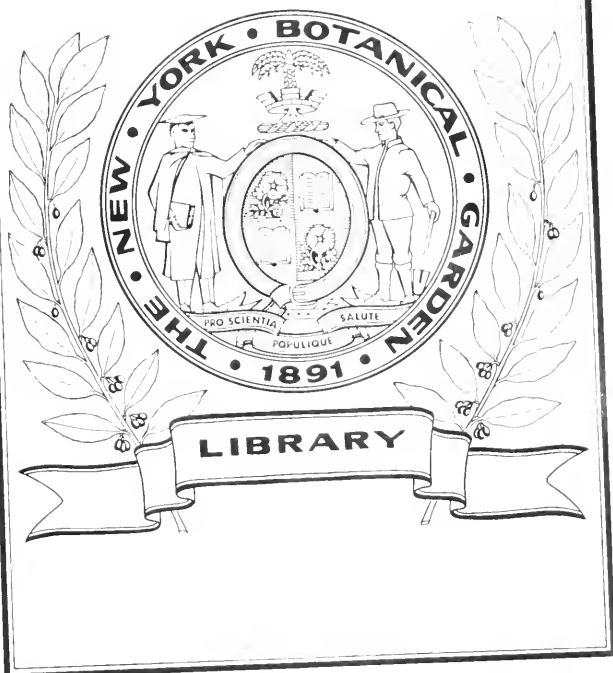


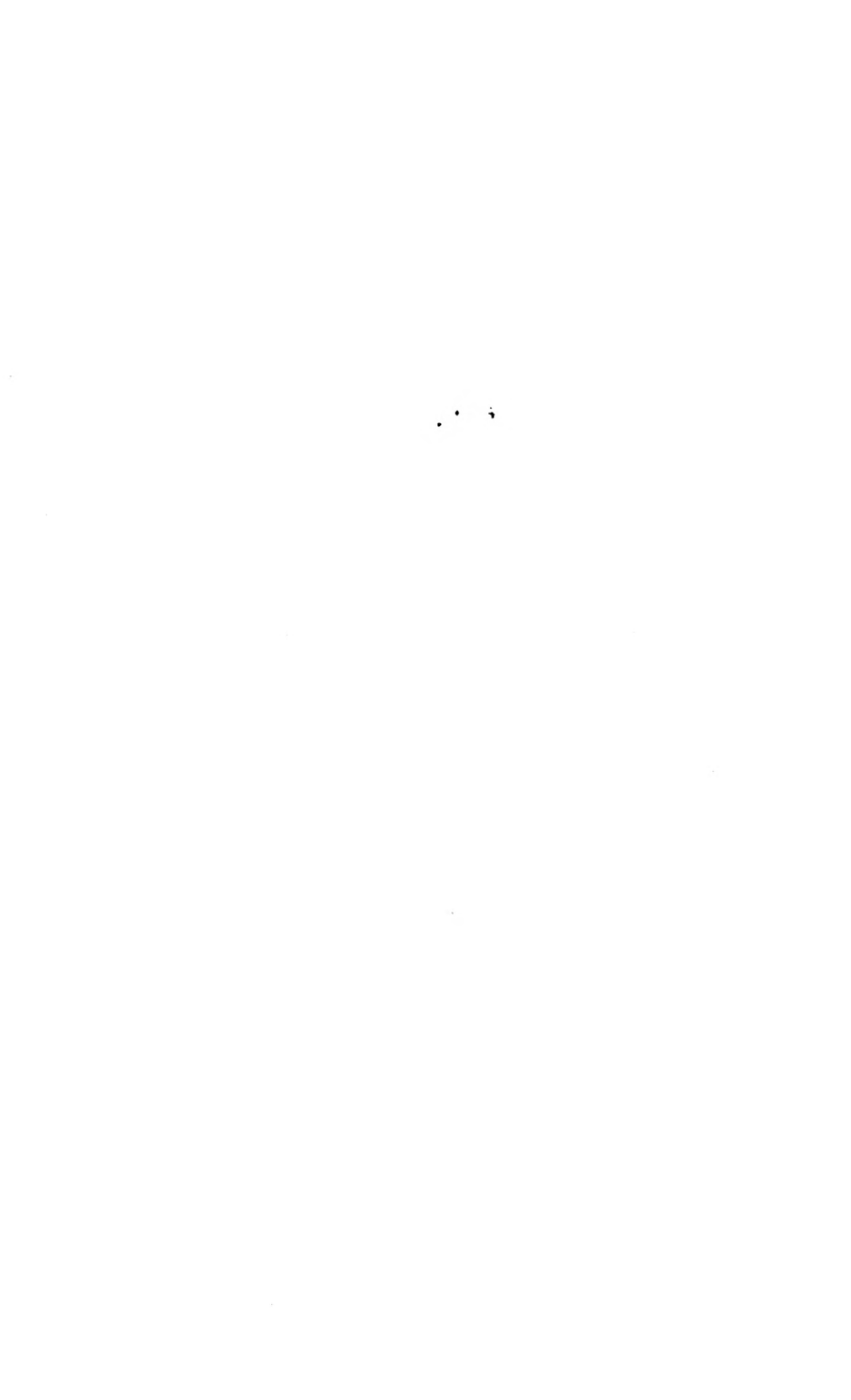
The image shows a book cover with a textured, woven appearance. A large, intricate floral wreath is centered on the cover, featuring various flowers and leaves. The text "THE FLORAL WORLD" is printed in a serif font within the wreath. The entire design is framed by a decorative border.

THE  
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1865







THE

# F L O R A L W O R L D

AND

## GARDEN GUIDE.

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VOLUME VIII.

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1865.



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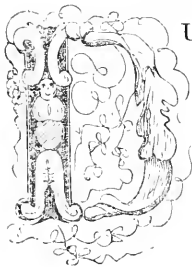
THE  
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AND

GARDEN GUIDE.

JANUARY, 1865.

NOTES ON RECENT EXHIBITIONS.



**D**URING the past two months, the attention of the horticultural public has been pretty well occupied with exhibitions of chrysanthemums and fruits. Mr. Salter's display has been magnificent, and crowds of visitors have enjoyed the pleasure of inspecting his numerous novelties, some of which are of the highest excellence. The best of the metropolitan exhibitions was that at the Agricultural Hall, and the worst was at South Kensington. Stoke Newington, Brixton, Kennington, Camden Town, the Tower Hamlets, and other districts of the metropolis, have had their several displays, and everywhere full justice has been done to the noblest of autumnal flowers. At Birmingham, Liverpool, and Bristol, have been the best provincial shows.

It is impossible here to enumerate the names of persons who have taken a prominent position in the recent exhibitions, but we must make exception in favour of one whose performances have been a matter of astonishment to chrysanthemum cultivators everywhere. Mr. Forsyth, of Brunswick Nursery, Stoke Newington, has everywhere shown the best nurserymen's collections. At the Royal Horticultural he put up thirty-seven magnificent specimens, and took all the first prizes. At Stoke Newington, Islington, Kennington, and elsewhere, scores of plants and hundreds of cut blooms from this ubiquitous exhibitor were to be seen, and all the while he had a grand display in his show-house at home, which filled Stoke Newington with delight, making a sensation in a district where the chrysanthemum has gained its principal renown. Considering now all the points of interest in the recent exhibitions, it seems right to say that, among the novelties, Mr. Salter's *Venus* is the best, and is certainly fated to take the lead next year at all the exhibitions. Next to that, perhaps, his *Golden Bull* will be most in request; for while it is a superbly incurved flower, the colouring more

nearly approaches to that of real gilding of any known chrysanthemum—perhaps of any known flower of any kind. Among the varieties renowned for their superior excellence among the incurved class, *Empress of India* is undoubtedly the grandest chrysanthemum known. Many cultivators insist that it is identical with *Queen of England*, and others say it is the same as *Lady St. Clair*. It is, most assuredly, as distinct as any we have, though to the *Queen* we are indebted for it. To give an idea what may be done with *Empress of India* by means of good culture, high feeding, and clever dressing, it may suffice to give the measurements of a flower shown in a collection at Islington by Mr. Merry, of Stamford Hill. This noble bloom measured more than six inches across, and from the base to the crown four and a half inches, and the florets half an inch in width, superbly incurved, and rounding up in a most beautiful hemispherical outline. Another distinct variety of the *Queen* is *Princess Royal*, a lovely flower, in the style of *Golden Queen*, and said to be the same, but worth fifty *Golden Queens* in carriage, proportions, and colour. *Prince Alfred* has rivetted the attention of all discriminative eyes this season. Mr. Howe, Secretary of the Stoke Newington Society, grew the best flower shown, and that flower could not be surpassed for symmetry; it was perfect, and to devote five minutes in its admiration would have recompensed any genuine florist for a journey of a hundred miles. Other very conspicuous flowers of the incurved class are, *Rev. Joshua Dix*, *Jardin des Plantes*, *Lady Hardinge*, *Princess of Wales*, *Her Majesty*, *Oliver Cromwell*, *Beverley*, *Abbe Passaglia*, *Lady Slade*, *Cherub*, *Dr. Brock*, and *Queen of England*. These are named as the grandest flowers known, not as comprising all the best kinds in the incurved class.

Reflexed varieties are of the greatest service for cultivation as specimen plants, and for the decoration of the conservatory. In this class Mr. Forsyth has shown a superb new variety, called *Pelagia*, which is of the same class as that fine variety *King of the Netherlands*, though very distinct. The best yellow in this class is *Chevalier D'omage*; a well-grown plant is a mountain of gold. *Prince Albert* and *Beauté du Nord* are the finest in this class for colour. *Golden Trilby*, a lovely incurved variety, second only to *Jardin des Plantes*, makes a superb specimen. *Christine* and *Golden Christine* still maintain their high position; and as the second of the two is a mixture of buff and fawn, it may be grouped with any of the pure yellows. Among the pompones, *Golden Circle* is fast rising to the first rank in importance. It is a better colour than *General Canrobert*, and blooms as profusely, but the flowers are not so well formed. *Adonis*, an established favourite, is one of the liveliest of this class for furnishing, the colour pure and lasting. The varieties of *Cedo Nulli* figure in all the pomponé collections, and in most cases the best collections of three have been the white, the lilac, and the yellow *Cedos*; and they match well, being all of the same habit. Among the anemones, *Lady Margaret* has no equal; and among the pomponé class of anemones, *Mr. Astie* is the best yellow, *Shirley Hibberd* a fine rose, and *Firefly* the nearest approach to scarlet.

The fruit show of the Royal Horticultural Society was a decided success. Magnificent specimens of Brobdignag fruits were shown by Messrs. Webber, of Covent Garden. An average sample of Uvedale's *St. Germain* measured eight and a half inches from the eye to the in-

sertion of the stalk, and five inches through at the largest diameter. This firm exhibited a basketful of that fine and somewhat new pear, *Matthews's Eliza*—for figure and description of which see FLORAL WORLD, vol. i., p. 209. The Rev. Mr. Huyshe sent another of his seedling pears, called *Prince Consort*. This is large, pyriform, uneven; colour dull green and russet; not a handsome pear, but superb in its buttery flesh and rich flavour. Mr. Shortt, of Clewer Park, Windsor, sent a new melon, called *Duke of Cornwall*. It is a large, barrel-shaped melon, with smooth gold-coloured skin and green flesh; the flavour all that can be desired. This is said to be one of the best for winter use. Red and white currants and Black Prince strawberries, Coe's Late Red and Blue Imperatrice plums, were in good condition for the middle of December. Among new varieties of apples, Rivers's New Hawthornden was proved to be well worthy of general cultivation. In the general collections the good old kinds took the lead; there were few novelties amongst them, so that a full report would give nearly the same names as a similar report five or ten years ago. Apples were generally remarkable for richness of colour, the result of the very bright season of 1864. Only one seedling apple of any particular merit was brought forward, namely, *Alexis*, from Mr. Shrimpton, a medium-sized, handsome fruit, useful for either kitchen or dessert, and in season from Christmas to March. The "Garden Oracle," being published later than usual this year, contains notes on all the interesting novelties that were brought into public notice at the late exhibitions of the present season, and figures of several of the new fruits. The subjects that have been named here have been selected as likely to be of importance to the majority of our readers who are growers of chrysanthemums and fruits.

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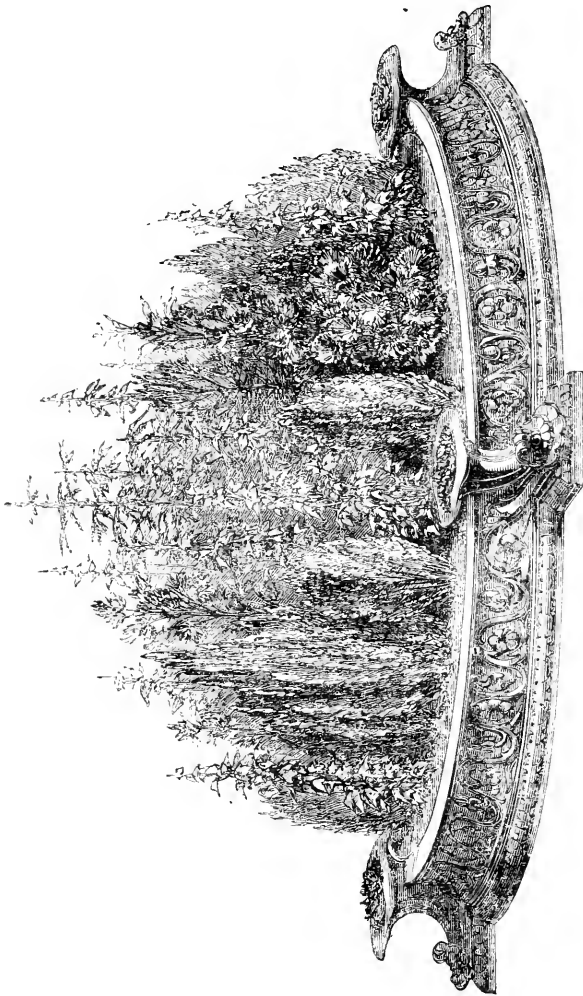
#### THE PLUNGING SYSTEM—No. 4.

If I put my jardinet before you frequently, it is not through any poverty of subjects for illustration; for the truth is, I could keep an artist always at work in sketching new subjects, but for the simple reason that it is the principal receptacle here for groups illustrative of the plunging system. It is here shown as an example of the manner in which I make up winter beds, and the drawing is so admirably executed, that those who are at all familiar with the forms of trees and shrubs will be able to determine the kinds that are used in the composition. I have, perhaps, said enough about the advantages of the plunging system for a rich style of decoration, allowing of endless and almost instantaneous changes; but I must

add on this subject another word, to this effect—that all sorts of evergreens, shrubs, and trees in pots can be used with effect in groups of this kind; for if the grouping is cleverly managed, so as to bring out all their distinctive colours, the commonest have a fresh and quite new appearance which must be seen to be understood. Such common things as Lauristinus, Portugal Laurel, Aucubas, and the berry-bearing shrubs, such as *Skimmia Japonica*, *Cotoneaster microphylla*, *Hookeri*, and *Simmondsi*, give lively colours for outside rows, and contrast finely with the rich deep green of handsome conifers. But in this way nothing can surpass *Grislinia littoralis*, which has glossy light green leaves and yellowish stems,

peculiar to itself, and most acceptable at this season of the year. But still more valuable, and peculiarly adapted to group with conifers, are the tree ivies and a few of the more striking

paper on Ivies, which appeared in the early issues of the FLORAL WORLD last year, particulars were given of these fine furnishing ivies. It may be well, however, to repeat that, to



variegated kinds, both arboreous and climbing. You may observe several of them here in the outside of the circle, and others used to intermix with the taller plants within. In the

light up such a group as this, *Hibernica maculata* and *Helix marginata argentea* are superb. As for the rest of the composition, the centre plant is *Abies Menziesii*; around it are

placed tall plants of Algerian and Irish Ivy, the Cordate leaved and Regner's Ivy, *Pinus monticola*, and *Cupressus Lawsoni*; the outside row is made up with compact plants of the upright Chinese arbor vitæ, the very characteristic *Pinus cembra*, and specimen ivies.

As beginners in this practice may easily waste money and labour by making their selections injudiciously in the first instance, I have prepared a list of coniferous trees that are best adapted for winter furnishing. In making up this list I have first considered how, during fifteen years' experience in the growth of conifers in pots, the various species behave and look; and having selected certain kinds which may be relied on for their powers of endurance, and which rarely suffer from being kept in pots several years, I have next thrown out all that are scarce and costly, so that the list comprises both the best and the cheapest. Those who order trees from this list are advised to order two or four (or more) of each. When they

can be grouped in pairs, and the same forms repeated at regular intervals, the effect is more agreeable and artistic than a mere medley of outlines and colours. In the group which illustrates this paper, the repetition throughout of certain distinct characters is an important feature, and one on which it depends, in a great measure, for its beautiful effect.

CONIFEROUS TREES ADAPTED FOR GROWING IN POTS FOR WINTER FURNISHING:—*Abies morinda*, *Abies Canadense*, *Abies taxifolia*, *Abies Khutrow*, *Abies orientalis*, *Abies rubra* (useful where large quantities are required, but by no means a choice subject), *Cedrus deodora*, *Cedrus Atlantica*, *Cupressus Lawsoni*, *Cupressus macrocarpa*, *Cupressus thyoides variegata*, *Juniperus Barbardense* (syn. *Bedfordiana*), *Juniperus Chinensis*, *Juniperus Phœnicia*, *Juniperus Virginiana*, *Picea pinsapo*, *Picea grandis*, *Pinus cembra*, *Pinus excelsa*, *Retinospora ericoides*, *Thuja gigantea*. Add Yews and Arbor vitas, *à la discretion*.  
S. H.

## FERNS AND FERN CASES.

(Continued from Vol. VII., p. 193.)

### ASPLENIUM.

21. *Fontanum*.—This lovely gem is as much at home in a fern case as amongst its native rocks and fountains. It is admirably adapted by its small size, evergreen habit, exquisite beauty and love of an elevated position, for planting on the miniature rockeries with which fern cases are usually adorned. It likes shade and moisture, and though quite hardy, evidently relishes bottom heat. A plant inserted in our largest fern case three years ago is now a large tuft, which would part into plants enough to stock a parish. I have never had *refractum* (Moore), which is supposed to be a variety of *fontanum*.

22. *Trichomanes*.—This very dis-

tingent *Asplenium* is most accommodating in its habit. We have it in a variety of situations and circumstances, both out of doors and under glass. In the fern case it is valuable for its dark green colour, which contrasts pleasingly with the generally light green of case ferns. Like the last, it is best elevated above the surface, and should have a bed of soil to root in, consisting of equal parts peat, yellow loam, and potsherds broken to the size of peas. The cool case is the best place for it. With me it grows superbly out of doors in the bastion, but in more smoky districts it will not endure the open air, hence it is fortunate for town gardeners that it enjoys the atmosphere of a *freely ventilated* case. The varieties *multifidum*, *cristatum*, and

*incisum*, are exquisitely beautiful, and, like the species, thrive to perfection in a well-kept case.

23. *Viride*.—This light green and elegantly tufted fern grows luxuriantly in a freely ventilated case. It is extremely beautiful and of somewhat rapid growth when encouraged. Like others of its class it ought to be elevated above the surface, both because of its hatred of stagnant moisture, and for the sake of its appearance. The mixture we use for this fern consists of peat and silver sand freely intermixed with hearthstone broken to the size of hazel nuts. Hearthstone and Bath brick are two invaluable materials in fern-growing, and especially for raising ferns from spores. In the "Handbook of British Ferns," by Mr. Moore, p. 188, he says of this fern:—"On a pile of damp stones, under a bell-glass kept from the sun, it forms a lovely little window or parlour ornament."

24. *Adiantum nigrum*.—This is a most beautiful fern when grown in the case, but loses much of its beauty when neglected. When protected with glass its neat fronds have a brightness and gloss of the same description as *Asplenium bulbiferum*, and the growth is rapid and luxuriant. In the open air fernery it thrives if planted in a sheltered, shady nook, where from May to September it should be sprinkled with water daily. The soil should be peaty, and the position well drained. It will grow well in a heap of the small dust and siftings of broken potsherds, and is occasionally met with on ruins where it has little else to live upon than decaying brick, stone, or tile. *Acutum* is a charming variety for cases; it has dense, leafy, rich looking fronds, in form nearly deltoid, the pinnae being deltoid also, and the indusium is white. *Oxyphyllum* has oval lance-shaped fronds which have a shiny appearance; it is a valuable variety for cases and pot-culture. *Variiegatum* is a really variegated form of *obtusatum*, the fronds being blotched and striped with white. It is very rare, and hence expensive. A spurious kind, in which the varie-

gation is the result of the attacks of insects, is sometimes substituted for it.

25. *Ruta muraria* rarely succeeds in cases. In the open air rockery it is easily grown if planted in a heap of mixed peat and broken bricks. I fixed a tiny offset in a crevice of one of the piers of an old brick wall in my garden, and it soon made a fine plant, having had no attention at all. It disappeared suddenly; I suppose it stuck to somebody's fingers!

26. *Germanicum*.—This has no beauty when treated as a single specimen, but when judiciously placed on a ledge of rock in a fern case, its peculiar, almost thread-like outlines and bronze colour render it very acceptable. It is a rather difficult fern to cultivate, and will have a better chance in the fern case than anywhere. The soil should consist of equal parts peat, and bricks or tiles broken to the size of peas. Plant it with the crown visibly above the surface; never wet the crown, and during winter give air occasionally, and at the same time keep the case in a warm room. It is an interesting fern to grow by itself in a pan with a bell-glass over. Raise the soil in the pan in the form of a cone or mound, and during winter take care to remove the glass occasionally, wipe it dry, and replace it.

27. *Eburneum* (*Athyrium oxyphyllum* of Moore).—A fine fern for the centre of a case or for pot culture in a cool house or for a greenhouse rockery. It has purple stipes and rachis, fronds long, triangular, nearly thrice-divided, glossy, purplish green, one and a half to two feet high. Any good fern soil will suit it, and it requires no particular care to develop its beautiful characters.

28. *Attenuatum*.—A charming companion to *Camptosorus rhizophyllum*. The fronds are prostrate, once-divided, leathery, dark green, and produce young plants at their termination, as in the species just named. Being of minute growth, it is best planted in a cocoa-nut husk or shell, or in a pocket in a miniature rockery.

29. *Pinnatifidum*.—Similar in form and habit to 28, and adapted for the same purposes.

30. *Brachypteron*.—The fronds pendant, nearly twice-divided, bright green, bearing young plants at their points, very elegant, and being of minute growth must be treated as recommended for 28.

31. *Dimidiatum*.—A small palm-like fern of exquisite beauty, as well adapted for case culture as any fern known. The stipes stout, rising from a scaly crown, the fronds two inches wide, once-divided, their pinnæ unequally four-sided and toothed towards the points. A scarce and expensive kind.

32. *Reclinatum*.—A lovely small fern, producing once-divided pendant, greyish-green fronds, at the points of which are borne viviparous plants. A charming fern for suspension.

These and the *Aspleniums* enumerated at p. 193 of last year's volume are all of this genus that I shall bring forward in this series. I have grown many others in cases, so many in fact, that if I enumerate all, these papers will become wearisome to the readers

of the FLORAL WORLD. I therefore content myself with naming such as are likely to suit cultivators who do not indulge in extensive collections, yet wish to know something about the most useful and interesting ferns for case and greenhouse culture. As there are so many beautiful species that are nearly hardy, and for which, therefore, the aid of artificial heat is not required, it will be found advantageous to group them as to their climatal requirements, so that one system of management will suit all the species planted in a case. A botanical system of grouping may be combined with this, and for a group of *Aspleniums* there could scarcely be a better selection than the kinds enumerated above. But the *Adiantums* have equally high claims to be grouped together, and a pair of large cases would be well appropriated to these two families, the *Aspleniums* being left to fight it out all winter without the aid of heat, the *Adiantums* to be assisted with heat from the beginning of November till the 1st of May.

(To be continued.)

## A LESSON IN VINE PRUNING.

HAVING before us several queries on the pruning of grape vines, it seems desirable to treat the subject in a more general manner than can be done in the ordinary form of replies to correspondents. Having offered the inexperienced among our readers a few plain instructions on pruning, we may be enabled hereafter to treat on other points in the practical cultivation of the grape vine, and so, in the course of time, provide our readers with a code of rules of some such kind as has been done already for other important subjects. The present lesson is to be on pruning only, and it is to be as short as possible, consistent with the accurate and explicit description of particulars.

GENERAL DIRECTIONS.—Prune as soon as possible after the leaves are down, and there will be no bleed-

ing. Leave the pruning till the vines are about to grow, and they will bleed profusely. When you cut away a portion of a shoot always cut close above a bud, and so as to leave the pruned part of the shoot at an angle of 45° with the bud at the extremity, thus—(Fig. 1)



Fig. 1.

PRUNING YOUNG VINES.—Young vines should never be allowed to bear fruit until they have formed stout hard wood. If the pruner is timid at his work, and does not cut back the

growth of the first year sufficiently, the vine is likely never to acquire that vigour of growth which is so essential to the production of fine grapes. Suppose a young vine to have made during the first season one long rod. If left alone, nearly all the buds on the stoutest and ripest part of that rod will produce next year a bunch of grapes. For that very reason, if for no other, the greater part of the rod should be cut away. Here, for ex-

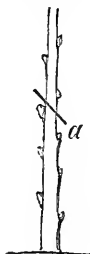


Fig. 2.

ample, is our young vine. It may be six, eight, or twelve feet long, where shall we cut it to do justice to it and ourselves. We begin from the bottom, and consider first what sort of shoot we want for next year. If the vine has to pass through a brick wall, and then bend upwards to a rafter, we would select a plump bud, so situated just above the point where the bend takes place, and cut to that bud, so that the shoot from it would go forward up the rafter *in a straight line*. But if there are no peculiar circumstances to be considered, we would prune it back to any bud from the first to the sixth, choosing in that series the plumpest bud of all. Counting from the root, the sixth bud happens in this case to be the plumpest, and, accordingly, we pass the knife through as at *a* in the figure.

You may now take your choice of wood or fruit. If the cane is ripe and hard, three or four of those buds will present a bunch each, and a shoot also. You may allow the shoots to push and run right and left, taking the shoot from the top bud for a leader. But if there are no peculiar circumstances to govern the case, you will do best to rub away the three lowest buds and allow the other three to push. Then as soon as fruit shows pinch it out, and as soon as the leader has got a good start remove the other two shoots and you will have for your pains a fine strong fruiting rod.

