison, but still some of us have not gone far enough from these old creeds.

In "Warrington's Chemistry of the Farm" we read: "The proportion of plant food present in soils is very small, even when the soil is extremely fertile, the bulk of the soil serving chiefly as a support and as a sponge to hold water." Then why should we go to the trouble of making a large and expensive border when a smaller one would be better? The smaller one is more under control, and if we only supply the necessary plant food at the right time we are very likely to obtain good results.

It is surprising what can be done even in 12in. pots. It is true the plants are generally exhausted with the first crop, but the crop itself is a killing one, and if it were not so heavy and the rooting medium was doubled the first crop might not be the last one.

I have charge of a small house in a villa garden where I planted four Hamburg Vines sixteen or eighteen years ago. The border is only 18ins. wide and about the same depth. It is raised above the ground level and so arranged that the roots cannot travel beyond the allotted space. No fire-heat has been applied for several years, yet these Vines continue to produce fruit which commands the highest price in the market. The berries are not as large as I should like, but they are perfect in every other way, and were there a chance to double the root space I believe they would soon be good enough to satisfy me. That means that the berries must be 1½ins. in diameter as well as having all the other good qualities.

Well, then, for the amateur who has only a small greenhouse and desires to grow a few Grapes and to have the border inside the house, I would recommend such border to be not more than 4ft. in width and against the front wall. This border should be supported with masonry 2ft. in height to form the boundary between the border and the walk. The rest of the house can be fitted with staging for plants which do not require a higher minimum temperature than 45° during winter.

It will be admissible to have a few odd specimen plants on the border, but on no account should it be so crowded that neither air nor light can penetrate. The border need only be made about 18ins. in depth at first, thus allowing for frequent top-dressing. Though it will kill most plants to bury their stems, the Vine does not mind it if it is done gradually, for it will emit roots from any part when covered with soil.

It may be said that it is better for the amateur to have the roots of his Vines outside the house, but there is such a temptation to grow early Lettuce, etc., on the prepared border and the jobbing gardener's spade has no conscience. I have known many promising Vines ruined by it.

WM. TAYLOR.

The Foam Flowers.—The most familiar of the little group of plants included in the genus *Tiarella* is *T. cordifolia*, one of the prettiest and most useful of plants for rock garden, edging, or woodland carpeting. The fluffy spires in white and pink of this charming thing, which rise from the trailing masses of delicate green leaves, are among the happiest of spring flowers. Moreover, *T. cordifolia* is hardly less attractive throughout autumn, when its crisp foliage assumes soft shades

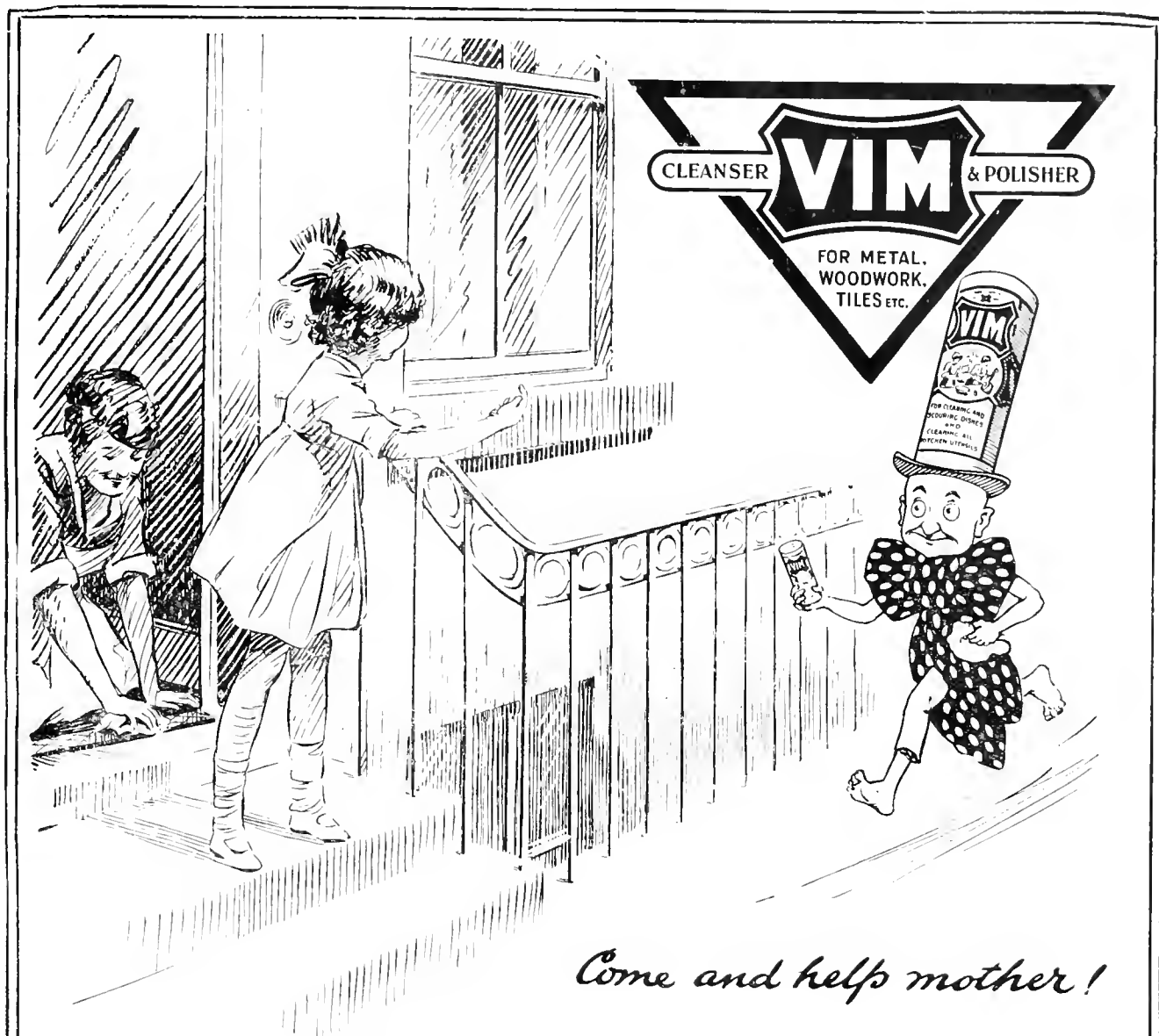
of rose and ruddy bronze. This is one of the easiest of plants to establish, but it likes best a cool woodland loam or rocky bank about which its runners can root themselves. *T. unifoliata*, like the above, is a native of North America, but it is a species that is still uncommon. It differs from *T. cordifolia* in its greater size and instead of increasing by runners it forms a large clump like a *Heuchera* or *Tellina*. The leaves of *T. unifoliata* are 3ins. or 4ins. across, bronzy green, and the plant appears to be only partially herbaceous in many districts. In late spring it produces imposing spires of blossom some 18ins. or more in height and of a soft, creamy white set off with red-brown anthers. This species should have a cool, rather rich, moist soil with partial shade. It makes a good border plant where conditions are favourable, and it is, of course, quite hardy. There is at least one variety of *T. unifoliata* offered by nurserymen with more rosy flowers than the type, but *T. purpurea* appears to be a form of *cordifolia* with bronzy leaves and redder blossoms. *T. polyphylla* is a rare species from Northern India. It has not the reputation for hardiness and ease of culture which belongs to the foregoing, but it is so uncommon that little seems to be known of it.

The Madeira Orchid.—There are many hardy terrestrial Orchids for which room might well be found in numerous gardens where they are quite unrepresented. Our own islands yield us some charming plants of this kind, and where they are happy, as most of them will be in a moist situation, they are remarkably distinct and beautiful. For the lower parts of the rock or bog garden they are excellent, and those who possess such conveniences for their flowers will be well advised to introduce a few of these hardy Orchids among their treasured possessions. We do not purpose, however, at the present time to discuss these attractive plants in detail, but desire to bring before readers an exotic species which has proved hardy in the greater part of the United Kingdom and which is very beautiful. This is *Orchis foliosa*, which comes to us from Madeira, and bears the popular name of the Madeira Orchid. It resembles to a considerable degree our native *O. maculata* in its flower, but not in the foliage. The latter is broad and handsome, and the plant produces grand spikes of large flowers of a darker purple than the more typical forms of *O. maculata*. These create a most pleasing effect when in established clumps. It differs in height, according to its situation and the amount of moisture, varying from 1ft. to nearly 2ft. tall. It likes a good loamy soil with plenty of moisture, and when in a good position is very fine indeed. In some places it thrives with extraordinary freedom and vigour. A garden is known to us in Renfrewshire where this plant grows superbly and increases quite rapidly. In this garden there are hundreds of plants which make a grand sight in their season—summer and autumn. Roots may be procured and planted in spring.

Answers to Correspondents

TREES AND SHRUBS.

GROWING CYCLAMENS UNDER TREES (R. R.).—All, with the exception of *Cyclamen persicum* and varieties, may be grown in the open in warm borders and sheltered positions in woods. The planting should take place in October. The bed should be well drained and equal parts of fibrous loam, peat and leaf-soil used; to a naturally sandy soil add leaf-soil also a small quantity of rotted dung. Leaf-soil or coconut fibre should be used as a protection against ordinary frosts, and brackenfronds, etc., as a protection for the flowers against late ones. In ideal soil and situation the corms may be left undisturbed for several years. Use a wineglassful of Condy's Fluid to a gallon of water against the ants in the rose-bed. Sulfur and borax powders, sprinkled on the soil, also drive ants away.



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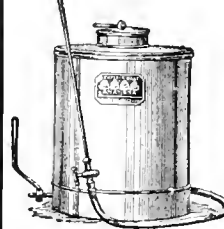
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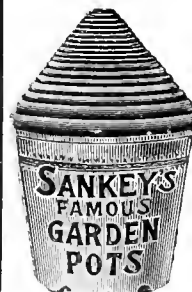
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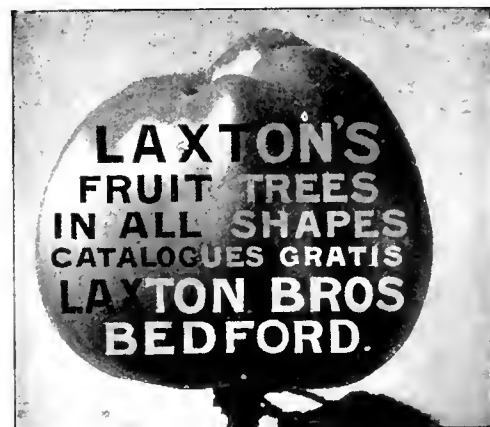
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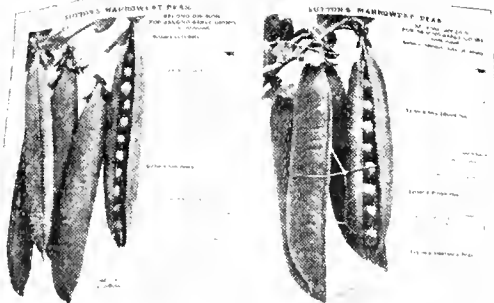
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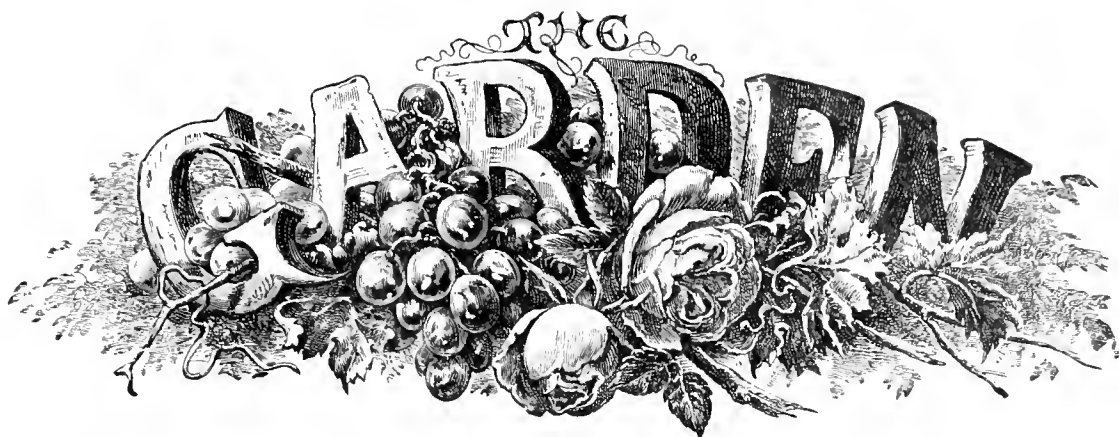
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No. 2718.—VOL. LXXXVII.]

[DECEMBER 22, 1923.]

THE WHITLOW GRASSES

BELONGING to the Crucifer family, the genus *Draba* consists of over 150 species, spread in their natural habitats over the whole of the North Temperate and Arctic regions, while many, too, are found on the Andes of Peru and Chili, and still others occur in New Zealand and Australia. The majority are minute alpine plants, forming neat rosettes of soft or bristly foliage and bearing white or yellow, rarely pink or purple, flowers. Among early-flowering plants the members of this genus must always occupy an important position. In addition to the brilliant golden yellow colour of the flowers of many species, the plants are characterised by a dwarf compact habit of growth. Each plant is composed of a mass of tufted rosettes, forming wide cushions which are very attractive all the year round. Though in many cases the flowers are small, still, in a mass and contrasted with the dark green leaves, they are very effective. They are ideal plants for the rock garden, planted on sunny ledges, or in the crevices between the larger stones, and are excellent wall plants, such species as *D. aizoides* soon forming a large cushion, which in spring will be covered with its yellow flowers. Easy of culture in well drained soil of a gritty nature, several species are useful for display in the alpine house. They may be grown in pans half filled with crocks, and in a compost of loam, grit and leaf-soil. During the time when not in flower the pans may be plunged outside in ashes, being only taken into the alpine house when in bloom.

The perennials may be propagated by means of division, or they are easily raised from seeds sown in a

little heat in March. Cuttings also strike readily in summer if inserted in sandy soil in a close frame. The annual kinds, which are of a more weedy nature, may be raised from seed sown outside in the open border. Of the numerous members of the genus the following is a good selection:

D. ACAULIS.—A choice little plant found growing in the crevices of rocks of the alpine region of the Taurus mountains in Cilicia. It forms tufts of hoary rosettes, just above which the yellow flowers with very short stems are produced in May.

D. AIZOIDES.—A common plant on the European Alps, this is one of the best for general purposes. Its tufts are composed of lanceolate-linear, ciliated leaves, while the comparatively large yellow flowers are borne in March on stems about 2 ins. high. The typical plant is found on limestone rocks, but var. *Zablbruckneri* grows on the highest granitic rocks of Carinthia and Styria. A stronger-growing plant is var. *Bertoloni*, from Northern Italy.

D. AIZOON.—A taller, coarser-growing plant than the former, with smaller flowers in April, also yellow in colour. It is only found on the mountains of Western Europe. After flowering, the stems develop and reach a height of 4 ins. to 5 ins.

D. ATHOA.—Closely allied to the above, with larger yellow flowers and very hairy seed-pods, this species comes from the Greek mountains.

D. AUREA.—This belongs to the looser-growing, less compact members of the genus, reaching a height of 9 ins., with leafy stems and yellow flowers in May. It is a native of the Rocky Mountains of Colorado and is usually found growing on moist banks.

D. BRUNIEFOLIA.—A loosely tufted plant forming broad cushions of light green foliage composed of narrow ciliated leaves. The large yellow flowers are produced in short racemes on stems about 3 ins. high in June. A native of the Caucasus, it is an old garden plant, having been in cultivation about a hundred years.

D. CAPPADOCICA.—From the high alpine regions of Cappadocia, this is one of the gems of the genus. It is of very tufted growth, with small rosettes of tomentose leaves and yellow flowers of good size on stems about 1 in. in height. It flowers in May.

D. DEDEANA (syn. *D. aizoides* var. *Dedeana*) is a close-cutted little plant of cushion habit from the Pyrenees in Northern Spain, with dark green hairy leaves. The flowers are white and very freely produced in April on stems under 2 ins. high. It delights in the gritty soil of the moraine, with full exposure to the sunshine and plenty of water while growing.

D. FLATA.—This Himalayan plant is one of the tallest in the genus, with leafy



THE YELLOW-FLOWERED DRABA AIZOON.

D. grandiflora (L.) Boiss. (syn. *Androsace grandiflora*)—In Mex. and Central America to the Mexican border.

D. galienii (H.) Boiss.—The general aspect of *M. grandiflora* with pinnate and dentate leaves, with *D. grandiflora*, this species forms a new group, distinguished by their soft foliage, late or late or purplish flowers and long style, resembling exclusively the *Andros* of South America. *D. galienii* grows about 6 ins. high with racemes of pale lilac flowers in April. Like those of *D. incana* the seed pods are twisted.

D. GRANDIFLORA.—A very free-flowering tufted plant with tomentose foliage and racemes of white flowers in April and May on stems 4 ins. high. It is a native of the Andes of Ecuador and Peru, and is found growing in the crevices of rocks on Mount Chimborazo at an elevation of 14,000 ft. It has proved quite hardy, succeeding well in a sunny position in gravelly soil, and is quite a dainty little plant with a profusion of white flowers. It is worthy of a place in the choice part of the rock garden.

D. IMBRICATA.—There are two plants grown under this name in gardens. The true plant comes from the Caucasus, with very small rosettes of linear leaves, flower-stems 1 in. high bearing only two or three yellow flowers in a short raceme or head. The commoner plant usually seen under this name is *D. rigida* from Asia Minor, with wiry stems 2 ins. or plus, long carrying heads of many rich yellow flowers.

D. INCANA is a somewhat weedy species with small white flowers. Worth growing, however, is a variety with yellow flowers known as var. *Adamsii*.

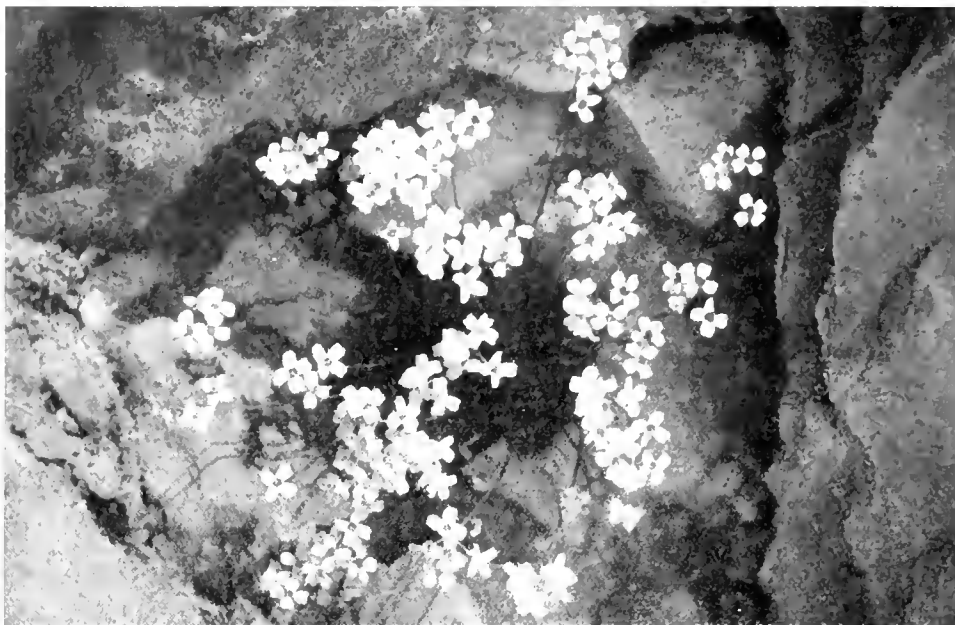
D. LENSELTERIANA.—A neat little plant from Corsica with dark green foliage in dense cushions and large yellow flowers on very short stalks in April. It makes a good pot plant for the alpine house.

D. MAYRI.—An excellent rock plant, forming low, densely tufted, bright green patches somewhat in the way of *D. Dedeanii*, but the white flowers are not so large and are produced in closer heads. This is also a native of Northern Spain, and probably only a form of *D. Dedeanii*.

D. PYRENAICA (syn. *Petrocallis pyrenaica*).—This is one of the choicest genus for the select part of the rock garden, where it should be associated with rock plants of the smallest type. Though the name implies that its home is in the Pyrenees, it is by no means confined to that region, but is also found in Switzerland, where it is grown at an altitude of 7,000 ft. to 10,000 ft., mostly on abruptly sloping calcareous rocks. In our gardens it succeeds best in the moraine, but may also be established in rocky crevices. It makes a tuft 6 ins. or more across in the form of a cushion, with rosettes of minute leaves that are divided into three or more narrow lobes. From the centre of each rosette springs a cluster of from four to six delicate pale lilac flowers of good size, which are produced from May to the end of June. It requires to be taken up and divided when the tufts begin to show signs of going bad in the centre.

D. rigida is an early-flowering, charming little species from Asia Minor often grown under the name of *D. imbricata*. Its slender stems, with yellow flowers, are very freely produced in early spring. It is easily grown on a sunny ledge in gritty soil, and soon makes large tufts of bright green foliage.

D. roemeriana.—This charming little plant is widely spread over the European Alps from the Pyrenees to the Carpathian Mountains. It has white foliage in a soft tuft, with heads of large white flowers on stalks about 1 in. in height. It is best grown in a rocky crevice so that moisture does not remain on the foliage in winter, but it also succeeds in a moraine. It is, too, a good pot plant for the alpine house, as grown under



DRABA RIGIDA IN A ROCK CREVICE.



DRABA RIGIDA; GENERALLY GROWN AS *D. IMBRICATA*.



THE DAINY LILAC-FLOWERED DRABA (PETROCALLIS) PYRENAICA.

glass, the white leaves retain their freshness better than when exposed to bad weather outside. *D. t. var. frigida* is a form with less hairy leaves and smaller white flowers.

There are many other species grown in gardens

closely resembling some of the above, but they are somewhat difficult to distinguish from each other except in the fruiting stage. Other white kinds are *D. Salomonii* and *D. Sundermannii*, both easily grown plants. W. L.

stately in bearing and beautiful in both flower and foliage. There are also varieties in soft shades of blue which are distinctly good. All of these possess the virtue of permanency, and the white one, at least, can generally be relied upon to come true from seed. Another excellent Columbine for growing singly or in groups in almost any soil under trees is *A. formosa*, which has foliage of a peculiarly attractive and gentle green and pretty little flowers in scarlet and orange daintily poised at the ends of the many-branched thin stems.

Dicentra formosa is a useful old plant for carpeting a considerable space with its dove-coloured, fern-like foliage, and this it will o'ertop, with unfailing regularity every summer, with its drooping heads of rosy purple blooms. *D. formosa* appears to thrive on neglect, tree-drip and sunlessness, and the rather larger and rosier *D. eximia* is hardly less easy to please. Many of the Hellebores can be grown to perfection in shade that is not too heavy, and a page might be written of their splendid qualities both as flowering and foliage plants, but they are all greedy feeders,

HARDY PLANTS FOR SHADY PLACES

THOUGH often abandoned to carpeting shrubs—when not to despair—there are not many sunless places, even beneath the drip of trees, for which a variety of suitable flowering plants might not be selected. Ferns and dwarf evergreens always have their charm, and it is suggested that shady spots given up to these are of necessity either wasted or neglected. My point is that, with or without these, there are flowering perennials which will give brightness and colour and a wider and more diverse interest to such ground, and that without going beyond the sphere of the easier and less expensive kinds.

One word, however, to the uninitiated in this matter! It has to be borne in mind that the soil under trees is often very impoverished and solidified. Not many plants will prosper in such a medium without a certain amount of preparation, but the extent to which this has to be carried must be decided by the particular requirements of each set of plants selected—and also, of course, by the nature and state of the ground. To give one familiar example, one may plant *Omphalodes verna* in a cool and kindly, free vegetable-mould and every little scrap will soon ramp away. Try the same thing, however, in the tough and stubborn and naked earth that lies beneath, say, an Evergreen Oak, and it will probably refuse to have anything to do with such a heart-breaking prospect. Yet even such uncompromising "stuff" as this can be rendered fertile and more genial by a little loosening, and by working in at the same time a dressing of rough leaf-mould, old farmyard manure or decayed vegetable rubbish. Indeed, a blend of all three of these may be considered a first-rate standard dressing for the bulk of shade-loving plants, and one that may be used in the soil and as a mulch.