But you may take from the vine one bunch and one rod if it is in full

vigour, and has a well-made border to root in. In this case cut to the third or fourth bud from the base and allow one leading shoot to grow for next year, and one bunch of grapes for this year. Thus you will taste the produce of your skill and without overtaxing the strength of your vine. If the rod formed by this process of pruning is thin and does not ripen to a nice brown colour, it must be cut back the next autumn in precisely the same manner. But if it is a fine stout, hard rod, we may allow it to bear eight to twelve bunches. It must always be borne in mind that the fewer the bunches allowed the finer will be their quality; therefore to take all the fruit a vine offers is to make sure of a supply of inferior grapes and at the same time weaken the constitution of the vine perhaps beyond recovery.

**LONG ROD PRUNING.**—This is a very simple method of pruning. The principle of the long rod system may be thus stated. Having secured a good rod, it is allowed to fruit, the number of bunches being regulated by its strength; while these bunches are swelling and ripening, one strong rod is allowed to grow from a bud at the base of the bearing shoot, or from the same part of the vine from which the bearing shoot breaks away. We will

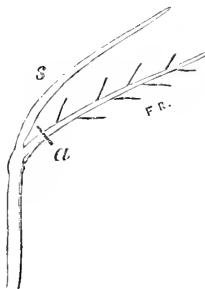


Fig. 3.

call the fruiting rod, F. R. 1, and the shoot trained from its base, S. 1. At the end of the season F. R. 1 is cut away, and S. 1 is trained in its place.



This last becomes thereby F. R. 2, and from its base another shoot is trained, which while growing is S. 2. The next pruning removes F. R. 2, and converts S. 2 into F. R. 3, and so on for ever.

In case the shoot of the year is weak, or insufficiently ripened, cut it back to a plump bud near the base, and take a second crop from the old wood. The next year you may get a strong shoot, and then you can return to the long rod system and prune according to the rule given.

**SPUR PRUNING.**—When we have a fine ripe rod we cut it back to about ten buds from the base. It can be lengthened on from year to year till the rafter is quite furnished, and every year it will require to be “spurred in.” The fruit is borne on shoots of the year which spring from shoots of the previous year or from old wood. Therefore we cut back the shoots that have borne fruit to the last full round eye, as in Fig. 4. That eye produces next year its shoot and bunch, and is next year cut back again, and so on for ever.

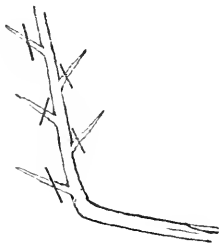


Fig. 4.

**ROD AND SPUR PRUNING.**—Suppose the vine pruned on the spur system to become in time a mass of ugly snags. It will probably by that time also begin to decline in vigour, for old spurs do not take the sap kindly. There must then be a combination of the two systems, and this is also simple enough. Train and encourage a strong rod from near the base of your fruiting rod, and the next year cut away the fruiting rod and begin again on the spur system. If the roots are aided at the same

time, an old vine will by this process obtain a new lease of its life, and show once more the vigour of its youthful days.

**CLOSE PRUNING.**—Old spurs will sometimes push buds from the very base or collar. When this occurs there is a capital opportunity offered for renewing the spur, and the way to proceed is to cut back to the bud in the collar and let it have its own way. But why not do so from the first and always obtain buds from the collar? This can be done if the system of close pruning be adopted from the first; but it is absurd to change from spur pruning to close pruning, because when the spurs are old, the buds at the collar are for the most part used up by exhaustion, and to prune close in such cases is simply to destroy fruiting spurs without making sure of spurs to succeed them.

But let us take the vine in the first year of its fruiting. The spurs are then rich in embryo buds at the junction of the spur with the rod; you are therefore always to cut back close to the collar and look for a crop from the best bud which comes from the collar.

**COMPARISONS.**—The long rod system is advantageous because of its extreme simplicity. It is objectionable for several reasons. As there are always two rods to be trained up, there is oftentimes too much shade for the due ripening of the crop. To be sure, shade is essential, grapes have neither colour nor flavour unless shaded with their own leaves; but if those leaves are again shaded by other leaves, they cannot minister to the nourishment of the bunches, and poor fruit is likely to be the result. Another objection is, that the rod growing is apt to absorb nourishment which the bunches want; the production of bunches and a long rod every year is too much for the vine. The system is further objectionable because of its uncertainty. I have a fine rod. How do I know that if I cut it away I shall obtain another like it? I just know nothing about it, and as a matter of fact the rod does sometimes ripen its wood so imperfectly that I am com-

pelled to fruit my fruiting rod a second time. The *spur system* is preferable because it neither consumes too much daylight or too much of the strength of the vine, and it is a more reasonable practice than the long rod, because when we have obtained a stout, strong ripe rod, it is a bird in hand and has its value accordingly. But against the spur

system it may be urged that the spurs become at last mere stumps, and the vine declines in health because the indurated bark of those spurs resists the flow of the sap. The *close system* obviates this evil and keeps the spurs perpetually young. But it must be followed from the first or not at all, but if so followed it never fails.

## THE BRITISH FERNS.

(An abridgement of a Paper read by MR. SHIRLEY HIBBERD before the Central Horticultural Society, Dec. 13, 1864.)

THE British ferns very nearly represent the Filices of the entire globe. Forms of *Lastrea filix mas* are found in all parts of Europe, in India, North America, Chili, the Sandwich Islands, and Madeira. I have here some fronds of ferns recently raised from spores sent from the Cape of Good Hope, and they are nearly identical with our common male fern, the only difference being the slight pubescence of the stipes and rachis. The common *Polypody* is found in Siberia, Algiers, South Africa, Mexico, California, and Nootka Sound. It is impossible for a novice to distinguish between the English and American forms of the common brake; and no one can pronounce them to be specifically distinct. There is scarcely any part of the world where we may not find forms of *Pteris* as closely related to our own as is the American *Pteris*, and that rarest of British species, *Adiantum capillus veneris*, has a geographical range extending so far and wide that it may be said to be unknown only at the poles and the tropics. In aspects and homologies there are some very strong relationships between the British ferns and the ferns of all kinds in all other parts of the globe. The lovely film ferns of the islands of the antarctic seas are represented by *Hymenophyllum Tunbridgensis* and *Trichomanes radicans*. The grand *Hymenodium crinitum*, and the nearly grand *Pleopeltis membranacea*, have a representative

in the hart's tongue of the hedgerows. It is fortunate that we have one native species of *Adiantum* to establish relationships with all the rest, for in this family the delicate grace and delicious colouring common to ferns has its culminating point, and *Adiantum euneatum* is perhaps the loveliest of all ferns known. The tree ferns are not badly represented in our common brake, and especially when this is seen under pot culture, for it then attains to much more magnificent dimensions, and has an almost palm-like dignity, such as is but dimly shown, or rather suggested, by its forms when growing wild, though in the hedgerows and the woods it is one of the most glorious of all the works of the Creator. The noble *Lomarias* of the stove have their representative out of doors in *Blechnum spicatum*. The *Goniophlebiums*, *Phlebodiums*, *Niphobolus*, and *Goniopteris* are all well represented in our home *Polypodies*; and our *Osmundas* stand for a whole batch of exotic flowering ferns, from *Anemidietyon phyllitidis*, a little gem for the fern case, to *Struthiopteris Germanica*, the noblest hardy fern known.

There are about fifty species of British ferns, the whole of which it is possible to collect and cultivate. But there are also at least 600 varieties or kinds that differ more or less in structure and aspect from the supposed specific forms to which they are directly related. It is perhaps a

sheer impossibility to collect and cultivate *all* the varieties of British ferns. We do sometimes hear of persons who are said to possess *complete collections*, but it is certain that no one has yet seen a complete collection comprising examples of all the varieties that have been named and described, and pronounced distinct and characteristic. It is interesting to observe how certain species have a tendency to sport, and are constantly presenting us with new forms, while others remain true to their types, and with apparently no capability of varying from it even under circumstances very diverse. Thus we have a bewildering number of varieties of *Scolopendrium vulgare*, the great part of them beautiful, many of them curious, and all interesting. So again of *Polypodium vulgare*, *Lastrea dilatata*, *L. filix mas*, *Athyrium filix fœmina*, *Polystichum angulare*, and *Blechnum spicant*, the varieties are very numerous, and are being constantly augmented by new discoveries; while on the other hand we know of no varieties at all of *Allosorus crispus*, *Asplenium septentrionale*, *Hymenophyllum Tunbridgense*, and a few others of less note. It is worth observing that these varieties have been produced spontaneously; the majority have been found growing wild; very few have occurred among plants in a cultivated state, and not one has been originated by any process of human manipulation. The ferns are without flowers, and we cannot hybridize them as we do auriculas, geraniums, and fuchsias. It may also be worthy of observation, especially on this occasion, that the principal interest in the cultivation of British ferns arises out of the differences, resemblances, and peculiarities of these sports or varieties. A collection of species and varieties comprising all that could be obtained by diligent search and purchase would be worth from £300 to £500, some of the rarer varieties being worth as nursery plants from ten to forty shillings each. But fortunately most of the species, and many of the finest varieties, are easily obtainable by visits to the spots where they grow,

or by purchase of nurserymen, by whom they are sold at prices which place them within reach of the poorest cultivator.

COLLECTING.—Every county has its own natural ferneries, and of all the counties in England, perhaps, Devonshire is most favoured in the abundance and variety of its ferns. The localities of the rarer kinds are of great importance to collectors, but it is inadvisable to give great publicity to the names of places where the rarest ferns are to be found, because of the probability that their sites becoming generally known would soon lead to their extermination from those sites, and in the end extinguish them altogether from the native flora. In the neighbourhood of London are many localities rich in ferns, but as these are for the most part pretty well known I shall not enumerate them, but proceed at once to make some remarks on collecting ferns for cultivation. It is only during the height of summer that the deciduous kinds can be readily found by inexperienced collectors, and it is at that season that fern hunting proves a particularly agreeable pastime. It would be better always if the ferns could be removed from their native sites when first about to commence their new growth in the spring, and this can be done sometimes by searching in woods and hedgerows for old fronds, and tracing them to their source. The roots should then be taken up without injury to the crowns, and be at once planted, or potted as required, and assisted with shade and shelter until established in the places assigned them in the garden. Experienced collectors may hunt for ferns during the winter to great advantage in districts where they are known to abound, as in the event of a mild season many of the deciduous kinds will be still green; and the evergreen kinds, such as *Polystichums*, *Scolopendriums*, common *Polypody*, etc., may be better lifted in winter than at any season. But as a rule fern hunting is a recreation for the summer-time, and any fern may be taken up in the height of summer and be kept with the utmost certainty for cultiva-

tion; the worst that is likely to happen is the loss of all the fronds they carry at the time of taking up; but a new crop will soon succeed them if proper care be taken. The fern collector should be provided with aids and implements adapted to the county in which he is about to make explorations. Where only terrestrial and hedgerow kinds are expected to be found, a large basket, or better, a pair of baskets of moderate size, such as can be carried one in each hand, will be necessary. They should have close fitting lids, because if ferns are taken up on a hot day, and exposed for some hours to the atmosphere, the crowns and roots will be so much exhausted that some may die, and all will be injured, whereas by packing them close with a little moist moss amongst them, the roots and crowns will be kept tolerably fresh until they can be potted or planted out. A short handled three-pronged fork and a trowel, and a strong clasp knife will be needful; and in some instances it will be necessary to borrow a spade or digging fork near the spot where operations are to take place, for fine old stools of *Osmunda* and other large-growing ferns will defy the leverage of all small hand tools. There is much need of a fork or spade suitable for botanical tourists. It might be in several parts, so fitting together as to provide a powerful tool for digging up roots, yet occupying but little space, and the handle serving as a walking-stick when the other parts were packed away. When ferns of large size are taken up in the height of summer, it is best to cut away all or nearly all their fronds at once, and use those fronds as packing material. On reaching home, the best treatment to which to subject them is to pot them all separately in the smallest pots their roots can be got into, with cocoa-nut fibre alone, or the fibre of good peat or leaf-mould, and shut them up in a frame, and keep only moderately moist until they start into growth. Then (and not till then) they can be planted out where they are to remain, or have a shift to larger pots, with the soil that may be requisite for each

particular species or variety. Small ferns found growing on rocks and walls must always be carefully dealt with. The little *Asplenium trichomanes* will sometimes send its black wiry roots quite through the substance of a 9-inch or 14-inch wall, and to remove it with complete roots is then quite out of the question. By loosening a portion of its hold just below the crown of the plant, a portion may generally be obtained sufficient to enable it to re-establish itself under cultivation. A strong chisel and a hammer will be required in undertakings of this sort, and it may be well to add a little discretion also, especially as to extent to which walls—the property of somebody—are to be injured for the sake of a tuft of fern worth but a few pence, and of which specimens may be obtained more easily by further search without any necessity for the infliction of damage. Ferns found growing on and amongst rocks should always, if possible, be obtained with portions of the rock to which they are attached. If this cannot be accomplished, carefully tear the plant from the rock in a way to injure the rhizome as little as possible; good pieces of rhizome will soon emit roots and fronds if properly treated, especially if kept moist by packing in moss or sphagnum from the first moment of obtaining the specimen. Allow me to remark further that the passion for fern-collecting has in many instances been carried to a ridiculous excess by persons who merit the title not of fern-collectors so much as fern-destroyers. Let every genuine lover of ferns be on his guard both to discourage reckless fern-collecting and protect as far as possible the few remaining localities of scarce British ferns.

**CULTIVATION.**—This is a large subject, and can only be treated now in a cursory manner. I shall first offer a few general observations, and then endeavour to bring under your attention a few particulars of some importance. As a rule, ferns require to be sheltered and shaded, and abundantly supplied with water. It is said there is no rule without excep-

tions, and there are exceptions in this case, for some few ferns thrive nearly as well in sun as in shade, and some few are very indifferent whether they have a plentiful or scanty supply of moisture, while others are placed in imminent danger if at any season they are rendered exceedingly damp. There is one British fern, the best known and the most beautiful of all we possess, and, moreover, one of the most beautiful of all known ferns, British or foreign. I refer to the common male fern, *Lastrea filix mas*, which appears to be almost indifferent as to the circumstances under which it is cultivated. It will thrive in any ordinary good garden soil, and in any position in the garden. How often do we see grand old stools of this fern in gardens where they have acquired their stations apparently by accident, and, though exposed to a considerable share of sunshine, and rooted in a soil by no means specially adapted for ferns, yet growing with great vigour and beauty, and the caudex, through age, so elongated as, with the nobly-spreading circle of fronds, to remind an observer of the stately tree ferns of the tropics. This, and the common brake, *Pteris aquilina*, are the most accommodating of all ferns; but they both grow more luxuriantly in shade than in sun, and both are grateful for a mellow loamy soil, inclining to peat, or improved by the admixture with it of peat, and abundance of water. The Lady-fern, *Athyrium filix femina*, is another most accommodating species, and rarely fails to reward the cultivator, if provided with a mellow soil, a shady situation, and plenty of water. The remark so frequently made by writers on ferns, "Give plenty of water," is generally understood as applying to the season when the species treated of is in free growth. I can tell you, from actual observation and experience of the fact, that hardy ferns need water as much in winter as in summer. All winter long, except while frost prevails, water should be occasionally poured over their crowns, and the consequence will be a much more luxuriant growth in the succeeding summer. In their native sites

we usually find them growing on slopes, or on slight elevations on the line of watercourses, and in other positions where any lodgment of water is impossible; but the rains, the dews, and the drip of trees keep their crowns constantly moist, and no doubt that moisture is useful to them to assist in elaborating the rolled-up fronds of which their crowns consist, just as the bulbs of tulips, when supposed to be at rest, are actively engaged in the production of the embryo flowers which are to be fully developed the succeeding spring. I shall now treat briefly on a few points properly belonging to the very wide subject of cultivation, and first of

**OUT-DOOR FERNERIES.**—These are usually formed of tree roots and banks of earth, picturesquely disposed and planted with ferns severally adapted to the sites and positions the scheme affords. Where there are living trees on or near the spot (and the shade of large trees is desirable), the use of roots is objectionable because of the quantities of fungi which are sure to be produced, the mycelium from which may find its way among the living roots and commit vast havoc. But even this danger is worth risking sometimes in cases where roots and butts are plentiful on the spot, and it is undesirable to incur any great expense. The foundation of all banks and earth-works for ferns should be good loam or clay, into which many of the stronger-growing kinds will send their roots when well established. But the upper crust and the stuff for filling in between roots, burrs, etc., should consist of half peat and half silky yellow loam, or some mixture which nearly approximates in character to such a combination. Thus good loam with well-rotted cocoa-nut fibre, or loam mixed with yellow leaf-mould and dung that has lain by three or four years till rotted to powder. It is best to complete the structure and fill in all the more important places intended for soil before inserting any of the plants, for the simple reason that the work must be firm, the soil well rammed in, and the whole of the work so substantial that there will be no fear of

any portion shrinking away afterwards, and leaving the roots of the ferns without soil, or causing hollows and crevices between the blocks and the banks into which they are set.

**FERNERIES UNDER GLASS.**—The best hardy fernery of this kind I have yet seen is that at Messrs. Veitch's Exotic Nursery, King's-road, Chelsea. It is simply a cool house laid out in rockeries and walks, and planted everywhere with ferns, which rise tier above tier from the floor to the roof in a series of irregular bays, hollows, and miniature crags. In their romantic exuberance of growth, these ferns surpass even the most beautiful groups to be met with in natural scenes. The shelter from wind, dust, sun, and frost renders their growth much more robust, and secures to them richer and purer shades of colour than is ever the case when seen in their native localities; though there are some few choice sites in the west of England where the ferns seem to be blest with a wonderful combination of happy circumstances, and the result is that they attain to a beauty and perfection such as may render it difficult for a collector from a less-favoured locality to determine their identity with species with which he may be familiar under aspects not so enchanting. To grow British ferns *in extenso* glass is indispensable, and there is no better way of providing accommodation for them than to construct a rockery under glass, and carry round a service of hot-water pipes sufficient to keep out frost. If a pool, or, in fact, if several pools can be added, and the rockwork is constructed so as to form arches and caves above the pools, all the rarer species of British ferns may be grown to perfection, and in the course of a few years a scene will be created of such exquisite beauty as to abundantly repay the possessor for all his trouble and outlay. I will now endeavour to class the more important of the British ferns in groups, so as to bring together in each group as many as appear adapted for association under peculiar circumstances, or for peculiar purposes. And first for a group of

**THE MOST USEFUL BRITISH FERNS.**—For planting in gardens, the hardy evergreen kinds are the most valuable. *Polypodium vulgare*, *Scolopendrium vulgare*, *Blechnum spicatum*, *Polystichum aculeatum*, *Polystichum angulare*, *Lastrea filix mas*, *Lastrea emula*, *Lastrea dilatata*, *Asplenium trichomanes*, and *Ceterach officinarum* are fine evergreen, or nearly evergreen, species of the utmost value for furnishing banks and mural ferneries. With them should be associated others that are more decidedly deciduous, such as the noble *Osmunda regalis*, *Athyrium filix fœmina*, *Cystopteris montana*, *Cystopteris fragilis*, *Lastrea thelypteris*, *Polypodium alpestre*, *dryopteris*, *phlegopteris*, and *Robertianum*, *Pteris aquilina*, and the more striking of the varietal forms of each.

**MARSH FERNS.**—Fond of moisture as most ferns are, it is rarely we find them growing to any size in positions where they are habitually swamped. *Osmunda regalis* attains the most stately dimensions on the margins of lakes and in sheltered hollows where rivulets broaden into shallow pools in passing through hollows of spongy peat. This noble fern can scarcely have too much water all the summer, and a situation should be chosen for it where the overflow from other parts of the fernery may in great part reach it. *Athyrium filix fœmina* is another fern which delights in moisture; and *Lastrea thelypteris* comes to no good in a dry position; hence it should always be planted in the lower parts of the fernery.

**ROCK AND MURAL FERNS.**—These require to be in positions where it is impossible for water to stagnate about them. In planting them on a bank or rockery, it is best to take out a considerable mass of soil, so as to prepare a station for each plant. In making these stations, introduce first a mass of broken flower-pots or broken sandstone, and then add about nine inches depth of the mixture which the fern will require. Nearly all the ferns of this group will thrive in a mixture of equal parts yellow loam, fibry peat, and sil-

ver-sand thoroughly well blended Those with creeping rhizomes should be very slightly covered — only so much covered, in fact, with some slight material, such as cocoa-nut fibre, as to prevent exhaustion of the rhizomes by drying winds until they can make fresh roots, by which time the frequent sprinklings they are subjected to will have washed the mulching off the rhizomes, which will then be left in their natural position

on and not in the soil. It will be well perhaps to make a few remarks on the species which come into this group. *Allosorus crispus*, the mountain parsley fern, makes a charming tuft on a rockery; it is fond of stone, and abhors damp. I find that a mixture of equal parts peat, decayed cocoa-nut fibre, and broken pots or broken hearthstone suits admirably. It must be shaded, or the new growth soon goes rusty.

(To be continued.)

## THE GARDEN GUIDE FOR JANUARY.

**KITCHEN GARDEN.**—Keep *asparagus* beds for immediate supply at 55° to 65°, and no higher; lay on plenty of litter or straw hurdles during frost. Sow *cabbage*, *cauliflower*, *lettuce*, and *celery* in boxes for early crops. *Cauliflowers* in frames and under hand lights to be kept clean, and occasionally sprinkled with lime. Sow on warm borders, where shelter can be given, *horn carrot*, *peas*, *beans*, *spinach*, *radishes*, and *two-bladed onions*. Provide for successional supplies of *sea-kale* and *rhubarb* by shifting the pots, boxes, etc., from the stools cut from to others not yet forced, and heap the fermenting material over, adding a little fresh leaves or dung to give it a fresh start. Plant *shallots*, *tree* and *potato onion*, *garlic*, *chives*, and a few rows of early *potatoes*; the last to be on warm slopes, where protection can be given, as at the foot of a wall or fence, etc., etc. Sow in heat *cap-sicums*, *cucumbers*, *tomatoes*. Keep *mush-room* beds covered with *dry* material, and take care to change it occasionally.

**FLOWER GARDEN.**—Give *pansies* and *polyanthus* some slight protection, and where lifted by frost tread them in firm, as soon as the ground is dry enough. Top-dress beds of *pink*s, plant *roses*, and lay on a heavy mulch where not yet done among established plantations; the dung for this purpose should be only half rotted. Plant *hollyhocks* during mild weather, and sow seed of the same in heat to push on for *flowering this year*—a capital plan where it is not convenient to take special pains in wintering a stock. This is a bad time for planting *evergreen shrubs*, but where it must be done, take care to mulch the roots, and above all things do not allow them to be planted in frozen earth.

**FRUIT GARDEN.**—Prune outdoor *vines* at once; when pruned late they are sure

to bleed. In pruning leave the principal rods eighteen inches apart, and the side shoots three joints long. Remove the loose bark, and brush the wall clean. Finish pruning all *apple*, *pear*, *plum*, and other orchard trees, and dress with paint made of lime, soot, and clay. Lay down a good coating of surface manure in plantations of *strawberries* and *raspberries*, but do not dig it in. Do the same between *currant* and *gooseberry* trees, and fork it in without injuring the roots.

**FRAME.**—Give air as often as possible to *auriculars*, *carinations*, and other stock and keep all clean. If any mildew use sulphur, and take off the lights on fine mornings for a few hours. Sow annuals in pans and boxes.

**GREENHOUSE.**—Beware of too much heat at night, as the result will be long joints and weakly growth. Keep *cinerarias* near the glass; keep *erics* well aired, and moist enough at the root to prevent the balls getting hard; but be careful in watering these and all other plants, especially those with soft leaves. Give specimen *pelargoniums* their last shift. *Herbaceous calceolarias* must never lack moisture at the root, and they must be kept rather warm now, say 45° at night, 50° to 60° day. Start *fuchsias* for cuttings and for early bloom. *Camellias* not to go very dry, or the buds will fall.

**STOVE.**—*Orchids* require much care now to keep them at rest, and at the same time prevent shrivelling. Those that will grow to be assisted, and to have fresh rooting material if necessary. Start *Gesneras*, *Gloxinias*, and *Achimenes*. Keep constant watch among plants with soft, woolly leaves to see that they are not too dry, and also not suffering from drip. If mildew appears, increase the temperature.

## JANUARY, 1865.—31 DAYS.

PHASES OF THE MOON.—First Quarter, 4th, 3h. 43m. after. ; Full, 11th, 11h. 0m. after. ; Last Quarter, 20th, 2h. 37m. morn. ; New, 27th, 9h. 30m. morn.

AVERAGES FOR THE MONTH.—Bar. 29·907. Therm. max. 43°, min. 33°, mean 38°. Rain, 1·9 inches. A very uncertain month; frosts and storms frequent. Pre-vailing winds S.W., W., and N.W. Range of temperature large.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	sets.	Barom.		Therm.				
	h. m.	h. m.							
1	8 8	4 0	30·17	29·80	37	20	28·5	·00	Tussilago fragrans.
2	8 8	4 1	30·45	30·38	36	16	26·0	·00	Helleborus foetidus.
3	8 8	4 2	30·52	30·48	34	16	25·0	·00	Primula vulgaris.
4	8 8	4 3	30·50	30·39	32	22	27·0	·00	Helleborus cupreus.
5	8 8	4 4	30·32	30·15	31	8	19·5	·00	Tussilago alba.
6	8 7	4 6	30·18	30·16	23	7	15·0	·00	Cyclamen coum.
7	8 7	4 7	30·14	29·07	32	18	25·0	·00	Gentiana verna.
8	8 6	4 8	30·00	29·90	32	13	22·5	·00	Coronilla emerus.
9	8 6	4 10	29·90	29·86	39	24	31·5	·00	Primula elatior.
10	8 5	4 11	29·85	29·90	47	27	37·0	·00	Helleborus viridis.
11	8 5	4 12	30·11	30·06	49	29	39·0	·00	Helleborus viridis integrilobus.
12	8 4	4 14	30·13	30·05	43	35	39·0	·00	Hepatica triloba alba.
13	8 3	4 15	30·27	30·25	39	34	36·5	·02	Anemone vernalis.
14	8 2	4 17	30·25	30·24	39	36	37·5	·00	Anemone vernalis flore luteo.
15	8 2	4 18	30·25	30·23	39	31	35·0	·00	Helleborus lividus.
16	8 1	4 20	30·18	30·10	37	30	33·5	·00	Hepatica triloba cerulea.
17	8 0	4 22	29·49	29·98	45	34	39·5	·25	Pulmonaria Virginiana.
18	7 59	4 23	30·05	30·04	47	35	41·0	·09	Ornithogalum fimbriatum.
19	7 58	4 25	30·12	30·10	50	43	41·5	·20	Viola canina.
20	7 57	4 27	30·22	30·10	49	42	45·5	·60	Eranthis hyemalis.
21	7 56	4 28	29·90	29·87	51	38	44·5	·02	Hepatica triloba rubra.
22	7 54	4 30	29·83	29·77	54	37	45·5		Bellis perennis.
23	7 53	4 32	29·94	29·70	50	26	38·0	·14	Burriellia gracilis.
24	7 52	4 33	30·29	30·10	47	25	36·0	·00	Hymenoxis Californica.
25	7 51	4 35	30·36	30·24	46	29	37·5	·00	Helleborus niger.
26	7 49	4 37	30·25	30·15	52	32	42·0	·04	Primula polyantha.
27	7 48	4 39	29·97	29·96	54	38	46·0	·00	Primula carniolica.
28	7 47	4 40	30·12	29·88	51	35	43·0	·00	Cheiranthus alpina.
29	7 45	4 42	30·48	30·46	39	16	27·5	·00	Helleborus orientalis.
30	7 44	4 44	30 43	30 42	41	17	29·0	·00	Viola tricolor.
31	7 42	4 46	30·29	30·23	44	19	31·5	·00	Stellaria holostea.

PROBABLE WEATHER OF JANUARY, 1865.—The forecast for December proved correct in every particular, the several changes taking place at the dates given. Next month seasonable weather. From 1st to the 4th or 5th, mild and damp; then changing to frost, and wind going round to N.E.. From 6th to 16th, severe frost, with occasional snow, and terminating in gales, and wind going back to some point W. of N., where it will stay the remainder of the month.

EXHIBITIONS ANNOUNCED.—March 18, R.H.S. and R.B.; April 8, R.H.S. and R.B.; April 29, R.B.; May 13, R.H.S.; May 24, R.B. Great Exhibition; June 3, R.H.S.; June 10, R.H.S. Great Exhibition; June 14, R.B. Great Exhibition; June 17, R.H.S.; July 1, R.H.S. Great Exhibition; July 5, R.B. Great Exhibition; July 8, R.H.S.; July 15, R.H.S.; July 22, R.H.S. Great Exhibition; July 29, R.H.S.



## TO CORRESPONDENTS.

## NEWLY PLANTED PEACHES—GREENHOUSE

CLIMBERS.—*Polly*.—If your peach trees have been well planted in retentive and well prepared soil, you may leave the shoots nearly full-length, cutting them back to the first double fruit bud. Marl has a consolidating effect upon light soils, and consequently a beneficial one, enabling it to retain moisture upon which plants can be sustained for a long period during prolonged drought. *Passiflora rubro cœrulea* and *Tacsonia pinnatistipula* will be good plants for covering the ends of your greenhouse. We imagine that any greenhouse plants, for which you may have a special liking, will succeed with you, and may be introduced.

TUBEROSSES.—*T. R.*—It is by no means surprising you did not succeed in obtaining bloom from your tuberoses last year; you did not give them a chance of doing so. You must give them kinder treatment if you do really wish to enjoy the delicate waxy appearance of the flowers, and their luscious scent. When you have procured your roots, which should be in January, put one into as small a pot as it will go into, using the same soil (sandy loam) as you used last year, and place in bottom-heat, giving no water, or but very sparingly, until they have made growth, when increase the quantity as their necessities require; when they have filled their pots with roots, shift into thirty-two sized pots, and replunge into bottom-heat, and encourage them to grow until they are coming into bloom, when remove them into the greenhouse to develop their blooms, where they will continue for two months to load the atmosphere with their delicious fragrance.

## PECULIARITIES OF CERASTIUM TOMENTOSUM.

—I see that a correspondent said, some months ago, that he had not succeeded with *Cerastium tomentosum*. I can understand this. It has got some peculiarities. One is that though it grows rampantly with me in the open ground, I cannot keep it alive in a pot. My first plant of it, obtained a year or two ago, was, from being small and got late in autumn, kept over the winter in a cold pit; waiting, in spring till it showed signs of growth to plant it out. It died by the end of March, or the beginning of April, in a most unaccountable way. Then I got a lot of cuttings in July, and having potted them and just struck them by autumn, I kept them too in a pit over the winter. In

spring they began to go like the plant, when, warned by experience, I planted out the remainder, and they soon flourished. There is a phlox, a beautiful bright crimson one, that has the same peculiarity. Strike them in a pot, and keep them over the winter in a frame or pit, and though other kinds will make growth in spring in their pots beside it, yet if the cuttings of this crimson one are not planted out immediately in the beginning of March, every one will die. This spring I took up carelessly a handfull or two of the *cerastium*, stuck them in any way in the full sun without cutting or shortening them to a joint, watered them in once, and almost every one grew well. This looks as if *Cerastium tomentosum* will not stand any coddling, and makes me think that perhaps it is the same way with the variegated balm.—*A. B.*

WIREWORM AND AMERICAN BLOTT.—I observe, in your *FLORAL WORLD*, Nov. 1, a correspondent is inquiring for an effectual method of killing wireworms. I can tell him of a most effectual one. Some years ago these disgusting little animals infested my seakale to such an extent that all my finest roots were eaten through and snapped off. What was to be done? No one could tell me. Well, it struck me it was worth while to try a remedy which once saved my celery from being destroyed by a grub which had fixed on its roots, and that was a *good sleeping of soapsuds*; and an admirable remedy it was, acting two ways—killing the grub and benefiting as a manure. I therefore tried it on the seakale, and found it most effectual, completely clearing the plant of the wireworm, and making it grow and flourish. I have now followed out this plan for years, and have a barrel fixed on wheels, into which the laundry-maids pour the suds, and the gardener takes them into the garden, and applies them where wanted; for a gardener has many enemies. Sometimes a grub attacks the roots of his cauliflowers, and again the wireworm attacks the roots of his pinks and carnations. The slugs too attack a variety of things, but the suds are effectual in destroying all these enemies, and, as I have already observed, are useful as a manure. Sir, I think this is a cheap and useful piece of information for gardeners. You may apply suds also with a paint-brush to your apple trees when infested with

American blight, though for this purpose my gardener generally uses a lather of softsoap, which completely clears the trees of this deadly insect.—*A. C. B.*

VARIOUS.—*Honor.*—You may allow your vines to bear a dozen (or less) bunches this year. Shorten the rods back to plump buds on hard wood. Your management has been admirable, and you appear to be well started for grape growing.—*Subscriber, Nantwich.*—Six roses for south wall: Cloth of Gold, Lamarque, Gloire de Dijon, Celine Forestier, Solfaterre, Souvenir d'un Ami.—*W. Crane.*—We do not know of one good book on the subject you inquire about.—*An old Subscriber.*—It is late in the day to ask our opinion on Manetti

and Celine stocks, for we have written almost too much about them. As an old subscriber you ought to be familiar with every point of interest about the buying and growing of roses, and we are compelled to suppose that though a subscriber you are not a very attentive reader of the FLORAL WORLD. This is not written in an unkind spirit, but we are compelled to say so much because if we really go into the questions raised by your letter, we must repeat nearly all that has been said about roses during the seven years publication of the FLORAL WORLD. If your letters were reproduced in full in these pages, the house you name would suffer nothing by the complaints you make.

### NOTICES OF BOOKS.

*Clerical Elocution; a Practical and Original System of Delivery.* By C. W. SMITH.—London: Simpkin, Marshall & Co. This professes to be a practical book, and we have looked through it with some care, and find that we can heartily recommend it to the consideration of all who are ambitious of excellence in public speaking. Mr. Smith has had much experience as a teacher, and to his credit he has neither made this volume a mere advertisement, nor has he withheld from the reader any advices which may tend to assist him in independence of personal instruction. We are compelled to notice these two features, not because we would praise an author for being honest, but because it is too much the fashion for books of such kinds to be used as baits for catching pupils. Elocution is seldom studied by those whose office it is to give oral instruction, and this admirable work may do something towards securing a proper recognition of the art amongst those who are supposed to be anxious to combine grace with power and method with originality in public speaking.

*The Temple Anecdotes.* Vol. I. By RALPH and CHANDOS TEMPLE. Groombridge & Sons.—This is one of the best of the Christmas books, though not prepared with any view to suit a particular season, for anecdotes are suitable for all seasons. The anecdotes in this volume are all illustrative of inventions and discoveries, and the selection has been made with judgment and taste. It is a delightful volume, to take up and put down, to read again and again; sure to amuse, never to weary, and likely sometimes to stimulate to noble endeavours, and encourage worthy aspira-

tions. The authors thoroughly understand their task, and it is no small praise to say that they can tell a simple story in a simple way, and point its moral with effect. The work is beautifully printed and ably illustrated, and deserves a place on every library and drawing-room table throughout the land. The Temples follow in the wake of the Percys, and with as bright a light to show forth the mysteries of nature, and the manifold workings of human curiosity, ambition, and self-sacrifice.

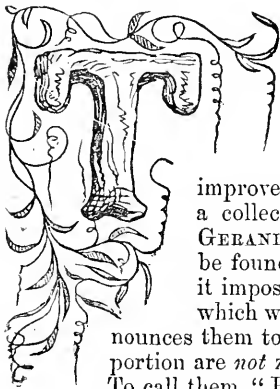
*A Bunch of Keys, where They were Found, and What They might have Unlocked.* Edited by THOMAS HOOD. Groombridge & Sons.—Much has been expected of Thomas Hood, promising son of the most original, exuberant, and genial wits of modern times. Hitherto Mr. Hood's performances have justified rather than satisfied the public expectation. Now we believe Mr. Hood's time has come, and we may say that talent descends in the male line, and there is one more instance added to the many that have been collected by the curious. This is a glorious volume, containing six capital stories by six several writers; one of them, "The Key of the Nursery Cupboard," by Mr. Hood, as sure to become famous among the gems of modern fiction, as that the volume itself will be literally devoured, and do more good than all the turkeys, pigs, puddings, and cakes that are now on their way to that bourne from which perhaps (and alas!) some of them will return. Those who have any affection for us will please order of their booksellers the "Bunch of Keys," and place it first in the list of books intended for New Year's gifts.

THE  
FLORAL WORLD

AND  
GARDEN GUIDE.

FEBRUARY, 1865.

NEW VARIETIES OF BEDDING GERANIUMS.



HOUGH we are never tired of talking about the rapid improvements effected in the forms, and colours, and habits of our favourite flowers, it is certain that not one of our many favourites has been so much improved of late years as that which, for the sake of a collective term, may be designated the SCARLET GERANIUM. The immense diversity of characters to be found in this section of decorative plants, renders it impossible to designate them by any collective term which will bear critical examination. Pedantry pronounces them to be "zonale pelargoniums," but a large proportion are *not* zonale, and pedantry comes to grief as usual. To call them "Bedding Geraniums" is equally incorrect, because many of them are unfit for bedding, and in strict botanical classification, they are not geraniums at all, but pelargoniums. Nevertheless the term "bedding geraniums" is preferable to the pedantic designation, "zonale pelargoniums," because it is one which everybody understands, and it conveys to the public apprehension a distinct idea of a purely objective kind, never requiring the unlearned to evolve out of their own internal consciousness the idea of a group of plants which naturally group together, and yet have amongst them no single type of the whole. When the proposals of the pedants are thoroughly reasonable, mankind will not hesitate to adopt them, and the adoption will remove them from the domain of pedantry into that of common sense. Therefore, until the pedants provide us with a term having a true collective power, and which needs not to be received with any reservations or exceptions, I shall use the term "Bedding Geraniums," because of its obvious usefulness, and take to the new sign, whatever it may be.

In preparing the lists for this year's "Garden Oracle," I had more

trouble with the bedding geraniums than with any other class of plants, not excepting even Roses and Dahlias. There are so many, and the shades of difference between certain favourites are exceedingly few, and I, being excessively fond of these plants, might easily be led to recommend a larger number than would be consistent with the plan of the work, which is to guide cultivators to a few of the best in all the classes, and not to many of any kind. That I have entered only fifty-six in all may be some satisfaction to those readers who are always crying out against lengthy enumerations of varieties that are pronounced "indispensable." In that batch of fifty-six will be found *Adonis*, *Marvel*, *Stella*, *Madame Vaucher*, *Dr. Lindley*, *Lucien Tisserand*, *Roi d'Italie*, *Helen Lindsay*, *Madame Rudersdorf*; and for variegates, *Flower of Spring*, *Silver Chain*, *Bijou*, *Alma*, *Mrs. Lennox*, *Mountain of Snow*, *Shottesham Pet*, and *Flower of the Day*. I name these here for two reasons—first, to furnish those who do not possess the "Oracle" with the names of a few that I consider the finest established varieties, and next for the purpose of saying that I do not believe one of them will be displaced or eclipsed by any of the new varieties to be sent out in 1865. I find in the "Oracle" a list of fifty-eight new varieties to be sent out during the coming spring, namely, forty-four single flowering scarlet, rose, white, etc., three double-flowering scarlets, and eleven with variegated leaves. The most enthusiastic cultivator of geraniums will not care to order the whole batch of fifty-eight, and discover for himself their respective merits and demerits, in order to know which to destroy and which to keep when the season once more closes. Having examined every one of the varieties described, with the exception of three only, and having cultivated during more than one season many of them, in order to put them to the proof before they were submitted to public notice, I shall point out to intending purchasers those which are most likely to justify the moderate expenditure necessary for obtaining them.

Let us look first for the most distinct geranium to be found amongst the novelties, and we have it in *Amy Hogg*, a demi-nosegay raised by the late Mr. Beaton, and now in the possession of Mr. William Paul, of Waltham Cross. In the round of bedding plants, Purple King verbena is almost the only plant to be relied upon for its own particular colour—good purples are, in fact, scarce. If petunias had more substance, and could endure cold seasons as well as hot ones, there would be no difficulty about purples and shades of purple. But in our present circumstances, a robust habited demi-nosegay geranium with purple flowers is a boon of almost priceless value. Let it not be supposed that the colour of *Amy Hogg* is similar to that of Purple King verbena; it is nothing of the sort; that valuable plant is mentioned only to indicate by its splendour the general poverty of the section of bedders (classing them by colour) to which it belongs. *Amy Hogg* may be described as brilliant purplish rose, but it has so much purple as to be in this respect as distinct from all other geraniums as Purple King is distinct from all other verbenas.

The next most distinct is *Indian Yellow* from the same raiser, and in the same hands. This is a true nosegay of excellent habit, and the colour orange scarlet, with a decided wash of pure yellow. As *Amy Hogg* contains the largest proportion of blue of any known geranium,

not excepting even Purple Nosegay, so Indian Yellow contains the largest proportion of yellow, not excepting even Harry Hicover or Orange Nosegay, which last (another of the novelties) is perhaps the next best approach to yellow.

Passing to another class of colours, there are two gems of rare beauty to claim the admiration of cultivators in 1865. Mr. Salter, of Hammersmith, has *Beauté de Suresne*, a nearly large-flowering zonale, but with a little of the pinched petal character of the nosegays. In respect of colour it may be classed with Christine, Helen Lindsay, and others, but it outshines them all, the colour being rich rose pink, with a faint lilac shade, and a touch of white at the base of the top petals. In the same section occurs *Madame Barre*, which is in the possession of Mr. Bull, of King's Road, Chelsea, a grand example of style and colouring in geraniums. To say that this is destined to supersede Christine as a bedder is to play the prophet, and playing the prophet is, you know, a mere performance. But *Madame Barre* has qualities of the highest order, and will be one of the most beautiful for pot and specimen culture, and is at least likely when distributed to drive Christine out of the field in all places where progress is the order of the day.

In the section to which I have in my geranium papers applied the term "painted," there is a charming new variety called *The Clown*, raised by Mr. Windsor, of Highgate. The name is most appropriate, for the colouring reminds one of the peculiar white and vermilion devices by which we recognize the face of a clown anywhere without need of any glimpse at the spotted uniform and grotesque legs. The Clown geranium is, however, most refined in character and colouring, the petals are broad, and smooth, and overlapping, and the colour is white, with vermilion stain at the base, forming what may be called a vermilion eye to a fine white flower.

Among the variegated-leaved varieties, the finest of the season is *Lucy Grieve*, one of a large batch which will be sent out by Messrs. E. G. Henderson and Son, of St. John's Wood. It is a tricolor in the style of Mrs. Pollock, but surpassing that justly popular variety in the richness of its colours. *Meteor* (Saltmarsh), *Captain Meade* (E. G. Henderson), and *Golden Sceptre* (Downie and Co.) are beautiful tricolors that are likely to become popular, but they are not to be included in a selection of the gems of the season. *Golden Nugget* (B. S. Williams) is a remarkable variety of the Cloth of Gold section, the leaves are of immense size, and very richly and distinctly coloured.

It may be unfair to place Mr. Bull's double-flowering varieties anywhere but at the head of the list. The fact is I have not seen them, and I can only do as others will do, that is, rely on Mr. Bull's description of these "extraordinary novelties." As we have had from him a whole series of the finest known zonales, Faust, Marvel, Brilliancy, Eleanor, Dr. Lindley, etc., etc., it is but consistent that if a race of doubles is to be established, Mr. Bull should have the honour of its inauguration. The names of the three double-flowering varieties are *Marechal de Chamflourd*, *Auguste Ferrier* and *Triomphe de Gergoviat*.

Among the large residue of varieties that will have to take their place in the round of scarlets, there are four that merit the immediate attention of all practitioners of bedding. The first is *Little Treasure*,

to be sent out by Messrs. Saltmarsh and Son, of Chelmsford. It is as perfect a bedder as was ever seen, habit very dwarf, leaves dark green, flowers profusely produced, and as good as those of *Attraction*. Another is *Red Riding Hood*, sent out by Mr. Hally, of Blackheath. It is of almost diminutive growth, the leaf has a dull zone, the flowers scarlet, the peculiar glitter of a mass of this will make it a favourite wherever it is seen. The third of these is *Beauty of Waltham* (W. Paul), a close habited, thrifty, neat growing bedder, with large trusses of red scarlet flowers, which are produced so profusely as to completely cover the plant all the summer long. The last is *Lady Cowper*, sent out by Mr. E. P. Francis, of Hertford. It is of dwarf habit, compact, and bushy, with small bright green leaves and light scarlet flowers.

These are all that I can recommend as "indispensable." More than a hundred seedling geraniums were brought forward last year, and they were *all good*. But as good geraniums already abound, amateur cultivators need only such novelties as are very distinctive, and also good.

Since the above was written the *Chronicle* has proposed to call these plants GARLAND PELARGONIUMS. The proposal will never be adopted except perhaps by half a dozen mad people. S. H.

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#### A NEW INVENTION FOR FRUIT WALLS.

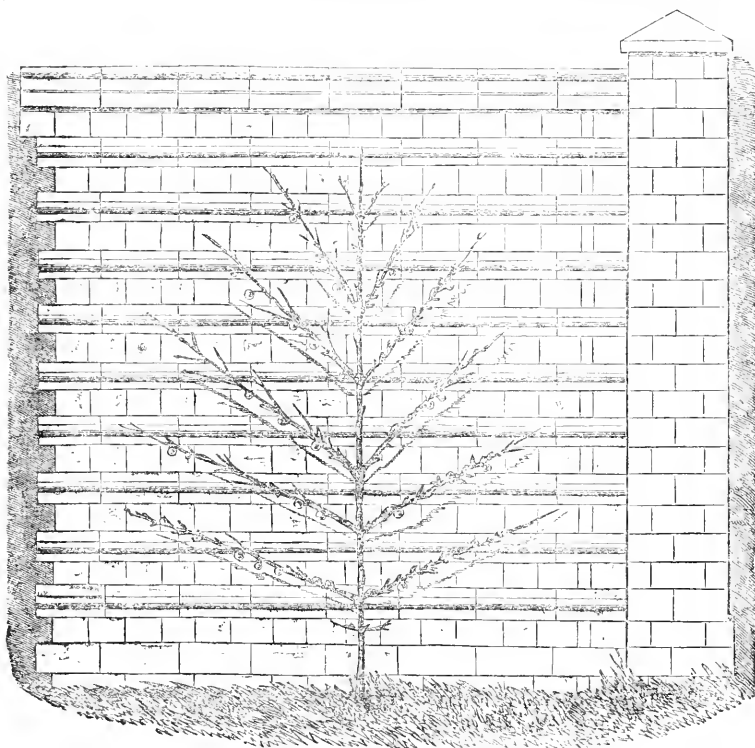
No one can look on an old fruit wall without a feeling of regret that the common practice of nailing trees is so terribly destructive. You see the wall pitted all over with holes, as if it had suffered from small-pox, and you know that every year it must get worse, and that as the holes deepen, widen, and multiply, all the moths, butterflies, sawflies, and other pests that make havoc with garden produce have increased opportunities for concealing their eggs where they will be sure of warmth and shelter, and the more sure, therefore, of perpetuating their kinds for the perpetual plague of the gardener and the destruction of the best results of his industry. Gardeners have, of course, speculated on the possibility of overcoming this evil in the culture of wall fruits. Some have adopted the more sensible system of nailing between the bricks, and have patiently allowed lookers-on addicted to the system of nailing on the bricks only, to laugh at them for their supposed folly. For nailing between the bricks it is needful the mortar should be good, which is rarely the case; but it will always be worth while to prepare the wall in the first instance, by means which

every bricklayer understands, for nailing between the courses, than to nail on the bricks themselves, for the simple reason that pointing repairs the mortar completely, but to put a new face on bricks that have literally lost their surface is next to impossible, and in any case the best that can be done entails much expense and trouble. A still further advance in the right direction is the use of wires, which is more commonly practised on the Continent than in this country. In the "Garden Oracle" of 1864 we recommended the "eyelet wall nails" for this purpose; and they have, as we know, been largely adopted, and the trees have been better trained by tying them to trellises of galvanized wire than by the old system of nails and shreds. A still farther improvement is the invention of Mr. Foxley, for which he has taken out a patent. By this invention the trees are tied to the wall itself, and there is an end of all need for repointing, all pitting and punching the surface of the bricks, and all nails, wires, laths, or other complexities. "Foxley's patent beaded bricks" are furnished on the face with stout beads, and these

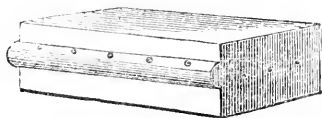
beads are perforated at intervals of two inches. To tie in the trees a strip of bass, string, or soft wire is passed through the perforation, and round the branch, and there is an end of the matter.

Much might be said of the advantages to be derived from the use of these bricks. When young hands are put to nailing, especially during cold

etc., are perishable, and while they last they harbour vermin. How many thousands of clusters of butterflies' eggs might now be found hidden behind trellises, and under old shreds on fruit walls, were it but possible to make a diligent search. But trellises are objectionable because when the east winds are blowing in spring, there is always a draught behind



weather, they bestow much of their strength, and the weight of the hammer, on their own fingers, and the tender bark of the trees. It is



not good for either fingers or fruit spurs to be tapped in this way. Then all nails, shreds, wires, etc.,

them, and the trees are sometimes worse off than if they had no wall at all. With the Foxley bricks the trees are as well off in respect of warmth as with the old-fashioned nails and shreds, and the bricks themselves cannot possibly suffer by the using. These few remarks will perhaps suffice to induce those who are forming new gardens, or improving old ones, to consider whether this invention has any claim to their attention. It may be well to add

that a fruit wall may be built partly of common bricks and partly of the patent beaded bricks—3500 of common requiring 1000 of the patent, so as to have the latter in alternate courses,

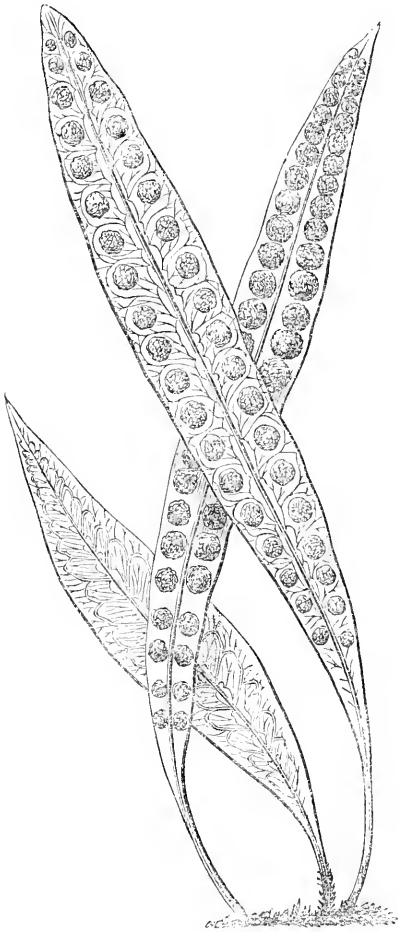
and on the face of the wall only. Those who wish for further information may obtain it by making application to the patentee, Mr. J. Foxley, Stoney Stratford, Bucks.

### GREENHOUSE FERNS.

*Polypodium venosum* (Lowe).— This very distinct and beautiful fern

house and Wardian case fern, and ought never to be grown in the stove, being a native of temperate or at least sub-tropical parts of South America. It is a fine fern of small growth, remarkable for the delicate and distinct reticulation of its veins, and the bold, highly-coloured sori of the fertile fronds. The fronds do not greatly differ in outline; they are oblong-lanceolate, and attenuated at the base, the barren ones being considerably wider than those that bear the sori, and usually shorter. The fronds average five to eight inches in length. They rise singly from a stout, creeping, scaly, cinnamon-coloured rhizome, which in a large specimen is very conspicuous and ornamental. The dull, pale green of the fronds is beautifully contrasted by the rich ochreous brown of the large, heaped up, and very characteristic sori, and the profusion of fronds produced in a very limited area are characters that render this a most interesting fern.

Pot or border culture does not well suit *Polypodium venosum*. It requires peculiar treatment, and if properly planted in the first instance, will occasion no trouble whatever. In any case the roots must be extra well drained, for stagnant moisture is certain death to this plant. The soil which suits it best is a mixture of equal parts gritty leaf-mould, sandy peat, and potsherds broken to the size of peas. In such a mixture, not more than six inches in depth (four inches is sufficient), on a bottom of some material which will allow of ready escape for surplus moisture, the plant will do well, and prove itself an almost hardy fern. Obviously the best way to deal with a plant so



POLYPODIUM VENOSUM.

is ordinarily described as "an ever-green stove species," but it is a green-

house fern, and ought never to be grown in the stove, being a native of temperate or at least sub-tropical parts of South America.