Troublesome as it may often be in other parts of the garden, there is much to be said on behalf of the Welsh Poppy (*Meconopsis cambrica*) as a plant for associating with Ferns and other shade-loving things. This is a true perennial, a hearty grower practically anywhere and an all-season bloomer. Its pale green foliage and lemon yellow flowers are really very delightful—prejudice omitted—and the orange buff form (not the double) is even more charming. The latter is not nearly so rampant a trespasser as the type, and it comes true from seed, by which means both sorts are most satisfactorily established.

The Yellow American Poppy, once called *Meconopsis petiolata* and now known as *Stylophorum diphyllum*, bears a cousinly resemblance to the Welshman, but it is a good deal more like a much enlarged Greater Celandine (*Chelidonium majus*). This is a handsome shade plant for a cool, moist place, making a branching growth of 18ins. and bearing deeply lobed, silky leaves in a fresh green and numerous large golden yellow flowers. Few plants can be more pleasing grouped in among Ferns than this, and it does not stray like *M. cambrica*, nor yet like that other beautiful weed *Eomecon chionantha*. But admirable as the last-mentioned Chinese Poppywort undoubtedly is, it is not always a reliable bloomer in sunless places. Even so, it is well worth a place if only for the sake of its beautiful bluish

grey cyclamen-like leaves and the few big white flowers that it occasionally affords. Root restriction, plenty of moisture in spring and a good baking in the later summer are what this probably wants to induce it to flower more freely.

With the same white, saucer-shaped flowers, four-petalled and centred with golden stamens, and much the same leafage, is the allied *Sanguinaria canadensis*. This, however, is not nearly so vigorous a plant as the foregoing, but it is hardy enough and will generally do well when established in shade that is not too dense, the soil being moist and freely drained. Though *S. canadensis* does



MOST USEFUL OF WOOD LILIES, THE SHADE-LOVING TRILLIUM GRANDIFLORUM.

creep after the manner of *Eomecon*, we find that it is much more liable to perish, our wet winters being too much for it. Still, the plants will often survive for several seasons, and in many gardens they are as long-lived as most things.

The Trilliums must always be numbered among the choicest of shade plants, but for them an average soil needs more than a surface "tickling." They love the deep vegetable loam, spongy with humus, of moist wood bottoms, and for such spots there can be nothing more desirable. There are several species and varieties, *T. grandiflorum* and *californicum*, the latter with various forms, being perhaps the best known. Unfortunately, slugs have such a partiality for the Wood Lilies that their culture on anything like the scale they so richly deserve is often rendered disappointing.

Under deciduous trees there are few more pleasing perennials than *Aquilegia vulgaris* in its best forms. The large-flowered, tall-growing white, sometimes listed as "Munstead White," or *A. v. nivea grandiflora*, is wonderfully effective, being

and those who aspire to do great things with Hellebores must not be afraid of pick and shovel and be prepared for ravenous demands upon the manure and compost heap.

Foxgloves one need hardly mention, the white form being especially lovely in sunless spots. *Digitalis ambigua*, a perennial with several spikes, short and erect, strung with bells in nankeen yellow, also well deserves the hospitality of any woodland garden. Scarcely less stately and suitable is *Campanula grandis* (latifolia), of which the violet-blue assumes almost an azure tint in light shade, and the milky white columns of the variety *alba* are equally charming. *C. persicifolia* in some of its more robust forms can also be relied upon to do with very little sun, and no less may be said of *C. urticæfolia* (*Trachelium*) and *C. latifolia*, which gives us so many superb varieties for woodland planting.

Many other Bell-flowers will come to mind as desirable for our purpose here. We must, however, pass on to the Loosetrites, to the tall, creamy

white-spaced *Lysimachia clethroides* and *L.L. Henryi* and *Nemophila*, the last with its golden-rayed form. One of the most delightful shade groups I have ever seen consisted of *L. clethroides*, *Funkia scabellii* and *F. Fortunei*, the creeping *Looselia* alluded to, some clumps of *Ivy-leaved Cyclamens*, *Anemone trifolia* and a few mossy rocks. We have managed also to make a success of grouping *Gentiana asclepiadea* in several forms with the elegant tufts of *Blechnum Spicant*, *Vinca difformis* and *Hemerocallis flava*—these in cool soil under tall deciduous trees with *Erythroniums*, little Welsh *Daffodils* and other bulbous plants for earlier days.

The *Euphorbias* cannot escape mention when discussing shade plants, and of the varied choice the genus provides, one can only mention *Cyparissias*, *polychroma* and *pilosa* as being among the most generally useful. *Tiarella cordifolia* is indispensable, and the much taller and statelier *T. unifoliata*, which does not put out runners, but remains in a single massive clump, is admirable for "lifting" any level, sunless spot occupied by lowlier plants. *Saxifraga Geum*, *cuneifolia* and *umbrosa*, including their innumerable varieties, are always the right thing in the right place in shady or half shady woodland, and *S. granulata* is delightful in such conditions.

Omphalodes verna has been mentioned, but it will not do to omit the larger and lovelier *O. cappadocica*, which, with us, is equally easy, and *O. nitida*, all true and happy woodlanders in any fairly cool ground. *Anchusa myosotidiflora* can also justly claim admission with the rest and best of the Borageworts. Nor can one pass by what is perhaps the pick of the basket when ease of culture is considered in addition to colour and grace, viz., *Borago laxiflora*. Taller and coarser, but not to be despised in the wilder parts of one's garden are the common Borages and *Anchusa sempervirens* (*Alkanet*), both of which will do with practically no sun.

Several of the *Fumitories* are excellent plants for the purpose under discussion, the pretty *Corydalis lutea* being perhaps the most redundant and most generally useful. Among the early-flowering kinds is *C. cava* (of the lists) with ferny, blue-grey foliage and purple flowers, but the white form is even more lovely, looking like a Roman Hyacinth and smelling nearly as sweet. Perfume is a rare attribute in this race, and *C. c. alba* will prosper in the densest shade. Closely allied to the above are two or three other species, among which *C. solida* is conspicuous for its larger size. Then there are *CC. ophiocarpa* and *cheilanthesifolia*, both succeeding in shady well drained places where their tender grace is not rudely imposed upon by more robust neighbours.

There are some really choice things among the *Pulmonarias*, which are perfectly content without sun. The genus *Aconitum* (*Monkshood*) affords a selection of great diversity for early and late blooming, and there are among the *Doronicums* a number of kinds which will flourish with a minimum of direct sunlight. The *Tradescantias*, especially *T. virginiana* and its beautiful varieties, might also be much more widely used in moist, shady places. One has, in addition to all these, but to mention the easier *Primulas*, *Lily of the Valley*, *Lamiums*, *Epimediums*, *Wood Sorrels* (*Oxalis*), *Claytonias*, *Forget-me-nots* and *Linarias* to indicate what an extensive choice one has in flowering shade plants of the simplest culture and lowest cost. J.

[This question of shade-loving plants is a very important one, but gardeners seem often needlessly disheartened. Given a little attention for one season, there are few places where *Hypericum calycinum*, for instance, will not establish itself.—F.D.]

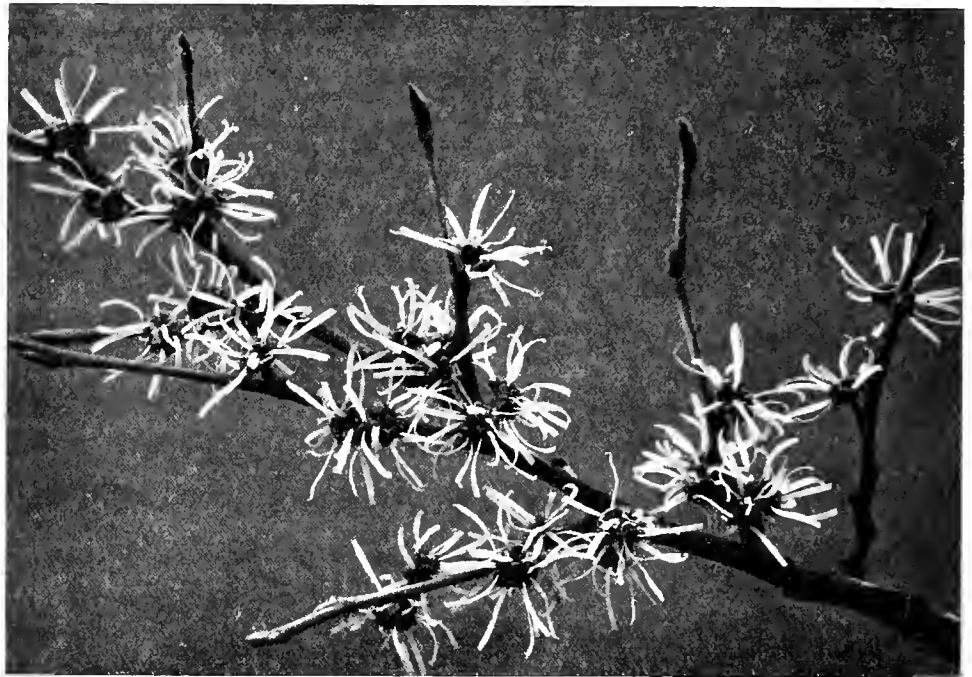
THE WITCH HAZELS

THE Witch Hazels (*Hamamelis*) form an interesting and very distinct genus of small trees or shrubs, natives of North America and Eastern Asia. Four species and two varieties are in cultivation, two species from America, and two species and two varieties from Asia.

The resemblance of the leaf of *Hamamelis* to that of our Common Hazel Nut and its supposed magic properties as a divining rod are apparently responsible for the popular name of Witch Hazel,

which was first given to the American species *Hamamelis virginiana*.

Seeds, which ripen in most seasons, are the first method of increase we may consider. They are erratic in germinating, frequently taking from eighteen months to two years. We hear of pots of seeds being discarded as useless by the owners before the close of the first year and perhaps this is not surprising. If a few seeds are sown each year, however, and seedlings do not appear within six months, the pots should be plunged to the rim



MOST POPULAR OF WITCH HAZELS, HAMAMELIS MOLLIS.



ATTAINS THE STATURE OF A SMALL TREE, HAMAMELIS JAPONICA VAR. ARBorea.

outside. Assuming that this is done there will probably be a dozen or so pots, representing the harvests of two or three seasons. From these it should always be possible to find seedlings appearing in sufficient quantity to increase the stock of plants, and in the case of *H. virginiana* plenty of seeds should be sown if increase by grafting is intended, this being the stock mostly used to work the Asiatic species upon.

Layering is a ready means of increase, the natural spreading habit of the branches lending itself to their pegging down without difficulty. Here, again, the length of time the layers take to root, usually two years, confronts the grower, but by pegging down branches every year, if needed, there is always a supply of rooted layers to draw upon.

Grafting about April is also practised, using *H. virginiana* as a stock, the beautiful Chinese Witch Hazel, *H. mollis* being the species most extensively propagated by this method. The stocks should be established in pots, 5in. is a useful size, so that the grafting may be done under glass. Place the stocks in the propagating house two or three weeks before they are required to have the sap well on the move before placing on the scions.

The Hamamelis from Asia thrive best in a well drained loamy soil of a light, rather than a heavy nature. When planting young bushes work in plenty of leaf-mould, or a little peat. The American *H. virginiana* appears to thrive in most soils, some of the best I have noted being on the borderland of a wood, with moist conditions. Some care is necessary in the transplanting of specimens of any size. October, or, preferably, after flowering at the end of March or early in April, is the best time for the work, taking care that a fair amount of soil adheres to the roots.

When selecting positions for planting, two things in particular should be borne in mind; the first that, as the Witch Hazel flowers during the roughest part of the year, protection is desirable, and the second that, as they flower in advance of the leaves, association with, and a background of evergreens, is an advantage. The most effective planting at Kew is about a dozen specimens of *H. mollis* in a collection of large and small *Buxus* (Box). There is no question of the hardiness of the Hamamelis for British gardens, but because of the flowering season, it is not uncommon to find them planted against a wall for shelter and with very good results, a south-west or west wall being, perhaps, the best.

H. japonica.—Though known as the Japanese Witch Hazel, this species is a native of China and Japan. At first a spreading shrub, it eventually grows into a large, irregularly branched bush, though with a little training, beginning early with a leader, the species makes quite a pretty small tree. The thin, narrow yellow petals are produced during January and February. The variety *arborea*, as the name suggests, is stronger in growth than the type, with the tendency to form a small deciduous tree. It is usual to find the flowers of var. *arborea* opening before *H. japonica*, and they are a shade or two darker (more golden) in colour. In the other direction we have the pretty pale lemon blossoms of the variety *Zuccariniana*. As only a proportion of the seedlings produce pale flowers it is necessary to propagate by grafting or layering to be quite sure of obtaining the right plant, unless, indeed, it is possible to wait until the seedlings flower. In nurseries, forms with rather highly coloured calyx-lobes are variously named var. *rosea* and var. *rubra*, but as plants with this characteristic appear among batches of seedlings, varietal names scarcely seem worth while.

H. mollis, the Chinese Witch Hazel is the most showy and valuable of the genus. It has larger narrow ribbon-like petals, golden yellow in colour and deliciously fragrant. The flowering season is from December to January, and though frosts, if severe, may dim the flowers, the effect is only temporarily eclipsed, and after a warm day or two the blossoms appear as bright as ever. When the bushes get large enough, this is a glorious shrub to cut in mid-winter, using in vases with it the red-tinted foliage of the Mahonia, Berberis Aquifolium. In summer the hazel-like stems and leaves give *H. mollis* quite a distinct, ornamental character. Though first introduced from China as, apparently, a form of *H. japonica*, over forty years ago by Maries, and grown in the Coombe Wood Nursery, it was only during a visit of the late Mr. George Nicholson, twenty years later, that its distinct characters were recognised and identified.

H. vernalis.—This is the most recent of the Witch Hazels to be introduced to our gardens. Professor Sargent sending the first plant to Kew in 1910. Chief interest attaches to the shrub because the flowering season is January and February, whereas the other American species, *H. virginiana* opens from September to November. As a flowering shrub for our gardens it is not the equal of the Asiatic species. As *H. vernalis* spreads by means of suckers these may provide useful stocks on which to graft *H. mollis* and others.

H. virginiana.—The Virginian Witch Hazel is the oldest inhabitant of the family in our gardens, its first introduction being as long ago as 1736. A native of Eastern North America, writers in that country describe it as one of the best known and

most common of woodland shrubs or small trees. The yellow blossoms open first in September, just when the leaves begin to turn yellow and orange, and still more flowers open after the leaves



THE RED-CALYXED FORM OF HAMAMELIS JAPONICA.

have fallen, lasting usually through November, or even later. Though not a bush or small tree exactly deserving of a prominent position among flowering shrubs, the Virginian Witch Hazel may worthily find a place in the shrubbery border. Its requirements are not exacting, while to the lover of interesting plants *H. virginiana* possesses attractions in flower and fruit.

Kew.

A. O.

ALPINES FROM THE PASS OF MONT CENIS

(Concluded from page 649.)

TRACKING upwards, the banks were covered over a considerable area with masses of *Rhododendron ferrugineum*, the so-called "Alpen Rose" of the mountains or "mountaineers." Being in full bloom, its ruby red flowers produced a very picturesque effect. Continuing on above the level of these was the distinct *Ranunculus rutafolius*, one of the rarer members of this family, with its grey fanlike foliage and white flowers rather disappointing when compared with some of the other alpine members of this group. Higher still, was quite a considerable quantity of the more desirable and prettier in every way *Anemone baldensis* with its characteristic larger white flowers and much more graceful foliage. This

is quite one of the best for the alpine garden, if made happy. Plants were becoming interesting now, and neutralised, in a way, the discomforts of the weather, which kept "weeping" intermittently and was quite cold at the higher level we were attaining. High up, the track was over a considerable stretch of short grassy turf, among which were still lingering the dainty flowers of the Vernal Anemone, *Anemone vernalis*, one of the first of the flowers to unfold on the melting of the snow. It was also fairly plentifully sprinkled with "Edelweiss," although the position was not the usually dangerous one traditionally associated with this universally known alpine. The pretty dwarf *Lychnis alpina* also peeped up out of the turf in this area. Still pushing up

without any view or indication of a lake to encourage us, we were up among the snow, with some beautiful alpine buntings as company, and almost on the point of returning when a magnificent plant of the King of the Alps, *Eritrichium nanum*, with its delicate silvery grey downy cushion and incomparable blue flowers pecked up at us right in the pathway, like a rare jewel in a setting of stones. This acted as a tonic and, hunting round in the immediate neighbourhood, quite a quantity of *Eritrichium* was seen, but none to surpass the plant first noted. Hereabouts we had quite a glorious, if short, time. The very local *Primula pedemontana* with its rusty-edged rosette was in full flower in among the cracks and crannies in the rocks, quite a lovely colour picture in places.

Saxifraga retusa, another high local plant, dwarfer than *S. oppositifolia*, which had been seen (along with *Dryas octopetala*) on the way up, was here, with dark green hard cushions covered with its deep claret-coloured flowers, which usually do not occur below the 7,000ft. level. Other interesting high *Saxifragas* noted were *S. aspera* and *S. biflora*, the latter in very wet places along with the pretty annual *S. stellaris*, a plant well known in the alpine districts of our own country.

We visited the same ground two days later in much better weather conditions, but with the same military hindrances (or necessities) preventing an early start being made; however, a quick journey resulted in the desired "Lago Fresco" being reached on this occasion. On the boulders by the lake, *Eritrichium nanum* was fairly plentiful, with its always delightful brilliant blue flowers, probably in the same position as seen by a more distinguished visitor some years ago.

Thlaspi rotundifolium was a beautiful and welcome find: usually, isolated plants with rounded heads of rose pink flowers peeping up, for the most part, out of the somewhat barren screes. A welcome surprise was the finding of one or two good white-flowered plants. This species had also been seen the previous day among the stony wastes leading up to Lac Clair.

Among the *Androsaces*, the loveliest of all this beautiful family was *A. glacialis* with its green cushions covered with deep rose-petalled, compact flowers—probably, after *Eritrichium*, the finest jewel of the higher Alps and, like it, very difficult, if not impossible, to grow and bloom satisfactorily away from its habitats high up at the edge of the snow; also the hard grey-leaved *Androsace helvetica*, very pretty with its pure white, stemless flowers. This I have flowered well on the moraine, after complete protection from the damp, moist atmosphere during the winter.

Lloydia serotina (the rare Snowdon alpine) was locally plentiful and a few late flowers of the dainty *Soldanella alpina*. The Glacier Ranunculus, *R. glacialis*, was in flower, but not in abundance, also sparingly in the lake basin, and the bright blue flowers of one of the *Gentians*, possibly *G. imbricata*. On the homeward journey a diversion was made to see *Apulegia alpina*, which was somewhat past its best, but still very beautiful in the wooded parts at the south side of the lake. I am afraid the blue of the flowers did not come up to expectation. One had been led to expect a pure sky blue flower in place of the somewhat purplish blue flowers. I had seen a lovely display of this Alpine Columbine quite equal to the above both in size and colour at the York Show in the middle of June.

Fortunately, the day set apart for searching out the lovely little Lac Clair up in the mountains

at the back of the hotel did not clash with the military, who still were busy on the opposite side of the lake. The day was fine and the walking pleasant until the rough stony screes were reached, of which a considerable stretch had to be traversed before one suddenly looked down on the exquisite "Lake Clair." The grassy slopes in the early part of the route were, in places, very beautiful with the creeping shrubby-leaved *Veronica Allioni* with its pretty erect, clear blue flower-spikes. *Douglasia Vitaliana* was noticed, but was out of flower, as was also *Petrocallis pyrenaica*. Both, however, were in flower at a higher level, the latter being particularly fine. It is quite one of our best "moraine" plants and usually flowers well.

The dwarf large-flowered *Campanula Allionii* was abundant in places in the dry, stony bed of the stream. Among the blue flowers which varied a little in shade was a rather nice pink-flowered variety, but only a single plant. Higher up the stream more on the bank sides, the sweet and dainty *Viola cenisia* pecked out at one, its pretty purplish blue, yellow eyed, round-petalled flowers beautiful indeed, standing out from its strong background, plentiful, but only, so far as seen, in a very limited area, and the flowers did not seem to vary much, only a rather pretty pale blue variety being noticed. What a rush the higher alpine have: flowers one day in the brilliant sun and forming seeds the next, which are ripened in a very short space of time. Although the *Viola cenisia* flowers could only have been in bloom a short while, quite a quantity of ripe seed was obtained. Still moving upward, *Campanula cenisia* was just peeping up from under the stony screes with its roots well down in the grit sodden with the continuous melting snow from the steep slopes above. Odd plants had been seen in flower, but it was full early for this *Campanula*, which is usually at its best in the month of August. Higher still, in the same stony waste, *Thlaspi rotundifolium* with its rosy pink flower balls obliterating the leaves was in evidence, and it was interesting to see what a distance the "stocky" roots had travelled down into the ever-moistened grit under the larger stones that overlaid them. About the only other plant among this stone field, where plants were few and far between, was *Saxifraga biflora*, with foliage somewhat like the "Club Mosses" and not very striking flowers.

On the moraine, thrown up between two torrent beds, vegetation was much more evident, and included quite a good sprinkling of the lovely blue flowers of *Gentiana bavarica* or more possibly, its higher form, *G. imbricata*, seeing that the altitude was very much greater than down at the Mont Cenis Lake, where the true *G. bavarica* was fairly plentiful. *Anemone baldensis* was also here in plenty, and near by flowering plants of *Geum reptans* with its pretty yellow blossoms and divided leaves, and lower down its fluffy seed-heads, along with those of *Geum montanum*. The "screes" stage of the journey was long and rather tedious, and no indication of the long-anticipated lake was vouchsafed to us, but we pushed on to a ridge in front with the hope of finding the long-looked for lake over the "top," and were at last rewarded for our efforts by finding the charming blue "Lake Clair" in a basin below, with high snow-capped mountains and small glaciers towering above it.

After resting, admiring the lake and its enchanting surroundings and also lightening our load (lunching), we found that by the sides of the lake the lovely high form of *Gentiana verna*, known as *G. brachyphylla*, was fairly plentiful, with its lovely blue, almost stemless flowers peeping up out of the stony bed, and we

were fortunate in finding two pure white-flowered plants of the same *Gentian*. *Veronica apylla* had lovely deep blue flowers of good size and harder foliage at the higher levels, but was not nearly so attractive at the lower, the leaves being looser and fleshier and flowers as a rule much smaller; the result, in the garden, of plants raised from seed some three years ago being similar to the last and not worth troubling with. Among rare English alpine, the very dwarf creeping *Azalea procumbens* was plentiful, carpeting the ground and in full flower (including some with white blossoms), which it rarely is in our gardens, where, even if established, it either flowers very sparsely or not at all. *Arenaria sedoides*, which is one of the Ben Lawer's alpine, grow in green compact mats with very small white flowers, not particularly interesting as a garden plant. The parasitic *Bartsia alpina*, a plant familiar in its North of England habitat, was seen from the Mont Cenis Lake up to the little lakes at the higher altitudes, very often associated with the *Gentians* in boggy places. *Erigeron alpina*, another Scotch species, was frequently seen, as was also the lovely white-flowered alpine Butterwort.

Saxifraga diapensioides was seen in flower on the last day of my visit to Mont Cenis, a short day, as tracks had to be made early in the afternoon for Susa. The plant, as usual, was in the "occupied zone," so the early part of the morning was spent in collecting seeds of *Viola calcarata* and other plants of interest that happened to be in the vicinity of the nearest sentries. Operations ceased about eleven o'clock, when a dash was made for the locality, all likely rocks being examined *en route*, and after about an hour's walk it was found fairly plentifully in the crevices and at the foot of some large boulders, hard, grey-green cushions tight on the rock flourishing best, right on the underside away from sun for the greater part of the day and sheltered from direct rain. Plants more exposed were not nearly so happy, and in some instances were clean burnt up. On a hurried journey back a diversion was made to see *Cortusa Matthioli*, a pretty primula-like plant which I had not seen previously in its native haunts, although it had been happy in the garden for many years, being received as *P. luteola*, an altogether different plant.

The hotel people became very independent towards the week-end, and evidently wanted to be rid of *en pension* visitors, owing to an expected rush of motor enthusiasts! (to put it mildly), for some motor speed trials that were to take place on the Sunday from Susa up the Italian side of the pass to Mont Cenis—what a desecration to such a place and such surroundings! Two visitors who stayed on, managed, for a long day—the military being otherwise occupied for once—to get clear away, and so effectively that it meant staying out the night as well, they having got astray in the mountains adjacent to the Little Mont Cenis, and eventually found themselves at Susa next morning.