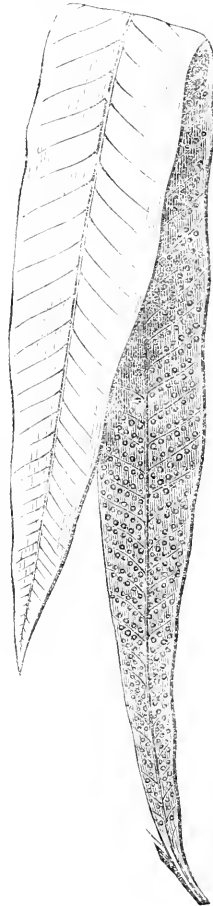
constituted is to suspend it. When grown in a basket in a warm greenhouse it soon forms a fine specimen, the tawny rhizome creeps about wildly, and soon covers the basket with a beautiful complexity of cord-like windings, and from every part of it, except the young pushing shoots of the season, barren and fertile fronds are produced in plenty. To increase it is easy enough; cut off a portion of rhizome with fronds and roots attached; pot it in the same sort of mixture as is recommended for specimen plants, and give it proper encouragement, and it will soon make a plant.

It has a host of synonymes. The principal of them are *Phlebodium stigmatica* (Presl.), *Polypodium stigmaticum* (Presl.), and *Polypodium Hekeanum* (Sprengel).

*Polypodium phyllitidis* (Linnaeus, Kunze).—Mr. Lowe very aptly designates this the "Hart's tongue fern of the tropics," on account of its hart's-tongue-like appearance. It is, however, in no way related to scolopendrium, but is a true polypody. In habit and growth this is a very distinct, and in every way a fine fern. The fronds are erect, simple, undulated, lanceolate-acuminate, and of stout texture; the sori plentifully produced, and follow the transverse direction of the veins, producing a very rich display of orange colouring. The rhizome is scaly and creeping, but it does not travel far, making several short spurs "close home," from which, after a time, fronds proceed. The fronds average two to two and a-half feet in length.

Mr. Lowe describes it as "an ever-green stove species," but it is much more at home in the greenhouse, and it answers admirably in a case, with the aid of a little artificial heat in winter, and moderate ventilation at all seasons. To grow this fern well it should have a rich, gritty soil, such as mellow loam, turfy peat, silver sand, and pounded potsherds. With plenty of water all the growing season, and good drainage at all times, it attains its full stature and beauty in ordinary greenhouse temperature, and will bear to be fully exposed to the

light, needing only moderate shade in the height of summer. It has the good quality, however, of doing well under almost any circumstances, except exposure to damp and cold, and the nature of the soil is of little consequence, provided the plant is nei-

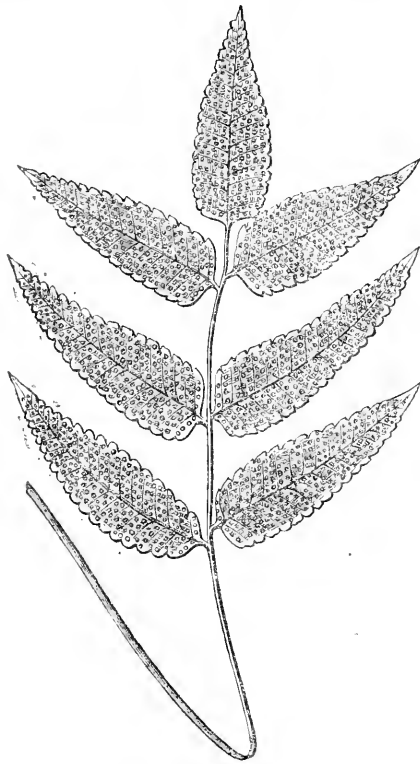


POLYPODIUM PHYLLITIDIS.

ther frozen nor water-logged. But when subjected to treatment other than generous, it makes less growth, and the fronds do not rise more than a foot or so; they are still, however, even then beautiful. I find it prosper in a Wardian case, and in winter it

never suffers if kept at a temperature not lower than 40°, and at the same time guarded against damp, which, when the temperature is low, causes mildew

*Polypodium crenatum* (Kunze, Willdenow). This hitherto scarce fern is now plentiful, and having through the kindness of Mr. Sim been



POLYPODIUM CRENATUM.

and damping off at the base of the fronds.

It has been frequently referred to as a good case fern in former issues of the FLORAL WORLD. Of its various synonyms the following are most in use:—*Cyrtophlebium phyllitidis* (Smith, Moore), and *Campyloneurum phyllitidis* (Presl., Fec).

enabled to make acquaintance with it and observe its habits, I am enabled to make a note on its cultivation. It is exceedingly pretty, and quite distinct in the class to which it belongs. The fronds rise from a creeping rhizoma; they are once divided, the pinnæ are oblong-ovate, membranous, crenate on the edge; colour bright green, overspread on the underside with cinnamon-coloured sori, which are very conspicuous and handsome. The surface is as it were tessellated and extremely beautiful. This is truly "an evergreen stove species," yet it may be grown, and that well, in a warm greenhouse, and should in such case be in a pot. In potting let there be one-third depth of drainage material, then a mixture of turfy peat, cocoa-nut fibre, and pounded brick to fill up. Pot loosely at first, keeping the rhizome well above the surface: then spread on the surface of the soil about an inch depth of brick and tile, pounded to the size of peas, and press the roots firm with the rhizome on the surface. In a warm shady part of the greenhouse it will be found to do well all the summer, and if it can be placed in a cool part of the stove all winter it will be safe, but it may, nevertheless, be kept with moderate care in any greenhouse that is kept at an average of 45° all winter, being much more accommodating than hitherto represented.

SHIRLEY HIBBERD.

## SPRING FLOWERS.—THE DAPHNE.

THIS is a genus which affords us, during the winter and spring months, a variety of the most delightfully fragrant flowers we possess, either for cutting for bouquets, or for the decoration of conservatories, greenhouses, or halls; and no plant grown is a greater favourite with the ladies than this, and the possession of a few large plants to cut from is a consideration with most gardeners. The sorts commonly grown, and most deserving attention, are *D. odora*, *D. indica alba*, *D. indica rubra*, and the little hardy variety *D. cucorum*, for forcing. As it takes several years to grow a large plant from a cutting, and as, besides, they do not flourish so luxuriantly on their own roots as when worked upon the hardy *Daphne laureola*, or Spurge Laurel, that grows in our woods, some of the latter should *now* be procured and potted, to graft the sweet varieties on, and to be in readiness against the pits or frames are got to work. They flourish in a nice soft loam, rather sandy than otherwise, but any loamy compost, with one-third part peat added, will grow them, or the soil might in many cases, be obtained with the plants. In selecting, choose plants with clean stems for a few inches above the surface of the soil; then, if it branch off into three or four shoots, it will afford the opportunity of putting on several scions, and thereby ensure a large plant at once. In potting, press the soil very firm about the roots, and set them by in any cool house, until a nice bottom-heat and moist atmosphere can be secured, such as a cucumber pit or dung-bed affords. Then plunge the pots, and cut off the head of the stock to within a little of the place where the scions are to be put on; in a week or fortnight after the grafting may be performed. For this purpose, take the pots out and put in some convenient place for performing the operation, taking care they do not get chilled; and after the grafting is done, replace them again in the bottom-heat; there to remain until a union between the stock and scion has been effected; this will be

known by the growth of the latter, when they should be gradually inured to bear the ordinary treatment.

As the stock will generally be thicker than the scion, I use either the cleft or the wedge methods of grafting. The first of these consists in splitting the top of the stock, and inserting a small wedge of wood whilst the scion is fitted in, which is done by cutting one side of the scion thin and tapering, so that the bark of the one fits to the bark of the other. For the second method, the scion is prepared in just the same manner, but instead of splitting the stock, I merely cut one, two, or three notches in the side, so that the scion may fit in and the barks come together as in the other way. This is the plan I adopt with large stocks, as I can thus put two or three scions on, which soon form a large head; and it is the best for the trailing var. *D. cucorum*, as it will then form a nice compact head, and should be worked at about the height of a foot from the pot. These must be tied and clayed over as in grafting the apple, and those who can accomplish the one can also perform the other; and I fancy there are not many who have any pretensions to a knowledge of gardening but have tried their hand at grafting an apple.

The rationale of their culture may be summed up in few words. As they bloom in winter, on the points of the shoots made during the previous summer, it behoves the cultivator to obtain a vigorous crop of young shoots, and when obtained to ripen well the incipient flower-buds forming upon them; to do which, place the plants in a nice growing temperature of 60° to 70°. As soon as the blossoms fade the young wood will then grow rapidly and may be pinched in moderation to increase the number of shoots; they should be kept growing until July, then to be placed out of doors until the middle of September, then to be kept in the greenhouse until its flowering season is again over. Care should be taken that worms do not disturb the drainage of the pots,

and it will require repotting once in two or three years; but at each potting as much as possible of the old soil should be shaken away, and fresh used, pressing it tightly into the pot. They enjoy a sprinkling from the syringe when growing, but to be kept dry at other times; and water at the

root at all times in sufficient quantity to keep the soil moderately moist, but most so in the growing season; yet they will not bear stagnant water about their roots, so the drainage must always have particular attention to see that water when given passes freely away. H. HOWLETT.

### ABUTILON STRIATUM.

CUTTINGS of young wood, taken off when about three inches in length, will strike readily in a mixture of sand and peat, or leaf-mould, covered with a small glass, and plunged in a gentle bottom-heat. When the cuttings are struck, which may be known by their beginning to grow, pot them off into small pots (60's), using a mixture of peat and leaf-mould, in about equal parts, with a little sand; let them remain in a gentle hot-bed, or some warm place, for a week or ten days, watering them gently as they may require it; then remove them to the greenhouse, and as soon as the roots have filled the pots, shift them into a size larger, with the same compost, adding a little loam, which should be increased at each shifting, until they are placed in large pots, by which time they will be at least four or five feet high, if attended to, and bearing a profusion of bloom, which, from its pendulous habit amid the ample foliage, is extremely beautiful. As the season advances, they may be removed out of doors with other greenhouse plants, where they will continue in flower the whole of the summer.

In the autumn they should be repotted with the other plants, cutting off the matted roots, and filling up

with good fresh earth, in the same proportions as before, and placed in the stove, if there is one on the establishment, where they will still continue to bloom: thus amply repaying the trouble and attention bestowed on them, by a continual succession of curious and very handsome flowers.

The genus *Sida*, from which *Abutilon* has been separated, comprises, if we include *Bastardia*, *Gaya*, and *Abutilon* (as is still done by De Candolle and others), about two hundred species, many of which are accustomed to unfold their flowers at such stated hours, that Bory de St. Vincent asserts, that from the single genus *Sida*, a dial of flowers (*horologium flore*) might be constructed, so accurate that, between the tropics, the hour of the day might be ascertained by it.

The leaves of some of the species exhibit perceptible changes of position; those, for example, of the *Sida* *Abutilon* (Linnaeus) fall close to the stem, and seem to protect it from the night air. A similar action may be observed even during the day in the large leaves of the *Hedysarum* (*Desmodium*) *gyrans*; for, should dark clouds suddenly overspread the sky, they will immediately fall down, and cover the stem as with a mantle.

### PLANTING FOR EFFECT.

VERY much of the work now going on under the general designation of "Planting" is conducted on haphazard principles, or on no principles

at all. In one place evergreens and deciduous trees are mixed together like plums and suet in a Christmas pudding; in another there is such a

preponderance of deciduous kinds used, because they are the cheapest, that there can be no solidity in the scenery, and little to comfort the eye during five months of the year. The planter must not only exercise judgment as to the choice of species adapted to the soil, but he must know enough of the habits of each, and the best varieties of each, to insure the production of a certain harmoniousness twenty, thirty, or fifty years hence, for some of his trees will not show their true character for a long while to come, and if immediate effect alone be studied, the after-growth may convert to a confusion what may for the first few years be a very agreeable system of grouping. It happens that botanical systems of grouping generally accord with the demands of pictorial taste, and if there were no exceptions to this general fact, all the requirements of landscape gardening could be reduced to rules of the simplest possible nature. But the exceptions are so many, that it needs great experience and prudent forethought to adopt a botanical system in planting; where it can be adopted the advantages are many. First among them we may name the adaptation of the soil in large breadths to certain groups; thus where peat can be used extensively, the shrubs and trees of the great division of ericaceous plants may be brought together in masses, a plan which is naturally followed in the planting of the American garden. Deep, fertile, sandy loams would accommodate a greater number of botanical groups than any other staple, but even on chalk, hungry sand, and clay hollows, somewhat of a botanical system must be followed, for the simple reason that the trees severally adapted to such soils have mutual relationships. The learned director of the Royal Gardens, at Kew, has carried out the botanical system in a way to satisfy the demands of taste in a very satisfactory manner, in those great compartments of hilaes, spiraeas, viburnums, and other flowering trees and shrubs, and the examples afforded by the planting at Kew, show how the plan

simplifies the work of the planter, and enables him to select for his purpose species best adapted to the soil on which he is to plant.

But the circumstances under which trees and shrubs are planted, are so many, that in little less than a treatise could justice be done to it. We have the forest, the park, the shrubbery, the garden, the road of approach, and the way to the wilderness, among the principal scenes on which the planter is to bestow his labours. Though the planting will be in such a different fashion in each case, it is nevertheless true that certain harmonies should be observed as common to all, and indiscriminate mixtures will invariably prove to be indiscriminate mistakes. Whatever may be the beauty of individual specimens—and well-placed specimens work wonders in adding to the variety and interest of the scenery—yet the main features will be the groups, and perhaps the greatest of all achievements in this department is that of forming effective clumps and rich belts and masses. It will illustrate the theory of planting, if the reader will imagine full-grown elms in the foreground and silver birches in the distance. Planting of this sort would be a gross violation of taste, but reverse their positions, and the graceful outlines of the birches are brought out to perfection; and we experience delight in viewing their silvery masts upon the rich deep back ground of the elms. The various tints of green in broad masses may be disposed so as to intensify the beauty of each by judicious grouping; and the harmony thus resulting may be enhanced by the addition of subordinated touches of orange, bronze, grey, and silver, of which numerous shades are furnished by our now copious lists of hardy trees. The highest attainments of art in gardening are to be sought in works of this class, and the man who can produce a grand scene, harmonious in its several elements, and rich with variety as a whole, is entitled to higher praise than that bestowed upon the most successful

planter of summer beds and ribbons.

The mention of the beds and ribbons reminds us of the approach, the terrace, the garden. It is in these scenes that injudicious mixtures are most fatal. Deciduous trees should play a less prominent part in the decoration of every portion of the grounds near the residence, and where formal lines prevail, as they should do in continuation of the formal lines of the house; a formal system of planting will have the best effect, and can only be carried out efficiently by means of evergreens. By formal planting we mean that the principles of the bedding system should be applied in the disposition of the shrubs; and the species and varieties at our command for this purpose are so numerous and varied, that there is scarcely any limit to the exercise of invention under the guidance of a correct taste. The massive *Aucuba* acquires an altogether new grandeur when planted in formal lines in company with *Phillyrea*, variegated *Holly*, *Berberis aquifolium*, *Thuia compacta*, and a few other kinds of equally striking forms and colours. The majority of flower borders now planted ribbon fashion are marred by the odd mixture of deciduous trees and shrubs that occupy the rear; those trees and shrubs having been planted in days when mixtures of herbaceous plants occupied the front line, with which they agreed very well. But a richer and more methodical system of displaying flowers calls for a corresponding improvement of the style of the permanent planting, and a formal arrangement of evergreens is the only thing possible if all the details are to be harmonized. But the majority of gardeners have yet to learn what may be accomplished in this way. The materials exist for the most exquisite varieties of colouring and contrast, from the deep green of the common yew to the sparkle of silver-leaved box, holly, and *alaternus*. It is in work of this sort that the choicer kinds of conifers tell with grand effect to give balance of form as well as colour. The Irish Yew, the Spanish and Virginian Juni-

pers, and pyramidal box and holly, serve a purpose corresponding to that which a skilful planter accomplishes with the Lombardy Poplar in park scenery; that is, they afford complementary outlines to large rounded masses of *Aucuba*, Portugal Laurel, and tree box, and add the grace of light forms, where, otherwise, the planting would be heavy. The adaptation of trees of all kinds to the forms and proportions of structure is another matter of importance, especially in formal planting. Wild masses of thorn, oak, and other free-growing deciduous trees can rarely be harmonized with a crisp-looking structure of brick or stone; the eye does not pass from formality to ruggedness at one glance with anything like ease, and the regular lines of a building require to be followed by something like regular lines in the laying out of the ground and disposing the trees upon it. The grounds at Sydenham, Kensington, and Kew, are the best examples accessible to the general public of the present taste in formal planting, and the view we are now advancing is admirably illustrated in those places in the grand terrace walks, the lines of deodars, cypresses, and standard *lauristinuses*, and the repetition of distinct colours and forms in other evergreen trees and shrubs.

But it is in private gardens of moderate dimensions that the greatest need of improved planting is evidenced. In many of these places, where expense is no object, and great efforts are made for an annual display of summer flowers, the trees and shrubs remain in the disorder, which, when they were originally planted, was considered the especial charm of a garden scene. Whoever follows now-a-days the old plan of an indiscriminate mixture of evergreens and deciduous shrubs in the planting of flower borders and approaches, must be charged with perpetuating, at a great cost, a horticultural monstrosity, and wherever planting is in progress or being prepared for, we would recommend a timely consideration of the artistic principles which should be recognized in the undertaking as essential to success. The most striking

and satisfactory effects will be obtained by a repetition of certain leading forms and colours; the planting may then be made to assume the form of an harmonious composition, and every separate detail will be made subservient to the production of one grand and complete picture.

In the "Garden Oracle for 1862," there is a capital suggestion for the production of agreeable and even surprising effects in the planting of deciduous trees in the borders of small gardens. The writer recommends the sweeping away of lilacs, snow-berries, and other shrubs of untidy habit, and replacing them with forest trees remarkable for fine foliage; these to be grown as bushes of from eight to twelve feet high, cut in every autumn, so as to induce them to produce immense leaves, and a dense growth down to the ground line. It is very certain that many an old garden, now encumbered with shrubs that deserve the epithet "scrubs," might be remodelled on this plan at

a very small expense; and that purple beeches, scarlet oaks, maple-leaved planes, and variegated sycamores, would produce an effect unequalled of its kind, where there is now only sameness during summer, litter during autumn, and bare sticks the winter long. Chevreul advises the grouping of trees with a reddish hue with those of the most decided green, and those of a bluish or bluish-brown green with those of a yellowish light green; the old yellow ribes gives one of the most cheerful tints of light green to contrast against a sombre foliage, and the beautiful copper beech never shows to such advantage as when contrasted with the rich green of deciduous trees. It must be remembered, too, that *form* is quite as important as colour. Conifers rarely group well with deciduous trees, their forms are of a totally different class; hence the system of grouping them in the arboretum is as true a matter of taste as it accords with their botanical relationships.

### NEW HORTICULTURAL SOCIETY.

THE immense increase in the number of amateur cultivators of plants, flowers, and fruits in the suburbs of the metropolis, and the non-recognition of these by the great societies which, for the most part, determine the fashion of exhibiting, and minister to the horticultural proclivities of the wealthy classes, render it necessary that some effort should be made to afford to florists and pomologists resident in the vicinity of London some means of comparing their productions and taking counsel together for mutual help and progress. With some such conviction in their minds, a few exhibitors met together at 37, Arundel Street, Strand, on the 23rd of last month, to consider whether any steps should be taken to supply a want which was felt by all. After some desultory conversation, Mr. Shirley Hibberd, F. R. H. S., was called to the chair, and requested to open the proceedings by some general

statement of the views entertained by himself and friends on the subject of a new horticultural society. Mr. Hibberd said that, while there were thousands of ardent florists and pomologists to be found in the rural districts comprised in a radius of twenty miles from St. Paul's, there did not exist any organization to facilitate the meeting together, in some central position, of cultivators of all classes from east, west, north, and south. The grand exhibitions got up by the great societies provided recreation for the wealthy, but they accomplished little or nothing for the advancement of horticulture. It did appear that there was great need of a society in which gentlemen amateurs, nurserymen, and gardeners could meet together on equal terms for the exhibition and examination of the various flowers, fruits, etc., to the collecting and cultivating of which they were severally devoted, and at which meetings there

might be lectures, conversations, and discussions. Suppose, said Mr. Hibberd, that you form such a society, and admit gentlemen amateurs and nurserymen on payment of ten shillings annually, and gardeners at five shillings annually, there would be a fund created which might be wholly bestowed—excepting, of course, some small amount expended in management—in the encouragement of practical floriculture and pomology; as, for instance, in periodical exhibitions, comparisons of varieties, the determination of the merits of seedlings, the settling of doubtful points in nomenclature, and generally the communication to the public of useful information on the subjects comprised in the operations of the society.

On the motion of Mr. Joseph Newton, seconded by Mr. Neville, it was resolved to form the "London Society of Florists and Pomologists." Resolutions expressive of the objects of the society, and appointing a committee to prepare a set of rules and proposals for operations were also adopted, and the meeting was adjourned to Feb. 13, when it will be resumed at the same place at three p.m. Any readers of the *FLORAL WORLD* who wish to communicate on this subject are requested to write to either of the Honorary Secretaries, Mr. Shirley Hibberd, Stoke Newington, London, N., or Mr. Joseph Newton, Landscape Gardener, 30, Eastbourne Terrace, Hyde Park, W.

## CULTIVATION OF GOURDS, MARROWS, AND PUMPKINS FOR SHOW.

BETWEEN this time and the 20th of March, intending growers should determine their plans, and then sow the seeds of the varieties intended to be grown for show. The first object will be to secure vigorous plants for planting out in May under hand-lights or in frames, and for this purpose the growth should be slow and steady; no check by cold draughts or injudicious watering, and no hurrying by excessive heat. The customary way of raising marrows and cucumbers is objectionable, because it tends to debilitate the plants, so that when put out they are a considerable time recovering. The first error is in sowing several seeds in the same pot, the separation of the plants causing damage to the roots; the second error is allowing the seedlings to remain together too long, so that they get drawn, weak, spindling, and unmanageable. We would advise intending competitors to sow the seeds in sixty-sized pots, two seeds in each pot. The strongest plant of the two should be allowed to fill the pot with roots, the weakest should be removed as soon as any difference as to strength

is perceptible, the plants removed may be potted into 60's to have a chance, but those that remain untouched until they fill their pots with roots will prove the best in the end. Before shifting these, separate the ornamental from the edible kinds: allow the edible kinds, which are required to furnish the largest fruits, to grow as they please; but the ornamental kinds should be stopped and allowed to break before being shifted. As in growing large fruits it is essential to have the plants in the fullest possible vigour, with plenty of large healthy leaves, care must be taken at every stage in their growth that they never get pot-bound, and never suffer through lack of air or moisture.

For the seedlings, a light rich fuchsia compost will be most suitable, as it will promote the formation of an abundance of roots. After that, good sound turfy loam should predominate, and it should be lumpy, and the pots well drained. The prevailing idea as to the growth of great gourds is that an abundance of dung is necessary, whereas there is nothing better than turfy loam, and plenty of it, with a



moderate admixture of dung and charred rubbish. The top spit of a loamy pasture, if inclining to clay not objectionable, should be laid up in narrow ridges to be mellowed by the frost; and when the beds are made up, the substratum should be stable dung which has nearly parted with its heat, over which should be laid eight inches depth of the loam mixed with a fourth part thoroughly rotten manure.

The plants being strong in May, and the bed ready, defer planting until the weather begins to look summery. If the beds are raised above the level, there will be no fear of danger from damp, and the plants may be protected by hand-lights until the season is so far advanced that they can take care of themselves. Instead of allowing them to sprawl in all directions, lead the principal runner round and round by mean of a few pegs, remove strong laterals that threaten to take the lead, and allow but one fruit to swell on each plant.

Bearing in mind, that unless the plants are in full vigour, the fruits will never attain to any great size, it will be important to encourage the growth of a healthy and abundant foliage. When dung is too largely used, the plants become rank, make an excessive number of watery shoots, and are as like to drop their fruits as set them; whereas, when in deep beds of sound loam, strength is obtained without rankness, and there is no fear of any superabundance of leaves. As the fruits swell, water may be given abundantly, and at regular intervals liquid manure. There

is an old-fashioned plan of swelling gourds to a large size. It consists in placing a vessel of water beside the fruit; a length of worsted is attached by one end to the stalk of the fruit, and the other end, with a stone attached to it, is placed in the water. It is supposed that by capillary attraction the fruit is enabled to absorb a large quantity of water, conveyed to it by the worsted; but we will not vouch that the method is of any practical value whatever. In planting out the gourds in beds, the rows should be at least ten feet apart, and the plants five feet apart in the rows. Another foot each way may be allowed where there is plenty of space for the purpose.

Ornamental gourds are, generally speaking, best grown on trellises, as, if the fruits lay on the ground, the under side rarely acquires its proper colour, and the rind is apt to grow warty. They require full sun, a deep, loamy, warm border, and plenty of water when they have once made a start, and are running freely. As many growers may be in doubt as to the qualities of some of the ornamental kinds, we ought to add a caution, that the kinds which are not edible are decidedly poisonous, and the consequences of eating them might, at any time, be fatal. But there is no difficulty in determining if any gourd is fit for table use; the poisonous kinds are all bitter, the fruit, the leaf, and even the immature shoots are nauseously bitter, and the tongue will give all the information on that subject that may be necessary.

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## HOME-GROWN WINE

ENGLISH vineyards are things of the past. It has long been agreed, by those interested in the affairs of rural life, that the vine does not pay, except as a dessert fruit, in this country; and many who would plant open quarters of hardy grapes are deterred from doing so by the general preju-

dice which exists in opposition to such enterprises. In the south of England we see vines everywhere—on walls, trellises, and cottage porches; and, in favourable seasons, very heavy crops of good grapes are produced, from which, in many instances, a homely wine is brewed, the flavour

and strength of which are not to be despised. Though the British origin of these wines is always evident, we do occasionally meet with samples of such excellence, that we could wish a store of it to be in the possession of every family whose means do not suffice for the regular use of Continental beverages. But there is no certainty about it; two or three seasons may pass in succession without affording a respectable crop of grapes; and those who read of the ancient vineyards in this country are sometimes in haste to conclude that the climate of England must have undergone a change for the worse. Such, however, is not the fact. In times when the open air vinery was looked to for supplies of wine, the crop was as precarious as now. The old vineyards were dependent on occasional good seasons, and, as land increased in value, the cultivation of grapes declined—for the simple reason that there was no certainty as to the produce. The vineyards described by Mr. Cyrus Redding, in his recent work, produced wines such as modern palates would refuse to touch; and from what we know of the constitution of the vine, we could not expect it to rival the apple or the plum in producing heavy crops of fruit annually, irrespective of the temperature of the season. There are now some good plantations of grapes in many private gardens, the produce of which might occasionally be turned to account to produce wines very nearly as good as some of the average wines of the Continent; but it is all a risk; and this is certainly not the country for *Vitis vinifera* to grow as it should do in the open air.

But we must not turn too hastily from the facts which history furnishes. Even as late as 1763, there was a "noble vineyard" at Arundel Castle, Sussex, the seat of the Duke of Norfolk, which yielded large quantities of wine; and it is reported that at one time there were in the cellars of Arundel "sixty pipes of excellent Burgundy," the produce of this vineyard; and the wine was far preferable, frequently, to the Burgundy

ordinarily imported into England. Kensington and Hammersmith had each their vineyards at the close of the last century, and the vines produced there were important articles of commerce, so highly were they esteemed for their strength and bouquet. The Hon. Charles Hamilton's vineyard, near Chobham, in Surrey, occupied the slope of a gravelly hill, within view of the ground now appropriated to the military camp; and the grapes which prospered there were Black Cluster and Auvernal, the last being of very tender constitution. The wine of this vineyard was said to be equal to the best champagne, and was esteemed by good judges as worthy of a high place in the market, if offered in competition with foreign vintages.

These facts raise the questions:—If the practices of rural life have improved, has the vine had its share of attention, in connection with other plants which supply articles of necessity and enjoyment? Further, has the manufacture of wine had any attention at all in this country during the last two hundred years? To *h* of these questions, we are afraid we must answer, "No." But the progress of grape culture in America gives new interest to these questions, and it deserves the attention of speculative gardeners, whether, by the introduction of a few of the best American indigenous grapes, and attention to the best modes of manufacturing wine, we might not follow in the wake of our Transatlantic cousins, and become, to some extent, independent of foreign supplies of the most invigorating and wholesome of all the beverages used by man. If, as a commercial undertaking, there is not much to be hoped for, the project claims the attention of persons who have suitable sites for vine growing, and who would be content with a few pipes of good wine for their own consumption, at a very moderate cost in rent and labour; for to cultivate vines in the open ground, on stakes or rough trellises, is not a formidable undertaking, and it is one that will certainly furnish a most agreeable source of relaxation and amuse-

ment to any earnest amateur or professional gardener. It must be remembered, that in the Northern States of America, European vines are of no use in the open air, owing to the severity of the climate. If the native vines yield abundantly, and if their produce is eminently adapted for wine making, it follows that, in the more genial climate of the southern counties of England and Ireland, those

same American vines would be more likely to afford satisfactory results than the varieties we have hitherto regarded as the hardiest. Nay, we do not see why, even to the Orkneys, the American grapes should not be found adaptable: for on their prairies and mountain slopes they have to endure severe winters, and they appear to be partial to a dry, poor, rocky soil.

## MANAGEMENT OF COOL STOVE AND GREENHOUSE PLANTS.

(Concluded from Vol. VII., p. 272.)

AFTER May, the house would be kept warm enough by shutting in the sun heat; that is, not giving too much air to allow the heat thus derived to be as rapidly dissipated. A very good maximum throughout the summer would be seventy-five degrees, and sixty degrees as a minimum would be near what would suit the plants. Of course the temperature would vary according as the days were sunny or cloudy, but this would not injure the plants. During much of the summer, too, the air is mild and balmy, and then ventilation may be freely permitted even for a considerable part of the day, and sometimes, when very warm, slightly all night; at other times, when the air is cold, it is not at all material to give much air, or even if none is admitted formally, for some few days together, it will cause

but little difference to the plants. In the latter end of the summer, however, it is desirable to give air more freely. Throughout this season of the year, the watering and syringing must be kept up regularly. By the end of September, a change must be commenced. There will naturally be less heat, and there should be less water artificially applied; this must be broken off gradually in the same way it was commenced in spring, so that by the beginning of November the plants and soil may be in that comparatively dry state we have already endeavoured to describe. Throughout this early part of the autumn, air should be very freely admitted throughout the day, to keep the temperature cool, and to help in passing off extraneous moisture and drying the interior of the house.

J. W. B.

## COOL STOVE AND GREENHOUSE ORCHIDS.

THE subjoined is, we believe, the most complete list yet prepared of orchids which may be grown to perfection by cool treatment. The list, which appears at page 115 of the "Garden Oracle" for 1865, will be of immense value to beginners, as comprising only such kinds as may be obtained at low prices, and which are among the most beautiful orchids

known. This larger list will be chiefly useful to those who have already made some progress in orchid culture:—

*Epidendrum macrochilum*, E. m. album, E. m. roseum, E. atropurpureum, E. vitellinum, E. v. major, E. aurantiacum.

*Leptotes bicolor*.

*Læliacinnabarina*, L. superbiana, L.

- Perrinii, *L. pumila*, *L. purpurata*.  
*Maxillaria Harrisoni*.  
*Lycaste aromatica*, *L. Skinneri*.  
*Miltonia spectabilis*.  
*Odontoglossum grande*, *O. hastilabium*, *O. levis*, *O. bictonense*, *O. cordatum*, *O. Insleysi*, *O. nebulosum*, *O. navium*, *O. pescatorei*, *O. phalenopsis*, *O. pulchella*, *O. uroskinneri*.  
*Oncidium barbatum*, *O. pictum*, *O. bicallosum*, *O. crispum*, *O. papilio majus*.  
*Sophronites grandiflora* (short bulb), *S. g.* (long bulb), *S. cernua*, *S. violacea*.  
*Trichopilia tortile*.  
*Stanhopea insignis*, *S. oculata*, *S. grandiflora*.  
*Eriopsis biloba*.  
*Anguloa Clowesii*, *A.* (species from New Grenada).  
*Warrea tricolor*.
- Brassavola glauca*.  
*Broughtonia sanguinea*.  
*Burlingtonia fragrans*, *B. venusta*, *B. decora*.  
*Calanthe vestita lutea*, *C. v. cupreum*, *C. v. roseum*, *C. veratrifolia*.  
*Cattleya aelandiæ*, *C. amethystina*, *C. bicolor*, *C. Skinneri*, *C. mossiæ*, *C. Leopoldi*.  
*Cypripedium barbatum*, *C. insignis*, *C. venustum*.  
*Dendrobium bicolor*, *D. speciosa*, *D. eburneum*, *D. densiflorum*, *D. formosum*, *D. aggregatum major*, *D. Pierardi*, *D. chrysantha*, *D. heterocarpum*, *D. Kingiana*, *D. transparens*.  
*Ærides crispum*, *Æ. Lindleyana*, *Æ. Warneri*.  
*Disa grandiflora*.  
*Masdevallia coccinea*.  
*Neottia speciosa*.  
*Pleonie maculata*, *P. Wallichi*.

### CLIMBING FERNS AND LYCOPODIUMS.

The climbing ferns of the genus *Lygodium* are the loveliest of the whole of this interesting tribe of plants, only excepting the elegant *Gleichenias*. It happens most fortunately that they are very easily cultivated, and, with moderate care, soon make fine specimens. We have had *Lygodium scandens* in a vase covered with a glass lantern, one side of which is completely covered with a screen of its exquisitely beautiful fronds, by being trained up on copper wires; and we have had *L. palmatum* on the back wall of a common greenhouse, where it was kept constantly shaded by large-leaved plants trained to the rafters, and it covered the wall almost as densely as ivy. A mixture of turfy loam, turfy peat, rotten cocoa-nut dust, and silver sand, equal parts, will grow any of them to perfection, with moderate warmth, shade, and moisture. *L. palmatum* is the most

hardy; *L. japonicum* does well in a Wardian case, if assisted with copper wires; *L. venustum* is a very rapid grower in a warm greenhouse; *L. scandens* has the most distinct character; *L. flexuosum* is the grandest of all, and will grow five or six feet high; and *L. volubile* makes a good companion for it. Warm greenhouses in shady positions may easily have their walls covered with these ferns, by making a border for them one foot deep and one foot wide, with three inches of broken brick or stone at the bottom and nine inches of soil. The surface of the bed may be covered with *Selaginella apodum*, *cæsum*, *denticulatum*, *microphyllum*, *densum*, *brasilienis*, and *uliginosa*. *S. lævigata* is a grand stove climber. *Lygodiums* should be cut down to the ground in winter. This a most important point in their cultivation.

## NEW PLANTS OF 1864 ;

BEING A SELECTION FROM 136 SPECIES AND VARIETIES DESCRIBED IN THE "GARDEN ORACLE" OF 1865, OF KINDS LIKELY TO BE USEFUL TO AMATEUR CULTIVATORS.

*Acer polymorpha variegata*.—A very distinct form of variegation, the colour being a curious and beautiful mixture of light fawn and pink; a very beautiful tree.—Mr. B. S. Williams.

*Acer pseudo-platanus*, var. *Leopoldi* ("L'illust. Hort.," t. 411).—Aceraceæ.—This fine tree has beautifully variegated foliage, the variegation consisting of crimson, carmine, and rose-red, intermingled with dark green. It will no doubt prove of the

highest importance for its rich tones of colour when judiciously introduced to our plantations.—M. A. Van Geert.

*Adiantum cardiochloenum* ("R. H. S. Proc.," III.)—One of the most beautiful of the tender Maidenhair ferns. The stipes are black and polished, and the fronds large, spreading, and tripinnate, the pinnules being obtusely oblong, almost a parallelogram, and elegantly lobato-crenate.—Mr. Bull.

## A SELECTION FOR THE KITCHEN GARDEN, 1865.

PEAS.—*Early*, Dillestone's Early, Early Emperor. *Second early*, Advancer, Dickson's Early Favourite, Princess Royal, Nonpareil Wrinkled Marrow. *Main crop*, Pricetaker, Champion of England, Veitch's Perfection, Paradise Marrow, Auvergne Marrow. *Late*, British Queen, King of the Marrows, Victoria Marrow, Ne plus Ultra.

BEANS.—*Early*, Early Hangdown, Early Longpod. *Main crop*, Minster Giant Longpod, Monarch Longpod, Broad Windsor. The last is the finest flavoured and handsomest of all beans.

KIDNEY BEANS.—*Early*, Perkins's Early Warwick, Newington Wonder, Sion House. *Main crop*, Canterbury, Early White, Dark Dun or Liver-coloured, Negro Long-podded.

RUNNER BEANS.—Scarlet, Eclipse, White Giant.

CABBAGE.—*Early*, Cattell's Reliance, Atkins's Matchless, Early Dwarf York. *Main crop*, Battersea, Early Emperor, Enfield Market. *Winter and spring*, Sutton's Imperial, Fearnought, East Neuk of Fife, London Colewort.

BROCCOLI.—*For Dec., Jan., and Feb.*, Snow's Winter White, Early Purple Cape, Mitchinson's Early Cornish, Adams's Early White, Beck's Early Dwarf White. *For March and April*, Early White, Malta, Knight's Protecting, Brimstone, Dilcock's Bride, Snow's Nonpareil. *For May and June*, Coaming's Reliance, Foster's Champion of England, Elletson's Mammoth,

Chappel's Cream, Veitch's Wilcove Improved, Miller's Late Dwarf, Sutton's Protecting, Carter's Champion. *For July and August*, Early Purple Cape, Early White Cape, Grange's (sow in Feb. and March, and pot separately, so as to be strong for turning out). *For Sept., Oct., and Nov.*, Early Purple Cape, Walcheren, White Cape, Cattell's Eclipse, Dancer's Late Mottled Cape.

BROCCOLI, *eight best for succession*, Snow's Winter White, Early Penzance White, Early Purple Sprouting, Elletson's Mammoth, Sutton's Protecting, Walcheren, White Cape, Cattell's Eclipse.

BRUSSELS SPROUTS.—Roseberry, Scrymger's Giant, Dalmeny, Albert.

BEET.—Nutting's Selected Dwarf, Cattell's Crimson, Henderson's Pine Apple, Whyte's Black (very large).

BORECOLE.—Dwarf Green Curled, Tall Green Curled, Cottager's Kale, Imperial Hearting Kale.

CARPSICUM.—Long Red, Long Yellow.

CARROT.—*For forcing*, Dutch Forcing, French Short Horn. *Borders early*, Early Short Horn. *Main crop*, Long Surrey, James's Intermediate. *For market*, Improved Altringham; shallow soils, Merriott Scarlet; for cattle feed (and not to be despised for table), White Belgian, Yellow Belgian.

CAULIFLOWER.—*For forcing*, Frogmore Forcing, New Mammoth. *Early*, Leonormand, Early London White. *Late*, Lato

German, Statholder, Large Asiatic. *Best for succession*, Walcheren. (Sow in Feb., May, June, July, and August.)

CELERY.—Cole's Defiance Red, Hood's Imperial Red, Cole's Crystal White's, Incomparable Dwarf White.

CUCUMBER.—*For Winter*, Improved Sion House, Master's Prolific. *Frame*, Carter's Champion, Conqueror of the West, Cuthill's Black Spine, Improved Manchester Prize, Lord Kenyon's Favourite, Telegraph. *Out-door*, Stockwood Ridge, Long Prickly.

CRESS.—Australian, American, Curled.

ENDIVE.—Green Curled, Imperial Bata-vian. *Hardest*, Fraser's Improved Broad-leaved.

LEEK.—Musselburgh, Ayton Castle.

LETTUCE.—*Cabbage for summer use*, Malta, Marseilles, Neapolitan, Victoria. *Winter*, Brown Dutch, Hammersmith. *Cos*, Florence, London White, Paris White. *Best for summer sowing*, Black-seeded Bath Cos.

MELON.—Golden Perfection, Meredith's Hybrid Cashmere, Mounsdon's Moreton Hall, Ward's New Netted Scarlet Flesh.

ONION.—*Early*, Danver's Yellow. *Main crop*, Reading, White Globe. *Long keeping*, James's, Deptford, Strasburg, Brown Globe. *For autumn sowing*, White Lisbon, Tripoli, Welsh (the last is only fit to pull for salads in spring). *For pickling*, Paris Silver Skin.

PARSNIP.—Student, Jersey Marrow.

PARSLEY.—*For summer*, Veitch's Selected Curled, Dunnett's Garnishing. *For winter*, Hardy Winter Matchless.

RADISH.—*For forcing*, Wood's Early Frame, Scarlet Olive-shaped. *Main crop*, Beck's Superb Short-top, Red Turnip, White Turnip. *For autumn sowing*, Black Spanish, White Olive-shaped. *For winter use*, Chinese Rose-colour.

RHUBARB.—*Early*, Mitchell's Royal Albert, Dancer's Early Scarlet. *For succession, preserving, etc.*, Baldry's Scarlet Defiance, Myatt's Victoria, Large Green Giant.

SAVOY.—*Early*, Dwarf Ulm. *Main crop*, Dwarf Green Curled, Bloemendaal. *For market*, Drumhead.

SPINACH.—*Summer*, Round, Perpetual. *Winter*, Prickly.

TOMATO.—*Early*, Powell's Dwarf. *Main crop*, Large Red and Large Yellow, De Laye.

TURNIP.—*Early*, Sutton's Early Short-top, Early White Dutch, Beck's Improved Golden Stone. *Second crop and succession*, Mousetail White Globe, New Long Hanover, Red-top Mousetail, Red American Stone. *For autumn sowing*, Orange Jelly, Green-top Six-weeks, Jersey Navet.

POTATOES.—*For forcing*, Carter's Champion, Early Handsworth. *For frames and warm borders*, Sutton's Early Racehorse, Hudson's Nonsuch, Golden Globe. *Second early*, Rivers's Royal Ashleaf, Early Walnut-leaf, Daintree's Early, Early Oxford, Dalmahoy. *Main crop and keeping*, Prince of Wales Kidney, Fluke, Webb's Imperial, Wellington, Mona's Pride, Pink-eyed Fluke. *For market*, Fortyfold, Red Regent, Skerry Blue. *For cattle food*, Chardon.

## THE GARDEN GUIDE FOR FEBRUARY.

KITCHEN GARDEN.—Dig and manure every plot of vacant ground, removing all remains of worthless cabbage-stumps and other rubbish, so as to get seed-beds ready in good time, as every kind of crop grows better in ground prepared some time before sowing or planting. *Potatoes* are better for planting if already moderately sprouted in full daylight, and if the sprouts are short and purple they will not break; if, however, they are weak, lay the tubers on their sides, and when the earth is thrown into the trench there will be no harm done. If not ready to plant, put the seed in full daylight in baskets to encourage sprouting. *Rhubarb* may be forwarded by covering the stools with boxes, casks, seakale pots, etc., without fermenting material; but the

latter will pay for its cost in an earlier supply and the benefit of the crop by forking it in when the heat is spent. Choose fine dry weather for sowing seeds. In open quarters sow *peas*, *beans*, *parsnips*, *Drumhead savoy*, *red cabbage*, *parsley*. Sow on warm sheltered borders *cos lettuce*, *horn carrot*, *onions*, *Early York*, *Shilling's Queen*, and other early cabbages. Sow in boxes, and forward with moderate heat *lettuces*, *tomatoes*, *cauliflowers*, *Walcheren broccoli*, *celery*, *capsicums*.

FLOWER GARDEN.—Do not be in haste to fork over the borders that are stocked with hardy herbaceous plants, unless their places are marked. Such things as peonies, campanulas, etc., etc., are destroyed wholesale every season by the ruthless manner

in which borders are dug while the plants are invisible or nearly so; but as soon as they begin to peep through, make all clean and tidy, and sow any hardy annuals that are required. But if the sowing of these is deferred till next month, there will be very little time lost. It is always best to make sure that seeds will grow than run the risk that they will rot. Herbaceous plants of all kinds may be planted, and if a little dry chippy manure is thrown over their crowns after planting, it will be a great assistance in very severe weather. When they begin to grow, they will push through it easily enough. Look over the rockeries, and take note of what deaths have occurred. All *alpines* and curious plants should be labelled with zinc labels, so that they may not only be named correctly, but their places found when the plants are gone. Towards the end of the month *alpines* may be planted, but it is best not to be in haste, in case of bad weather. Planting *ranunculuses* and *anemones* are important operations this month. Get them in, if possible, before the 20th. The soil should be deeply broken, and abundantly manured with cow-dung. In planting, draw shallow trenches three inches deep and six inches apart. In these place an inch of sharp sand or clean coal-ashes, and lay the roots on the ashes, the *ranunculuses* with their *claws downwards* and four inches apart. Sprinkle sand or coal-ashes on them, and then cover with an inch and a half of soil. Layer *rhododendrons* and hardy *azaleas*. Stir the surface of the soil of *pinks* and *pansies*, and if the plants have been lifted by frost, tread them in firm. Prune *roses*, if early bloom is wanted. It is a good plan to prune some and leave some to prune next month. Any roses not yet planted must be got in without delay. *Grass plots* should be well rolled. If any repairs needed, let them be done at once. Spread fine coal-ashes over parts that are mossy.

**FRUIT GARDEN.**—Trees and bushes, lifted with care and replanted quickly, will carry their fruit pretty well hereafter, but it is late for all trees in bearing to be moved. Where, however, it has not been possible to complete operations, there is still good time to plant fruit trees, because, even if they produce little this season, they will gain a season's growth on the ground, and that is so much gain. Let all pruning be completed quickly; mulch trees newly planted; prepare scions for grafting, and heel them in till wanted. Get protecting materials ready for wall trees, bush fruits, etc., that are likely to require it. Judicious protecting will

always pay for the trouble and outlay it occasions.

**FRAME.**—Sow seeds of *auricula* in pans and boxes, cover the pans with pieces of flat board, tile, or hand-glasses, and place them in the frame. They ought never to taste artificial heat. Give plenty of air to *carnations*, *alpines*, and other subjects in frames, and increase the supplies of water during bright weather. *Auriculas* must have water, or they will bloom miserably. Sow a few pans of any favourite hardy annuals for blooming in pots, or to plant out. *Bedding plants* may be propagated rapidly by making a sweet hotbed to forward plants for cuttings, and to strike cuttings of such as are fit to cut from in the greenhouse. Sow in pans, and place on gentle heat *Salvia patens* and *Lobelia speciosa*. These come true from seed, and make capital plants for bedding. Cuttings already rooted to be potted off, and helped on by a sweet and moist heat. If any outbreak of mildew, increase the heat, and promote a dry atmosphere; at the same time, dust the plants with sulphur or fine peat dust.

**GREENHOUSE.**—A general shifting of all plants that are now coming into growth will be necessary, but those near their time of blooming must not be disturbed. All established plants that have filled their pots with roots, and are making way towards bloom, must be well soaked, as at this season the balls are often hard, through getting dry during hard weather. The degree of heat must depend on the nature of the stock; where there are mixed collections, a generous temperature may be maintained, with moderate ventilation on fine mornings, and a decided lowering of the temperature at night. *Cinerarias*, *cytissuses*, *primulas*, *cyclamens*, or other plants in bloom, or coming into bloom, must have good places and enough water. *Camellias* ought now to be in perfection; those in bloom to be kept rather cool, but as soon as the bloom is over they must have warmth and a close, moist air, to induce a healthy growth.

**STOVE.**—Now is the time to repot and start a number of fine subjects, such as *Gloriosa superba*, *crinum*s, *begonias*, *gloxinias*, *Luculia gratissima*, various orchids, etc. There may be an increase of heat as the month advances, and with it, also, an increase of atmospheric moisture. Remove all flowering plants to cool places, to prolong their beauty. Train in and prune climbers, and keep a sharp look-out for vermin, for there will now be a general wake up in the insect world.

## FEBRUARY, 1865.—28 DAYS.

PHASES OF THE MOON.—First Quarter, 3rd, 1h. 9m. morn.; Full, 10th, 4h. 27m. after.; Last Quarter, 18th, 9h. 38m. after.; New, 25th, 8h. 3m. after.

AVERAGES FOR THE MONTH.—Bar. 29.945. Therm. max. 44°, min. 33°, mean 38½°. Rain, 1.5 inches. A very uncertain month; frosts and storms frequent. Prevailing winds S.W., W., and N.W. Range of temperature large.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	Sun sets.	Barom.		Therm.				
	h. m.	h. m.							
1	7 41	4 48	30.18	30.09	49	35	42.0	.00	Helleborus dumetorum.
2	7 39	4 50	30.12	30.00	51	44	47.5	.00	Lamium amplexicaule.
3	7 38	4 51	29.99	29.97	52	28	40.0	.02	Helleborus graveolens.
4	7 36	4 53	30.14	30.06	43	21	32.0	.00	Sanguinaria Canadensis.
5	7 34	4 55	30.21	30.07	33	28	30.5	.00	Primula calycantha fl. pl.
6	7 33	4 57	30.15	30.00	37	21	29.0	.00	Arabis alba variegata.
7	7 31	4 59	29.92	29.82	34	18	26.0	.00	Draba cuspidata.
8	7 29	5 0	29.74	29.65	38	15	26.5	.00	Arabis rosea.
9	7 27	5 2	29.61	29.50	37	11	24.0	.00	Helleborus integrilobus.
10	7 26	5 4	29.51	29.38	41	28	34.5	.00	Scilla bifolia.
11	7 24	5 6	29.74	29.37	42	28	35.0	.28	Helleborus vernalis.
12	7 22	5 8	29.62	29.32	46	30	38.0	.18	Lamium album.
13	7 20	5 10	30.07	29.63	55	30	42.5	.00	Primula acaulis plena.
14	7 18	5 12	30.27	30.08	55	38	46.5	.00	Galanthus nivalis.
15	7 16	5 13	29.92	29.77	54	43	48.5	.05	Pulmonaria officinalis.
16	7 14	5 15	29.73	29.68	51	29	40.0	.04	Tussilago fragrans.
17	7 12	5 17	30.07	29.88	43	25	34.0	.03	Primula verna rubra.
18	7 10	5 19	30.25	30.11	41	24	32.5	.00	Caltha palustris.
19	7 8	5 21	30.24	29.99	33	21	27.0	.00	Anemone hortensis.
20	7 6	5 22	30.10	29.79	32	24	28.0	.00	Primula cortusoides.
21	7 4	5 24	29.69	29.64	34	26	30.0	.00	Draba ciliaris.
22	7 2	5 26	29.88	29.76	37	16	26.5	.00	Vinea minor.
23	7 0	5 28	29.90	29.89	36	17	26.5	.00	Anemone coronaria.
24	6 58	5 30	29.92	29.89	38	26	32.0	.14	Saxifraga crassifolia.
25	6 56	5 31	29.93	29.91	39	30	34.5	.00	Viola odorata.
26	6 54	5 33	29.91	29.85	40	34	37.0	.00	Eranthis Sibirica.
27	6 52	5 35	29.72	29.65	42	36	39.0	.02	Helleborus Olympicus.
28	6 50	5 37	29.62	29.59	50	30	40.0	.00	Iberis sempervirens.

PROBABLE WEATHER OF FEBRUARY, 1865.—Instead of frost from 6th to 16th last month, the weather was rather mild for the season, and the gales occurred from the 13th to the 17th; otherwise it was a good forecast. This month generally changeable, with very much wet. From 1st to 10th westerly winds, with rain, snow, and fog; very little frost. 11th to 17th occasional frosts, but not severe or continuous; wind N.W. to N.E. Thence to end of the month agreeable weather, with occasional heavy rains; wind varying daily, and sometimes squally.

EXHIBITIONS ANNOUNCED.—March 18, R.H.S. and R.B.; April 8, R.H.S. and R.B.; April 29, R.B.; May 13, R.H.S.; May 24, R.B. Great Exhibition; June 3e R.H.S.; June 10, R.H.S. Great Exhibition; June 14, R.B. Great Exhibition; June 17, R.H.S.; July 1, R.H.S. Great Exhibition; July 5, R.B. Great Exhibition; July 8, R.H.S.; July 15, R.H.S.; July 22, R.H.S. Great Exhibition; July 29, R.H.S.