As the place was beginning to "buzz" with motorists, and they are not "silent" in these parts, I did not altogether regret having to leave, and motored down by the Hospice, now for the most part transformed from its former peaceful and more suitable purpose into a busy, dirty and untidy barracks. The early part of the pass is very steep, the drop being very considerable in a very short distance, traversed by short zigzags and known owing to its steepness as "The Staircase." The journey opened out beautiful views, but motoring is too rapid, especially when down-hill, to be of any use for close observation. The quaint city of Susa was eventually reached in good time for my train on to "The Maritimes."

Middlesbrough.

T. ASHTON LOFTHOUSE.

THE LAST SHOW OF THE YEAR

A DISTINCT end-of-the-season air pervaded the Royal Horticultural Society's Hall at Vincent Square, Westminster, on December 11, when the Society met for the last time this year. The attendance was small and the exhibits were of a conglomerate nature. Orchids, Carnations and Chrysanthemums were the principal flowers on view, and these were supported by hardy shrubs. Fruit was represented by a small but splendid collection of Apples from Messrs. G. Bunyard and Co., and the remainder of the exhibits were of sundries, paintings and preserves.

The Orchids included another collection of the splendid *Cypripedium* seedlings raised by Mr. G. F. Moore. These are noteworthy for their

was displayed by the several vases of Sir Mackay Edgar, Red Ensign, Reginald Cory and Lady Inverforth as shown by Messrs. Stuart Low and Co., who also had nice flowering plants of *Erica melanthera* and *Acacia platyptera*. Donald, a new perpetual-flowering Carnation, is a good bright crimson, and it is said to be very free-flowering. It was shown by Mr. C. Engelmann, who also had a valuable set of white varieties.

Although Messrs. Keith Luxford and Co. included a number of gigantic Japanese Chrysanthemums in their exhibit, it was the Pompons of the tiniest possible size that attracted most attention. In two very large vases of graceful sprays of the miniature type were Julia Lagrave of warm crimson-maroon colouring, Yellow Snowdrop and the white Mary Pickford, no larger than a sixpenny piece, and the attractive amaranth Frances Hutchinson.

The preference for the smaller, graceful type of Chrysanthemum was continued with the collection of sprays from seedling plants raised this year by Messrs. Sutton and Sons. These were practically all Singles, and while there was none worthy of a first-class certificate, all the many sprays were quite good and just the right thing for ordinary decoration. For those who do not care for the bother of keeping stock plants over the winter and of striking cuttings in the spring, the raising of seedling plants each year has much to recommend it. It should always be recognised, however, that the great majority of the plants so raised will only produce quite single flowers, and that there will be few doubles among them, though nearly all will be highly decorative.

Chrysanthemum Golden Butterfly, which was excellently shown by Messrs. Scott and Wickham, is a greatly improved W. H. Lincoln and bears good fully double flowers on long, stout stems.

A novel type of the miniature garden was introduced by Mr. S. Smith, who brought a number planted with little Cacti of many different sorts. Mr. Fred G. Wood had many similar receptacles planted with alpine.

Among the shrubs was a large number of dwarf conifers suitable for the rock garden. These, and several *Skimmias* and *Berberis dulcis nana*, were staged by the Orpington Nurseries Company; while Messrs. L. R. Russell, Limited, had standards of *Euonymus* and Lavender and various Ivies.

Another collection of dried flowers and Grasses was brought from the French Intensive Gardens, and many of the species were very attractive.

The garden sundries included Mr. J. Haw's patent watering pots, a new pattern pruner by

Mr. C. Jardine, garden ornaments in stone by Messrs. Sanders and Co., the Hardy rustless steel spades and Radium and Cross Bone fertilisers, and Major Walker's fruit tree protector.

Paintings of gardens and floral studies were freely shown by the same artists as a fortnight ago, and Mr. Percy Cane contributed excellent photographs of gardens carried out to his design.

NEW AND RARE PLANTS.

Chrysanthemum Brightness.—A pretty little late-flowering Japanese variety after the style of Winter Cheer, but brighter and shaggier. It appears to be dwarf and bears plenty of sprays of neat, bright rosy mauve flowers. Award of merit. Shewn by Mr. H. W. Thorpe.

Cypripedium Chrysostom Chardwar variety.—This is a gross flower of somewhat floppy habit and not equal in merit to the similar varieties shown a fortnight ago. It may be described as being a gigantic *C. insigne* with a broader band of white and some crimson flushing on the standard. First-class certificate. Shewn by Mr. G. F. Moore.

C. Gwen Hannen Chardwar variety.—Briefly, this is an immense *C. insigne* of excellent type and form. First-class certificate. Shewn by Mr. G. F. Moore.

C. Prince Albert Chardwar variety.—A very distinct long-stemmed rounded bloom with uncommon rich purple colouring on the standard. First-class certificate. Shewn by Mr. G. F. Moore.

C. Warrior var. H. Green.—A large, rounded *C. insigne* variety of excellent type. Award of merit. Shewn by Messrs. Armstrong and Brown.

Sophro Lælio-Cattleya Eileen.—The rich glowing colours of the blooms rendered this the most attractive of the new Orchids. The sepals and petals were a deep rose pink and the lip was a bright velvety crimson. Award of merit. Shewn by Messrs. Stuart Low and Co.

GAULTHERIA SHALLON

OF the small group which comprises the genus *Gaultheria* this shrub is the largest, easiest and most common. It was introduced by Douglas nearly two hundred years ago from North-West America, and the many references made to it in the Journal of the celebrated botanist and traveller testify to the warm regard in which he held the species. *G. Shallon* makes a dense evergreen bush, or thicket, of erect reddish stems which may be anything from 1 ft. to 4 ft. or even more in height, and amply furnished with ovate, almost heart-shaped, leathery leaves of a rich green and as large as those of an average Apple tree. Once established (it often takes some time to settle down) it grows rapidly and spreads by means of suckers, an attribute that may be highly desirable in the right place but is somewhat troublesome in another. As a flowering shrub *G. Shallon* is the most worthy of its race, the bloom racemes, which are produced at the terminal leaf axils in early summer, being some 2 ins. to 3 ins. long and bearing many nearly globular flowers of good size in a pale silvery pink. The deep purple berries are luscious and of good flavour. While almost any soil, save that which is very dry, will suit *G. Shallon*, the best specimens are usually seen in deep, cool loam or alluvial deposits, in well drained peat or the damp, leafy mould beneath woodland trees, especially pines. When planting, it is desirable to put in clumps rather than separate roots.



THE NEW LATE SPRAY CHRYSANTHEMUM BRIGHTNESS.

great size and uncommon colouring. Messrs. Flory and Black and Mr. Harry Dixon also shewed small collections of very good *Cypripediums*. Messrs. Sander and Co. had a general collection which included some beautiful *Brasso-Cattleyas*, *Cymbidiums*, *Lælias* and *Odontoglossums*.

Among the general flowers the several displays of Carnations were particularly bright. The vivid colouring of a large vase of Edward Allwood alongside the rich shade of Wivelsfield Claret in the collection of Messrs. Allwood Brothers was very striking. Topsy and the deliciously fragrant Mrs. C. F. Raphael were on the same stand. At one end a collection of *Dianthus Allwoodii* illustrated the long flowering season this useful type enjoys. Rich carnation colour

CENTIPEDES, MILLIPEDES & WOODLICE

THERE is a sufficient likeness between the active centipede and his more sluggish relative, the millipede, to make it somewhat difficult for a novice to distinguish rapidly between them. The dilemma is often solved by killing both on sight, which is something of a mistake.

Whatever the verdict may be regarding the function in life of the millipede, it is generally conceded, by those conversant with his ways, that the centipede is not a vegetarian, but feeds largely on earthworms and probably clears off large numbers of such insects, etc., as frequent his subterranean burrows and lairs, under flower-pots, bricks, etc. Unlike most of the millipedes the centipede is flattened in shape and takes a good deal of exercise.

The tropical centipedes are very poisonous and many even of our English species have poison glands attached to their first pair of legs, by means of which they have been seen to kill earthworms and bluebottles. The centipedes most frequently seen in gardens are two. One is *Geophilus*, which is long and thin with from 30 to 200 segments, most of which have a pair of legs attached to them. This genus is of a yellowish colour, slightly tinged with brown, has no eyes and some of its species give a phosphorescent light like the glow-worm. The other common genus is *Lithobius*, which is shorter than *Geophilus* and more strongly made, of a chestnut colour and an appearance of having been well polished with furniture wax.

There is no need to disturb either of these creatures, for they are probably doing a useful work in destroying noxious insects and though unattractive are too small to annoy mankind.

Both centipedes and millipedes belong to the order Myriapoda, which we may roughly translate as "Many-legs," a most appropriate name; as is that of centipede or hundred-legs for *Geophilus*. Forty is the approximate number of the walking appendages of *Lithobius*. A local name for these among Arabs is "Forty-four-legs," while in the Eastern Counties of England they are familiarly called "Forty-legs."

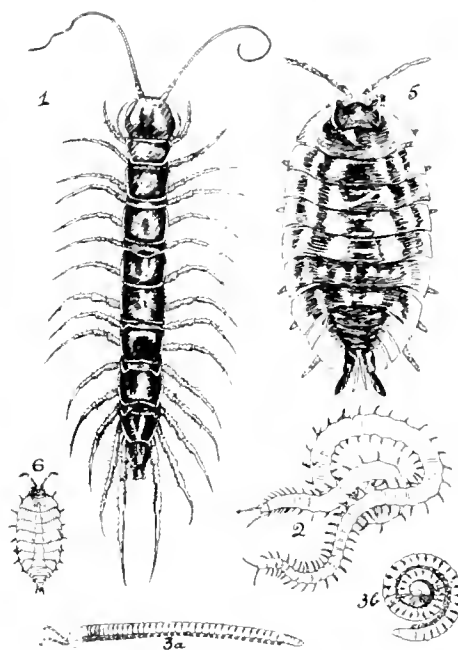
To distinguish between a centipede and a millipede observe closely the segments into which each is divided. The centipede has one pair of legs on each segment, while the millipede has two pairs, which are thin and, in the aggregate, look like a fringe of hairs. The millipede is of a snake or worm-like appearance, with a practice of coiling like a watch spring when touched, but otherwise moving but slowly; whereas the centipede is alert and, when long, has a habit of arranging itself in a complicated kind of figure of eight, withdrawing rapidly from the light into the earth or beneath a sheltering stone.

The millipede is less nearly allied to the insects than the centipede, and is generally sluggish in its movements. Its sole defence appears to be a power of exuding an offensive odour from glands near its tail. The body is usually round like an attenuated slate pencil. Its eggs are laid from May to July in a nest of earth the size of a small nut, made by the female. At first, the young have but three pairs of legs, but new ones are grown and appear in groups from time to time, probably after each moult.

Of English millipedes there is one genus, *Polydesmus*, the members of which have flattened bodies; these have but nineteen segments, are protected by bristles and may be found congregated together in considerable numbers. They are not likely to be confused with the centipedes, which are more active and have an air of knowing their

way about much more than any species of millipede.

Much damage is done to Potato roots and Strawberries by the millipede known as *Julus*. That roots and fruit are eaten by them is certain, and though some persons declare that other creatures



Nos. 1 and 2, Centipedes (*Lithobius* and *Geophilus* respectively). No. 3, (a and b) a Millipede, *Julus pulchellus*. No. 5, a typical Woodlouse. No. 6, Small red Woodlouse, *Trichoniscus roseus*.

must make the first hole, those who have suffered largely from their depredations find it hard to believe that the *Julus* tribe do not act on their own initiative. One small species of *Julus* often shares the name of wireworm with the larva of the click beetle; under the microscope, it may be seen to be decorated along each side with a row of crimson spots.



No. 4. Another destructive species of Millipede, *Julus pusillus*.

The Pill millipedes, of another genus, roll themselves up much like the Pill woodlice, but do not form a ball, are in fact more like a thick wheel with a depression where the axle should be.

The woodlouse is widely spread and fairly omnivorous, but though it may dispose of some noxious creatures of small size, it is not a safe companion for delicate plants. It is a small, oval crustacean (a relative of the crab and lobster tribe) and one genus is called *Armadillo*, from the defensive armour plating with which its back is covered. The size varies greatly as it continues its growth after maturity. Some of the smaller species are very prettily coloured in shades of red and pink, as well as grey and yellow.

The woodlouse is a careful mother, carrying her eggs in a brood-pouch under her body until they hatch. This creature, like the millipede and centipede, is found in damp places, under boards, flower boxes, etc., and if undisturbed becomes sufficiently numerous to make its presence felt.

In order to check the increase of millipedes and woodlice, some good may be done by hollowing out large roots, such as Potatoes, Mangolds, etc., and placing them in marked spots beneath the surface of the soil, whence they should be frequently removed, cleared and replaced.

Leaf-mould is often a resort of these little pests, so that on obtaining a fresh supply it is a wise precaution, unless it is wanted for lime-hating plants, to work slacked lime into it. Long manure is also a source of trouble and if turned and pecked over by chickens several times, is likely to be safer.

If land is found to be infested by these pests a dressing of gas lime may be useful, or ordinary quick lime or super-phosphate of lime may be used. The Ministry of Agriculture also advise one or two ounces of powdered naphthaline to each square yard of land, which should afterwards be watered. Soot, or soot and water is also recommended, or proprietary insecticides may be applied as directed. The removal of decaying roots and frequent turning over of the land will disturb intruders and lay them more open to the attacks of birds. In greenhouses and pits crumbling mortar should not be tolerated; properly pointed walls afford no harbourage.

B. M. L.

TRENCHING AND DIGGING

WITHOUT a thorough preparation of the soil no crop can be grown satisfactorily. Yet how often one sees plants and seeds put into the ground after a very inadequate digging and working of the soil. Plants in a shallow-tilled soil grow to all appearance very well up to a certain stage and month, but when a dry spell of weather comes, the roots, being near the surface and having exhausted the nutriment of the soil there, and being unable to penetrate downwards through the hard pan of soil below, fail to finish the crop properly, whether of fruit, flowers or vegetables.

There is no better time than the late autumn and early winter for digging and trenching work.

I am not directing attention merely to the open plots in the vegetable garden, but to the soil preparation in every department. If, for instance, shrubs are planted in hard, unbroken soil, one easily sees the dire results a few years afterwards. They do not withstand dry weather in ordinary seasons and often collapse altogether in exceptionally dry ones. If it is not possible to trench the whole of the new shrubbery border, the soil for several feet round should be trenched for each specimen at planting-time, and on the first opportunity the remaining ground should be similarly treated. The shrubs and trees will then grow freely and prove a pleasure to the owner. The new herbaceous border and those renovated must, of course, be trenched over the whole of the space the plants occupy. Many of the kinds so grown will never prove satisfactory unless the soil is trenched; surface mulching will not supply the deficiency. Roses thrive in deeply trenched ground, even in cases where the soil is stony and poor. I well remember a case in point. The cultivator had purchased a new residence; the ground was stony, almost peaty in places, poor indeed, and its position was high and, naturally, overdrained. It was freely predicted that Roses could not be grown satisfactorily in it, but as a result of trenching and judicious surface-mulching very fine blooms were grown of

high enough merit to win silver cups in good competition.

Of course, it is unquestioned that the trenching of the soil for vegetables is really necessary if high-class produce is to be obtained.

The actual treatment of the soil must vary according to its character. It would be unwise to bring up gravelly loam to the surface unless the cultivator had an unlimited supply of well rotted manure to put in as the work proceeded. To meet the average case such gravelly subsoil should be well loosened but left below. Some small portion of the good top soil would fall and mix with the poor subsoil; this could not be prevented, nor is it desirable that it should be, as by this means

a greater total depth of rich loam will gradually result. In the case of a clayey subsoil I am all in favour of bringing up a portion of it at every trenching and leaving the lumps on the surface exposed to the weather all through the winter to become pulverised and sweetened. Finally, a word as to the treatment of the best, the top, spit of soil. If it is grass ground, I would peel off the turf thinly, stack and use it judiciously afterwards, and when sufficiently rotted, for the benefit of the choicest crops. In all cases the immediate underlayer would be buried only a few inches to help on its disintegration, as I find that there is never any difficulty in getting some of it mixed with the lower layers. GEO. GARNER.

CORRESPONDENCE

CLEMATISES ON THEIR OWN ROOTS.

IN reply to Mr. W. Gater, Sheffield: These can be had by means of striking cuttings. There are two methods, using either inter-nodal cuttings or young shoots in spring stripped off from the node. I have had good success with both, the kinds being *Clematis montana* and *C. tangutica*. In the Island we can strike them in the open, in loose, porous compost, shading them from the sun until the roots are formed, and constantly watering them overhead. Spent house ashes (a good deal of wood ash in them), on well forked-up ordinary garden soil gave excellent results, but leaf-mould and sand or peat moss and sand should be quite satisfactory. According to the late Sir Isaac Bayley Balfour's formula, my cuttings are just stuck into the loose soil, without firming in any way.—"WESTERN WIGHT."

I READ with interest the note by H. Gater, Sheffield, on the above (December 8, page 640). I have been trying for several years to establish plants, purchasing these from various growers and bestowing great care on the soil, shading of roots, stems, etc., but always with the same result, viz., a total collapse after varying periods. Two years ago, however, motoring through Newton Abbott (Devon), I stopped at a nursery owned by Messrs. Fuller to purchase certain plants and saw there some healthy-looking plants of *Clematis* standing 3ft. to 5ft. high. I spoke to the genial old foreman about my trouble with *Clematis* and he suggested my trying some of his plants, which he stated were "grafted in the old-fashioned way." I tried five of them—Jackmanni and J. alba, Nellie Moser, Miss Bateman and Lord Neville. Sure enough these plants have done excellently. They have all bloomed (except Miss Bateman, of course), this year, since June last and were full of flower up till the wintry conditions (which, by the way, were

exceptionally severe for this part of the country), of a fortnight ago. I think I paid 2s. each for these plants and I know he had a couple of dozen plants of various sorts when I made a call at the



THE VERY DISTINCT ACACIA VERTICILLATA.

nursery in October last. I may add that these plants were put in along a trellised arch and get very little protection from sun. They get pulled about badly by gales, to which we have been subjected almost continuously this year. With the milder conditions now being experienced it looks as if Nellie Moser will succeed in opening several large promising buds.—H. R. STERRETT, Exeter.

THE FIFTY BEST ALPINES.

MAY I tender thanks to all contributors for their interesting and helpful lists. It is noticed that some appear to favour *Convolvuli*—especially *C. Cneorum*, but owing to the evil

reputation of the race (especially on chalky soil), I have not yet attempted any of the kinds. Can *C. Cneorum* be trusted not to strangle everything? I would suggest that *Verbena chamaedryoides* is not sufficiently hardy, and that *Raoulia australis* produces very uninteresting flowers, though the foliage is certainly beautiful.—PURLEY.

ACACIA VERTICILLATA.

IT is but a small proportion of us who are so fortunately placed that we can plant this lovely Wattle in the open air and allow it to grow 8ft. and 10ft., even 12ft. high. Yet there are places in the West of England where this can be done, and is done, and it is a useful fact to remember when we are considering large plants suitable for furnishing a large, cool house.

The photograph which I send should serve to convey an excellent idea of the general appearance of the plant with its thin woody stems, dark green conifer-like foliage and full, fluffy little heads of pale greenish-yellow flowers, exactly the tint of the rind of a ripe lemon. There is, however, one extra charm which the camera cannot portray for us and that is the subtle, but delicious perfume which these flowers give out. If one looks closely at the illustration, one sees that not only are the expanded heads notable for their abundance, but the number of unexpanded buds is correspondingly large and this means an extended flowering season. Now, let us picture such a shrub as that, of the proportions described, and, remembering that the flowers begin to expand in February and continue until the end of April, we can quite appreciate that *A. verticillata* is a plant of real value.

In common with the rest of its family, the plant appreciates a soil in which sandy peat largely predominates, although it will grow splendidly in a mixture of peat and turfy loam kept evenly moist. When planting, take care to make the soil very firm all round the fibrous roots and see that they never suffer from lack of water, especially during the early stages. Some indication as to their requirements in the direction of temperature may be gleaned from the fact of their growing outdoors in favoured localities, and all that is necessary is to keep them as cool as possible, just excluding hard frosts. The habit is so densely branching that one need not fear to cut freely, once the plants have attained a fair size. Indeed, cutting rather does good than otherwise—if carefully done—for in removing the branches needed for decoration, one admits light and air to the centre of the plant and so encourages the production of young and vigorous growths. Those who happen to possess those mild and sheltered gardens where frost rarely comes—and does but little injury when it does—should by all means try the plant in the open, for it forms a splendid garden shrub very early in the year when the spring sun is gathering power and the misty cloud of golden fluffy heads is almost hiding the foliage from view by its abundance.—H. W. CANNING-WRIGHT.

ABOUT FREESIAS.

THE raiser and grower of coloured *Freesias* no longer ploughs a lonely furrow. Every year his confrères increase in number, which means more people take a first-hand interest in all that concerns them. May I, then, put some of my recent experiences before readers? (1) Contrary to expectations, as I imagined we were not having much of a summer for ripening purposes, there are practically no duds among all my thousands of corms. My impression is that there was not as much sunshine as we usually have, but that we had a fair amount of warmth; at any rate, I was able to sit out of doors in an evening pretty

often, which is not always the case. (3) Has any one tried my suggestion of heating the corns before planting them, except my one correspondent, who lately wrote to tell me he had done so, with the most beneficial results—"the ones that I put in heat are especially strong"? With me this year heated and non-heated are much of a muchness. (4) This year there is a distinct difference in vigour between the white and next-door-to white seedling and the yellows, pinks and mauves. The first-named, including many of which the large ivory-white Primrose Day is the seed parent, do not look so robust. This is rather a reversal of my experience. (4) A big surprise packet came to hand in September. A letter from a lady in the Isle of Wight accompanied by a few seed pods of Freesia seed ripened in the open in her garden there. The seed was sown on September 6, but so far (December 7) only one seed has germinated. In this lady's garden Freesias have been grown in a dry, warm position out of doors for some years. I am trying some of her hardened bulbs, which she was kind enough to send, in the open here, with just an inch of coarse fibre over them. I fancy British saved seed from plants grown in the open garden is very uncommon. Does any one know of any other instances?—JOSEPH JACOB.

TO COLLECTORS OF ENCRUSTED SAXIFRAGES.

I AM making a collection of Encrusted Saxifrages and am anxious to get into communication with other growers and collectors. I have already nearly 300 different kinds.—C. KIRCH, 52, *Albemarle Road, Beckenham, Kent.*

GLADIOLI IN VICTORIA.

IN THE GARDEN of August 18 (recently received), on page 430, there occurs a mis-statement—doubtless owing to a printer's error—in my notes on Gladioli in Victoria, the approximate latitude of Geelong being given as 30° S., instead of 38° S. I would be obliged if you would correct this error, as it renders several of my remarks as to climate, etc., most misleading. The climate at Geelong (38° S.) is temperate, while at 30° S. (which is close to the border between New South Wales and Queensland, and many hundred miles further north) it is rather more than sub-tropical.—"AUSTRAL."

SMALL-FLOWERED CHRYSANTHEMUMS.

THE Editor's footnote, page 628, issue December 1, in which reference is made to the small-flowered varieties for border decoration, brings back to my mind the days, a generation ago, when there were about twenty varieties grown generally for cut flowers in the open border during the late autumn and early winter months. I grew such as far north as Lancashire, and in Hampshire. The plants were grown on the west side of walls in groups in such a way that a rough framework could be readily erected to bear mats and tiffany rolled up during the day and in mild weather, and placed over the plants in frosty weather. These plants provided quantities of flowers for cutting and room decoration. The idea was to have masses of blossom in distinct colours in deep vases, and these old varieties provided them at a minimum cost and without taking up valuable space under glass. There was no disbudding, so that each spray formed a bouquet in itself. The chief care was to keep the flowers dry. In Hampshire in open winters I have cut as late as the second week in January. Generally, I found we had some blossoms spoiled one year in eight. In the North the plants were secured to high walls by strands of wire, and protection was readily afforded. Chrysanthemum Snowdrop and about half

a dozen other sorts of the Pompon family were also grown in large pots for use at Christmas. I am sure we should be doing the right thing to grow more of such small-flowered sorts in these days.—G. G.

YELLOW ROSES.

IN the note upon "Some of the New Roses of 1922," Mr. H. L. Wettern states that the best yellow of the year is undoubtedly Mable Morse. I cannot endorse that statement: W. E. Wallace has been finer in Scotland. In his description of Mable Morse Mr. Wettern writes that "Although we had regarded Golden Emblem as perfection so far as yellow Roses are concerned, this new Rose is even better, and should prove the crowning point, unless, of course, the raisers have something better coming along." We had several hundred plants of Mable Morse in flower this season here, and although it is unwise to condemn a Rose when one has only had experience of it for one season, I am convinced that it will never oust or rival Golden Emblem. That variety, from every standpoint, is the supreme yellow Rose that is at present in commerce. It is not, I should hope, the last word in yellows, but it is one that will be extremely difficult to beat. It is a masterpiece and a credit to its raiser.

Mable Morse is described by its raisers as "The finest yellow Rose the world has yet seen." The same raiser describes Florence L. Izzard as "The queen of all yellow Roses." It is, of course, a later edition in yellows and was sent out in 1923. I venture to express the opinion that Golden Emblem will never be displaced by either. I repeat again, that it is a masterpiece.—GEORGE M. TAYLOR, *Edinburgh.*

THE POMEROY APPLES

STEPPING into a fruit market last week I came across a couple of hampers of the Old Pomeroi Apple, and although not taking in appearance, the flavour was such as must be pronounced "good." In a few Herefordshire orchards I have come across three varieties called Pomeroi, viz., Lancashire Pomeroi, the Old Pomeroi or Pomeroi of Somerset, and the Pomeroi of Herefordshire (syn. Kirke's Fame, Peach, Sussex Peach and Russet Pine). Pomeroi's name is a corruption of Pomme du Roi (the King's Apple). Old Pomeroi is of medium size, conical and obtusely angular, skin greenish yellow, covered with thin, grey russet, with patches of russet and red on the side next the sun, strewn all over with numerous large, dark russet dots. The stalk is short, inserted in a round, russet cavity, the flesh firm, yellow, crisp and highly flavoured, and the fruit in season until January. Pomeroi of Herefordshire is an early, richly flavoured dessert Apple, in use during October. The fruit is a nice dessert size, in coloration similar to the russet varieties, with a few broken streaks of crimson next the sun. The flesh is yellowish, tender and juicy, sweet and of a delicious flavour. Pomeroi of Lancashire is a rather soft-fleshed culinary Apple and in season about the same time

as Lord Suffield. The flesh is white and it is a good cooker. GEO. LOVELOCK.

THE RIDDLE OF THE ROSE.

FIFTY years ago John Hutton Balfour, Professor of Botany in Edinburgh, quoted to his class the Latin "Riddle of the Rose."

"Quinque sumus fratres, unus barbatus et alter imberbisque duo, sum semiberbis ego."

The riddle is of great antiquity, and the following fine translation of it has been made by Professor F. M. Caird.

"Five brothers take their stand
Born to the same command;
Two darkly bearded trown,
Two without beards are known,
And one sustains with equal pride
His sad appendage on one side."

The above was found in "A Student's Life in Edinburgh in the 'Seventies," by "Alisma."



HAS GOLDEN EMBLEM BEEN SUPERSEDED?

In the Wild Rose the five sepals remain attached to the hip and will invariably be found—two bearded on both sides, one with a beard on one side only, and the remaining two without beards.—H. W. L.

THE TRITELEIA.

TRITELEIA UNIFLORA is a singularly pretty flower when grown in a mass; a single plant growing alone fails to give us a true impression of the charm of a spreading group of this flower with its narrow leaves and milk white or bluish flowers open to the sun. It comes from warmer parts, hailing, indeed, from the Argentine, but is hardy in many parts of the United Kingdom, suffering more, I think, from winter wet than from cold. It should have ample drainage, and nowhere have I seen it finer or more flourishing than in the gravel path of a garden in the suburbs of Edinburgh, where the original plants in a border near by had seeded and produced a host

of seedlings which in turn bore seeds and gave rise to many hundreds of plants, which when in full bloom made a most fascinating sight. Yet there are gardens much further south where *T. uniflora* does not flourish for any length of time. It grows from 4ins. to 6ins. high and flowers in summer, and should always have a sunny place, so that the flowers may remain open as long as possible. Bulbs are cheap and may be planted 3ins. deep in autumn. Free, open, well drained soil is best.—S. ARNOTT.

GARDEN NOTES FROM NICE

THE much-desired rains have at length visited this coast, and a week or ten days without a sunny day has caused many a grumble from the new-comers who do not realise how much they were needed. As it is they have come too late for those who love their autumn gardens. December, however, has its special charm, for there are so many fragrant flowering shrubs that scent the air on these brilliant and still days that follow on the late autumn days of rain.

Buddleia auriculata is now replaced by *Chimonanthus fragrans*. It is difficult to say which is the sweeter, but it is quite certain that the fragrance of the *Buddleia* travels much farther than that of the *Chimonanthus*. *Freylinia cecidoides* is also of most penetrating perfume, while its beautiful kinsman *Cestrum aurantiacum* is as scentless as an *Abutilon*. *Lavandula dentata* and the flowering *Rosemarys* are also particularly noticeable on a December morning. Sweet-leaved *Geraniums* are in full growth and scent the air as you pass; but I must own that the flowers of *Iris stylosa* (or *ungicularis*?) do not seem to me to have an appreciable scent this coast.

That delightful little evergreen shrub *Phyllica capensis* deserves more attention than it gets. The French name for it is "*Bruyère du Cap*," which rather explains its charm while very misleading as to its name. It is not a Heath, as they would suggest, but a *Groundsel*, and its rich green heath-like shoots are crowned by a tightly congested head of white flowerlets that defy winter rains and storms—neat and tight and white spite of everything for two or even three months! In a smoky atmosphere the whiteness would not last so long, I fear, but in country air it should be worth a trial in southern counties, as it is hardier than the sweet *Buddleia auriculata*, which blooms at the same time and gained an award the other day. Its apparent and only defect is that it is straggly in habit, and after many years of struggling with it I, in despair, took a pair of shears and clipped the whole bank on which it had grown for so long. This was done in May, when it had already made many long green shoots, and to my surprise when I next saw it, in the month of October, I found a neat carpet of green heather-like shoots already tipped by the white specks that develop by and by into the neat button-like heads of bloom. It makes a capital contrast to *Lithospermum rosmarinifolium*, which I shall this year subject to the same drastic treatment in the hope it may succeed as well as the first; but the *Lithospermum* is not naturally a straggler in the same way. All the same, it needs keeping in order on occasion, and so these two evergreen shrubs become a necessity to winter gardens on this coast. In the matter of soil *Phyllica capensis* seems omnivorous, and it is equally at home in sun or shade

when its tendency to straggle is kept in order. I hope some day our Kew friends will report on its hardiness, as they have done with the *Buddleia*. It deserves a place in any garden where neat shrubs are used for edging or grouping.

Clematis balcanica is another good plant blooming at this season that should not be forgotten either on this coast or in more northern gardens. Its dainty purple-flecked bells, so creamy and attractive as they hang in pairs on the slender climbing stems, are speedily followed by silvery shining heads of feathery seeds that are almost as attractive as the flowers, and the finely cut and dentate foliage is at its best at this season, but to keep it at its best it also needs cutting back severely in February or March. *Clematis Armandi*, however, is far the most beautiful of the winter

or early spring flowering section, and should be planted in some suitable place where it will not suffer severely from drought. In some gardens it refuses to grow freely, but I feel convinced that with good soil and plenty of water it is a climber that everyone should grow; unfortunately, French nurserymen rarely catalogue it, so that it is little planted.

Acacia podalyriaefolia is the most showy of all shrubs or small trees and perhaps the most lovely of all the "*Mimosas*," as they are termed by the French. The hot dry season has suited it to perfection, and the length and abundance of the flowering shoots is amazing. If only its lovely sprays would live when cut and in water how faultless it would be in its beauty at full mid-winter.
E. H. W.

PROFITABLE INSTRUCTIONS for the MANURING, SOWING and PLANTING of KITCHEN GARDENS, 1599

A Pæan on Carrots.

THIS little book merits attention partly because of its rarity, but much more on account of the intrinsic interest of its contents, which give us a first-hand peep into a well-to-do citizen's garden of the year 1599. As I write I have this book by my side, and so I can state that it exists. Although the work was mentioned and the actual date (1599) given in Charles Bellingham's posthumous edition of Sir Hugh Platt's "*Garden of Eden*" in 1665, and although this same edition, as well as one in 1603, is mentioned by Lowndes in his "*Bibliographer's Manuel*," writers on gardening matters like Mrs. Evelyn Cecil seem very doubtful if a copy is still in existence. No mention of either edition is made by Weston in his *Catalogue of English Authors*. Johnson, who wrote the well known "*History of English Gardening*," can never have seen a copy or he would not have followed verbatim the reference to it in the "*Garden of Eden*" by just mentioning it as "*Gardener's Kitchen Garden*," thereby shewing he neither knew its correct title nor the author's name; you draw Pritzel blank.

Small wonder, then, that Mrs. Cecil's note in her bibliography is "no copy has been found," and that although she had never seen a copy of the second edition herself, she mentions that Hazlitt included it in his third "*Collection of Bibliographical Notes de visu*," as if he were rather a lucky man to have done so.

Naturally, something about the author will add interest to its contents. Positively, I think I am correct in saying, nothing is known about him, but if some very strong circumstantial evidence in Owen and Blakeway's "*History of Shrewsbury*" (1825) may be admitted as proof, then we do know something. A very cursory examination shews that the writer was a good man who had been shocked at the condition of his poor neighbours in a time of great scarcity and who wished to tell people how to grow garden produce—more especially Carrots—against such another visitation. He lived in Shrewsbury, and he was a practical gardener himself. Now for the circumstantial evidence that seems to prove that the Richard Gardner who is mentioned in Owen and Blakeway is the same man as the author of "*Profitable Instructions*."

(1) In the *History* the Richard Gardner who is described there (Vol. I, page 348) as a "dyer

and free of the Drapers' Company" is a man who has the town's welfare at heart. He lived "on the Severn bank near Bagley bridge," and thinking it would be a good thing for his neighbours if he could find coal in the vicinity, he set to work and "he found by his great diligence and travell greate store of sea cole" in 1571 in Emsterie Haye. For this he is praised.

(2) About the year 1595 the seasons were very unpropitious in England, and, in addition, many parts were visited by the plague. Shrewsbury felt the pinch badly, so much so that certain of the Aldermen and others were deputed in 1596 to go to London to try to buy foreign corn, which appears to have been imported from "Danskke (sic), Denmark" and other places. They succeeded in purchasing 3,200 bushels, which were sent round by sea to "Bristow" (Bristol), now inseparably connected by gardeners with English Frises and the "Flower of Bristow." The price of wheat in 1597 was 18s. a bushel, whereas in September, 1598, it fell to 4s. 4d.

(3) When in 1628 Heralds visited the town, they entered with others the pedigree of the Gardners. This looks as if the family had lately got on in the world and is in harmony with the beneficent spirit in which "*Profitable Instructions*" is written.

(4) A laudatory poem, as was customary at that period, appears after the Introduction by one Edward Thornes. On page 416 of Vol. I in Owen and Blakeway another Thornes is mentioned who signed a declaration of loyalty to the King in 1642. From this it is probable that the Thornes were a family of some consequence and, if so, the poem adds to the prestige of Richard Gardner and makes it more probable still that the writer of the book and the highly respected citizen are one and the same person.

(5) All that has been put forward is only circumstantial evidence, but I cannot help feeling that although it does not actually prove that the Richard Gardner who is mentioned in history and the Richard Gardner who wrote this book are in reality one and the same person, yet the circumstantial evidence that I have brought forward makes it more than probable that "the dyer and draper" who is commended for his public spirit in searching for coal in 1571 is none other than the man of whom

Edward Thorne, Gent: wrote in his commendatory poem:

"The poore which late were like to pine,
And could not bue them bread
In greatest time of penurie,
Were by his labours fed.
And that in reasonable rate
When Corne and coine was scant
With Parsnip and with carret rootes
He did supplie their want."

Ending up by saying:

"We wish as he dooth well deserve
His welfare and his health,
That hath so greatly profited
Sallopian commonweath."

Let us now turn to the book itself and speak of its contents. They give us a first-hand idea of what went on in the well kept kitchen garden of a comfortably off citizen of the period. The copy before me, which might be catalogued as of immaculate condition with good wide margins, measures 7 3/16 ins. by 5 1/4 ins. and, including everything, consists of thirty-two pages. The title-page tells us that it is a book of "Profitable Instructions for the Manuring, Sowing and Planting of Kitchen Gardens, very profitable for the commonwealth and greatly for the helpe and comfort of poore people, Gathered by Richard Gardner of Shrewsburie," and that it was published in London by Edward Allde for Edward White in 1599. The first six pages are taken up by the Title, Introduction and Commendatory Poem, and the last one and a half by a religious exhortation to live well and a prayer which has all the simple grace and smooth diction of those which we find in the old Church of England Prayer Book, the making of which we have now to lament as one of the lost arts. Mr. Thorne's poem is rather sorry doggerel, but the Introduction by the author might have been written by St. Paul and "Englished" by the translators of our splendid Authorised Bible.

The old man knew he was growing old, but before his powers failed him he would tell his fellow townsmen of his gardening experiences. "Amongst all the practises, knowledges and experiences which ever I received from Gods mercies in temporall blessings, I doe undoubtedly perswade myself that my practise and experience in Garden stufte, or the good benefits therein, dooth best benefit, helpe and pleasure the generall number of people, better then any other practise that ever I tooke in hand in temporall causes whatsoever. And therefore good neighbours and friends of this my native soyle, accept of this my short and simple penning of this my practise and experience in Gardening causes herein mentioned."

The practical part of the work is methodically arranged. He begins at the beginning; that is, seed saving. We all know the necessity of good and reliable seed; and, to ensure this, how many save their own seed? Gardner was a firm believer in seed saving himself because he knew it was not well to trust all that was offered for sale. He gives up a whole page when writing about saving Onion seed to exposing the "greate and abominable falshoode of those sortes of people which sell Garden seedes." He does not mince matters, and goes on to say that as the sum total of their robberies, if added up, would be found to be more than that of "all other robbing thieves of this whole land" they are "more worthy in conscience to be executed."

Seed-saving was, in those days, of supreme importance, and so our author gives very minute instructions about how to select and grow the plants which are to be seed-bearers in the case of Carrots, Cabbages, Parsnips, Turnips, Lettuces,

Beans and Onions. Other kinds are mentioned, and he purposely omits "many other seedes of lesse accompt and so common in use," but which, all the same, he did not consider so generally useful. He gives the width of the beds (4 1/2 ft.), the distances the plants should be apart, the number of rows in a bed, and how they must be staked or tied up. For example, when Cabbage have grown a vard high "then beset the braunches with rises and gird the braunches and rises with a stringe of packe thread or such-like or els the weight of the braunches and the winde will breake them to the losse of the seedes." He also says "Take heede to them" when the seed is getting ripe and net them, for, unless this is done, "the birds called the Bull Finch will destroy them sodainly." We still used the word "rise" or rice locally, and go to the woods to get pea-rices. In the preparation of the beds he was a great believer in dung; "you must have a special care to mucke well your garden once in two yeares or else you shall lose more in the profit of the Garden, then the mucke is worthe by much." As a substitute, or in case mucke cannot be had, weeds should be put in a heap to rot. This is "very goode to rancken the garden in wante of other mucke."

The different ways of sowing seed is next considered in a general way. Four ways are enumerated, but "the only best way when the bed is made is to take a staffe of the greatness of a mans thombe, or somewhat greater, of a yarde and a halfe long and then strike a small Rigall or Gutter" in which the seeds are to be sown. Various seeds are then dealt with seratim, including, in addition to those already mentioned, Leeks, "Cowcumbers" and Radishes. A page, too, is given to Globe Artichokes.

Gardner, it is true, kept an eye on the moon when he was sowing his seeds, but I am quite sure

he had no use for such an almanack or such instructions as Stephen Gilbert appended to his *Florists' Vadenecum* eighty-two years afterwards, one of which reads "Sow or plant when the moon is in Taurus, Virgo and Scorpio and in good aspect of Saturn." Again, the old man knew the value of space. Edwin Beckett himself could not be more careful not to waste any ground. "At the end of May you may set Cabbadge plants in those places, where the carrets doe want and in want of Cabbadge plants you sowe good Turnip seedes or Radish seedes thereon and have a good profit."

Before his closing exhortations and prayer Gardner returns once more to his beloved "carrets." He recounts how from the produce of less than four acres of Carrots and 700 Cabbages "many hundreds of people were well refreshed thereby for the space of twentie daies when bread was wanting amongst the poor." Instructions are given how to keep and store Carrots, also how to use them in cookery; also at what prices the seeds and the roots should be sold, ending with a quite excusable puff of his own seeds and incidentally advising town people to plant all the Carrots they can if they think they are likely to be besieged; just in the same spirit, as we may remember, John Evelyn advocated Oaks, and our present-day rulers Wheat.

Richard Gardner's last wish is "that the people may have store (of Carrot seeds) of their owne growing for their gardens, which is my desire, if it may so please God." And so he ends the practical part of his small book. All that remains is his exhortation, farewell and concluding prayer.

It is a most absorbing and interesting work, and one could wish there were plenty to go round instead of the one which is about to be offered by Messrs. Wheldon and Wesley, being in all probability the only first edition in existence. J. J.

SOME GAGE PLUMS

TO those anticipating planting varieties of Plums the following sorts will be found to be of value on account of the quickness with which they come into bearing. By placing the trees over a slab of stone, slate or other similar material, fibrous roofing will be assisted, which helps greatly toward early bearing. A dusting of bone-meal, also a dressing of flowers of sulphur will assist the health of the tree. Both materials should be incorporated in the soil as planting proceeds.

DENNISTON'S SUPERB is a first-rate dessert Plum, ripening from the middle to the end of August. Of American origin, it has a first-class reputation. The fruit is above medium size, short, oval and slightly flattened. Skin pale yellowish green marked with a few purple thin blotches and dots and covered with a rich bloom. The flesh is yellow, firm, juicy, rich, sugary and vinous, and altogether this is a Clingstone of great merit.

EARLY GREEN GAGE (Reine Claud Hative).—The fruit is small and round, and the skin yellowish green with a red cheek on one side and strewn with dots. The flesh is yellow, tender, sugary, juicy and highly flavoured. This is a free-stone variety, ripening at the end of July.

EARLY TRANSPARENT GAGE.—An excellent early Plum raised by the late Mr. Rivers about 1866, this variety has come to stay. The fruit is medium roundish, apricot yellow with crimson spots, and delicious in flavour. It succeeds on all systems, but wall cultivation should have preference.

LATE TRANSPARENT GAGE.—Of more recent introduction than the above, being introduced

by Messrs. Rivers about 1892, this is a constant cropper. Fruit large oval, yellowish green, with a purple flush and luscious looking. This is a Gage of great merit, makes a good standard, and is excellent as a dwarf fan-trained tree inasmuch as the wood grows rather dwarf and spreading.

COMTE D'ALTHAN'S GAGE.—This variety takes rank as one of the very best of Gages, being, in fact, a glorified, coloured Green Gage of medium size and richly flavoured. The skin is bright reddish purple covered with a dense bloom and strewn with yellow dots. It is a free-cropping variety when associated with other varieties. It ripens about mid-September and was introduced about 1869. For culture in pots this Gage is first-rate, the flesh being a rich yellow, juicy and sugary, with a fine vinous flavour and separating freely from the stone.

BYRANSTONE GAGE is a late, large, similar old Green Gage, raised at Bryanstone Park and supposed to be self-fertile. This variety is worth attention, it being useful owing to its free-cropping propensities as a standard south of London. I have also seen good crops in the orchards of Herefordshire and Somersetshire. It is said to be the result of a cross between the old Green Gage and Coe's Golden Drop.

REINE CLAUDE DE BAVAY bears large, roundish, yellowish green fruit. The flesh is very juicy, sugary and firm; the stone comes freely away. The growth is moderate, and in its early stages soon becomes set with fruit-buds. Raised about 1843, it adapts itself to most forms of training. As a pot tree it is especially good. All the Gage varieties appreciate a sufficiency of lime in the soil. GEO. LOVELOCK.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Lettuce.—A sowing of a small Cabbage variety such as Tom Thumb may be made in boxes of light soil, and if placed in a warm greenhouse the seeds will soon germinate. When the young plants are through the soil, remove the boxes to a cooler house or pit and give them a light position close to the roof glass. As soon as the plants are large enough they may be pricked off into boxes or on a mild hot-bed.

Broad Beans.—Where these are well through the soil a little earth may be drawn around the plants for protection from frosts, and it will be a support for them during windy weather.

Jerusalem Artichokes.—These may be lifted and stored in a cool shed or placed in a heap outside under a north wall and then covered with ashes. Select a sufficient quantity of medium-sized tubers for planting later on, although such work may be carried out in the near future if the soil is not too wet. Plant in lines 3ft. apart, and a distance of 1ft. is necessary between the tubers, while they should be covered to a depth of about 6ins. To secure good roots an open situation should be chosen, and the soil deeply dug and liberally manured. When lifting Artichokes care should be taken to pick out all the small tubers and fleshy roots, otherwise these are certain to grow and impede the progress of the next crop.

Dwarf Beans.—In some gardens the forcing of Dwarf Beans is practised, and excellent crops are produced where the requisite temperature can be kept up, viz., about 60° Fahr. A vinery that is started will be a suitable place for the Beans, and Osborn's Forcing is still one of the best. Pots 8ins. in diameter are a useful size. They should be well provided with drainage and filled three parts of their depth with good quality loam and a little leaf-mould, with a moderate sprinkling of sharp sand. Place several seeds in each receptacle, and, finally, thin them to four or five strong seedlings. As growth advances, a top-dressing of rich soil should be afforded, and at no time must the roots suffer from lack of water. The atmosphere, too, should be kept fairly moist to prevent attacks of red spider. Later on the plants will need some support, and twigs from an old birch broom will be found suitable.

The Flower Garden.

Christmas Roses.—*Helleborus niger*, the Christmas Rose, is highly prized for its flowers, which appear in midwinter. These are greatly improved if a frame is placed over the plants just before the blossoms open. For a few isolated examples handlights will suffice. This plant enjoys a deep retentive loam and a partially shaded position, and as a rule may be left undisturbed for several years. In the spring and early summer the plants make their growth, and if the weather is at all dry the roots will need an occasional soaking of water, while two or three applications of liquid manure will be beneficial. If it is desired to increase the stock, division of the roots must be resorted to after the flowering season.

Bedding Plants.—The stock of summer bedding plants, which includes Zonal Pelargoniums (chiefly Paul Crampel), are here in heated pits and houses, and they will require frequent attention during dull damp weather to prevent loss from damping. All dead and decaying leaves must be removed, water be afforded in moderation, and a little air admitted whenever the weather is congenial. During a mild spell the lights may be open an inch or so throughout the night, with just enough heat in the pipes to cause a free circulation of the atmosphere. Well established cuttings may soon be potted off, and specimen plants should also receive attention. Begonia bulbs ought to be examined to ascertain whether any are rotten. If so, they should be removed forthwith.

Fruits Under Glass.

Vines.—If fairly early crops are desired, the first vinery, often containing Black Hamburgh, may be started into growth. Close all the ventilators and employ enough fire-heat to keep the temperature at 45°, this figure being raised 5° or so at the end of a fortnight. When the weather is bright sprinkle the paths and around the hot-water pipes with water.

The Early Peach-House.—If ripe fruits are required about May, the trees should be started into growth near this date. Hard forcing ought

not to be practised, the object being to encourage a slow growth, thereby affording the trees ample time to develop their flower-buds. A temperature of 40° to 45° at night is ample, with a rise of 5° when the weather is mild. During the day the temperature should not fall below 50°, but with sun-heat it can safely rise to 65°. A little top ventilation is needed when the temperature is high enough, and a close stuffy atmosphere should be avoided, especially at night. Damp the floor of the house twice daily when the weather is bright, but when the trees are in flower a drier atmosphere with a little more air is essential. See that the border is sufficiently moist, and watch for aphides on the young leaves. If these are present, lightly fumigate the house two nights in succession.

The Hardy Fruit Garden.

Blackberries.—For planting in odd corners or on boundary fences the various improved forms of the Blackberry are well adapted, or they may be grown and treated the same as Loganberries. A few good kinds are *laciniatus*, *Lawton* and *Wilson Junior*.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Jerusalem Artichokes.—When lifting supplies, a sufficient quantity of second-size tubers should be retained and stored in sand or light soil for planting for next season's crop. Ground should also be trenched or dug to be in readiness for the crop, for planting should be undertaken early in the year; the plant requires a long period of growth for its full development. The white variety is considered superior to the red.

Horseradish.—Being almost indestructible, this invaluable accompaniment for roast beef gets little or no attention in some gardens, but the efficient cook knows the difference between the cultivated article and the other. To get fleshy thongs that can be easily scraped, Horseradish must be liberally cultivated and a succession of young plants kept up. Planting can, if the soil is at all in workable condition, be undertaken now. The best plan is to take out a trench from 2ft. to 2½ft. deep and fill it up with a mixture of the original soil and vegetable-mould with a layer of solid organic manure at the bottom. Select thongs of moderate thickness and cut them to a length of 6ins. to 8ins., retaining the crown end, of course. Pare off the centre bud just at its base, then plant the thongs in an upright position 1ft. apart with the crown about 1in. below the surface when finished.