## TO CORRESPONDENTS.

CATALOGUES RECEIVED.—*Sutton and Sons, Reading*, "Amateur's Guide for 1865" is one of the most interesting of the many excellent lists published by this enterprising firm. It is full of information; the lists of seeds, roots, etc., are so arranged as to render the task of selecting sorts for any purpose most easy and certain; and there are well-drawn figures of thirty-four varieties of roots, peas, etc., etc.

APHELANDRA, LILIUM, ETC.—Will a plant of *Aphelandra* live in the winter, in a greenhouse where the frost only is excluded? when it should be repotted, and in what soil?—in short, the treatment it requires? I cannot tell which variety we have, but the green leaves have white lines in them. I wish also to know if the Japan liliun will flower in the autumn, if the bulbs are bought in the spring. What is the best time to pot *Tritonia aurea*, to flower in August or September? I trust you will excuse the trouble I give.—*Farrington*. [*Aphelandra cristata* (which yours most probably is) is a stove plant, and will not live in the greenhouse, unless it is unusually warm. Warmth sufficient for its well-doing would be injurious to the usual inmates of the ordinary greenhouse. Unless you can accommodate it with suitable conditions, you had better not trouble yourself with it, as makeshift treatment will yield you nothing more than disappointment. If you possess a stove, your plant should have a rest, after flowering, until April, when repot with equal parts peat, loam, leaf-mould, and one-sixth silver sand, well chopped up and incorporated, but not sifted. Place in the stove, in a light and airy situation, syringe morning and evening throughout the summer; when August has arrived, give less water, so that the growth may be ripened; still retaining it in the stove; and it will, in its season, flower finely, making a rich display with its fine orange blossoms. Japan lilies will flower very well, if not planted till the spring; but, in order to bloom strong, they ought never to be out of the ground after the middle of November, because as soon as the stems have decayed they begin to make new roots for the development of the plant in the following year. We always shake out, and repot within the first half of November, and invariably have a vigorous bloom. Almost exactly the same remarks will apply to *Tritonia aurea*. As

soon as the flower-stems are decayed, which will generally be by the end of October, shake out and divide the corins, and pot them to grow immediately. The roots of this plant, like those of the Japan lilies, never really rest, but as soon as the stems and leaves are decayed, begin immediately to protrude fresh roots. It is just at this nick of time repotting should be attended to.]

HARDY THYMES, HEATHS, SHRUBS, ETC.—How many kinds of hardy thymes are there known? Also, hardy ericas? And will you give me a list of hardy shrubs of good quality suitable for a small lawn and a bold piece of rock-work? *Cassia corymbosa* (see *FLORAL WORLD*, 1863, 280), is still in its eastern situation, and without any covering but a few ashes at its roots, stood its third winter well, and is now in beautiful health and vigour.—*Erica*. [We know of but six or seven species of thyme that are not hardy, every other will bear our climate with impunity. *Thymus serpyllum*, or mother of thyme as it is called, is really one of the prettiest plants of the whole genus; when in bloom it is quite a carpet of delicious pink, and when out of flower makes an interesting tuft of green for the rest of the year. *T. vulgaris* and its variegated form, and lemon thyme, are the only kinds you would be likely to meet with excepting you could procure them by exchange or otherwise from some botanic garden. Hardy heaths, *Erica Australis*, *E. ciliaris*, *E. cinerea*, and its varieties; *E. herbacea*, one of the very best; *E. Mediterranea*, truly handsome; *E. ramulosa*, *E. teralix*, and several varieties; *E. vagans*, and its white variety; and several others which can be procured at any respectable nursery. Suitable shrubs for the lawn will be a selection from coniferous plants, as they are thoroughly hardy and at all times interesting. Twelve of the best: *Pinus excelsa*, *P. Cembra*, *P. Cembra nana*, *Abies Morinda*, *A. excelsa*, *A. excelsa nana*, *Cedrus deodara*, *Juniperus Phoenicia*, *J. sinensis*, *Cupressus torulosa*, *J. recurva*, *Araucaria imbricata*, and many others of equal beauty and interest. For rock-work *Cotoneaster microphylla*, *C. Hookeri*, *C. Simmonsii*, *Genista prostrata*, *G. tinctoria pleno*, several *Cistuses*, *Juniperus tamarixifolia*, and others.]

CLIMBER FOR GREENHOUSE IN THE CITY.—Will you tell me of a quick-growing climber, suitable for growing round the door of a greenhouse (inside), in the

city of London? The door has a north aspect, and therefore does not obtain much sun. [Plant a strong specimen of *Lonicera brachypoda aureo-reticulata*; this will grow very fast, and will develop its beautiful foliage to perfection in such a situation. Plant also a strong plant of *Clematis Sieboldii*, and one of *C. lanuginosa*—the first a beautiful double white, the second a beautiful blue; both rapid growers and abundant bloomers; and being perfectly hardy, there will be no danger of losing them in a time of hard frost. Let each of the foregoing be provided with a large bulk of well-prepared soil, in which their roots may ramble without restraint, and they will not fail to yield abundant gratification. These may be trained separately, or be allowed to intertwine; they ought to be planted at least two feet apart.]

VARIOUS. — *Mrs. Gillespie*. — What you send looks like the seed of some Hoya. We cannot say if it would be of any use in manufactures. — *L. M.* — Chrysanthemums may be struck from November to June; for you, perhaps the best time will be March or April. As you want eight large flowering varieties for borders, take Christine, Alma, Mr. Murray, Chevalier Domage, Progne, Madame Commerson, Plutus, and Madame Lebois. By referring back, you will find abundance of information on chrysanthemum culture. Order in the plants you want in March, let them remain in their pots as you receive them for a fortnight, then plant them on stations deeply dug and well manured, do not cut or stop them at all, keep them securely staked, and you will have a grand bloom in the autumn. — *Farring-*

*don.* — It is impossible to name varieties of florists' flowers. Your chrysanthemums were quite dried up when they came to hand. *Lilium pomponium* is a good hardy border flower; it flowers in May; height two feet. — *Honor.* — It is only by a regular system of shortening back the growth of the year that peaches and all other trained trees can be kept well furnished at bottom. You look forward too far in your speculations on pruning; you forget that when trees begin to bear fruit their habit of growing is altered, so that if we do not get them well furnished at the first start, it is likely they will never be furnished at all. Follow the nurseryman's advice, and cut back the peach-trees to half their present height. This will cause them to make furniture at the base. To keep that will not be difficult; the fruit-branches of the peach only bear once, and they can be continually renewed by cutting back the shoots out of which they proceed. If the shoots are not cut back, the top bud pushes on, forms one or two bearing shoots, with fruit buds at the end, and the buds near the base, which ought to be encouraged to push, wither away. There is no tree which so provokingly goes forward as the peach; judicious pruning can alone restrain it, and keep the lower parts of the tree in a well-furnished and fruitful condition — *R. W. P.* — There are lists of 132 and 50 of the best dalias in the "Garden Oracle;" also lists of roses by the 100, 50, and 25. It is impossible to err by following those lists; they are the result of constant observation and comparison. If you want roses cheap, you had best let the nurseryman select for you; if you select, you must pay more.

## NOTICES OF BOOKS.

*The Old City and its Highways and Byways.* By "ALEPH," author of "London Scenes and London People." W. H. Collingridge, City Press. — "London Scenes" made the public acquainted with many curiosities of topographical and antiquarian interest, which had found no historian till "Aleph" produced his elegant budget of researches and reminiscences. The "Old City" is framed upon the same model, but is quite distinct, and in some respects fresher in style, more personal, anecdotal, and *recherché* in its particulars of civic scenes, and personages,

and events, and perhaps more original in its subjects and illustrations. Amid the crowd of books that compete for popularity at this season, there are few that so completely take our sympathies and absorb our attention as these elegant works by the learned and delightfully gossiping Aleph. The "Old City" contains material for half-a-dozen novels at least; and to all who venerate an old ruin, who seek philosophy in ancient customs, and who find some interest in analyses of human character and experience, it will prove a treasure of almost priceless value.

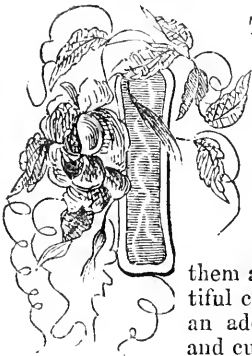
THE  
**FLORAL WORLD**

AND

**GARDEN GUIDE.**

MARCH, 1865.

THE NEXT FASHION IN FLORICULTURE.



It is impossible to define on what principle fashions change in Floriculture. Seasons may have some influence; as, for instance, the wet season of 1860 made the calceolaria unusually popular, through the luxuriance of its growth, and the profusion and richness of its blossoms. During the past three or four years, zonal geraniums have been rising rapidly in popularity, and many private cultivators devote their attention to them almost exclusively, and have extensive and beautiful collections. The very dry season of 1864 gave an additional impetus to the fashion of collecting and cultivating these beautiful plants; and it is very certain that they take the lead in bedding plants, and are likely to usurp the places occupied by many other classes which have hitherto shared in the applauses bestowed upon the colouring of the parterre. The cultivation of the zonal geranium is unquestionably one of the prevailing fashions, and it is not likely to suffer any check, but rather encouragement; for there are now three double-flowering varieties, and among the kinds thoroughly established in public favour we have nearly every colour in the rainbow, except pure yellow and pure blue. Thus, besides the charming effect of a good collection when stored in a conservatory or greenhouse, nearly all the colours required in the geometric garden may be insured by a suitable selection of zonal geraniums; and we may therefore safely say, that the favour with which they are everywhere regarded is founded on a reasonable basis.

But it was with another thought we commenced these remarks. We foresee the growth of another fashion, or, rather, the revival of a fashion of past times—viz., the cultivation of hardy herbaceous plants

of kinds suitable for exhibition. It is full twenty-five years since the auricula enjoyed the fame it deserves. Since that time, it has declined in public estimation; in many districts has passed out of cultivation, and many once-famous private collections have disappeared, no one knows whither. The FLORAL WORLD has many times raised its voice in vindication of the old-fashioned flowers, and has implored its amateur readers not to be so carried away by the mere love of colour in bedding plants, to the utter neglect of the beautiful and interesting subjects which make the history of Floriculture worthy of the study of those capable of appreciating what is loveliest in nature and most true in art. The FLORAL WORLD will not seek to magnify its office by attributing to its advocacy the growth of a new passion for those old favourites which lifted amateur plant-cultivation to the dignity of a science. It will be content to rejoice that everywhere there is an inquiry in progress as to the respective claims and merits and peculiarities of auriculas, polyanthuses, carnations, picotees, pinks, pansies, and the rest of that little charmed circle which used to engage the affections, and attentions, and reflections of thousands of amateur cultivators, who had no ambition to attempt things beyond their reach, and who therefore never made attempts in their small gardens to equal the promenade colouring of such places as the Crystal Palace, Kew, or Battersea Park.

A quarter of a century has elapsed since the cultivation of these charming subjects began to decline; hence, many of the most eminent exhibitors of them have passed away; a new generation has succeeded, to whom the traditions of the past come indirectly and discursively, and as it were by piecemeal; so that, in some sense, the cultivation and determination of relative merits of varieties have to be begun afresh. Yet, in the face of such an impediment, there is taking place on every hand a reaction against the meretricious attractions of the bedding system; and cultivators who want something in which they can take interest, and which will afford them recreation, of a more intellectual kind than they have attained to hitherto, are fitting up frames, laying out beds, and collecting and studying the best of the classes of herbaceous plants. The trade foresees the heavy demand for such things that is arising, and many varieties of auriculas, polyanthuses, pinks, pansies, and other such things, are being bought up, and many who possess stock refuse for the present to sell, because the demand is likely soon to exceed the supply, and the only safe course is to multiply stock as fast as possible. There are many buyers and few sellers, because auriculas of renown are just now not easy of attainment, and, as they increase but slowly, there must be time allowed to regain for it the position which has been temporarily lost.

If any reader should think it strange that the fashion for these things should revive, perhaps one consideration may alone suffice for an explanation. To grow these subjects no expensive appliances are required. They are hardy, and all the shelter they need is against severe frost, heavy rains, and excessive sunshine. They are pre-eminently poor men's flowers—they need constant care, they occupy the mind at all seasons, and, when well grown, their beauty is absolutely indescribable. Let those who doubt the truth of the last sentence take care to visit the Royal Botanic Society's exhibition in Regent's Park, when the auri-

culas and polyanthuses are shown, and then say if in the whole realm of Flora, flooded as it is with beauty, there are to be found subjects to surpass the more than velvet richness, the more than painted precision and delicacy, the more than graceful symmetry and contour of the collections of auriculas, and the more than fairy-like filagree work in refulgent gold upon grounds of deepest black, or intensest maroon and purple, of the lovely polyanthuses. If the eye hungers for gaiety of colour and exquisite designs turned with almost mathematical precision, it may be gratified in carnations, picotees, pinks, and pansies, and no wonder there is a new demand for all such things, and a new recognition of the true spirit of John Keats's famous commencement of *Endymion*—

“A thing of beauty is a joy for ever,  
Its loveliness increases, it will never  
Pass into nothingness, but still will keep  
A bower quiet for us, and a sleep  
Full of sweet dreams and healthful breathing.  
Therefore on every morrow are we wreathing  
A flowery band to bind us to the earth.”

S. H.

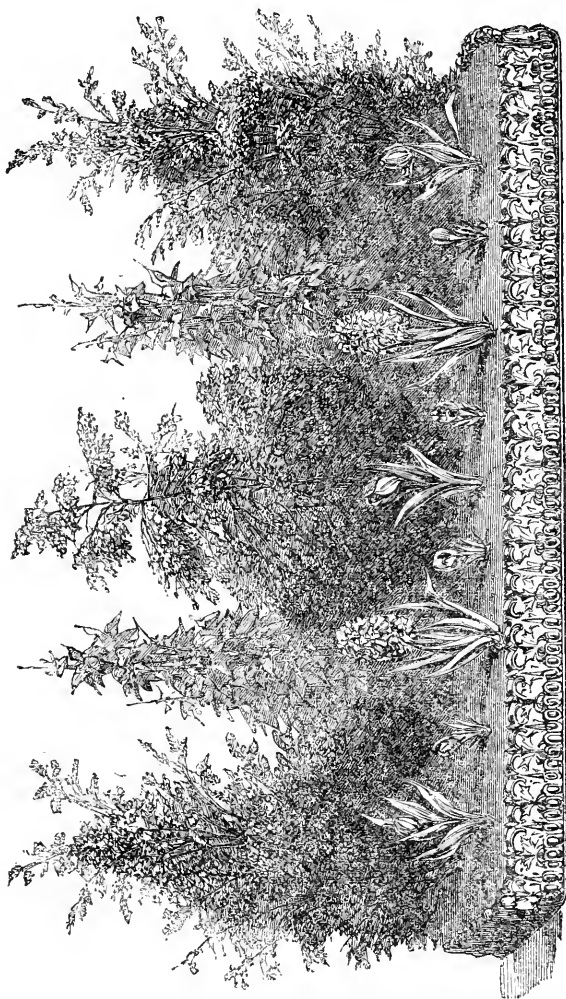
#### THE PLUNGING SYSTEM.

THIS is the last paper I shall write on the Plunging system, unless something occurs in practice of sufficient importance to render it necessary to open the subject again. I present you here with a sketch of the narrow border which skirts the front of my house; a little border which I call my own, to distinguish it from the rest of the garden, which is also my own. It is so distinguished because I take especial pains to keep it always gay, for my own pleasure and instruction, and for the instruction of the rest of the world. Having treated so fully of the first principles of the plunging system, I may now tell you of a diversion from routine which I made last year, and which was of a very experimental kind. Having always a number of plants laying in by the heels all the winter, it occurred to me that they might as well be used for decoration, as be packed away in the lower part of the garden, waiting for opportunities to be planted or potted. But here I ought to say, by way of parenthesis, that to leave plants laying in by the heels is very bad practice. With me it is matter of compulsion, for I

oftentimes buy in a quantity of trees for some particular purpose, and when that purpose is accomplished, there will be some left for which there will be no immediate use, and the only safe way for me to act is to lay them in trenches, and cover their roots with earth, and wait a bit to see what happens. I may happen, a month or so afterwards, to want a dozen or two hollies, or laurels, or box-trees, etc., etc., and “there they are;” and if I do not want them for any particular purpose, they are just potted or planted in the reserve ground, in time to catch the next growing season; and again “there they are” till wanted, and they are then larger and more valuable than when they came first to hand. Well, it occurred to me that, as I had a good stock of Junipers, Abies, Piceas, and other handsome trees, that it would be impossible to plant in their places until quite the commencement of spring, I might as well turn them to account for decoration. They were used in various ways, but the principle of the using was in all the same. To make a short story of it, they were temporarily planted in

cocoa-nut fibre, from which they could be lifted at any moment when required, but where, as long as they remained, they would have the effect of a rich and beautiful plantation.

so as to have a most finished appearance; it is, in fact, a beautiful architectural border, and requires the finest furniture that can be placed in it. I had the soil removed to a depth



The plan succeeded admirably, with one single exception, to be stated presently. The border, of which the subjoined cut is a representation, is edged with one of the most beautiful of Ransome's curbs in patent stone,

of two feet, and replaced with cocoa-nut fibre. I then took my trees, and planted them firmly in the fibre, which, you are perhaps aware, is well adapted to hold a small tree firmly, so that it will not rock with the wind,

while, at the same time, it is safely protected from frost, and can be lifted out with the hand in a moment without any digging, so light and loose is the fibre, even when trodden round in the planting. The picture will give an idea of the effect produced during one period of the experiment. In the centre is a pretty specimen of *Juniperus Phœnicia*, the beautiful bluish green of which shows out well against a stone wall. On either side are noble ivies, trained pyramid fashion. Of these I have a good collection, and the two which happen to be in the figure are *Hedera canariensis maculata*, which has superb patches of amber variegation; a very inconstant and irregular variety, yet very fine for winter decoration, because of its lively and decided colours. The two outside trees are variegated yews, *Taxus baccata elegantissima*, the best of the gold-leaved varieties, and also very gay for this sort of work. Suppose the borders to be thirty feet or thirty yards in length, the mere repetition of these three plants all through would be the perfection of winter-planting; in fact, repetition would produce a richer effect than any great variety. If the border is broad enough, there may be two, three, four, or any number of rows of trees, proportioned as to height; and at the end of March, the whole may be removed and planted properly, and there need not be a root-fibre or a leaf injured thereby.

An example of the same sort of work is before me now: a broad border furnished with a line of large golden hollies; in front of them a line of *Juniperus thurifera* and *Cedrus deodara*, plant and plant; then a row of *Pinus cembra* and ivies, plant and plant, and a lovely row that is, for some of my ivies surpass rhododendrons in the beauty and compactness of their leafage; in front is a row of round bushy plants of *variegated box*, smaller ivies, and the red-berried *Skimmia Japonica*, plant and plant; but if I had the stock to do it, I should prefer to have *Skimmias* only for the front row.

But let me now tell you how to give such a border a finishing touch.

You must leave room in front for a row of plants in six or eight-inch pots, and this row must be changed and altered from time to time. When the border represented in the picture was first furnished, in the autumn of 1863, I made up a front row of potted plants of *Cotoneaster Hookerii*, which is the best of all the hardy berry-bearing shrubs for the colour of its berries, but, unfortunately, it loses its leaves at the first touch of frost. But the berries remain, and they stud the branches thickly; they are nearly twice the size of holly berries, and of the intensest orange scarlet. To compare them to coral would be unfair, for they are brighter than any coral I have ever seen. About the beginning of February, 1864, these cotoneasters were getting shabby—the snow and frost had brought down the berries—so they were removed, and some lively little ivies, *variegated box*, and *Jasminum nudiflorum*, in pots, were put along the front. The plants of *Jasminum* were then coming into bloom, like little mountains of gold, having been kept in a cold pit since the previous November, and by this change the border was superbly lighted up: it became, in fact, a flower border, and continued so through the whole of February. I ought to have had a good stock of *Helleborus niger* and the pretty *winter aconite*, so charming just now with its bright yellow flowers; but I happen to be very poor in these two subjects, and so far my planting system is imperfect.

A grand preparation for the plunging system is to grow plenty of spring flowering bulbs in pots. With me it is a very simple matter; showy and certain kinds of crocuses, hyacinths, and early tulips are selected, potted early, and plunged out of doors in a bed of cocoa-nut dust, which is heaped over them six inches deep, and there they remain till the 1st of February. They are then taken out, and are found to be grown from one to three inches in length, all showing their blooms. They are placed in a cold pit, have plenty of air and light during mild weather, and a few mats and loose litter over the lights during frost, and by the

middle of March they begin to bloom.

The front of the border is then cleared of the small shrubs, and these take their place, and they are changed and changed until the pit is empty, and all are bloomed out; and that process carries me nearly to May, when the border is filled with earth again, and planted with some of my great old scarlet geraniums, which are trained to the wall, and make a sheet of colour five or six feet high. It was when at its best, with the latest hyacinths and earliest tulips, that I had the sketch made by Mr. Slocombe, and most faithfully has he caught the expression of the scheme, which able artists often fail to do.

So far, so good; but we may go farther and fare worse. I got excited about the success of this experiment long before the time came when the trees *must* go to their quarters for the growing season and be properly planted. I could not let well alone. I first, about the end of January, drew a few of them out and examined their roots; they were covered with nice white roots, which were pushing in all directions in the fibre; surely of all the materials on the face of the earth, there is nothing like this fibre to persuade roots to grow. I said within myself, "Good; if it answers one way it must answer another." So I piped all hands, and carefully took up a lot of my best evergreen trees, carried them away from their good places on mounds, lawns, etc., etc., and planted them temporarily in cocoa-nut fibre to make yet more groups, and in anticipation of being able to accomplish things

"Unattempted yet in prose or rhyme."

Amongst the many trees thus lifted there were two fine specimens of *Abies Khatrow*, the graceful ostrich-feather looking pine; a fine pair of variegated yews, that had stood for years on either side of a little rockery; and my best, my pet, my much-valued *Wellingtonia gigantea*, the most perfect tree of its kind on this side of London, and which had also stood for some years on a mound, where it had struck its roots far and wide, and

with its graceful branches swept the ground in a complete circle round it. I let a golden moment pass for replanting these. I forget the exact date when I took them back to the places they belonged to, but I know it was far into April, or near May. Had I been a month sooner, the trees would have had rain to help them; but by the time it was done, the great drought had commenced, and I trembled for them. They were replanted with great care, the holes being covered first with a layer of cocoa-nut fibre, to coax the roots into action, and they were constantly aided with the syringe and the water-pot—the first being of more importance than the second in helping late-planted trees. They all did well, with the exception of three, and it is the recollection of these three that casts a cloud over me as I write this paper. One of the variegated yews never made a single shoot, and did not lose a single leaf. It lived, does live, looks well, is as green as any other yew in the garden, yet all the summer long it never pushed a single bud; no, not a speck as big as a pin's head of new growth appeared anywhere upon it. One of the *Abies Khatrow* grew superbly, and is now as perfect a picture as ever it was; the other lost one of its best branches, so that, for the present, its symmetry is marred. But the *Wellingtonia* died outright. It was worth seven guineas when I took it up, and by the end of June it was laid on the top of a heap of tree-prunings, and consumed by the devouring element. Thus perished ignominiously one of my choicest pets, and the very tree that I used so often point to and say, "See how the smoky air of Stoke Newington suits that grandest of conifers."

Now, if any of our readers had written in the month of January last, and asked if it would be advisable to lift a large *Wellingtonia*, pack it in cocoa-nut refuse, and plant it again in the middle of April, I should certainly have replied, "If your *Wellingtonia* is doing well, leave it alone; if it is for mere whim you intend to lift it, wait a bit, and the whim will vanish. If there is any good reason for



moving, leave it alone till next October, if possible, for that is the best time to move a large Wellingtonia." So we come to see the force of the advice a certain loose-living clergyman used to give his congregation—"Don't do as I do, but do as I tell you." If you will allow me, I will here close my notes on the plunging

system. The failure recorded was no necessity of the system at all; it was the result of whim, and I hope it may be a caution to any of our friends who are given to whims, before they enter upon any undertaking, to be sure first that they have good reason for the course they intend to pursue.

SHIRLEY HIBBERD.

## CULTURE OF THE POLYANTHUS.

AMATEURS are oftentimes deterred from entering heartily into the cultivation of a flower of great historical fame, through the influence of two erroneous notions which take possession of their minds. They first suppose it impossible to attain to proficiency in the art; they do not even suppose mediocrity to be within their reach; it seems as if beneath the surface of floricultural talk and practice there were hidden some cabala, some mystery, some hard-to-be-got-at secret. It ought not to be necessary to say that this condition of mind is wholly at variance with the simple truth of the case. There are in floriculture no hard-to-be-got-at secrets. We ought not indeed to speak of the kingdom or queendom of Flora, for it is a republic, the conditions and terms of success are the same for all; skill, patience, perseverance—these are the credentials for success and honour. Another fallacy is the idea that a great outlay will be needed in the first instance, and a great yearly, monthly, weekly, daily, perhaps hourly expense for ever after. Now, if any reader of the FLORAL WORLD has such a notion, I tell you, my dear friend, it is all moonshine. If you rush and buy all the newest varieties, and buy indiscriminately whatever is offered, without respect to its quality, you may if you like ruin yourself. I can find you auriculas worth fifty pounds apiece if you wish for an extreme case; but I can also find you some very good ones, nay some of the best known, at from two to seven shillings each. Take the case of the Polyanthus, the best flowers have rarely been grown by persons of means. A long purse seems to be

fatal to them; all they want is comparatively pure air, a good soil, and a little shelter; the rest is a matter of judgment and manipulation, and have both to be acquired. As for the cost of polyanthuses, it is a matter not worth mentioning. I see in the catalogue of Mr. Holland, of Middleton, Lancashire, that eighteen finest known varieties of polyanthuses may be obtained for thirty-eight shillings, and many of these are priced at only a shilling each.