Potatoes.—Look over seed stored in trays or boxes, removing any decaying tubers; see that rats or mice are not taking liberties with them. If necessary, protect these tubers, also ware in pits, from severe frost.

The Hardy Fruit Garden.

Pruning Fruit Trees.—If not already completed, an effort should be made to have pruning finished up by the end of the year, but the work should not be proceeded with when the shoots are frozen. Old standard trees which have been neglected may require to have some of the strongest limbs shortened with the saw. When this is the case the cut should be smeared with tar, Archangel tar being preferable to coal tar. Trees in the condition just described should also have been root-pruned according to directions given in this column on September 22, and if this has not been attended to, although now rather late in the season, it is advisable to tackle the job forthwith, thus saving another year's delay.

Liming Stone Fruits.—Stress has already been laid in this column upon the necessity for this attention, which has been more exhaustively dealt with by Mr. Macself in the issue for November 17, to which I would direct the attention of those interested. In applying lime, little and often is a sound maxim. Scatter the lime on the surface and simply cover it in with the rake. The operation should now be carried through without delay.

The Flower Garden.

Early-Flowering Gladioli.—Those who have to deal with heavy soils had better defer the planting of the corms of these attractive flowers until February, but on light, well drained soils planting may be undertaken right away if weather

permits. Should severe frost set in, a little loose protecting material should be afforded them.

Hyacinthus candicans (syn. *Galtonia candicans*) makes an attractive picture grown in conjunction with *Gladiolus bronchyleyensis*. Except on clay soils the tubers may be planted now; their position should be marked, as they are late in starting into growth.

Fuchsias.—Although old-fashioned, specimen Fuchsias are very effective as dot plants in large beds or as centre plants in small circular beds furnished with dwarf plants, such as *begonias* or dwarf *Antirrhinums*. These Fuchsias should be pruned now, spurting back the past season's growths. They require little or no water during the winter months; in fact, they can be laid on their sides under a cool greenhouse staging.

Leaf-Mould is a valuable asset in the flower garden, farmyard manure being too rich for many kinds of plant. The newly collected leaves should be formed into a compact heap, where they should remain undisturbed for a year, last year's crop being now available.

Christmas Decorations.—These will be somewhat shorn of their glory this year, in the North at any rate, for, from all accounts, the much-prized Holly berries are conspicuous by their absence. This lack of fruit is not peculiar to the Holly, but is characteristic of most berry-bearing trees and shrubs, and this is not to be wondered at after the abnormal crops which they bore in 1922. *Cotoneaster Simonsii* is one of the few berry-bearing shrubs which has fruited well up to its usual standard, and the deft fingers of the experienced decorator will manage so to intermix it with the Holly as to make a decent show. The variegated Hollies, *Golden Queen* and *Silver Queen*, will help to brighten things up. Ivy can also play an important part in the Christmas decorations; long trails of the Common Ivy, *Hedera Helix*, may be used with good effect in draping pictures, etc., and by entwining it round the stair bannisters. Some of the small-leaved varieties, such as *H. H. cuspidata minor*, can be usefully employed arranged on the cloth of the dining-table, and will be a change from the usual *Smilax* and *Asparagus*. The choice of a Christmas tree lies between the Scots Pine, Common or Oriental Spruce and English Yew.

CHARLES COMFORT

(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Chrysanthemums.—The stock plants should be stood in cold frames. To keep the shoots strong and sturdy they should be afforded plenty of air on all favourable occasions. Where it is desired to grow large specimen blooms, a start should now be made with propagation. Although it is still too early to make a real start with the decorative varieties, one should not miss securing strong, sturdy cuttings, which can often be obtained at this time, as such shoots in a few weeks time would be too long, and so useless for propagating purposes. Inserted now they can be stopped several times in the young state, and thus lay the foundation for large bush plants. Cuttings can be rooted, too, from the young plants later on. This double rooting is, in fact, the best way to treat some varieties which give rather hard cuttings now. If the tops of the newly rooted plants are "taken" later on in the season, the resulting plants seem to grow away much more freely. With varieties that are poor stockmakers it may be advisable to place the stock plants in gentle warmth to encourage the production of cuttings. Wherever possible, cuttings should be taken from the base of the plants, as shoots produced from the hard stem generally make poor plants. To grow plants in 6in. pots for the stages, March is early enough to take the cuttings. As it is undesirable to retain old stock-plants until then, it is the usual practice to root for the purpose the tops of young plants that were propagated earlier in the year.

Eucalyptus globulus is, in the young state, very useful for grouping with other plants in the conservatory. For this purpose it is best raised from seed each year, and a pinch of seed may be sown at this time. It germinates readily in a house with an intermediate temperature (say about 50°).

E. citriodora.—It is worth growing a few plants of this species in pots for the greenhouse, as the foliage is very fragrant, resembling that of the lemon-scented *Aloysia citriodora*. Young

plants of *E. l. Connii* and *cordata*, both with beautiful silvery foliage, are also very useful for decorative work.

Grevillea robusta.—This elegant plant in its young state is very popular for decorative work. Where plants are required in quantity it is wise to make several sowings in the course of the year. Apart from its use for decoration, young plants are very useful as stocks upon which to graft some of the choicer species of *Grevillea*, such as *G. G.*, *punicea* and *oleoides*, which are difficult to propagate from cuttings. The thin flat seeds of *G. robusta* are very apt to rot when sown in the usual way, and it is wise to set them on edge. I have also found them germinate freely if left quite uncovered, always provided that the seed-pots are kept in a warm, moist atmosphere. A little seed may be sown at this time, and another sowing be made early in the New Year.

Fatsia japonica (syn. *Aralia Sieboldii*).—This plant, although hardy in most parts of Britain, is very useful for decorative work in the conservatory and dwelling-house, for which purpose small plants are generally most useful. There are two variegated varieties of this plant, one with white and the other with rich golden yellow variegation, neither of which is hardy in any case. *F. japonica* is easily raised from seed, and is also propagated by means of root cuttings. Pieces of root may be cut in 2 in. lengths and dibbled into pots or pans of sandy soil, leaving the tops of the cuttings just exposed. The pots should then be placed in a close case with slight bottom-heat at command. The stems may also be used for propagation, as each eye is capable of growing and producing a plant, in which case the stems, cut into sections, should be laid in a bed of fibre in a propagating-case.

Freelias should be kept neatly supported, for once the shoots are allowed to fall over they never grow freely again. The most forward plants should be given a light position well up to the glass in a sunny greenhouse; later batches may remain in cold frames until they require more head room. The same remarks apply to *Ixias*, *Tritonias* and *Lachenalias*. Although they all do quite well in cold frames, especially in their earlier stages, still where room can be spared they are best transferred as growth advances to a bright airy greenhouse. Thus treated, a freer circulation of air can be obtained, and the growth be kept stronger and more sturdy. *Freelias* when doing well and in full growth are free-rooting plants, and benefit by weak applications of liquid manure or soot water, but such manures should be fresh. When in a stale condition they may prove harmful to the plants.

Royal Botanic Gardens, Kew.

J. CUTTS.

The Rosemary-Leaved Gromwell.—Though generally considered tender, the beautiful *Lithospermum rosmarinifolium* is quite hardy enough for outdoor culture in any but our bleakest counties. It needs, of course, a sunny, sheltered corner with a well drained, stony soil, and if it can be given the shelter of some overhanging bough which will throw off white frosts without obstructing the winter sun so much the better. This is suggested because it is not so much the actual hardness of the shrub that one has to fear, but the effect of the frost upon the blossoms, which open in midwinter. A native of the cliffs of Capri and Naples, it makes a neat, somewhat dense little shrub about 15 ins. or so in height and as much across. The foliage, as the name suggests, is not unlike that of the Common Rosemary, but it is a richer, glossier green and closer in growth. The flowers, which are borne in clusters at the tips of the shoots, are large (often 3 in. across) and of a blue so pure and intense that few of the *Gentians* can rival them in colour. The species is a lime-lover but, beyond that, its wants appear to be few, for it will thrive in the hottest and poorest soil and drought has no terrors for it.

A Useful Carpet.—For covering the ground or growing in little colonies between any thin-habited *Ericaceous* plants which need such company *Druckenthalia spiculifolia* can be recommended. This is a pretty little heath-like shrub, barely 6 ins. in height, with a very dense, dark moss green foliage and erect flower-stems bearing,

about midsummer, terminal heads of pale pink blossoms. *B. spiculifolia*, a native of Eastern Europe, is perfectly hardy and a good doer under any conditions which suit the *Ericaceae*. It also makes an attractive plant for a cool peaty pocket or ledge in the rock garden, where its cushion of green will be an attractive object at any season. Though *B. spiculifolia* bears so close a resemblance to the *Heaths*, it differs from the true *Ericas* in the corollas of its flowers, which open wide at the mouth instead of being pitcher-shaped.

Campanula Zoysii.—To the *Campanula* lover *C. Zoysii* always appeals. His admiration for the race is eclectic enough to appreciate even some far less worthy of his affection than this quaint little gem, which has, besides, for the collector the added distinction of not being too common in gardens, although the true flower-lover does not consider that a factor at all. To see a good plant of *C. Zoysii* in autumn is, however, to admire it and to enjoy its little carpet of leaves, which late in the season are adorned with a multitude of small hanging bells of the quaintest shape among these dwarf *Bellflowers*. They are shaped after a fashion likened, somewhat irreverently it may be, to soda-water bottles, and one writer has even gone the length of adopting this description with the addition of a mouth like a ham frill. It does seem a little disrespectful to such a charming *Campanula* to speak of it in this way, yet, after all, if we are to adopt common phraseology to convey its portrait to the mind of the reader who knows not the plant, then we may agree to let it stand. It is exquisite with its deep blue miniature bells on thread-like stems and so quaintly shaped as to be interesting in themselves. As for its culture, there is no doubt that it does give trouble, although this is denied by some. The main source of the discomfiture of the grower is the slug, which has an insatiable appetite for *C. Zoysii*. A good plant may disappear in a day or two, and it is difficult to ward off these enemies. We have known good plants doing well in gritty soil, and it is a success on the moraine, but the slug is its potent enemy and, short of a notched zinc ring, there is little which will prevail against this foe.

Saintpaulia ionantha.—One of the most delightful plants that is now in flower is *Saintpaulia ionantha*, sometimes known by the simpler and more attractive name of African Violet. The flowers, which are somewhat like the Violet, from which it takes its name, are borne in wonderful profusion on stems 3 ins. high and, better still, continue without interruption until well into March. These points, combined with its season of flowering, make it one of the most desirable plants where a winter temperature of 55° to 65° can be provided. The seeds are very minute and need care in raising until the plantlets are of some size, otherwise they cannot be described as difficult. Prick them off, when large enough to handle, into seed-pans, and when the leaves begin to touch each other they will be ready for small pots. They are not particular as to soil, provided it is light and rich and has a certain amount of sand in it. Perhaps the best effect is provided by growing several plants together in a shallow seed-pan and using a number of these to decorate the edges of the staging. Through the summer a temperature of 45° to 55° is ample to grow them well, for it is not until autumn and winter come that the greater heat is required to expand the buds. Take care that the plants enjoy plenty of light. Direct sunshine they cannot stand, but it is a mistake to suppose that they will flourish under heavy shade. After flowering, one of two courses may be followed. Either the plants may be split up and divided or each leaf, if pegged down, will soon form a wee

plant that may be detached and treated precisely the same as a seedling.

The "R.H.S." Gardeners' Diary.—The diary for 1924, just to hand, is, as usual, an excellent little production, exactly similar in outward appearance, except as regards colour—which is crimson—to last year's issue. There have been some changes, however, in the table of contents. There are now included notes on Brooms, which, however, seem rather partial inasmuch as no species of *Genista* is recommended; on Climbing Roses for Autumn Blooming; Croquet Courts; Lining Soils; Postal Rates (which should certainly be made a permanent feature); Potato Spraying; Sowing a New Lawn; and Sweet Peas. The amount of tabloid information given is, in fact, quite remarkable; none surely exceeds in value that on the pruning of flowering shrubs, now, apparently, a regular and permanent feature. This is, in short, one of the cheapest diaries we know and, for a gardener, incomparably the best. The diary is published by Messrs. Charles Letts and Co., Southwark Bridge Buildings, London, S.E.1, and the price is 2s. net.

British Empire Exhibition Tulips.—Over 5,000 *Delphiniums* have already been planted out in the grounds of the British Empire Exhibition at Wembley, and over 100,000 of the finest British-grown Tulips will be on show in May of next year. This collection of Tulips will be a very beautiful and comprehensive one.

Trial of Brussels Sprouts at Wisley.—The following awards have been made to Brussels Sprouts by the Council of the Royal Horticultural Society after trial at Wisley: Awards of merit.—Solidity, sent by Messrs. Wheeler, Warminster; One and All, sent by Mr. F. C. Heinemann, Erfurt, Germany; and Darlington, sent by Messrs. Nutting, 106, Southwark Street, London. Highly commended.—Standard, sent by Messrs. Barr, King Street, Covent Garden, London; Half Long Paris, sent by Messrs. Toogood, Southampton; Walton Dwarf No. 12 and Walton Dwarf No. 2, both sent by Messrs. W. Rowlands and Co., Childwall Nurseries, Liverpool. Eight other varieties were "commended."

R.H.S. Rose Judging Committee.—The Council of the Royal Horticultural Society has invited the following to form a Judging Committee for their new trials of garden Roses for garden purposes, and all have accepted the invitation: Chairman, the President of the R.H.S., the Right Hon. Lord Lambourne, P.C., V.M.H., the chairman of the Wisley Committee, Mr. W. Cuthbertson, J.P., V.M.H., Mrs. Wightman of Bengoe, Messrs. Wettern, Holland, Darlington, Drs. Lamplough and Williams, Messrs. Easlea, Prince, G. M. Taylor, A. Dickson, jun., Hays, Coutts, Pernet Ducher and S. Poulsen.

A Correction.—The illustration appearing on page 641 of the issue for December 8 is of *Silene acaulis*, not of *S. alpestris*, as stated. Many readers will, no doubt, have noticed the slip. *S. alpestris* has, of course, small fringing white flowers on 3 in. wiry stems and is quite dissimilar from the plant illustrated.

Answers to Correspondents

ROSE GARDEN.

HARDY AND VIGOROUS ROSES (Dunmow).—In our correspondent's list the following varieties are the most vigorous: Hoosier Beauty, Mrs. Edward Powell, Covent Garden, J. G. Glassford and Fisher Holmes. As regards hardiness there is not much difference in them; the variety Edward Mawley being the tenderest.

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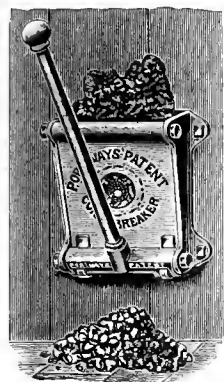
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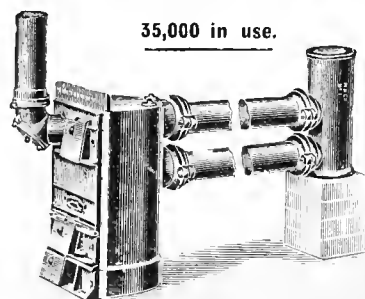
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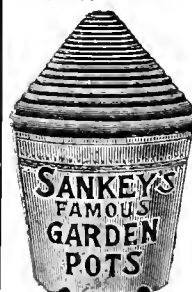
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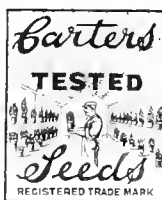
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No. 2719.—VOL. LXXXVII.]

[DECEMBER 29, 1923.]

THE PICK OF THE SILENES

THE genus *Silene* (Catchfly) belongs to the Pink family (Caryophyllaceæ) and comprises, according to some authorities, about 400 species. It is probable, however, that many of these so-called species have no validity, but the genus certainly includes some of the most ornamental and useful border and rock-garden plants. It comprises annual, biennial and perennial herbs, distributed over the greater part of Europe, North Africa and Temperate Asia, with about twelve in South Africa and eighteen in North America. They range in height from the little Moss Campion (*S. acaulis*), forming dense little hillocks of pale green foliage, from which the pink flowers scarcely raise their heads, to the handsome white-flowered *S. fimbriata*, which grows about 3ft. high. The former type, of which there are several species, supplies beautiful little plants for the rock garden or moraine, which are not difficult to cultivate, providing they get ample drainage, a sunny position, and plenty of moisture during the growing season. The larger border kinds will thrive in any light loamy soil. Of annuals the genus contains a large number, many of which are very ornamental. One of the best known is *S. pendula*, which is grown extensively in the spring flower-garden. It should be treated as a biennial and sown in the autumn, and will then produce bushy plants, covered in spring with a profusion of beautiful pink flowers. All are increased by means of seeds, while the perennials may in addition be propagated by division. Cuttings of the smaller kinds, like *S. acaulis*, root readily in summer if inserted in sandy soil in a close frame or under a bell glass. Some of the best are:

***S. ACAULIS*.—**The Moss Campion, or Cushion Pink, is one of the most charming members of a genus that contains a large number of attractive plants. In the Lake District and on some of the Scotch mountains, as well as on the Snowdon range in Wales, this delightful plant is found growing wild, forming dense cushions of foliage covered in spring with rosy pink flowers. Growing in rough stony ground on the Turtman moraine in

the Valais, at an elevation of 8,000ft., I have met with tufts measuring more than 1ft. in diameter, covered with sheets of bloom. Other tufts of various sizes, equally densely flowered, were growing in profusion all over the place, making a most attractive display of colour. There are several varieties of *S. acaulis* in cultivation, including *alba* with pure white flowers, and *aurea*, which has tufts of leaves of a golden hue. Generally speaking, the flowers of *S. acaulis* are produced on short stems close to the foliage, but there is a stronger-growing and larger-flowered variety called *elongata* which has darker-coloured flowers on short stems raised well above the tuft. Another

name for the last is var. *grandiflora*, and it is also met with in gardens under the name of *S. saxatilis*. *S. acaulis* var. *flore pleno* is a double-flowered form which has the advantage of being more lasting than the single ones. The main essential for success is a moist, deep, gritty soil in a sunny position.

***S. ALPESTRIS*.—**A choice little perennial which makes a dwarf spreading carpet is the pretty Austrian or Alpine Catchfly. Only from 4ins. to 6ins. high, the stems are freely produced, and bear a profusion of pretty white flowers in May, and it continues in bloom for a long period. It is a useful plant for growing in pans for the alpine house. A native of high moist rocks in the Austrian Alps, it has been grown in gardens over a hundred years. With the closely allied *S. quadrifida* and *S. monachorum*, *S. alpestris* forms a distinct section of the genus *Silene* to which some authors apply the name *Heliosperma*.

***S. ARMERIA* (Sweet William Catchfly).—**A very ornamental annual or biennial species with crimson rose flowers in dense heads from May to August. The glaucous foliage is very characteristic of the plant, which is valuable for naturalising on old walls and rocky banks, where it will soon establish itself. It grows up to 1½ft. high and is a native of Western Europe. *S. compacta* is a good-flowered form of this with larger, denser heads.

***S. ASTERIAS*.—**This grows about 1ft. high, with carmine-scarlet flowers in large compact heads, which have been compared to Scabious in appearance.

***S. CALIFORNICA*.—**A beautiful plant from California, where it grows at an elevation of from 1,300ft. to 3,000ft., generally in woodlands, associated with Oaks and Douglas Fir. Here the soil is gravelly, but rich in humus, and the plants root very deeply into it, sometimes going down quite 18ins. The plant spreads by means of underground branches, and forms tufts about 3ins. high, from which arise the beautiful scarlet flowers on branching stems 6ins. or more in height. A sunny position and perfect drainage is essential for its well-being.



A USEFUL BIENNIAL, *SILENE ARMERIA*.

S. LACINIATA.—One of the long-stemmed members of the alpine section, this is a tufted plant with lanceolate leaves 2ins. or 3ins. long. The stems are ascending, some 6ins. long, and bear several bright rose-coloured flowers, 1½ins. in diameter, in July. It comes from Northern Italy, and is easily grown in gritty soil. One drawback to this beautiful species is that some forms are self-sterile, and have little or no petal but produce plenty of seed.

S. TIMERIATA.—A handsome border plant 3ft. to 4ft. high, with erect stems clothed with undulated, narrowly ovate leaves. The white, fringed flowers are borne in large spreading panicles from May to August. Native of the Caucasus, it is an easily grown perennial well worth a place in the border.

S. FORTUNEI.—This Chinese species is one of the most elegant plants in the whole genus, and is especially valuable as an autumn-flowering plant. It grows to a height of between 2ft. and 3ft., and as it branches freely, forms a compact bushy plant covered with loose panicles of erect flowers. These vary from very pale to rose red in colour, are about 1½ins. in diameter, and have deeply lacinated petals. Although it is a perennial and will survive the winter, the best results are obtained from plants the seeds of which have been sown in heat early in spring and the young plants put out as soon as large enough. They grow rapidly in any light rich soil during the summer, and commence flowering in the month of September. It is said to be a common Chinese plant, and was first found by the traveller Fortune, after whom it was named; but it was not introduced into this country till the year 1868. Seeds of it were sent home then from the province of Shensi by Father Piccoli. Like so many other members of this family, the stems are covered on the upper portions with a viscid substance, rendering the plant sticky to the touch.

S. HOOKERI.—This handsome species is a native of California, and the honour of its introduction rests with the late Mr. Thompson of Ipswich, who received seeds of it from Professor Bolander in 1873. It flowered with him and was figured in the *Botanical Magazine* at the time, but for some reason, probably due to lack of knowledge as to its requirements, the plant was lost. About ten years ago it was reintroduced by Mr. Carl Purdy, and now is represented in many gardens. *S. Hookeri* is one of a small group, all natives of California and the Western United States, remarkable for their brilliantly coloured flowers. Others of this group are *S. laciniata* and *S. californica*. *S. Hookeri* is usually found growing on wooded hillsides, and is described as having both white and rose-coloured flowers. It is a tufted plant with somewhat lax, short, decumbent stems, and is very free-flowering in habit. The oblong, lanceolate leaves are 2ins. to 3ins. long, and the whole plant is softly pubescent or almost woolly. The rose-coloured or pink flowers are over 2ins. across, each petal being four-cleft, while the under-sides of the flowers are of a light buff shade. *Silene Hookeri* is easily raised from seeds, and soon makes plants fit for planting out. A warm sunny spot should be selected, taking out the soil to a depth of 1½ft. This may then be filled with broken bricks at the bottom, with a sharp gritty compost on the top consisting of a mixture of loam, leaf soil and granite chips. The latter are not essential, as it will also do in lime. In such a position it may be established and prove a good perennial, flowering freely during the summer each year.

S. LACINIATA.—Another Californian plant of great beauty, this has narrow green leaves, somewhat woolly, a very graceful-spreading habit, and flower-stems rising to a height of about 6ins.



THE SUN-LOVING SILENE HOOKERI.

A DISTINCT FORM OF *S. ACAULIS* IN ALPS.ANOTHER FORM OF *SILENE ACAULIS*—VAR. *PEDUNCULATA*.

These are branching, and bear numerous flowers of a rich cardinal red during the summer months. The species requires a dry position, as, like in *S. Hookeri*, the roots are thonglike, growing very deep and having a preference for stony positions or deep crevices between rocks.

S. NOCTIFLORA.—This night-flowering *Catchfly* is an annual, growing up to 2ft. high, with branching stems and large fragrant flowers. The petals are pale rose-coloured, or nearly white within, and yellow outside. It flowers in July and August, and is a native of this country.

S. PENDULA.—A much-branched pubescent annual or biennial, this produces masses of pink flowers from May onwards. It is a native of Italy and a well known garden plant.

S. PENNSYLVANICA (American Wild Pink).—A pubescent perennial, growing about 6ins. high, with branching stems and short-stalked pink flowers in clusters, this will thrive under the conditions advised for *S. laciniata*. It commences to flower in May and, when doing well, remains in blossom well into July.

S. PUMILIO.—One of the gems of the genus, this is a beautiful, dwarf rock plant with tufted foliage similar to the Moss Pink, but the leaves are rather longer. The flower-stems are only 1in. high and bear solitary flowers 1½ins. across. These have clawed petals with a broad blade, and are pink in colour, borne during the summer months. It should be grown in the moraine, succeeding under conditions suitable for *S. acaulis*. Grown in gardens since the year 1823, it is a native of the Tyrol, where it grows in the crevices of high alpine rocks.

S. REGIA (Royal *Catchfly*).—Hailing from the Southern United States, this is a handsome pubescent perennial with erect stems 3ft. high, clothed with narrow ovate leaves. The deep scarlet flowers are borne in clustered panicles in July. It is easily grown in a half-shady border, and ripens seed freely, but is not common in gardens. This is due, perhaps, to the fact that it suffers in our damp and changeable winters.

S. SAXIFRAGA.—This is a low-growing tufted rock plant suitable for a sunny pocket or ledge. It makes an evergreen carpet with linear leaves and bears numerous flowers from June to August. These are yellowish within and reddish brown on the underside of the petals. A very easily grown plant, it is a native of South Europe, and has been in cultivation nearly 200 years.

S. SCHAFTA.—A beautiful little perennial with a woody root and many interlacing stems not more than 4ins. high, it produces during the whole of the summer months a succession of rosy purple flowers. It is an excellent rock plant, revelling in a sunny crevice or on a rocky ledge. It produces plenty of seeds and is easily raised.

S. VIRGINICA.—One of the brightest and most showy members of this genus is the Virginian Fire Pink. Although appropriated by its name to Virginia, it is not exclusively confined to that State, but is found in several others, growing in open woods on rocky hills. It was first introduced into this country more than a hundred years ago, but, like many other good things, it requires a little care to grow successfully, and so has not become common in gardens. Very liable to suffer from damp in winter, it likes partial shade and a well drained position in sandy gritty loam. In such places it produces its flowers freely from June to August. The stems vary in height from 1ft. to 2ft., are tinged with a red-brown colour, and have two or three pairs of opposite leaves about 4ins. long. The brilliant crimson or scarlet flowers are large and star-like, the larger ones 2ins. in diameter. Each petal is divided at the apex into two lobes about one-third of its length, and these, again, have each a small one on the

outer margin. Sticky to the touch, like many other species, this is closely allied to *S. pennsylvanica*, a much dwarfier kind.

S. ZAWADZKII.—A useful plant for the rock garden, this has a woody rootstock, tufts of leaves 3ins. long and 1in. broad, and white flowers in

dichotomous racemes on stems about 6ins. high. It produces its flowers freely during the months of May and June, and is one of the most easily grown of the smaller *Silenes*. It is a native of Eastern Europe, where it grows at about 6,000ft. elevation. W. I.

FURTHER NEW ROSES OF 1921

I WAS⁴ able last year to describe most of the British Roses of 1921, from such leading firms as McGredy, Alex Dickson, Frank and B. R. Cant, etc., but a few we had not succeeded in obtaining came in for testing

a year later, together with the bulk of the Continental novelties. The British productions were:—

ADONIS (H. T., Bees, Limited).—The blooms are pale yellow and fragrant, but hardly heavy enough for exhibition. It makes good, clean growth, about 12ins. high. Award of merit, National Rose Society.

ARIEL (H. T., Bees, Limited).—This is a small and thin orange yellow buttonhole Rose, its height about 12ins. The growth is bushy. Award of merit, N.R.S.

ARGYLE (H. T., Dobbie and Co.).—The blooms are flat and of creamy colour, the growth good, about 18ins. high, and the leathery foliage excellent, in fact, growth and foliage are better in their way than the blooms, which are disappointing.

DAINTY (H. T., Hugh Dickson, Limited).—This is a pretty bi-colour Rose, described as apricot pink, after the style of Countess Clanwilliam, though thinner and of deeper colouring. It is not a strong grower, only making plants about 12ins. high. It has good foliage.

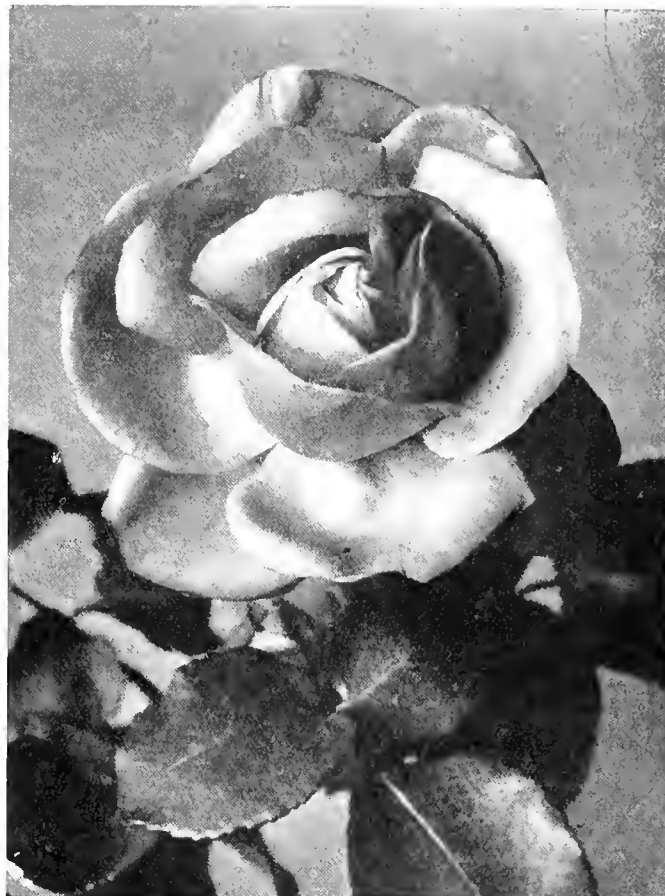
DIANA (H. T., Bees, Limited).—The blooms remind one of Mrs. F. Dennison and should be heavy enough for exhibition. It makes strong growth, about 18ins. high, and has good foliage.

DOROTHY HOWARTH (Dwarf Poly., Bees, Limited).—When these so-called dwarf polyanthas attain heights of over 18ins. they might really be classed as polyantha bush Roses. This is from Leonie Lamesch x Anchen Muller. The very heavy trusses are of coral pink colour and the foliage excellent.

EMMELINE (H. T., Wm. Paul and Son).—Deep yellow buds open out to flat white blooms. It is a very strong grower, 2ft. high, with strong, dark-coloured foliage. A free-flowering, decorative Rose, it is best suited for shrubberies, etc.

FLORENCE (H. T., Wm. Paul and Son).—It has pink blooms and that is about all that can be said for it. Growth is strong, about 30ins. high. New Roses of this type are not wanted; they are no improvement on existing varieties.

J. G. GLASSFORD (H. T., Hugh Dickson, Limited).—The velvety crimson blooms are sweetly scented and the strong, upright growth about 15ins. high. This certainly looks a promising new variety, and shall be tried again. Gold medal, N.R.S.



THE DEEP CRIMSON J. G. GLASSFORD.

LEONORA (H. T., Wm. Paul and Son).—New Roses like this should never be allowed to be put on the market. The colour is red, turning blue on maturity, the blooms are flat in shape and growth is stunted. Yet it is catalogued as "Velvet crimson, centre fiery red; large and full, globular, vigorous, garden and exhibition." Oh! those catalogue descriptions! A censor is badly wanted.

MACBETH (H. T., Bees, Limited).—A bright crimson buttonhole Rose—a pretty little thing about 15ins. high, with rather thin blooms. It has dark foliage.

MARGARET M. WYLIE (H. T., Hugh Dickson, Limited).—The buds are long and pointed, the blooms very thin, light pink, opening semi-single. The growth is erect and tall and about 2ft. high. This, with its large trusses of big blooms, should be a good bedding Rose.

MARJORIE BULKELEY (H. T., Hugh Dickson, Limited).—The blossoms are light pink, but too flat. The growth is good, about 2ft. high. the

foliage large leaved, dark and leathery. It wants trying another year before pronouncing finally on its merits as a garden Rose. Gold medal, N.R.S.

MARCO (H. T., Wm. Paul and Sons).—The blooms are pink and orange in July, while in August they are almost identical in colour with those of Los Angeles. It throws big trusses of bloom and good, dark foliage, and is of erect growth, 2 ft. high. This is a novelty which certainly looks promising.

PORTIA (H. T., Bees, Limited).—The blooms, though small and thin, are quite a unique nasturtium-red colour. The growth is excellent, about 15 ins. high. This is another promising variety. Award of merit, N.R.S.

PECK (H. T., Bees, Limited).—The blossoms, which are pink to carmine are, unfortunately, flat and apt to lose colour, though the scent is good. The plant throws big trusses of bloom. Height about 15 ins.

SYBIL (H. T., Bees, Limited).—The deep pink blooms are of good shape and after the style of Mrs. Henry Morse. They last quite a long time on the plant, and autumn blooms are profusely borne and of the same good shape and colour. This is a very promising novelty. The height is about 15 ins. Award of merit, N.R.S.

VENUS (H. T., Bees, Limited).—The flowers are salmon pink and fragrant, the growth thin and about 2 ins. high. The blossoms are not heavy enough for exhibition, but it should prove an excellent garden variety. Gold medal, N.R.S.

Summarising these there is nothing really startling or conspicuous either as novelties or improvements. Some can be eliminated forthwith, others will be given another year's trial, when it will be possible to pronounce a more definite opinion on their merits.

NEW 1921 CLIMBERS (FOREIGN).

ALBERGINE (Wich., Barbier).—Origin Wich. & Mrs. A. R. Waddell. This has not bloomed yet, but is reported to be a good coppery colour. The growths are strong, though none too tall yet, the foliage dark and leathery and, with us, inclined to shew signs of mildew.

FRAICHEUR (Wich., E. Turbat).—This bears pretty small pink blooms, like those of Lady Godiva, though brighter. The growth is not very strong. The leaves are small, but clean and good.

CLIMBING MME. EDOUARD HERRIOT (Cl. Perpetua, Ketten Frères).—This is reported to be an improvement on its parent, in that the blooms hold their heads up better. The growth is good, but so far not tall.

VIOLETTE (Cl. Poly., E. Turbat).—A violet cluster Rose, similar to Veilchenblau, but of a brighter colour. Do we want more violet Roses? The foliage is good and the growth fair—not tall.

Another year's trial when the blooms can be fully examined and reported upon will decide which of these new climbers, if any, are to be retained.

HERBERT L. WETTERN.

THE SAURURACEÆ

HOUTTUYNIA CORDATA is an interesting herbaceous plant with something the habit of a dwarf Polygonum, spreading by means of rather thickened rootstocks or underground stolons, but, unlike many other plants of a similar habit, its growth is not too aggressive. The upright, grooved, flexuose, leafy stems are usually unbranched and from 4 ins. to 1 ft. in height. They

are terminated by an involucre which consists of four white, oblong, obovate spreading petal-like bracts inserted immediately below the erect cylindrical spadix, or spike, which is from ½ in. to 1 in. in length, and bears the naked, minute flowers with conspicuous golden stamens closely packed together. The fruits are ovate triangular and terminate in three recurved styles. The cordate-acuminate leaves are alternate, purple

when young, turning green later, and furnished with a membranaceous, brown, somewhat ciliate stipule at the base of each petiole. The illustration is of a clump growing in the water garden in the Botanic Garden, Cambridge, where it not only grows along the edge of the water, but for some distance up a bank that is somewhat dry. It flowers from June onwards—sometimes till October, and is readily raised from seed or increased by division of the root; division is best carried out in spring, when growth commences.

It was first discovered by Thunberg in Japan, where he found it very common in the ditches between Mito and Jedo, flowering in May and June. It is known in Japan as *Dokee Dami*, or *Sjunjak*. It was also found by *Loureira* in the gardens of Cochin China, where it is eaten as a salad. It has since been found by others growing very plentifully in Nepal and other hilly districts in India. In the Khasia Hills in Assam it is relished as a food both raw and cooked. It was named after Dr. Houttuyn of Amsterdam, a well known writer on natural history.

Houttuynia belongs to the family Saururaceæ, an interesting group of plants which consists of three genera and four species. This group was at one time included in Piperaceæ, the Pepper family, but is now generally separated, as there are several differences both in the flowers and in the anatomy of the stem. The chief differences are that in Saururaceæ the vascular bundles are in one ring only, while in Piperaceæ they are arranged in several rings, and that while in Saururaceæ there are numerous sutural ovules, in Piperaceæ there is only one basal ovule.

Anemopsis californica, a native of California, is sometimes included in Houttuynia, but it is generally considered distinct enough to be separated. It is an interesting perennial plant, spreading by means of runners, the leaves are produced in tufts, and the spreading white bracts are six in number, the three inner ones being spotted with red.

Saururus cernuus and *S. Loureiri*, the remaining two members of this group of plants, are also well worth growing, and with the preceding two make an interesting group, all of which are hardy enough to be grown outdoors in most parts of this country, but are, nevertheless, seldom seen.

Botanic Garden, Cambridge. F. G. PRESTON.

A BEAUTIFUL DWARF RHODODENDRON

ONE of the most delightful of the dwarf Rhododendrons is *R. (Azalea) ledifolium*, which, though closely allied to the indoor *R. indicum*, is perfectly hardy in any sheltered place. This is an evergreen shrub, seldom rising above about 4 ft. in height in most gardens, and often remaining for years at half that stature, though it may cover a square yard with its spreading branches. The small and numerous leaves are a pale green and hairy, and the flowers, which are borne abundantly in small trusses, or singly, in May, are over 2 ins. across, pure white and deliciously fragrant. *R. ledifolium* will thrive in any freely drained, cool, non-calcareous loam with the addition of some leaf-mould about the roots and an occasional top-dressing of the latter and a little old cow manure. Since the flowers are liable to be affected by late frosts, a westerly aspect should be selected, and partial shade is no drawback to successful culture. There is a double-flowered white form and a very lovely one often listed as *R. l. narcissiflorum* var. *plenum* which has large double flowers in a delicate shade of bluish lavender.



THE WHITE-BRACTED HOUTTUYNIA CORDATA.

SOME BORDER CARNATIONS AND CLOVES

During the past summer the writer tried out in his Yorkshire garden a number of well reputed varieties sent out by Mr. James Douglas and Messrs. Lowe and Gibson.

THE season did not prove to be one of the best as far as Border Carnations were concerned, but many of the following proved very reliable, and others may redeem their failures in a more favourable year.

APOLLO.—This variety, out of those that I tried, was perhaps least affected by the wet. It is a very strong grower with long, rigid stems, and the bright red markings are very clear and dainty on the pure white ground.

BEAUTY is a strong grower, and the flowers are of good size and form, but the colour, rose pink, is not as soft a shade as I should like.

BLUSH CLOVE.—A very fine variety, this has very rigid stems and a grand habit, also very powerfully scented. The colour is inclined to be "washy," and may be described as pale bluish.

BOOKHAM BELLE.—A good grower and free-flowering, but the blooms do not stand up quite as well as some of the other fancies. I am not enamoured with the colour—lavender grey and apricot on a yellow ground. The combination of tints gives it rather too much of a "jazz" effect.

CENTURION.—This is a most brilliantly coloured fancy, bright scarlet on a yellow ground. The habit is good and the flowers of splendid form.

CLARET CLOVE.—Very free-flowering and of strong habit, this gives large blooms of perfect

form, and there is a powerful fragrance. The colour is a deep wine crimson.

CORALLINA.—This is a most exquisite shade of rich coral, and it is very beautiful under artificial light. The plant has a vigorous habit, and the stems are long and strong. The blooms are not too full and open well in wet weather.

GLOWWORM.—Of a rather dwarf type, with bright scarlet flowers, this was not outstanding, but may do better as a two year old.

GONDOLIER.—I do not care for the colour of this, although it is distinct, being carmine-purple on yellow. Carmine, especially with a blend of purple in it, never makes a pleasing colour in flowers.

HERCULES.—This is the only variety in the kinds under review that gave a burst bloom. It is too large to open properly in our northern climate in an unfavourable season. The colour is a deep crimson-maroon.

KING OF CLOVES.—A very vigorous grower with a fine border habit, rich glowing wine crimson in colour, it is probably the best dark Clove yet raised at Edenside.

LOYALTY.—The season did not suit this variety, as the wet frequently spoiled the blooms just as they were about to open. The colour is pleasing—orange apricot—and in a dry summer it should be very fine

MARECHAL NIEL.—This is not as free as I should like it, and impatient of the wet. One or two of the first blooms were good, and reminiscent of the colour of the grand old Rose of the same name.

MARGARET KEEPE.—Here we have a beauty of fine habit and strong growth. The perfect blooms last a long time in good condition, and the stems are of great length and strength. The colour is a little deeper than Blush Clove, and, of the two, I much prefer it.

MRS. HAWKS BEE.—This daintily marked white-ground fancy, with light bars of rosy crimson at the tips of the petals, is not too strong a grower with me so far, but may improve when it settles down.

PRAIRIE BELLE is a very good border white and reliable in any kind of weather. It is a good grower and very free.

ROSALIND.—This is a very beautifully coloured fancy, salmon pink on a canary yellow ground. A good doer, and with flowers of fine form and substance, it is a variety that I can recommend.

SCARLET CLOVE.—I had blooms of this right down to the first frosts. It is of fine colouring, deeper in the young flowers than in the older blooms, but always striking. It is one of the strongest growers among the newer Cloves, and the stems are long and strong.



CLOVE-SCENTED CARNATION KING OF CLOVES.



THE VERY HANDSOME FANCY CARNATION JESSIE MURRAY

THE LADY COLWYN—This is a white-ground fancy with heavy, dark, on-maroon markings. Steerforth is a very good variety. **SILVER LILY**.—This was the best of the newer varieties I obtained from Edenside. It varies little in colour according to the weather, but the richest blooms are magnificent. It has a splendid habit and all the good qualities of a first-rate variety.

SUNSHINE. This is not very robust and is rather shy to flower. It may do better next year, but I think Mr. Douglas's new variety **Bookham Yellow** will supersede it.

WHITE CLOVE. This has a grand habit, and the flowers are of good form and very fragrant. I am looking for great things from this next year, as Mr. Douglas tells me that it is wonderful the second season.

So much for the Edenside productions. Now let us consider some of the best from Crawley Down.

BORDER CLOVE is probably the darkest of all the Cloves, and it is a very strong grower with a perfect border habit, besides possessing the full measure of perfume.

DAVID STOBART.—There is a warm tone in the colour of this fancy, and those who like a blend

of indiotrope and yellow will be pleased with it. It is a well formed flower with a broad, clear-cut petal.

DR. RAYMOND CRAWFORD. This is one of the best of the orange-buff selfs, very free-flowering, and more reliable than Elizabeth Shifner.

ELDORADO.—A very fine rich yellow of grand form and substance.

MARY MURRAY. I should have no hesitation in declaring this to be the finest yellow self, with Eldorado a good second. Mary Murray is a very strong grower, and the stems are long and strong. It does very well in the North.

J. SAVILLE.—This is variable in colour, but always interesting. Lavender and rose red are the predominating colours, and these are overlaid on a rich apricot ground.

JAMES GRIGGS is one of the nondescript fancies, a soft lavender grey with a band of bright rose. It is a flower of fine form and substance.

JESSIE MURRAY.—This is another very reliable variety, especially for Northern gardens. It is a white-ground fancy with distinct markings of lavender mauve, and possesses all the best qualities of an ideal Border Carnation.

KATHIE MOORE.—This is a most beautiful

colour blend, a yellow-ground fancy with heavy markings of rose pink. It has a grand habit and is excellent in every way.

LADY COLWYN is an attractive variety, apricot, edged and splashed with coral red. It is most distinct, and is a strong grower with a splendid non-splitting calyx.

LADY SHACKLETON.—Those who have admired Lieutenant Shackleton at the shows and have failed to grow it well will find Lady Shackleton much superior and of similar colouring.

MAISIE LOWE is another thoroughly reliable variety, a very daintily marked white-ground fancy with light pencillings of old rose. It is a splendid grower and the flowers are of excellent form.

MRS. EDMUND CHARRINGTON—the name almost implies it—must be regarded as one of the best of the white-ground fancies. It is distinct from Jessie Murray and makes a fine companion flower to this variety. The flowers are large and of fine form.

OAKFIELD CRIMSON has a delightful velvety finish about its rich deep crimson flowers, and it is a new variety that will certainly come to the fore when better known. **NORMAN LAMBERT**.

GARDEN DESIGN.—V

Borders in Separate Colours.

AS well as mixed borders the owners of fairly extensive gardens will probably like to have borders in separate colours. Blue borders in some secluded part of the grounds and amid a setting of green lawns and trees can appear delightfully cool in hot summer weather, and blue in its many shades is a colour of which nearly everyone is fond.

To a great extent the successful design of any garden or grounds is very largely dependent upon the balanced placing of the principal gardens or features, and after this, of the happy arrangement of the intervening spaces. To listen to a symphony or sonata consisting entirely of climaxes would be a nerve-racking experience and it would be equally trying to walk through gardens without

the quiet setting of lawns and walks, so placed as to give contrast and to connect and lead up to the principal features.

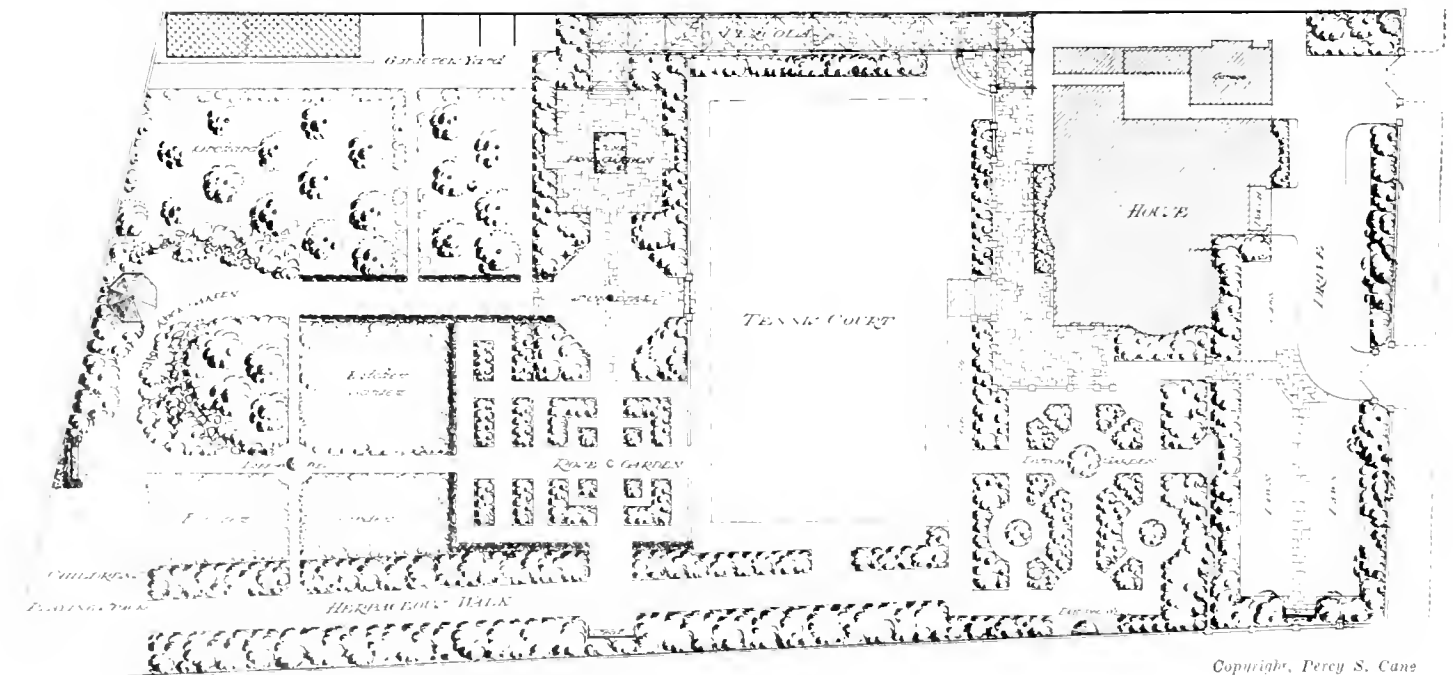
This happy disposition of planning is just as essential in the making of borders of separate colours as it is in the case of every other part of garden design. Blue never looks so well as when seen against a background of green or perhaps green and grey stone walling away from the formal part of the garden.

Borders of Delphiniums only, look extremely well, and there are varieties enough of these beautiful plants sufficiently different in their habit of growth and character to give endless scope in their arrangement. Like many other of the plant families there is an affinity in their range of colour

and height. These can be selected from the low-growing Blue Butterfly to the tall and stately masterpieces offered by firms which have specialised in the raising of these handsome plants.

Some shades of blue seem particularly effective against green. *Anchusa italica* gains immensely in effect if it can be grown in great isolated masses, and both *A. Dropmore* and *A. Opal* are worth growing in large beds by themselves.