SOIL AND SITUATION.—The Polyanthus may be grown in the open ground and in pots. When grown in the open ground the whole year through, there must be some protection in winter, as the finest varieties are more tender than common border polyanthuses. It is best to grow a collection in pots, and a bed as well; losses in winter may thus be made good from the surplus stock of pot plants, and the cultivator will have the advantage of the more rapid increase by offsets, and generally the more vigorous growth of those grown in beds. On the other hand, the plants in pots will be the safest, and the most delicate habited varieties will perhaps always succeed best in pots, both because they can be more perfectly sheltered in winter and shaded in summer, and because they are likely to have more care at all times. Some exhibitors grow their exhibition plants in the open ground, and on the morning of the show take them up and pot them, and so place them on the table. The soil for beds and pots need not of course be alike. For the bed a sound, deep, yellow, maiden loam, enriched with thoroughly decayed manure, is the best that can be

had. Clay, and every kind of loamy soil, or even loam inclining to clay, may be made suitable for this flower by the exercise of a little skill. Very stiff soils may be improved by the addition of sharp sand and peat, and on very light soils there should be spread a few inches of clay in autumn, and in spring this should be dug in and well mixed with the staple, and manure added. For pot culture the best compost is one consisting of equal parts strong yellow loam, well pulverized leaf-mould, sweet and clean, rotten cow-manure, and a half part sharp sand. If the loam is sandy, omit the addition of sand. The polyanthus bed *must be sheltered*, or the frosts in winter, and the burning sun in summer, will destroy the hopes of the cultivator. Some growers have moveable wooden frames and lights with which to cover in the bed during winter like a miniature greenhouse; but common garden frames answer every purpose if the planting of the rows and the sizes of the frames correspond to each other, so that when the frames are put on, the plants within them will be in suitable positions to thrive during winter. But the most important point of all is to screen them from the mid-day sun. The bed should have an east aspect, and enjoy the sun for two or three hours early in the day, and thereafter be shaded by trees, fences, walls, etc., but best of all, trees at some distance, which give a cooler shade than walls.

**PROPAGATION.**—The best time to increase named kinds is March and April, as the offsets then received grow very fast, and soon establish themselves. Very small offsets will be liable to die, unless taken great care of, and they must, therefore, be potted. For this purpose a mixture of peat and leaf-mould will be best; put them in very small pots, and keep rather close, with very small supplies of water, in a cold frame till rooted. Larger offsets may be planted in four inch pots in the compost recommended above for pot culture of specimens, or they may be planted in the bed, and kept regularly watered and shaded till established. If it is in-

convenient to disturb the specimens for the removal of offsets in March or April, leave them alone till July; then repot and divide them. Give water sparingly, plenty of air, keep shaded, and they will soon be established. To raise stock from seed, it is best to begin by saving the seed yourself from the best-named flowers. Now is a good time to plant out varieties in beds, in order to obtain good home-saved seed during the present season. Plant them in a shady border, water freely during dry weather. When the seed-vessels begin to open, give no more water, and every day remove by means of a small pair of scissors the brownest of the heads, which are partly open. A tin box, or some similar smooth receptacle, is needful to receive the newly-gathered seed; if gathered in paper, or any rough receptacle, some of it may be lost. The seed must be spread in a sunny window for a week or so after gathering, and a portion should then be sown, and another portion saved till spring.

**SEEDLINGS** may be raised from seed sown as soon as ripe and seed sown in March and April. In either case the procedure is the same, but seedlings from summer sowing will want careful protection all winter, whereas those from spring sowing will, to some extent, take care of themselves; a certain proportion will indeed be quite hardy, though it is worth observing that the tenderest habited are likely to prove the best. Sow in pans filled with the same mixture as recommended above for specimen plants, with one part of peat added. Let the earth in the pans be very fine; spread it flat, and sprinkle the seeds on the surface very thin. Cover with a mere dusting of fine soil, and place in a cold frame. If the soil is allowed to get very dry, the seed will perish; therefore, to prevent this, place the pans in a vessel of water deep enough to reach to the rim of the pans. In the course of half an hour, the soil in the pans will have absorbed sufficient without the disturbance of a single grain of seed. When the plants are large enough to handle, treat them as ad-

vised for small offsets, and as they advance pot them into larger pots, and use the compost recommended for specimens.

These notes will enable any one to make a fair beginning in the culture of florists' polyanthus. The subject will be resumed in order to treat at proper length of pot culture, exhibition, the merits of varieties, and other subjects which may interest the more advanced florist. In the meantime, the following list of twenty-four of the cheapest varieties, all of them good, may be useful:—

Pearson's *Alexander*.  
Maud's *Beauty of England*.  
Faulkner's *Black Prince*.  
Sander's *Cheshire Favourite*.  
Timmil's *Defiance*.

Fletcher's *Defiance*.  
Madder's *Delight*.  
Hufton's *Earl of Lincoln*.  
Cronshaw's *Exile*.  
Brown's *Free Bloomer*.  
Buck's *George IV*.  
Nicholson's *Gold Lace*.  
Craiggy's *Highland Mary*.  
Eckersley's *Jolly Dragoon*.  
Nicholson's *King*.  
Willison's *Lady Milner*.  
Hufton's *Lord Rancliffe*.  
Park's *Lord Nelson*.  
Cox's *Prince Regent*.  
Collier's *Princess Royal*.  
Fillingham's *Tantarara*.  
Stead's *Telegraph*.  
Hartley's *Volunteer*.  
Summerscale's *Warrior*.

FIDO FIDES.

## ANNUALS FOR BORDERS AND MASSES.

THE following is a list of the most showy and lasting of hardy annuals adapted for sowing in clumps, in the borders, and for making brilliant ribbon lines and masses in beds. In describing them as "lasting" it must be remembered that the term is used in a comparative sense only. There are very few annuals that last long, yet, while they last, some of them are so brilliantly and distinctly coloured that they cannot be surpassed. Where there are no means of raising or preserving greenhouse bedding plants, and the expense of purchasing annually is a matter of some importance, it only needs a little forethought and perseverance on the part of the amateur to ensure a continuous and absolutely gorgeous display. To make it continuous, there must be measures adopted for a succession of flowers; there must be several sowings of seed during the season, and in fact the whole affair must be reduced to system, or the blanks left after the first bloom is over will appear all the more dreary, through the display which has just come to an end. The adage about going up like a rocket and coming down like a stick is illustrated every year in thousands of gardens where one sowing only is made of annuals, for these, after appearing

splendid for a while, are apt to become a seedy and weedy mess during the months of July and August, when the garden should be at its brightest; and in fact it is this natural tendency of annuals, or, as the pedants say, their fugaciousness, which gives the victory at last to geraniums, verbenas, and the like, people preferring the one trouble for all, rather than be at the pains to provide themselves with a succession of flowers by several sowings of annuals. But the amateur will ask, how is it to be done? Reference to former issues of the FLORAL WORLD will afford abundant information on what may be called the "rotation system" of cultivating annuals. But suppose I take an example. Last year at this time I sowed a broad circle of seventy feet circumference, which forms the outer margin of a clump of rhododendrons, with a shilling packet of Barr and Sugden's scarlet strain of Tom Thumb Tropæolum. When up, the plants were thinned to eight inches apart. The plants met, and formed a solid band of vegetation, and in due time flowered, forming a ring of intensest orange scarlet, almost solid with colour, four feet broad and seventy feet round. It was a magnificent sight, but *it was soon over*. The rocket

exploded and disappeared. They were then removed, and picked over, and about four quarts of green seeds taken off for pickling; and the circle was at once planted with asters in distinct colours. Those asters were sown in pans on the 15th of April. The pans were placed in a frame, and had no artificial heat; and when large enough to handle, were potted separately in small pots, in rich soil, and were well taken care of till wanted. When the asters bloomed, there was another grand display, which lasted till the dripping weather of October made an end of it. Then a lot of pomponé chrysanthemums, prepared for the purpose in six-inch pots, were planted, and pegged down, and thus there was a third display; the cost of the whole but a few shillings, and the trouble next to nothing—in fact, a delightful amusement: the word trouble ought never to be used in such a matter. There are other ways of accomplishing a similar result. For instance, in a length of border, the annuals may be sown in clumps two feet apart. Six weeks afterwards, sowings may be made intermediate between all the clumps; so that as the first are removed, the second will come into bloom, and so continue the display.

The brevity of the following list will perhaps be one of its best recommendations. It would be easier to make a long list than a short one, but the object is to name only such kinds as are thoroughly showy, require no peculiar soil or treatment, and are to be obtained true of any respectable seedsman in any part of the kingdom.

The figures denote the ordinary height in inches, the asterisks denote that the kinds so distinguished are pre-eminently adapted for producing brilliant effects. All that are named are beautiful.

**WHITE.**—Large-flowered white candytuft, 12\*; Venus's navelwort,

6 (makes a silvery marginal line); *Campanula Lorei* alba, 12\*; *Clarkia* alba, 12; white Virginian stock, 6\* (splendid outside band or line, soon over); white larkspur, 24\*; *Alyssum calycinum*, 6; *Collinsia candidissima*, 12.

**YELLOW.**—*Athanasia annua*, 15\*; *Erysimum arkansanum*, 18\*; *Erysimum Peroffskianum* (orange) 18\*; *Eschscholtzia californica*, 12; *Eschscholtzia tenuifolia* (primrose), 6; *Tropæolum* Tom Thumb, Crystal Palace Gem, 12; yellow spotted Tom Thumb *tropæolum*, 12\*; *Lupinus* latea, 9; *Limnanthes Douglasi*, 12; *Leptosiphon aureus*, 6.

**RED, SCARLET, AND CRIMSON.**—Crimson candytuft, 12\*; *Linum grandiflorum* (may be left rather close as it is of slender habit), 12\*; scarlet Tom Thumb *tropæolum*, 12\*; crimson Tom Thumb *tropæolum*, 12\*; *Dianthus chinensis*, 12; *Dianthus Heddewigi*, 1-.\*; *Silene armeria*, 12\*.

**ROSE AND ROSE-SHADES.**—*Clarkia pulchella*, 12\*; *Lupinus Hartwegi roseus*, 24; *Lupinus hybridus insignis* 24; *Saponaria calabrica*, 8\*; *Silene pendula*, 12\*; *Viscaria oculata*, 12\*.

**LILAC AND BLUE.**—*Campanula speculum*, 6; *Centaurea cyanus*, 24; *Collinsia bicolor*, 12; *Convolvulus minor*, 6; *Delphinium cardiopetalum*, 12; *Delphinium chinense* (this ought to be raised on a gentle heat; it is the only plant in the list which is not well adapted for sowing in the open ground, but it is included because the finest of all blue annuals for a large group; it is, in fact, unsurpassable), 18\*; *Godetia vinosa*, 12; *Leptosiphon androsaceus*, 12\*; *Lobelia gracilis*, 6; *Lupinus nanus*, 12; *Lupinus subcarnosus*, 12\*; *Nemophila insignis*, 9\* (soon over); *Schizanthus pinnatus*, 15; *Veronica syriaca*, 4\*.

**PURPLE.**—*Schizanthus grandiflorus ocellatus*, 18\*; purple candytuft, 12\*; *Lupinus pubescens*, 24; *Lupinus nigrescens*, 18\*.



## THE NEW HORTICULTURAL SOCIETY.

IN the brief note on this subject which appeared in last month's *FLORAL WORLD*, it was stated that the adjourned meeting of the promoters of the new society would take place on the 13th of February. At that meeting there was a large muster of the principal exhibitors of the metropolis, with many gentlemen cultivators and eminent nurserymen. The chair was occupied by Mr. Shirley Hibberd, F.R.H.S., who briefly informed the meeting of the course pursued by the committee, and then submitted the code of rules which had been prepared as the basis of the new society. These rules were finally agreed to, and in all particulars, except the name of the society, fully carry out the suggestions made by the chairman at the preliminary meeting. The organization is to be called the *United Horticultural Society*. There will be no distinction of classes recognized amongst the members; but wealthy persons, desirous of promoting the society, may become patrons. The subscription is to be ten shillings per annum; the meetings are to take place on the first Tuesday in each month, except in the months of June, July, and August, when there are to be meetings also on the third Tuesday. At these meetings papers will be read, discussions will ensue, plants, flowers, fruits, etc., will be exhibited, and decisions will be arrived at by the joint action of numerous practical cultivators and exhibitors, on the relative merits of florists' flowers, edible fruits, vegetables, and other subjects of horticultural skill. There will also be occasional exhibitions. In connection with the society, there will be established a Benefit Fund for the assistance of gardeners during sickness, seasons of calamity, and old age; and though the society and the club will be kept quite distinct, and

be managed by different committees and different codes of rules, they will be so far related that the surplus funds of the society will be annually handed over to the fund, to augment its resources. The following persons have been appointed a provisional committee to carry on the society until the various offices can be filled according to the rules:—W. Marshall, Esq., Enfield; Shirley Hibberd, Esq., Stoke Newington; Mr. Joseph Newton, of Eastbourne Terrace, Hyde Park; Mr. Baker, gardener to A. Bassett, Esq., Stamford Hill; Mr. Glendinning, of Chiswick; Mr. Rhodes, Sydenham; Mr. Heales, of Messrs. Low and Co., Clapton; Mr. Tanton, of A. Henderson and Co., Edgware Road; Mr. Butcher, South Street, Camberwell; Mr. Howard, gardener to James Brand, Esq., Balham; Mr. Page, gardener to W. Leaf, Esq., Streatham; Mr. Tooman, gardener to R. Hudson, Esq., Clapham Common; Mr. Wheeler, gardener to J. Philpot, Esq., Stamford Hill; Mr. Penny, gardener to H. H. Gibbs, Esq., Regent's Park; Mr. George, gardener to Miss Nicholson, Stamford Hill. Thus, for the present, all the various classes of the interest in horticulture are represented, and the constitution of the society is such that no one class can predominate to the exclusion of the rest. The first meeting for business will take place on Tuesday, March 7th, at 37, Arundel Street, Strand, at seven in the evening. Persons wishing to attend the meeting, or who are desirous of becoming members, may communicate with Mr. Hibberd, Mr. Newton, or Mr. Baker. There is every prospect of success for this undertaking; it has long been wanted, and it is to be hoped it will be well supported by both amateur and professional cultivators.

## THE BRITISH FERNS.

(An abridgment of a Paper read by MR. SHIRLEY HIBBERD before the Central Horticultural Society, Dec. 13, 1864.)

(Concluded from page 15.)

## ROCK AND MURAL FERNS.

—*Asplenium adiantum nigrum* is rarely met with but in positions elevated above the ground; it greatly needs shade and shelter, and will thrive in any peaty mixture, or in broken pots alone. *Asplenium ruta muraria* requires a very dry and open position, and will do well in a mixture of two-thirds broken bricks and chalk, and one-third sandy peat. Stagnant moisture will be speedy death to this fern, but it must have daily sprinklings while growing to promote free growth. *A. septentrionale* should always be grown in an elevated position for the sake of the protection thereby afforded it against slugs and woodlice, which rarely get into the higher parts of mural ferneries. Being very small, it may be easily lost when planted on banks or level ground; but in a suitable pocket in a sheltered nook in a wall or ruin, it makes a very pretty and interesting patch. *Asplenium trichomanes* and *virides* are superb wall ferns, and in fact they rarely do well under cultivation except when planted out in an elevated and well-drained position. The soil should be equal parts sandy peat, yellow loam, and broken bricks, and the plants should be planted firmly, with their crowns slightly above the surface. *Ceterach officinarum* is essentially a wall or rock fern, and a very beautiful and interesting species. Confinement and damp are most prejudicial to this fern, and when planted on a rockery under glass the most airy position safe against drip should be chosen for it. Any good sandy soil will suit it. *Cystopteris montana* requires peculiar care. Select for it a position thoroughly sheltered and shaded, and prepare for it a station with a stratum of broken bricks for drainage, and over that six inches of a mixture consisting of sandy peat, sphagnum, and broken sandstone, or common hearthstone. Plant in the centre of

the station, and place a bell-glass over; keep constantly moist, and give air periodically. When it is well established, remove the glass, and leave it to take care of itself. If the fernery is supplied with a stream of water, *Cystopteris montana* is one of those which should be planted on a ledge of rock where it can have the benefit of a daily trickling of water over its rhizomes. *Lastrea montana*—better known, perhaps, as *L. oreopteris*—requires similar treatment to that recommended for *Cystopteris montana*, but should have a soil more inclining to loam. It can scarcely have too water, provided the position in which it is planted admits of it readily flowing away. *Polypodium vulgare* will grow in almost any position except in a sheer marsh, and there it soon perishes. In those portions of Epping and Hainault forests where it abounds, it is usually found parasitic on the stems of pollard alder, oak, and other trees, the roots being matted firmly to the bark, or rioting in deposits of leaf-mould and wood rotted to powder. On the summit of my bastion I have some fine patches of it planted in cocoa-nut fibre laid in heaps on the loam with which the walls are filled in. Pure cocoa-nut fibre, or equal parts of the fibre and mellow loam, pure leaf-mould, and very dry, tough, fibry peat, in which there are old hummocks of grass, are soils that suit this fine fern to perfection. It will bear sunshine well, but grows more luxuriantly in the shade. In a very dry position where no water can lodge about it, but sprinkled daily all the summer, this fern will attain to grand dimensions, and be one of the most beautiful in the collection all through the autumn and winter months. *Polypodium Robertianum* requires a dry position, and a mixture of sandy loam and chalk. *P. dryopteris*, a very lovely species, and *P. phegopteris*, do well among

roots or rocks, and like shade and moisture. *Woodsia ilvensis* is another hardy fern that requires peculiar management. It must have shade and shelter; and to secure the most perfect drainage is essential to its life. The safest way to deal with this lovely fern is pointed out by Mr. Sim in his excellent catalogue of British ferns. He says, "Make a little mound, hollow in the centre, of broken bricks, freestone, clinkers, or other porous substances. Fill this little hollow with a mixture of fibry peat, a little yellow loam, and as much silver sand as will show that it forms part of the compost. In this the plant will luxuriate. In summer it will require attention in watering when dry. In winter, if left to nature, the porous material surrounding it will secure the needful amount of drainage."

**TENDER BRITISH FERNS.**—A few of the most beautiful British ferns are so peculiarly constituted that they require special arrangements to insure their doing well under cultivation. A glass structure of some kind is of great service as an aid to produce the conditions necessary for the growth of these, and it scarcely matters what are the dimensions of the structure, provided that the ferns are accommodated within it with such conditions as most nearly agree with those in which we find them when luxuriating in their native sites. A Wardian case is only a greenhouse in miniature, and a greenhouse may almost be said to be a Wardian case on a large scale. If in a greenhouse we desire a very close, still atmosphere, we have but to avoid ventilation; and, on the other hand, if in a Wardian case a frequent change of air is necessary, we have but to open the ventilators, of whatever kind they may be, to secure the end desired. Whether in a small case or a greenhouse of some size, all the tender-habited ferns must be specially provided for, for some require liberal ventilation, and others do better with literally no ventilation at all. I shall enumerate a few of this group, and add some remarks on the management

required to bring them to perfection. *Adiantum capillus veneris*, the true Maidenhair, is one of the most delicate-habited of all the British ferns. Sunshine and draught speedily make an end of it; but warmth, and a close, still atmosphere, are eminently favourable to its full and free development. Anywhere in a damp, shady spot, in greenhouse or stove, this lovely fern will be found to luxuriate if its roots are provided with a thin stratum of some sandy or peaty material, and when it gets established it disdains the aid of soil, and spreads itself abroad by means of its spores, and clothes the walls, the burrs, bricks, and every damp spot with a perfect felt of its exquisitely delicate fronds. It is a charming fern to grow in suspended baskets or perforated husks of coconuts, as it soon spreads over the receptacle, and completely hides it with its delicate light green verdure. It is one of the best ferns known for closed cases. *Asplenium adiantum nigrum* is at home in the Wardian case or greenhouse rockery, where it requires to be in a position well drained, moderately shaded, and, if assisted with atmospheric moisture, it attains great luxuriance and becomes extremely beautiful. This, though a rather tender fern, may be grown in the open-air rockery, but does not then acquire its proper character except in very favourable localities. *Asplenium marinum* is one of the best of all known ferns for a Wardian case; it loves shade and a moist, still atmosphere. A peaty soil is best for it, but the atmospheric conditions are of the most importance. I have a fine variety called *erectum*, received from Mr. Sim some years ago, of which I submit a frond to your notice. This I have not seen entered in any fern list, which is to be regretted, for in its robust, erect growth it is very distinct, and it makes a fine centre-piece to a group of ferns under a glass shade or in a rectangular case. Usually, when planted out, *Asplenium marinum* perishes in the winter; hence it should be grown in pots, and be planted out in rockeries under

glass. *Gymnogramma leptophylla* is by no means an attractive fern, but, as it is found in Jersey, it is classed as British, and is the only British *Gymnogramma* known — that is to say, according to the classification which is now accepted. The only safe way to grow this fern is to allot it a small place in a shady part of a warm greenhouse, and take care that it is never disturbed winter or summer, and is always kept moist and free from snails and woodlice. This fern is an annual, and, having matured and dispersed its spores, it perishes. But if the soil is left undisturbed, the spores germinate, and the next season there is a batch of plants where there was but one the year before. When grown in pots, the pots should be set aside and legibly labelled, and in spring, when the plants are large enough, they should be separately potted or planted in groups in large pans. A light sandy peat soil suits it best. *Hymenophyllum Tunbridgense* can only be grown under glass. The best way to deal with it is to appropriate to it a small case or a pan and bell-glass. The bed on which it is planted should consist of a substratum of small crocks, with a thin crust of fibry peat broken small, mixed with an equal bulk of silver sand, and an equal bulk of small nodules of brick, soft sandstone, or tile. I have always found that the common hearthstone used by housemaids is an excellent material for ferns of all kinds that like to push their fibres among damp stone. As to ventilation, it is altogether unnecessary. I find it is the best rule to dispose of this question in the management of all filmy ferns, including *Trichomanes radicans*, *Todea pellucida*, etc., by saying, "Give no air at all." Though a slow grower, *Hymenophyllum Tunbridgense* soon forms a fine patch, if encouraged with warmth and moisture. The specimen on the table was a scrap not much more than an inch square in February last; it now measures about six square inches. It is, as you see, planted on a crust of peat and nodules of hearthstone, and it so happens that a number of seedling *Cystopteris* have

sprung up in the peat, the consequence of having used for filling the pan a piece of peat that had been stored under a shelf on which some pot specimens of *Cystopteris* were kept. *Trichomanes radicans* requires nearly the same treatment as *Hymenophyllum Tunbridgense*. It is, however, altogether unnecessary to use soil of any kind. It does better and has a finer appearance when grown on a block of sandstone, and it will grow on a brick or on any kind of stone, provided the rhizome is securely pegged down in the first instance, and it is protected with a bell-glass and kept well supplied with water. In the stove or warm greenhouse the filmy ferns grow superbly. Fix a piece of rhizome on a perpendicular surface of damp brickwork under a stage, or in some other warm and much-shaded nook, and it will soon spread and form a lovely sheet of felting, so that it may, in some cases, take the place of *Lygodiums* as a true climbing fern.

BOOKS ON FERNS.—I must abstain on this occasion from any consideration of the characters and uses of fern varieties, and avoid many other subjects that would demand consideration were it possible to treat at further length on the British ferns. But allow me, in conclusion, to say one word upon fern books. There are many works on the British ferns, some good and some bad; the majority are bad. Amongst the few good ones, the "Handbook of British Ferns," by Thomas Moore, published by Messrs. Groombridge at five shillings, stands alone and pre-eminent for accuracy, comprehensiveness, and the author's mastery of his subject, and delightful for its perspicuity of description and direction, and rendered elegant by the beauty of the figures. Another excellent work is the "Descriptive Catalogue of British Ferns," by Mr. Sim, of Foot's Cray, Kent, and which may be had from the author for sixpence. It is one of the best trade-lists extant, the work of a real enthusiast, and one of the most successful fern-growers in the country. For those who can afford luxurious fern books, Mr. Lowe's



work in nine volumes is to be recommended. But the high-priced works on ferns are all good, so there is not much need to recommend any one in particular. It is among the cheap volumes, of which dozens have been

published, that there is so large a preponderance of rubbish, and it was to caution our friends against these that I thought it advisable to add this remark on the subject of books.

### TRICKERIES OF THE SEED TRADE.

WHEN Samson sent the firebrands by a novel mode of transit among the sheaves of the Philistines, he was at least pretty certain that none would suffer thereby but the avowed enemies of his country. If we send a similar message, though on the smallest scale imaginable, among the growers and vendors of seeds, we may do mischief to the innocent as well as the guilty; for it must be admitted that dealers in seeds are not all of them enemies to horticulture. Those seedsmen must be counted as enemies who misdescribe their goods, who charge exorbitant prices on the plea of supplying something unique, but which turns out to be commonplace, and who mix dead seeds with live ones, for the purpose of increasing the bulk of packets. We know it is only a certain class of dealers who systematically cheat, and a certain class of customers who are systematically cheated. Those who have had some experience in horticulture have generally learnt prudence by the most effectual of methods—that is, by paying for it—and their best-remembered lessons have generally been in some way connected with the purchase of seeds.

As we have a general rather than a particular case, and the subject occurs to us because now is the commencement of the busy season in the seed-trade, we will at once advise our readers to be very wary how they make purchases of Mr. A., B., or C.'s champion peas, indescribable cucumbers, or infallible potatoes. There is scarcely a small seedsman in the country who has not an early pea, a prolific bean, an unassailable potato of *his own*, which no one else can supply, and which no other variety can

equal. Men who dispense their few bushels of peas and beans during the spring season will coolly impose on their credulous customers old and disused varieties as of their own raising, altogether new, and in quality and productiveness marvels unparalleled. We are not content to allow these people to have their way. When six sorts of peas are taken out of one and the same sack, it is no consolation to be assured that the sort really sold under the various designations, and perhaps at various prices, is a good one; when a fraud has been committed, there is an end of all safety. If a seedsman were to sell Early Emperor pea as "Thumping-ton's Defiance," or West Ham cabbage as "Imposer's Mammoth," he would commit a gross fraud, though Emperor pea and West Ham cabbage are such very good things in their way. This sort of imposture is practised to an enormous extent; every third or fourth class seedsman is prepared to recommend "*my* early pea," "*our own* crystal cauliflower," etc., etc., *al nauseam*. It so happens, however, that the remedy is not hard to discover. The names of good varieties are duly chronicled; the varieties themselves are submitted to comparison, and by means of the Committees of the Horticultural Society, and other sources of information, the public are informed on the relative merits of garden varieties of all kinds. If an assumed variety cannot be shown to have a local habitation, a name, and a history, the intending purchaser may safely make up his mind, that whatever the variety may be in reality, the name at least is a fiction, invented for purposes of fraud. Among 116 so-called varieties

of peas, grown under the direction of the Fruit and Vegetable Committee, in 1860, there proved to be only seventy really distinct varieties, and of these only about thirty were really good. So in the trial culture of cucumbers, 118 reputed varieties were reduced to thirty-four. It will be the same thing when melons, celeries, potatoes, and other important esculents are put to the test, and it will be some comfort to sweep away hundreds of names that are of use only to deceive.