Just as blue is for the cooler parts of the garden, so should a yellow or gold border be in as sunny a position as possible, so that even subdued sunlight may transform otherwise dull shadow into colours glowing with reflected brilliance and light. Flowers, trees or leaves seen on a dull day under leaden skies cannot be compared to the radiance that



DESIGN FOR A SEMI-URBAN GARDEN.

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results from the sun flashing on dew-laden flowers and foliage; golds and yellows being particularly suitable for this purpose. A most effective border or garden could be arranged by using all the shades of yellow and gold, from the deep cream and lemon yellow *Anthemis* and *Gaillardias* to the deeper tones of *Coreopsis*, *Sunflowers* and *Day Lilies*, leading up to the purple and bronzy foliage of certain of the genus *Prunus*, *Paeonies* and other foliage plants of similar tone. Apart from the colour of their flowers, the leaves of many plants have a wonderful decorative value and Nature usually provides foliage for each plant that makes the best possible harmony of colour with the flowers.

Many plants, such as *Delphiniums*, the choicer *Lupins*, *Mimulus*, *Lavender*, *Gaillardias* and *Chrysanthemum maximum*, can be used as permanent residents, but care must be exercised in the use and placing of the coarser growing plants, such as *Verbascums*, *Anchusas*, *Hollyhocks* and *Rudbeckias*.

SOME OTHER FEATURES.

I should like in this article to add a few words on other features and parts of the garden. To an artist the interweaving of the various parts that go to make a successful whole, is an interesting task.

First, the contours of the ground must be carefully considered and so dealt with that full advantage is taken of every existing natural feature and the whole conception welded into a comprehensive treatment.

Next, the form of the planting will call for attention and in this connexion it must be emphasised that balance of form is, if possible, of more importance even than balance of colour.

To secure this the position of the larger masses of trees and shrubs must be carefully considered, so that in any glade or walk the masses on the one side, although these may be of different varieties, are, nevertheless, felt to be suitably balanced by those on the opposite side.

In wider and more extensive walks it will be necessary to fix the position of the tallest standard trees first, giving consideration both to their height and the colour of their flowers and foliage.

The pink, rose and red of the flowering Apples, Plums and Cherries may be employed almost anywhere with fine effect, but the introduction of such bright yellows as *Laburnum* should be used with discretion and in carefully selected places. In practice it is generally safe to make pinks and reds the predominating colour in one section, yellows, bronzes, etc., in another location and then to link them together in such a way that a right and happy transition is felt. This can be done by introducing some pale yellows among the lighter pinks and by planting bushes of intermediate or neutral colours at the junctions.

After the positions for the deciduous standard trees have been decided upon, the places of the larger conifers and other evergreens should be determined, again carefully studying the ultimate balance. After this is done, the lower and smaller planting may be undertaken. To do this successfully a comprehensive knowledge of the habit of growth and the colour and season of flowering of the various plants and shrubs is essential.

PAVED GARDENS.

Paving is largely used nowadays and for many good reasons. It is serviceable as a dry walk, beautiful for its varieties of tone and colour and can be made to form an essential part of the design of a garden. It should, however, be well and truly laid on a properly levelled surface.

One sees too frequently badly laid crazy paving in cases when other equally suitable materials might have been employed. Brick paths, especially in conjunction with brick houses and formed with warm red or plum-coloured bricks, can be very

effective and, if properly done, stone and tiles on edge can be introduced to form a pleasing variety in the texture of the path.

The planting of a paved garden calls for a distinctive treatment. Perhaps the most pleasing way to arrange this is to clothe the boundaries with evergreen and flowering plants in order to provide a suitable background, to fill in the back of the borders with herbaceous plants that are of medium height or fairly tall in their habit of growth, gradually reducing the height of the planting as it nears the front of the border. Although the planting may be largely herbaceous in character the result should be very much richer in colouring than in the case of the herbaceous border.

The peculiarities of growth and the need for pruning should be particularly studied, for many shrubs (such as the *Barberries* and *Cotoneasters*)

will be rendered ineffective or may even be ruined by being carelessly or excessively cut.

In the more natural planting of glades and walks, especially in those where great care has been exercised in the placing and selection of the various units, every plant, stone or tree should be so placed that it could not be removed without, to some extent, spoiling the whole design. This perfection in planting is very clearly evidenced in Japanese gardens, which are often a very high expression of the garden designer's art.

Finally, I should like to reiterate the need for a proper balance and adjustment both of form and colour. The creation of this balance is perhaps the highest expression of the art of the garden designer, and the exercise of this should gradually tend towards an increasingly high standard of achievement.

PERCY S. CANE.

FOLIAGE SHRUBS IN A WINTER GARDEN

IT is not until autumn gives way to winter that the full beauty of many evergreen shrubs and trees becomes really manifest. Nor is this merely a matter of comparative values or of contrast. In the absence of blossom, and with deciduous trees and shrubs devoid of foliage, evergreens, having the field

hue of its foliage, withdrawing the green and intensifying the yellow, so that by December every needle is gleaming like polished brass.

To some extent the same transformation takes place in other golden-leaved Conifers. The slow-growing *Lawson Cypress* called *Cupressus Lawsoniana* var. *lutea* now wears an unusual brilliance,

but more marked is the same change in the much more beautiful *C. macrocarpa aurea*, of which the feathery foliage, borne on chestnut red stems, has been regilded from base to tip. Of the golden *Junipers* and many another conifer no less might be written. Then there are those two beautiful forms of *Calluna vulgaris*, *aurea* and *cuprea*. These are of small account at any other season, and as flowering varieties they are exceedingly poor; but early winter brings to the one a golden yellow that is distinctly effective and to the other a warm coppery tint which is very lovely in any light, especially so when the foliage is wet or when it gives back the red glow of a frosty sunset.

As with gold so it is with blue, and I need not dilate upon the colder, bluer winter colour that comes to *Cedrus atlantica glauca*, to some of the *Pines*, *Spruces* and *Cypresses*. One or two of the dwarf, or slow-growing, *Thuyas* now powder their pale green of summer with the bloom of a ripe grape blended with plum red and, again, there are the *Junipers*. The common *Juniperus communis* here changes from its summer bluish green to a more intensely glaucous hue at the same time as the Scots Pine mentioned is putting on its winter colour, and a dwarf and quite prostrate form of this species found

growing wild on the Welsh mountains (not on limestone) promises to get even bluer than the tall, more erect type.

But of all the grey-leaved shrubs grown here none effects so thorough a transformation as *Convolvulus Cneorum*. Throughout the summer and autumn the foliage of this pretty thing is neither green nor grey, a feeble effort at being both. But now the leaves are so silvered with silky down that every vestige of green has completely vanished and the foliage gleams with the



THE TREE HEATH, *ERICA ARBOREA*, SO HANDSOME IN WINTER.

to themselves, might very well be expected to meet with a fuller appreciation than they enjoy at other seasons. But I refer here to the number of varieties which possess those peculiar and intrinsic merits which are never seen in such perfection as they are in winter.

Take that dwarf Scots Pine, *Pinus sylvestris aurea*, in all respects, save colour, a miniature of the type. This little tree will all summer have been a dingy yellowish green, but during the later days of autumn it begins to change the

of a few pieces of silver fresh from the mint.

In a lesser degree the same pleasant change occurs in *Tenerium fruticosum*, leaf and branch being markedly whiter than they were two months ago. One wishes that one might say the same of *Senecio Greyi* and *S. laxifolius*, but these, like a good many other downy-leaved, sun-loving subjects, wisely reserve their refurbishing until there is some hope of spring and drier weather. I have, however, been curious to know how that very remarkable shrub *S. rotundifolia* will behave in our winters. While its younger wood and the underparts of the large, broad, fleshy leaves are thickly coated with a dense ivory white felt, the upper surface is a strong, pure ivy green and highly glossed—the most striking contrast of the kind I have ever seen. As I do not even know where this stranger hails from, its future is a matter of speculation, but it has already stood 10° of frost without flinching.

There is a certain general resemblance between the foliage of *S. rotundifolia* and *Eleagnus macrophylla*. Though the leaves of the latter are smaller and of thinner texture, and the colour contrast alluded to is not nearly so strong, they are of much the same shape (broadly oval with a round base and sharply pointed). They have silvery underparts, a green upper surface and the same habit of waving the margins as if to display the white beneath. But, unlike the spongy felt of the *Senecio*, the silveriness of *E. macrophylla* is a hard metallic burnish. The young leaves in spring are completely coated with this curious aluminium sheen, but it is when the shrub has settled down to winter that the softer wood and undersides of the mature foliage are at their whitest. The North American *E. argentea* is perhaps the most silvery shrub known to our gardens, but it is deciduous. *E. pungens*, var. *aureo-variegata*, to turn once more to gold-leaved plants, is a shrub which in its full winter beauty even those who most dislike variegated plants cannot fail to admire. And, after all, there is a glow of warmth, very comforting in winter, about plants of this kind in a really deep yellow which none of those of paler hue, and much less the glaucous or white, can ever afford. Though we have grown several of these Oleasters for some ten odd years, none has ever yet borne a flower.

In shrubs, other than Conifers, with green foliage (and what is more cheerful on a winter's day than a fresh and kindly green?) I always think the most delightful are those which are "livening up" for their flowering period. These include various kinds of *Ericas*, notably the Tree Heaths, *EE. codonodes* and *Veitchii*, of which the foliage, so soft and plumose, is the most restful shade of moss green that one could desire. It is always beautiful, but never quite so fresh and charming as when the shrubs are putting out their countless little buds in preparation for the first hint of spring. *EE. arborea* and *alpina* come close to the above in colour, but the leafage is hardly so fine. The only trouble that one ever associates with these beautiful Heaths is the snow which clings so tenaciously to their foliage that they sink beneath the burden they were never built to bear, and break. *E. australis* is also liable to suffer in the same way, and the bluer green of its handsome foliage is also a more telling colour now that its flower-buds are beginning to shew than at any other season.

E. stricta, which, unlike the above, has only just ceased flowering, comes in colour of leaf somewhere between the Tree Heaths mentioned and *E. australis*. This forms a very striking object in the winter garden with its curiously fuzzy foliage, which makes such an attractive setting for the rusty red of the faded corollas

clustered at the tips of the rigid, upright growths. A distinctly livelier green has lately invested the masses of *E. carnea* which carpet the ground beneath some of our old Oaks, for it, too, will shortly break into colour. There is also something to be said for *E. scoparia* as a winter foliage shrub, the leafage being a pleasing green and the habit of growth extremely elegant. *Erica scoparia*, however, needs to be prevented from becoming lanky, overgrown bushes being thin and scraggy. For carpeting or associating with other lowly shrubs for winter effect the prostrate form of *E. scoparia* is well worth a place.

Two other shrubs which, in their unrestrained eagerness to reach forward to the spring, have

developed a sappier, more tender verdure, very tempting to the mischievous fingers of the frost, are *Genista fragrans* and *Coronilla glauca*. Though reputedly delicate, the former seldom takes much harm here, especially when grouped rather thickly on a very dry bank where the bushes nearly die of drought in summer. Indeed, it has withstood frosts which have seriously injured shrubs generally considered to be much hardier, and as much may be said of the *Coronilla*. Both of these appear to make full summer their time of rest (perhaps making a virtue of necessity as I have suggested), for from autumn to spring they may flower at any odd interval that the weather will allow.

A. T. J.

CORRESPONDENCE

A GARDEN NOTE BOOK.

I HAVE read with profit and interest the very indulgent review of my book (page 654), and the least I can do is to express regret for misspellings and for the improper use of capital initials in specific names. Personally, I detest seeing a page disfigured by redundant capital letters; my misuse of them arose from imperfect recollection of Article 26 of the International Rules for Botanical Nomenclature agreed to at Vienna in 1905. Therein it is laid down that "Specific names begin with a small letter, except those which are taken from names of persons (substantives or adjectives) or those which are old generic names." No mention is made of specific names taken from countries or places, which, according to this rule, should be written with a small initial. *Mea culpa!* But when your reviewer gently trounces me for error in the case of personal names in the genitive case, as *Rhododendron Fargesii*, I submit that there is classical precedent for the shorter form. In bestowing upon any plant a modern proper name as its specific designation, that name has first to be given a Latin termination, thus the surname "Farges" may with equal propriety be transformed into *Fargesus* or *Fargesius*, whereof the

genitive case would be respectively *Fargesii* or *Fargesii*. Even if the latter be the form chosen, it is quite in accordance with Latin orthography to write it *Fargesii*, which in my humble opinion is the preferable form and nearer the original *Farges*. I could support my contention by innumerable instances in classical Latin. I will only cite one as an illustration taken at random. Horace, *Sermonum* ii, 1, line 65, has

"Quid? cum est Lucilius ausus

Primus in hunc operis componere carmina morem," and in line 75 of the same poem, referring to the same person,

"Quidquid sum ego, quamvis

Infra Lucili censum ingeniumque."

It is surely more desirable to render scientific terminology as concise as possible than to make it more polysyllabic than is necessary.—HERBERT MAXWELL, *Monreith*.

THE USE OF POLYANTHUS.

I HAVE had it in my mind for some time to raise the question as to the use of the *Polyanthus* in gardening. I seem often to see this beautiful flower nowadays grouped boldly in woodland, and to be quite frank do not consider it suitable for the purpose; it is, I think, too sophisticated. I do



POLYANTHUSES IN WOODLAND AT ABBOTSWOOD, GLOUCESTERSHIRE.

not quite know why I feel thus about it. Colonies of Blue Primroses in a similar position seem natural and "at home," so do the charming coloured Cowslips, so that no question of principle seems to enter into the matter; still I do not like Polyanthus there, and I know that others share my prejudice, if prejudice it be. I think it must be that the florist has done a little too much for the Polyanthus to make it suitable for semi-wild gardening. Perhaps other readers will give us their ideas upon the subject. I ought to make it clear that I have no antipathy to the Polyanthus as a garden flower; indeed, it is one which I greatly admire.—N. H. P.

A FORGOTTEN PANSY?

I SHOULD like to know if any of your readers know of a very old Heart's-ease. It used to grow and seed year after year in an old garden at Kelso, New South Wales, over seventy years ago, where it was planted by the writer's grandfather, who, I think, brought the seed originally from Wiltshire. It was a deep purple in colour with yellow rays and very sweetly scented; in shape very like *Viola gracilis*. I am afraid it has become extinct, but should be pleased to hear if any of your readers know where it is to be found.—F. S. LEE.

"GODFATHERS."

IN a garden that I know very well two men had been deep-digging a patch of ground all afternoon, when they had very nearly got to the end one of them said to the other, "I say, Tom, we won't want any Godfathers, will we?" The meaning was that the speaker thought there would be ample soil put on one side to fill up the last trench. My gardener, who is a local man, tells me that a similar expression was a very favourite one of his old father, who, when he had nearly got to the end of his digging would say, "I'll be wanting some Godfathers," or "I'll have enough Godfathers." He (the father) always used the word in connexion with digging and the son (my gardener) has never heard it used in any other connexion. Another old inhabitant of the parish whom I asked about it knew the expression but did not think its use was limited to digging. Several young people, whom I have asked about it, have never heard it. It seems that this is one of the many quaint words that are gradually dying out. Is the word used in this way a local usage on a par with "Betty-go-to-bed-at-noon" (*Ornithogalum umbellatum*), and "rices" (older form, rises) for pea sticks; or is it a more general one? How came Godfathers to be used in this connexion at all?—JOSEPH JACOB.

[In "Shakespeare's Country," though the use of "godfathers" or "godfeythers" in the sense mentioned by Mr. Jacob is not unknown, the word is often used, in the singular, to denote a subsidiary or sustaining post. If a gate post, for example (or a pergola post, for that matter), is moved to another position and does not seem over strong at the ground line, another piece of timber is spiked or bolted to it, and this the countryman calls a "godfather." Similarly, when wire fences are being erected, the struts to prevent the posts giving to the tension are called "godfathers" and are commonly ordered under that name from the timber merchant. In this sense the application of the word seems obvious, and, as regards soil to "make up," probably the same idea suggested the use of the word.—ED.]

CLEMATISES ON THEIR OWN ROOTS.

MR. W. GATER, Sheffield, in your issue for December 8, page 640, will probably be able to obtain what he requires from Messrs. Pennell and Sons of Lincoln, as I saw this firm advertising Clematisses on their own roots recently

in *Country Life*. His experience is typical of that of hundreds of others, judging by the correspondence I have received on the subject since my article appeared in THE GARDEN.—E. MARKHAM, *Gravelly Mangr Gardens, East Grinstead.*

HYBRID BUDDLEIAS

ONE of the achievements brought to light in 1923, the new hybrids between *Buddleia variabilis* and *B. globosa*, seems to have been passed over with very little comment. It is passing strange that the cross should not have been attempted before, but stranger still, at least to a gardener who knows little of botanical research, is the attempt of the "mules" to arrange the globose clusters of the fragrant *globosa* in the panicle form of *variabilis*. It is noteworthy, too, that the blossoms which expand yellow or creamy, pass off violet. I, for one, shall be interested to watch the progress of these hybrids.—H. H.

A NEGLECTED PLANT.

CALAMINTHA grandiflora is a somewhat neglected plant at the present day, notwithstanding its hardy character and easy cultivation. It is a European plant introduced to this country from Italy. I have had experience with it in the lowest part of a garden, where the temperature was down at zero and perhaps below it occasionally in severe winters, and yet it was never injured in the least. I saw a patch of it, recently, a yard in diameter, at Cliveden, Shenfield, Essex. The flowers are large for this group of plants and of a pleasing rose purple colour. The stems are only 1 ft. in height, and stand nearly erect, but when a patch is allowed to get large they bend outwards at the base in such a way that the flowers are shown off to the best advantage. At present *C. alpina* seems the most popular member of the genus for the rockery, but the dark purple flowers are not half so conspicuous as those of *C. grandiflora*, which would be quite suitable for a large rockery.—J. F.

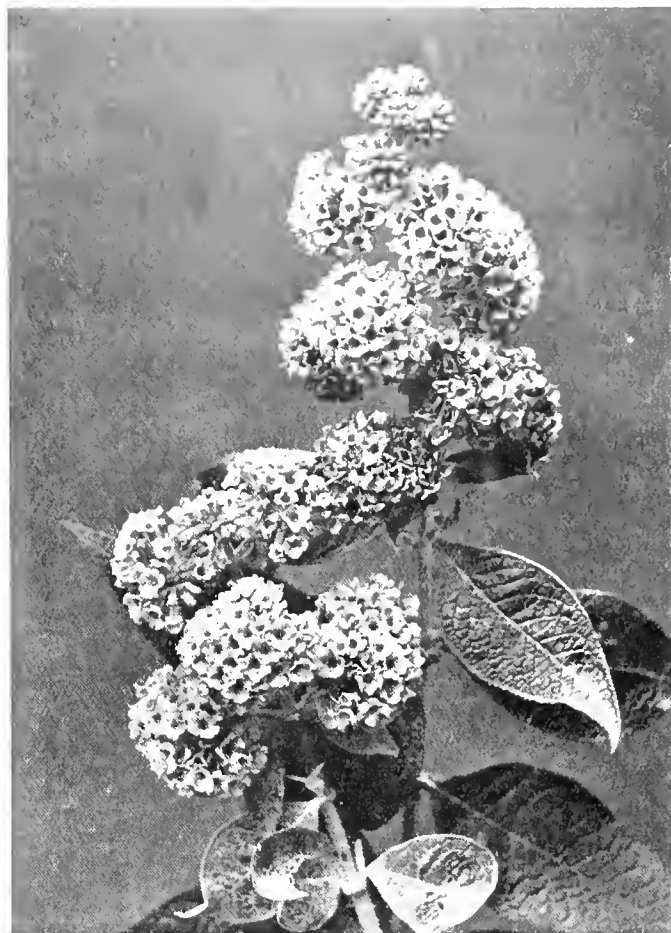
PRUNING LAVENDER.

WILL Mr. R. C. Jolliffe tell us why he recommends Lavender to be cut back hard in autumn? Why not cut early in April, so that the stumps may be quickly reclothed?—WILL TAYLER, *Godalming.*

A FINE FORM OF SAXIFRAGA COTYLEDON.

ALL who know *Saxifraga Cotyledon* var. *platyphylla* will, I think, agree that it is far the best of the various forms of *Saxifraga Cotyledon* in cultivation. Grown in pots as a decorative plant for the alpine house it has few equals; it

is also a splendid plant for house decoration. When well grown its graceful inflorescences of white flowers easily attain 5 ft. in length and 2 ft.



THE NEW HYBRID BUDDLEIA GOLDEN GLOW.

through at the broadest point, arching over in a most elegant manner, remaining in flower and retaining its snowy whiteness for an exceptionally long time, thus adding greatly to its usefulness.

The cultivation of *S. Cotyledon* var. *platyphylla* presents no difficulties, and a stock is easily maintained by offsets taken annually and dibbled into shallow, well drained pans of sandy soil and placed in a cold frame. This may be done really at any time when offsets are obtainable, but presuming it is done during autumn, the plants should be ready for potting into small pots the following April or May and be returned to the frame until the end of July, when they will require a move into a size larger pot. Except for watering and pulling out the offsets, the plants need no further attention until late spring of the following year, when they should have their final potting into 5 in. pots, using a compost of loam, leaf-mould, old mortar rubble and grit. This time pot more firmly. At this later stage the plants are better accommodated in the alpine house, where they should all flower the following May and June. Although this is a slow process, it is not advisable to push this class of plant. Care must be exercised not to over-water, and avoid wetting the rosettes as far as possible, or the plants will not possess the silvery hue so desirable.—J. T. H., *Dupplin.*

[J. T. H. omits to stress the very real beauty of the foliage of this stately Saxifrage; the rosettes are almost as beautiful as the giant flower spikes.—ED.]

CABBAGES AND CATERPILLARS

THE above do not form a pleasant combination, and one of the most difficult problems of the gardener relates to the choice of methods to prevent its possibility. Two butterflies and one moth deluge us with many of the eggs which hatch into these troublesome intruders, and since these eggs are very small and difficult to find among leaves which fit one into another like those of the Cabbage, and as the caterpillars also hide themselves among brittle leaf-stalks so that it is difficult to dislodge them without spoiling the vegetable, it is better to deal with the perfect forms of the insect.

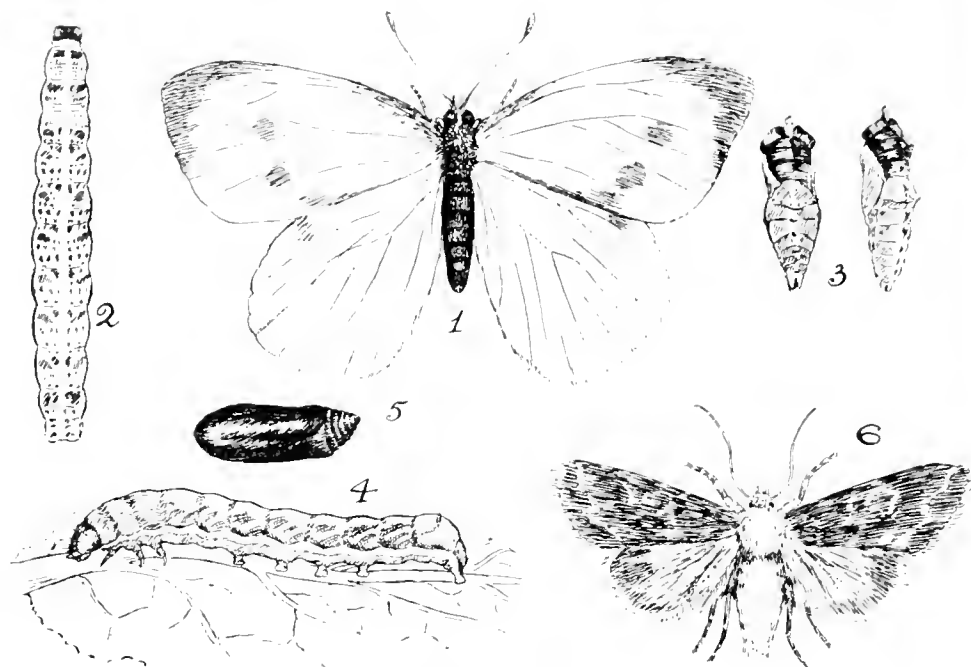
The butterflies which give us so much trouble are both of the genus *Pieris*, and are known among us familiarly as the Garden Whites, Large and Small respectively. They fly by day, and love warmth and sunshine. They are white and mostly have black tips to the upper sides of their two front wings, also a few black spots. Under this description may be comprehended two other butterflies, the Green-veined White and also the Bath (or Chequered) White, the under-surfaces of the hinder wings of which are beautifully mottled with green and white, but which is sufficiently rare to make it a valued find for collectors. The underside of the Green-veined White gives it its common name. While it is supposed to lay its eggs upon such plants as Mustard and Water Cress, its caterpillars are not too particular as to their food plant. Ignoring, then, its claims for toleration and recognising the rarity of the Bath White and the unlikelihood that it should favour any given spot with its distinguished presence, the horticulturist may perhaps be pardoned if he issue a decree of banishment against the whole tribe of white-winged butterflies. How to enforce the decree is an awkward question.

In April and May (also for the second brood in July and August) the eggs are deposited, and after ten days or a fortnight, according to the weather, hatch into little pale green caterpillars and commence their career of destruction. The eggs are spindle-shaped, standing on an end, and are ribbed, with fine transverse markings. They are of a greenish or pale yellow tint. The caterpillars of the larger species sometimes reach 2 ins. in length, taking a month or more for their growth. Their backs are then dull green, inclined to grey or blue, and marked with black; lines of yellow run along the back and sides, but the younger caterpillars vary in tint, according to their age. The caterpillar of the Small White is at first yellow, but later becomes green, keeping a yellow line along the back and spots of that colour along each side. The chrysalids of the Garden Whites have the angular shape which is so characteristic of this stage of the butterfly, and are of a greenish or greyish hue tinged sometimes with red and marked with black dots, larger in the larger species.

The question of how to guard the Cabbage from these insidious foes is most perplexing. As the vegetables are used for food, the risk would be too great were any poison to be employed as a deterrent spray, but there are proprietary preparations which profess to be safe and useful. Powdered Pyrethrum may be applied, but it is uncertain if the result be worth the expense. The best hope is in means that perhaps may appear slow and unpromising. A determined effort should be made to catch and deal with every Garden White that may intrude, for which purpose a small light butterfly net should be kept accessible. Walls and corners likely to shelter chrysalids

should be inspected regularly, and every Cabbage showing signs of attack by caterpillars should be promptly destroyed. Choice must be made

they shrink and change into pupæ of the usual brown colour. If the earth between the Cabbages be turned over to the depth of but a few inches many of these pupæ will probably be dealt with by the birds, and others killed by the weather. Poultry may with advantage be turned



CABBAGE PESTS.

Figs. 1, 2 and 3.—The Small White Butterfly, *Pieris rapæ*, with caterpillar and chrysalis.
4, 5 and 6.—Caterpillar, pupa and perfect insect of the Cabbage Moth, *Mamestra brassicæ*.

between the cheerful beauty of the fluttering butterfly and the cleanliness of undisturbed cabbage life. Of course, the term Cabbage here includes the tribe of Kale, Cauliflowers, etc.

The caterpillars of the Garden Whites, like those of many other species, are attacked by small four-winged flies called Ichneumonids, which pierce their skins with a sharp ovipositor and deposit several eggs in the body of their victim. These hatch in due course. The resulting maggots feed upon the tissues of their living host, avoiding vital organs, and finally build their cocoons and hatch. The caterpillar is doomed, and should the body of one be found infested with the small cocoons of its enemy, it should be put aside for them to hatch in safety, for undoubtedly the little flies are friends of the gardener.

The caterpillars of the cabbage moth are, if anything, more objectionable than those of the butterflies. They have a liking for the inside of the Cabbage, and leave it in a peculiarly insanitary condition, difficult for any cook to deal with. These caterpillars are of a tint inclined to green or brown which varies both individually and with age. The perfect insect may be looked for from early in May to September and later, is of a muddy tint of brown, and flies mostly in the evening. Its wings have a spread of about 1½ ins., and it has a habit of fluttering in windows and round lights which brings it frequently into notice. In the daytime it remains still in a quiet corner, falling to the ground if touched and running hastily into cover, though in bright sunshine it may be too dazed to move. It may be taken with a mixture of treacle and spirit painted, before dusk, as a stripe on a tree, post, wall, etc., near its haunts and examined after dark with a lantern or electric torch, when the moths may be taken with a net.

When full grown the caterpillars descend and make a burrow just below the surface, where

on to the freshly dug ground. Afterwards naphthalene may be employed, or lime carefully raked in will be found useful. After all, there is something in the careless remark of one young gardener, "I leave the caterpillars to the birds," though to most people supplementary means appear advisable.

M. L. B.

THE PHŒNICIAN MULLEIN

SOME of the taller Mulleins are too big for the small garden or narrow border, but this cannot be said of the Phœnician one, *Verbascum phœniceum*. While such species as *V. olympicum* may tower up 6 ft., 7 ft. or even 10 ft. high, the Phœnician Mullein contents itself with a height of 18 ins. or 2 ft. at the most, so that it may be grown in places where the others would be out of place. It is, moreover, a true perennial, coming up year after year, increasing in size annually, and throwing up more and more of its spikes of pretty flowers. In olden times its flowers seem all to have been purple, but nowadays we have varied colours, owing to hybridisation, according to certain writers, but only seedling variations in the opinion of others. If the reader buys a packet of *V. phœniceum*, either as "mixed" or as *V. p.* "hybrids," he or she is almost sure to have a nice set of varieties, with flowers of different shades of purple, salmon, orange and almost pink, nearly every one very beautiful. The flowers begin to open from the base of the spike, which gradually lengthens. They are of good size and, when open, are attractive in the border. The plants flourish well in light soil in sun or half-shade, and continue in bloom for months in summer. Seeds may be sown from April in shallow drills in the open or in pots or boxes under glass. Thin out the seedlings well and they will bloom the following year.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Seed Catalogues.—Once more the time has arrived for making out the seed order, and it is always advisable to dispatch it to the seedsman as early as possible, thereby preventing delay and disappointment. A rough plan of the kitchen garden should be prepared and then a selection of seeds made, always relying upon kinds that have proved their worth. However, I always like to try a few novelties each year. Among the first to receive attention will be Peas. These can never be produced too early, and last season I found Pioneer and Langley Gem (both dwarf varieties) did remarkably well, as did Cauliflower Magnum Bonum.

General Work.—Much can be done at this season to prevent a rush of work later on, and every advantage should be taken of wet days. Labels can be prepared and painted, pea sticks overhauled and new ones cut, stakes of various sizes looked out, seed and cutting boxes prepared and new ones made. All garden refuse should be collected and, where possible, buried in a trench, while that of a woody nature should be burnt. Garden walks may be regravelled and rolled from time to time to get a hard smooth surface. Continue to pay attention to Cauliflowers in frames, remove all dead leaves, and grow the plants as hard as possible by admitting air on all favourable occasions.

Early Peas.—A sowing of a dwarf variety may be made in pots, but it will be necessary to bring them along slowly, for coddling will mean failure. Pots 3½ ins. to 4 ins. in diameter will suffice, and they should be well provided with drainage and nearly filled with a mixture of good loam with a sprinkling of leaf-mould and sand. Sow the seeds thinly and eventually thin the seedlings to four or five in each pot. Place them in a cool house or frame and watch for mice, for these are often destructive.

Vegetables Under Glass.

Tomatoes.—In many gardens these cannot be produced too early, and seeds may now be sown from which ripe fruits may be expected about next May. A good way at this season is to sow three or four seeds in a 3 in. pot containing a mixture of loam, leaf-mould and sand. Place the pots in a warm house where the average temperature is about 60° and do not overwater the soil. When the young plants are well through the compost reduce the seedlings to one, leaving the strongest. Keep the plants near the root glass in order to promote a sturdy growth. Princess of Wales and Satisfaction are both useful kinds.

Fruits Under Glass.

Melons.—Early Melons may be fruited in pots 12 ins. or 12 ins. in diameter, and, where heated pits or small houses are available, there is no reason why a small sowing should not now be made. Sow the seeds singly in small pots, and a little bottom-heat will soon cause the seeds to germinate. In many houses and pits it is possible to introduce fermenting material, and when the rank steam has escaped, such a bed will be found very useful for raising these and other seeds. Water the soil sparingly and keep the plants in a light position. A temperature of 60° to 65° will be necessary.

Late Grapes.—It is not advisable to allow fruit to remain on the rods after this date, so the remaining bunches should be cut with as much stem as possible and all diseased berries be removed. The stems should then be placed in bottles containing water. Very few possess a fruit-room suitable for storing Grapes, but an ordinary room will suffice if the temperature does not fall below 50° Fahr. Prune and cleanse the rods and admit plenty of air.

The Hardy Fruit Garden.

Strawberries.—Established beds will be benefited by a mulching of manure. New plantations that were formed last autumn will not require any manurial assistance at present.

Raspberries may also be mulched and any suckers pulled up. The same remark applies to Loganberries.

Red and White Currants.—The pruning of these may be taken in hand as an opportunity occurs. The leading shoots should be cut back to about 6 ins., weak growths be removed and the remaining shoots reduced to three buds. Prune in such a way as to enable plenty of light and air to reach the centre of the bushes. Black Currants are

treated differently. Thin out the old wood and leave this season's growths their full length.

Gooseberries.—Unless these are fairly well thinned, the gathering of the fruit is very difficult and, moreover, it is often inferior in quality. The centre of the bushes should not be overcrowded, and any shoots near the soil may be cut off. When this is done the remainder of the shoots should be tipped. A sharp look-out should be kept for finches, which occasionally destroy a large number of fruit-buds.

The Flower Garden.

→ **Schizostylis coccinea.**—The Kalfir Lily with its scarlet flowers has been making a brave show during October and early November, and it is a plant that should be noted and grown in every garden. It will succeed in an ordinary border, and should be planted when the bulbs are more or less dormant.

T. W. BRISCOE
(Gardener to W. R. Lysaght, Esq.),
Castleford, Chesham, Gloucestershire.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Asparagus.—Those who intend to make new plantations next spring should have the ground prepared now. Asparagus enjoys a light, rich, deeply-cultivated soil. Heavy soils can be lightened by the addition of such materials as sand, road scrapings (free from tar), leaf-mould or mould resulting from decayed vegetable refuse from the kitchen garden.

Onions.—Go over the stock occasionally and remove any decaying bulbs. Retain the best-ripened bulbs for latest supplies irrespective of size, which is no guide.

→ **General Work.**—While Celery, Leeks, Parsnips, Salsify and Jerusalem Artichokes are best lifted as required, a week or ten days' supply should either be lifted ahead of requirements or a keen look-out should be kept for frost, and if a sharp spell threatens, supplies should either be lifted or a portion of these crops should receive frost-proof protection. Complete the work of trenching or digging vacant ground as soon as possible, but never bury frozen soil.

Vegetables Under Glass.

Asparagus may be forced in a pit with a bed of leaves to supply slight bottom-heat and prevent too rapid evaporation. This forms the ideal conditions with a top temperature of 50° to 55°. The plants may either be set in an 8 in. layer of soil or several placed in pots 10 ins. to 12 ins. in diameter. The pots should be plunged in the fermenting material. Asparagus plants suffer quickly when out of the ground.

Tomatoes.—As soon as young plants have produced the first pair of true leaves they should be potted off singly. Use "thumbs" or at most 2½ in. pots, and employ a rather sandy soil. Place the plant near the side of the pot instead of in the centre as a preventive against damping off.

Kidney Beans.—A sowing may now be made in a temperature of from 55° to 60°. Sow in pots of from 9 ins. to 12 ins. in diameter, and place three or four seeds in a pot. Select a dwarf early variety, such as Ne Plus Ultra.

Mushrooms.—Prepare fermenting materials for making up a fresh bed or beds. Three parts of stable manure to one of fresh leaves forms a much better heating medium than pure stable manure, this mixture being less liable to "fire." Should the materials prove rather dry, sprinkle a little water on them as the work of mixing proceeds. Turn the materials twice before making up the bed.

Seakale.—Introduce another batch of roots and place under the staging, or place an inverted pot on the top of each pot having its complement of roots.

Fruits Under Glass.

The Early Vinery.—By the end of the week the buds should show signs of swelling, so the night temperature should be raised to 55°. Damp the floors morning and evening and spray the rods with tepid water when closing the ventilators on bright days.

Strawberries.—Move half of the stock from the cold frame to a suitable low span-roofed house, failing which either to the early peach house or early vinery, a night temperature of 50° being suitable for the first fortnight. Before moving, wash the pots, remove any decayed leaves and

slightly stir the surface soil with a pointed stick. If placed in a peach-house or vinery, stand on a shelf near the glass. Keep the plants rather on the dry side until growth becomes active, but the soil should not be allowed to become quite dry.

The Late Vinery.—The house should now be got ready for starting a few weeks hence. Wash down glass and woodwork, lime-wash walls, paint rods with Gishurst's Compound, remove a few inches of soil from surface of the border and replace with fresh loam plus some bone-meal or bonedour. This completed, water the border.

The Orchard-House.—Stone fruits in pots should not be left outside after October, but Apples and Pears—if the pots are protected from frost—respond more readily to the protection afforded by a glass structure after having been exposed to low temperatures for a time. The sooner those outside are now placed under glass the better. See that the pots are clean before removal. If any of the pots have to be stood on soil, a couple of bricks set a little apart should be placed under each pot to prevent the roots from pushing into the soil. Be sparing with water here, more especially with stone fruits until they begin to make growth. Do not apply fire-heat except to exclude frost, 40° being a sufficient minimum temperature. Ventilate freely, leaving some air on whenever the external temperature is above freezing point.

The Flower Garden.

Lenten Roses.—*Helleborus orientalis*, of which there are many beautiful varieties, will soon be opening its flowers, and beds of this should be protected from the weather with sashes. Single plants may have the protection of a hand-light or of a sheet of glass.

Bedding Plants in frames should be carefully watched, as damping often works havoc among them if neglected. Give abundance of air on all favourable occasions, stir the surface soil from time to time, and regularly remove all decaying foliage.

CHARLES COMFORT
(Formerly Head-Gardener to Mrs. Haig, Broomfield, Davidson's Mains, Midlothian).

GREENHOUSE AND CONSERVATORY.

Composts.—If not already done, a quantity of loam, leaf-soil and sand should be placed under cover. Although such material is best left outside as long as possible, a certain quantity, according to requirements, should be kept under cover to ensure it being in suitable condition for potting and seed sowing. Wood-ashes are very valuable for mixing with potting composts, but it should be stored in a dry place, for if allowed to become wet it is of no value. Although gardeners are generally fully aware of the value of lime in the garden, it is surprising how seldom they think of mixing it with potting soils. Most potting soils are almost sure to benefit by an application of lime, as they are usually cut from old meadow lands that all too often have been neglected as regards liming.

Hydrangeas that are required in flower early should now be introduced to a warm greenhouse with a temperature of 50° to 55°. For this purpose plants with strong prominent flower-buds should be selected. They should be carefully watered until they are well started into growth, after which the plants enjoy plentiful supplies of water at the root. Hydrangeas are very useful for flowering during the autumn. Where required for this purpose it is necessary to propagate young stock early in the year. In carrying out this work some stock plants should now be placed in a warm greenhouse. When they have made growth some 4 ins. in length the strongest should be secured as cuttings. These root readily in a close case, and should be grown steadily on during the summer, their final shift being into 6 in. pots, in which they may be allowed to flower.

Crassula lactea, which usually flowers during December, is deserving of more general cultivation, as it is very useful in the greenhouse at this time. *C. lactea* is a succulent plant and is not generally regarded as requiring high cultivation. However, this is a mistake, as it responds readily to generous treatment. This plant should be propagated each spring by means of cuttings, and it is best to use quite large pieces several inches in length, placing four or five pieces in a 48-sized pot. The cutting pots may then be stood on a shelf or bench in an ordinary greenhouse. When the cuttings are well rooted they should have a shift into 6 in. pots, in which they may be allowed to flower.

Nerines that have finished flowering should not on any account be neglected, as their future flowering depends on good cultivation during this, their growing period. They should be kept well up to the light in a cool, airy greenhouse. Well established plants will benefit by frequent applications of diluted liquid manure and soot-water.

Bomareas.—There are several species of *Bomarea* which are deserving of more general cultivation in the conservatory or greenhouse. Their alstroemeria-like flowers are very beautiful. The *Bomareas* are all climbers, and the beautiful *B. patocensis* with rich crimson flowers makes shoots some 15ft. to 20ft. in length. The umbels of flowers develop at the ends of the shoots, which should be cut out to make room for others when the flowers fade. *B. Carderi* is a very beautiful species with rose-coloured flowers, spotted purplish brown. Other desirable species are *B. B. Caldasiana*, *edulis*, *frondea* and *oblongata*. Although they can be grown in pots, they are seen at their best when planted out in a well drained bed in the greenhouse. These plants are best raised from seed, although they can be increased by careful division of the underground stem if a few roots are secured with each portion. They thrive in a mixture of good loam, leaf-soil and sand.

Mackaya bella.—This plant should be kept on the dry side during the winter months. The

inflorescences are now showing at the ends of the shoots and from now onwards any young lateral shoots that appear should be rubbed out, for if allowed to develop the flower-buds will drop off.

Tuberoses may be had in flower over a long period by growing them in successional batches. These plants are very useful for the conservatory. Plants that are well rooted and growing freely will enjoy frequent applications of diluted liquid manure and soot-water. At this time they require a temperature of 55° to 60°, but as the season advances they may be grown under cooler conditions. Before potting the dry tubers all dead roots should be removed and the side shoots rubbed out. The tubers may be potted single in 48-sized pots or several placed in a 6in. pot. After potting they should be given very little water until they have made a quantity of roots and started to grow.

Cantua buxifolia (syn. *dependens*).—This beautiful climber is now seldom seen in gardens. It is easily propagated by means of cuttings if placed under a bell-glass in a cool house. *C. buxifolia* is best planted out in a well drained bed in a cool greenhouse, training the shoots up under the roof glass. The plant is somewhat subject to attacks by red spider during the summer, but this may be prevented by frequent syringing.

Royal Botanic Gardens, Kew. J. COULTS.

EFFECTIVE COMBINATIONS OF HARDY FLOWERS

HARDY perennials have had a long run in mixed and massed borders, and their popularity in this direction is not likely to wane. It has, however, for a good number of years been widely declared that herbaceous plants must and would take the place of ordinary summer bedding, and while I am as ardent an enthusiast as anyone for hardy perennials, I am not quite sure that this particular claim on their behalf has yet been fulfilled to the extent anticipated by those who have urged it. It has to be acknowledged that comparatively few herbaceous plants are capable of maintaining an unbroken display of colour for a period comparable with the long season of a bed of Paul Crampel Geranium, or Zonal Pelargonium if you will have it thus, and it is useless to ignore the fact that there are situations and environments which render such consistency and brilliant effect as may be obtained from beds of Paul Crampel not only appropriate but essential. On the other hand, perhaps now more than ever there is desire and need for reducing labour to a minimum, and for dispensing so far as possible with fire-heat for preservation of tender plants during winter, so that any satisfactory scheme for utilising hardy perennials for more or less formal bedding arrangements would be welcomed in many quarters, and would tend to give yet another strong fillip to their grand march of progress.

My theme is that, while there are but few herbaceous plants which, alone, can challenge a bed of Geraniums to a contest of continuity, there are any number which by judicious combination may be made to keep even an isolated bed upon a lawn or formal beds on a terrace delightfully effective from the very beginning to the very end of the season. We may have combinations of plants of different character following each other in quick succession in such a manner that their bed is constantly attractive although frequently changing. In other cases we may have two or more kinds of plants flowering simultaneously, each helping to accentuate the beauty of the other.

Edge a large bed with a good *Aubrietia*. Plant *Hepaticas* thinly over the whole area of the bed,

interspersed with *St. Brigid Anemone*, and at intervals of 2ft. put in a stout crown of the double *Gypsophila*. By the time the *Anemones* are fading the airy panicles of *Gypsophila* will screen their foliage and protect their roots from scorching sun. By trimming over the *Aubrietia* as soon as the first flowers fade new growth and a continuation of bloom will be induced, and the entire bed will be strikingly effective from the bursting of the *Hepaticas* to the filmy cloud of *Gypsophila* in autumn. For another combination carpet a bed with *Saponaria ocymoides*. Plant roots of *Anthericum Liliago* reins. apart, and between these the brilliant autumn-flowering *Schizostylis coccinea*. The *Saponaria* will bloom from spring to midsummer, the glistening *Anthericum* showing to grand advantage above, while if the dead flowers are removed from the *Saponaria* it will make fresh green foliage under the dazzling scarlet of the *Schizostylis*.

Potentilla Gibson's Scarlet is one of the most consistent bloomers among hardy plants. Planted thinly over a bed with *Fritillarias* in between, and an edging of the golden *Alyssum saxatile* the combination will run even Geraniums off the course for brilliance and length of season.

A comparatively recent introduction and not yet so widely grown as it deserves to be, is *Pentstemon isophyllus*. It is of neat, shrubby habit, with glaucous foliage and coral scarlet blossoms, having to casual glance the appearance of *Pentstemon barbatus* flowers but set more closely on shorter, stiffer stems. From June right on to late autumn the plants make a brave show, and it is quite easy to precede their earliest blossoms by the disposal of bulbous *Iris*es between the plants and by using the early-flowering *Pentstemon heterophyllus* for the outer rows. The latter was in bloom with me last season before May was out, and continued to produce its steely blue flowers until well into autumn.

Iberis semperflorens makes a grand setting for the intensely brilliant spikes of *Lobelia fulgens* or one of its select varieties, and in the same bed an earlier display may be secured by planting *Veronica gentianoides* alternately with the *Lobelia*.

Æthionema Warley Rose is a wonderfully free-flowering dwarf plant, and the golden yellow

Linums, both *arborescens* and *flavum*, are of excellent character, as they will spread out to make a good even mass of foliage and bloom, while still allowing space for other spiky flowers to run up between them, either for simultaneous companionship or successional display. As early as April last I had a glorious bed of *Cheiranthus mutabilis* hybrids producing a sheet of uncommon art-shades of colour ranging from delicate mauve to deep claret. By periodically removing faded flower-spikes the same plants were kept incessantly in bloom until even the *Michaelmas Daisies* had given up. With clumps of *Liatris spicata* at stated intervals over the bed and, previously, *Anthericum*, a feature of outstanding charm was provided all the season through, and each of the three kinds benefited immensely by association.

There are wellnigh limitless possibilities in this method of arranging suitable companions. The examples I have quoted may not appeal to all, may not, in fact, be of service in every situation; the purpose of this article is not to dictate, but merely to suggest, and by instancing a few of the combinations I have tested during the past two or three years to induce others to plan and try schemes of their own. This much my efforts have shown me to be desirable—some plant of dwarf but loose habit of growth and free-flowering character should be planted not too thickly over the entire bed, and the plants interspersed should be of slender but erect growth without too much basal foliage. A dwarf plant that makes a veritable mat of foliage on the actual surface of the soil may prove an unhealthy companion for a plant with succulent stems, and at the same time a taller plant that makes a great mass of broad foliage may cause discomfort and distress for the carpeting plant beneath. Even in herbaceous borders there are kinds that may with advantage be similarly associated.

Florists' *Pentstemons* closely massed are always apt to damage each other by brushing in the wind, but planted widely enough apart to admit of *Viola cornuta* or some other low-growing plant with either blue or white flowers being interspersed, every individual spike of *Pentstemon* shows its whole charms to full effect.

The *Echinops* are fine, but a clump of several plants in a border makes rather a dull patch when viewed from a distance. Intermingled with the golden heads of *Centaurea macrocephala* the transformation is wonderful. Even the glorious blue of *Anchusa Dropmore Variety* is more glorious still if a plant or two of *Oenothera biennis* pushes its clear yellow blossoms between the candelabra of *Anchusa* flowers. A. J. MACSELF.

OBITUARY

W. H. L. LAXTON.

We regret to have to announce the death, in his fifty-eighth year, of Mr. W. H. L. Laxton of Laxton Brothers, the well known nursery firm of Bedford. Mr. Laxton, who passed away on the 14th inst., was a very well known, popular and highly respected member of the trade, and had for thirty-five years interested himself very largely in the raising of the new Peas, hardy fruits, etc., for which the firm is so widely famed.

Educated at Bedford Modern School, he afterwards proceeded to Germany and studied the practice of horticulture with Messrs. Haag and Schmitt; subsequently he spent a period with Messrs. Jackman and Sons of Woking before becoming a member of the firm of Laxton Brothers.



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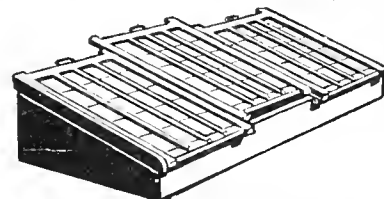
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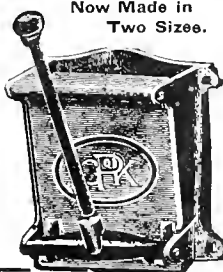
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