This notice of an abuse which has prevailed without check for an almost indefinite period, may cause many of our country readers to pause before investing their cash in seeds dignified with the affix of the local seedsman. We are earnest advocates of the principle of "dealing with your neighbours," but that is on the supposition that your neighbours are honest. Where seedsman are ever anxious to attach their own names to varieties, a reasonable doubt may generally be entertained of their *bona fides*, and the purchaser had better incur the expense of carriage to obtain supplies from a noted house, than become a ready victim to conceit and cunning.

Another and more pernicious fraud is the admixture of dead seeds with a certain proportion of live ones. This is a cruel as well as a dishonest trick; but unfortunately it is so largely practised that, according to some accounts, huge coppers are always kept in action to kill seeds by the heat of hot water—a process which causes no alteration of colour or shape. Why the seeds should be killed is obvious. Suppose a new cauliflower in very great request, and the seed to be selling at half-a-crown a packet, the seedsman who patronize the copper have only to procure a few packets at wholesale prices, mix with them a considerable bulk of killed rape or cabbage, and they can retail the mixture at the price of genuine seed, without the slightest fear of detection, for dead seeds tell no tales. But the process of killing is sometimes regarded as over-troublesome, as in the case of that pretty herbaceous plant,

*Zauschneria Californica*, of which seed is not to be obtained, though you may obtain instead thereof a common wayside *Epilobium* labelled *Zauschneria*, and which would be a positive benefit to the deluded purchaser if it were first killed according to the orthodox mode of cheating with seeds. There are certain kinds of seeds that are always dead. For instance, did ever anybody obtain plants by sowing seed of *Erianthis Ravenne*?

There are some frauds that excite in us no sympathy for their victims; when the language of low puffery is combined with palpable falsehood, it is clear that those intended to be entrapped are of a class not likely to be benefited by any kind of warning. But extravagant descriptions mingle so largely with the dealings of traders reputed to be above all suspicion, that we feel bound to reprobate it, and advise our readers to exercise caution in all cases where they are about to enter on untrodden ground. For varieties of unquestionable merit there are so many reliable sources of publicity, that there is no longer any excuse either for vendors to over-praise or for purchasers to believe all that is told them. The greatest mischief, after all, will befall the trade itself that indulges in exaggerated descriptions, for a general feeling of distrust must result sooner or later, the consequences of which must be felt by the trade to a greater extent than all previous advantages obtained by such questionable means.

Happily among the leading houses there is so vigorous and honourable a rivalry, that the smallest abuses seem to carry their own remedy with them. Those who choose to exercise judgment need not seek far for unsophisticated seeds and varieties true to name and description, and the more we can discourage the practice of misrepresentation, invention of synonyms, and admixture of dead and living seeds, the more shall we aid the advancement of horticulture as an art, and promote the interests of those who honestly cater for the supply of its necessities.

## BLUE HYDRANGEAS.

THERE seems to be a general desire among those persons who grow hydrangeas to possess those which bear blue flowers. This cannot arise so much from the greater beauty of the blue ones, as they are for the most part of a sickly colour, as because they are comparatively rare. It would perhaps not be uninteresting to examine the evidence which has been submitted to the gardening public during the last few years, in order to try and ascertain, if possible, whether there exists any definite mode of treatment which will insure the production of blue flowers.

And here, at the very commencement, a great difficulty arises; for the experiences of gardeners in different parts of the country have been so various, and the facts urged by some are so diametrically opposed to those put forward by others, that at first sight it appears that the different methods adopted for producing this much-desired effect had nothing whatever in common. The most popular recipes for producing a blue colour in the hydrangea appear to be peat mixed with sand, loam, water impregnated with iron, iron filings, or iron scale from a blacksmith's forge mixed with the earth, poor sand below a pan of gravel, lime-water, alum-water, marl, etc. It is to be regretted that no persons well versed in the science of chemistry have carried on experiments through a consecutive number of seasons, in order to place the matter, if possible, beyond the possibility of a doubt. However, Professor E. Solly, thus reports to the Horticultural Society, in 1842, upon some experiments made by him:—

“Two perfectly similar plants of the hydrangea were taken and placed under the same general conditions with respect to light, air, etc., and watered with dilute solutions, the one of carbonate of soda, the other of muriatic acid, commencing with very small quantities and gradually increasing the doses. At the beginning of the experiment it was difficult to

distinguish the one from the other; they had both the same number of leaves, were nearly of the same size, and alike in colour and general vigour, both being remarkably healthy plants. The solutions taken consisted of 1 drachm of concentrated muriatic acid and 1 drachm of carbonate of soda, each dissolved in 50 drachms of water. Of these, at first 1 drachm, diluted with 2 ounces of water, was given to each plant daily, but the dose was gradually increased to 12 drachms of each solution, so that in a month the one had received nearly 5 drachms of concentrated muriatic acid, and the other more than half an ounce of carbonate of soda. Under this mode of treatment both plants continued to thrive and flourish, and the blossoms were large and perfect, those formed by the plant treated with muriatic acid being rather the most forward of the two; they were, however, both of the same colour, nearly blue, although it was believed that, had they been left untouched, the blossoms would have been pink. It is evident that the acid would have a tendency to render certain matters in the soil more soluble than others, whilst the carbonate of soda would have an opposite effect. The acid would render lime, magnesia, bases, and metallic oxides more soluble, whilst the carbonate of soda would facilitate the solution of silica, acids, and organic substances in the soil. The result of these experiments is rather against those views which have been formed respecting the blue and red flowers of the hydrangea, in which it is supposed that an absorption of iron or lime was essential to the change.” It is unfortunate that there were not three plants in this experiment, one of which was treated with common water only; for as the effect of the two substances were so different upon the soil, and yet the colour of the flowers was precisely similar, it seems but natural to suppose that perhaps neither of them had any effect upon the tint of the

flowers, but that it was produced by the light or some other cause.

Blue hydrangeas have been produced in so many different kinds of soil, both with and without the application of alum, iron, lime-water, etc., that if they are not to be considered as an unaccountable freak of nature, it is time we began to try and discover whether it is not attributable to some other cause or causes, and that position, temperature, and light are possibly the real agents which produce this much-wished-for effect. That light has a considerable influence upon the colour of the flowers has been many times proved beyond the possibility of a doubt. Mr. George Dawson, writing to the *Gardener's Chronicle*, in 1857, says:—"At Enys, in Cornwall, where I lived for a number of years, they had hydrangeas by hundreds in the home plantations, and there they grow very well indeed, and under fir, elms, oaks, yews, laurels, beech, etc., the plantations being of a mixed character, and the greater part of the ground of a good rich deep loam, generally resting upon a rotten flat, inclining to clay—a bottom through which water soon found its way; and the land seldom if ever suffered from lengthened dry weather in summer; and to see the hydrangeas as they flower there is quite a treat to any person who may not have seen them in such perfection. The most essential thing in assisting them there to become a deep distinct blue, was that they were well shaded all through the summer from the sun, as those growing in shady situations were always of the deepest blue. One season some trees were cut down, thus exposing some of the hydrangeas while in full flower, the colour of which was a pleasing blue, but after being exposed for ten days to the rays of the sun, they soon turned to an unpleasant rusty colour. I have seen some bushes of them there producing yearly between sixty and a hundred large heads, measuring on an average over seven inches in diameter, and all of a beautiful blue; and there, where frost seldom if ever

injures them before January, they produce, along with the *Leycesteria formosa*, a very pleasing effect throughout the whole of the autumn months."

In the island of Guernsey, where the hydrangea attains great perfection, and where magnificent specimens of both blue and pink-flowered plants are found in the utmost profusion in the gardens, it is affirmed by many that those which are of the deepest blue are invariably those which grow in the shade. Mr. R. Thomas, gardener at Melton Constable, Norfolk, affirms that in the shrubbery of that place were growing indiscriminately some years ago, very large bushes of pink and blue hydrangeas, in exactly the same kind of soil, which is a sharp red sandy loam. He observed that the blue ones were growing in the most shady and the pink in the open situations, and he found that upon taking cuttings from the blue ones, planting them in the same soil, and putting them in different positions, they invariably produced pink flowers.

But it may be asked, is there then no reason for supposing that solutions of alum, lime, etc., have any effect upon the colour of hydrangeas? By no means; for that these things have an effect has been demonstrated in numerous instances. But the influence is very partial, and is at the best of a most uncertain character, and appears to differ greatly with different individuals; and we recommend to those of our friends who wish to cultivate blue hydrangeas the following course of culture:—Choose a warm, sheltered position, shaded from the rays of the sun, or, at the most, only exposed to them during the hours of early morning. Plant in good peat mixed with a little silver-sand, or in leaf-mould mixed with sand, and water them when necessary with a weak solution of alum, or water in which iron filings or iron scale from a blacksmith's forge have been placed. Continue this course throughout the season, when we shall be glad to learn the result of the experiments.

## NEW PLANTS OF 1864.

(Continued from page 37.)

*Aubrieta Hendersoni*.—A superb variety of one of the most useful hardy herbaceous border plants. The flowers are large, richly coloured, and more abundantly produced than in the form considered specific.—Messrs. E. G. Henderson and Sons.

*Ancmone Japonica Honorine Jobert*.—A vigorous, dwarf-habited, free-flowering, hardy, herbaceous plant, with large pure white blossoms.—Messrs. E. G. Henderson.

*Asplenium ferulaceum*—Polypodiaceæ—A distinct and beautiful tropical fern, with something in the aspect of *A. scandens*, but more compound, and differing entirely in its short, erect, not creeping caudex. It is found in New Granada, where it was gathered by Hartweg (No. 1519); and in Quito, where it was found by Jameson. The cultivated plants, which we have seen in the nursery of Mr. Bull, of Chelsea, are stated to have been obtained from Cortago, in Central America.

*Begonia Digswelliensis*.—("R. H. S. Proc.," IV.)—A very free-flowering dwarf hybrid variety, something like *B. Saundersii*, but a more abundant bloomer, and the flowers opening better. Likely to be useful as a decorative or market plant, and for supplying cut flowers. Leaves narrow ovate lanceolate; flowers of a bright pinkish-red, very freely produced.—Mr. B. S. Williams.

*Berberis stenophylla*.—Berberidaceæ.—A hardy hybrid *Berberis*, between *B. Darwinii* and *B. empetrifolia*. It is evergreen, and produces myriads of flowers of the same apricot colour as Darwin. Likely to prove of great service for ornamental grounds and game preserves.—Messrs. Fisher, Holmes, and Co.

*Brahea dulcis* ("L'illust. Hort.," t. 3. 9.)—Palmaceæ.—This elegant palm is found in the temperate region of Mexico, at an altitude above the sea of from 3000 to 4000 feet. It raises its caudex from ten to twenty

feet high, and flowers in April. It is known to the native Spaniards under the name of Palma dulce, or Soya or Covija; its wood is very durable and of considerable weight, and serves them for the construction of their houses; its supple and solid leaves are used for thatching the roofs; and, as its name indicates, they eat its sweet fruits. It may be grown in the greenhouse, and the ordinary treatment of palms will suit it.

*Canna nigricans* ("R. H. S. Proc.," III.)—Marantaceæ.—A very dark-leaved and useful species for grouping. The leaves are oblong, lanceolate, acuminate, and, as well as the whole plant, of a dark brown colour. When planted out, this *Canna* is said to grow ten feet in height, and with its deep-tinted foliage and fine scarlet flowers proves to be very ornamental.—Mr. Bull.

*Ceropegia Gardneri*.—("L'illust. Hort.," t. 396)—Asclepiadaceæ.—A fine stove creeper, discovered at Rambaddo, in Ceylon, by Mr. Gardner. It is more showy than *C. elegans*; the leaf is lanceolate acuminate, dark green above, violaceous beneath. The calyx has its sepals divided nearly to their base. The corolla is tubular, spreading into a five-lobed limb, the margin of which is clothed with fine hairs of a dark purple, intermixed with coarse hairs of a reddish-brown colour. It will make a fine specimen plant if trained out on a wire parasol.

*Chamærops stauracantha* ("R. H. S. Proc.," III.)—A remarkably elegant Fan Palm from Mexico. The leaves are divided into rather distant long lanceolate segments, elevated on long slender stalks, and the play of light amongst the foliage resulting from this structure has a most charming effect. It is, in fact, one of the most beautiful forms to be found among this class of plants.—Mr. Bull.

*Clematis Jackmanni* ("L'illust. Hort.," t. 414)—Ranunculaceæ.—A magnificent hardy climber, raised by

Messrs. Jackman and Son, of Woking. It is one of a batch of seedlings from *C. lanuginosa*, *C. Hendersonii*, and *C. viticella atrorubens*, the first being the female parent. The flowers of this variety expand to a breadth of six inches, and the colour is a deep rich cobalt blue, shading to violet.—Messrs. Jackman and Son.

*Corylopsis spicata* ("Gard. W. Mag." 1864)—Cupuliferæ.—A free-growing deciduous tree, with the habit of a filbert; the flowers appear before

the leaves, and are pale yellow catkins, with the fragrance of cowslips, produced in pendant racemes, and very ornamental upon the tree; attains to some size. It is a native of Japan.—Mr. Standish.

*Erica Lindleyana*.—A very handsome summer-flowering heath, in the style of *E. gemmifera*, and a good deal resembling *Gemmifera elegans*, but larger and brighter in colour, the flowers bright red at the base, and tipped with green.—Mr. B. S. Williams.

## THE GARDEN GUIDE FOR MARCH.

**KITCHEN GARDEN.**—The miserable weather of the past month has almost completely put a stop to operations in the garden, and, except in a very few favoured localities, there are no spring seeds sown. It will be as well, therefore, to refer back to the notes of work for February, and, as soon as possible, fetch up all arrears. The most important work is to sow peas, beans, onions, parsnips, in large breadths; to sow on warm borders saladings, and small breadths of turnip, horn carrot, lettuce, leeks, spinach, cabbage, savoy, and parsley. Plant potatoes as soon as possible; during fine weather, get out a few cauliflower plants from frames in ground richly manured. Sow in boxes early cabbage, broccoli, cauliflower, and lettuce.

**FRUIT GARDEN.**—Very little work to do here now, unless there has been gross neglect of pruning, nailing, etc. Raspberries will make a good return for a heavy surface-dressing of fat dung; it need not be dug in.

**FLOWER GARDEN.**—Busy times here, to prepare for the summer display. Lightly fork the borders, as soon as you see where herbaceous plants are coming up, but not before, or many may be injured. Get all hardy plants into their places quickly; sow hardy annuals. Propagate chrysanthemums, dahlias, and other subjects that will be required hereafter. Keep potted herbaceous plants well-aired, and give water freely now. Peg out the shoots of pansies in beds, and cover the naked parts of the stems with fine soil. Lay down and mend turf, make box edgings, dig and manure flower-beds.

**GREENHOUSE.**—Beware of the drying effects of east winds, and ventilate cautiously; but beware of the opposite ex-

trême, and do not keep the house shut close on fine mornings; the more sun, the more air; and if the air is bleak, hang woollen nets over the ventilators. Shade wherever needful, especially if you have fine cinerarias, camellias, and azaleas in flower. Shift plants intended for specimen culture; propagate enough of all the subjects required for out-door decoration. Give plenty of water to plants that seem inclined to grow, and to those advancing into flower.

**STOVE.**—A good heat may be maintained here now, as there is abundance of light, and plants are growing freely. Have shading ready, in case of intense sunshine, with east winds, which may do much harm to orchids, unless prepared for. A good plan to deal with plants infested with thrip, or red spider, is to dip them, head downwards, into water as hot as the hand will bear. If this does not answer, wash them with a lather of soft soap, and then syringe them clean. Gesnerias, gloxinias, and achimenes ought to be growing freely.

**VINERY.**—Keep rather dry, and a little more heat where the vines are in flower. Vines just starting, to be at 50° to 60°, until they are a little advanced.

**PITS AND FRAMES** are invaluable now; wonders may be done by using them judiciously, and a heap of mere leaves will give heat enough to bring fairy roses, rhododendrons, azaleas, and pelargoniums into flower, and seeds of capsicum, tomato, cucumber, melon, gourd, etc., will soon come up. A good hot-bed is better still; and every amateur who has not yet succeeded in making and managing a hot-bed, ought to persevere, for there is nothing like it.

## MARCH, 1865.—31 DAYS.

PHASES OF THE MOON.—First Quarter, 4th, 0h. 19m. after. ; Full, 12th, 10h. 42m. morn. ; Last Quarter, 20th, 0h. 36m. after. ; New, 27th, 5h. 23m. morn.

AVERAGES FOR THE MONTH.—Bar. 29.934. Therm. max. 50°, min. 34°, mean 41½°. Rain, 1.4 inches. Prevailing winds N.W. and N.E. ; the latter most frequent ; S. winds of rare occurrence. The range of temperature very great.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	sets.	Barom.		Therm.				
1	6 47	5 39	29.78	29.69	50	25	37.5	.00	Aubrietia deltoides.
2	6 45	5 40	29.78	29.66	48	32	40.0	.00	Nonea lutea.
3	6 43	5 42	29.66	29.49	54	39	46.5	.54	Sysirinchium grandiflorum.
4	6 41	5 44	29.50	29.49	57	31	44.0	.00	Veronica cristagalli.
5	6 39	5 46	29.40	29.22	48	38	43.0	.47	Hepatica angulosa.}
6	6 36	5 47	29.10	29.04	54	39	46.5	.06	Draba bryoides.
7	6 34	5 49	29.16	28.91	53	39	46.0	.20	Arabis rosca.
8	6 32	5 51	29.20	28.98	47	30	38.5	.18	Orobus vernus.
9	6 30	5 53	29.26	29.07	35	25	30.0	.40	Borago orientalis. }
10	6 28	5 54	29.63	29.61	46	30	38.0	.03	Saxifraga cordifolia. }
11	6 25	5 56	29.58	29.55	54	40	47.0	.08	Saxifraga ovata.
12	6 23	5 58	30.17	30.00	53	29	41.0	.00	Draba brachystemon.
13	6 21	5 59	30.20	30.06	53	40	46.5	.00	Adonis vernalis.
14	6 19	6 1	30.02	29.90	57	44	50.5	.02	Erinus alpinus.
15	6 16	6 3	29.90	29.78	52	29	40.5	.01	Pulmonaria rosea. }
16	6 14	6 4	30.14	30.04	53	28	40.5	.00	Erinus Hispanica. }
17	6 12	6 6	30.10	30.07	51	20	35.5	.00	Veronica micrantha.
18	6 9	6 8	30.13	29.68	53	27	40.0	.00	Draba azoides.
19	6 7	6 10	29.95	29.59	58	23	40.5	.00	Viola collina.
20	6 5	6 11	29.66	29.59	60	31	45.5	.00	Pulmonaria officinalis alba.
21	6 3	6 13	29.64	29.60	51	36	43.5	.00	Orobus flaccidus.
22	6 0	6 15	29.81	29.63	48	35	41.5	.00	Bivourea (Thlaspi) latifolia. }
23	5 58	6 16	29.98	29.86	51	19	35.0	.00	Cardamine trifolia.
24	5 56	6 18	29.93	29.85	50	20	35.0	.00	Cardamine uliginosa.
25	5 53	6 20	29.74	29.52	52	26	39.0	.01	Pulmonaria maculata.
26	5 51	6 21	29.52	29.51	42	27	34.5	.00	Fumaria cava.
27	5 49	6 23	29.56	29.50	50	27	38.5	.03	Orobus pallescens.
28	5 47	6 25	29.40	29.06	50	30	40.0	.12	Ranunculus ficaria. }
29	5 44	6 26	29.50	29.18	48	24	36.0	.00	Potentilla fragaria.
30	5 42	6 28	29.66	29.40	50	25	32.5	.00	Anemone pulsatilla.
31	5 40	6 30	29.77	29.60	55	36	45.5	.09	Salvia bractea.

PROBABLE WEATHER OF MARCH, 1865.—The forecast for February was fulfilled by events in every particular. We have now had some of last year's arrears of rain, which is a good beginning for the present season. During the present month, much agreeable weather, especially towards the end. From 1st to 10th damp and mild, with heavy rains and westerly winds ; from 11th to 16th light frosts, bright skies, and occasional strong gales ; wind principally S.E. and back to N.E. Thence to the end settled and fine, with occasional light showers ; wind S.W. and round to N.E.

## TO CORRESPONDENTS.

CATALOGUES RECEIVED.—E. G. Henderson and Son, Wellington Road, St John's Wood, N.W., "Catalogue of Flowers, Vegetable and Agricultural Seeds, etc." Hooper and Co., Central Avenue, Covent

Garden, W.C., "General Spring Catalogue of Flower, Shrub, Ornamental Plant, and Kitchen Garden Seeds, etc." London Seed Company, 68, Welbeck Street, Cavendish Square, W., "General Price

Current of Kitchen Garden, Flower and Farm Seeds." John Fraser, Lea Bridge Road Nurseries, Essex, N. E., "General Descriptive Seed Catalogue." George Walker Dixon, 48A, Moorgate Street, E. C., "Catalogue of Kitchen Garden, Grass, Agricultural, and Flower Seeds." Barr and Sugden, 12, King Street, Covent Garden, W. C., "Illustrated Guide to the Flower and Kitchen Garden." J. B. Brown and Co., 18, Cannon Street, E. C., "Illustrated Catalogue of Guaranteed Agricultural Implements, and Descriptive Lists and Notices of Wirework, Ironwork, Mowing Machines, and other articles of Garden Furniture and Embellishment." John Salter, William Street, Hammersmith, W., "Catalogue of Chrysanthemums, Dahlias, Pæonies, Phloxes, Fuchsias, Iris, Hardy Variegated Plants, etc." W. Cutbush and Son, Highgate, "Catalogue of Vegetable, Flower, and Farm Seeds." B. S. Williams, Holloway, "Catalogue of Flower and Vegetable Seeds."

#### BEST SEASON FOR PLANTING EVERGREENS.

—Can you account for the difference of opinion about the proper time to transplant evergreens? People appear to be agreed that the *best* time is from the middle of September to the middle of November—the first part of the period being preferable for the more tender kinds; but after that period I can find no agreement. An editorial reply to a correspondent, which appeared in the "Gardener's Chronicle" of the 14th January, says that "that operation [the moving of evergreens] had better be done now than a month later." Again, I was in Ireland the middle of last December, and being in a first class nursery there, and speaking to the principal about the transplanting of some hollies, I said, "I thought it rather late, and I would rather wait till next March." "No," said he, "do it now. March is a bad time with its drying winds." Now, old Abercromby tells us, in his Calendar, quite the contrary of the two foregoing. He says, to give up planting evergreens in December and January (except some few of the hardiest), and to begin in March. I moved one holly with good, fibrous roots the beginning of December, and it does not appear to have suffered. Certainly I mulched the roots. In last April I moved some evergreens. That dry, warm weather came immediately after, and though the roots were carefully mulched and kept moist, some Cotoneaster microphylla died back to stumps. I am

beginning to think that hardy evergreens, such as hollies and cotoneasters, etc., had better be moved in winter, in mild weather, if the ground be mulched to keep off frost from the roots, rather than to leave them to spring. They appear to want their heads shaded if planted in spring [Yes, and frequently sprinkled too], as much as they want their roots mulched if planted in winter, and it is easier to do the latter. With hollies up in a hedge it may be different, as frost could hardly be kept from their roots.—A. B. [In the FLORAL WORLD, of September 1860, an article on planting commences thus, "Plant at once anything and everything in the way of hardy trees and shrubs." It has been the rule in this work to recommend autumn planting, and we can only repeat that August and September are the best months in all the year, for all evergreens, and October and November the best for all deciduous trees. If moved during severe frost, or if severe frosts follow the moving, deaths are likely to occur, and it is the fear of that contingency makes Abercrombie advise suspending operations during December and January, and recommencing them in March. March is certainly a bad time because of the drying winds, but a good time because if the trees can be helped through the windy time, they get nice showers soon after, at the very season when they are pushing vigorously new shoots and new roots. Many thousands of evergreens have we planted with our own hands in the month of May, and they have done well; but much depends on seasons, soils, and other circumstances.]

#### HYACINTHS, FARFUGIUM, ARUMS, ETC.—

J. J. P.—If a hyacinth throws up more than one flower-spike, the removal of all but one will cause the one left to attain to much finer proportions than two or three spikes would. When intended for exhibition, there ought to be but one spike to a bulb; but for home decoration cultivators may do as they please, have two or three medium-sized spikes or one thumper. We prefer the latter. When hyacinths refuse to throw up their spikes, and when the spikes are dumpy, the cause is always the same, *deficiency of roots*, and the cure is the same, *gentle bottom-heat*. Mr. Hibberd has alone pointed this out in his papers on hyacinths; other writers have agreed in the nonsensical practice of putting paper caps over the crowns; Mr. Hibberd has said, "induce the formation of good roots,



and the spikes are sure to rise and flower satisfactorily." Any one may prove the truth of this by turning out of its pot a dumpy hyacinth and one well developed, and comparing the respective conditions of their roots. To get large leaves of *Farfugium*, grow the plant in rich light soil, in large pots, as advised at page 223 of the volume for 1883, and if the plant is crowded with growing crowns, remove some of them by cutting them out with the point of a penknife. With many crowns to feed, and a poor soil to grow in, it is impossible for the roots to supply the leaves with sufficient nourishment for their full development. Your *Aiums*, which were plunged all last year, ought to have been removed and placed in the greenhouse for the winter. Probably they are all dead. If they are not dead, the best way to deal with them will be to place them on a gentle hotbed, and when they begin to grow repot them. If you cannot give them a hotbed, place them in a warm part of the greenhouse till they begin to grow, and then repot them. Perhaps your balcony may roast the roots of the potted evergreens in summer, but you can easily contrive some plan to protect them, such as plunging the pots in larger ones, or in tubs, with a layer of cocoa-nut fibre, moss, or sawdust between. The "nobler sex," as represented in this case, will only endure a limited amount of satire, so mind how you wind up your next letter. But do not, on any account, hesitate to write, if it is at all likely the *FLORAL WORLD* can help you in your pursuits.

**TREE ONION.**—In consequence of a notice of this in "Profitable Gardening," frequent inquiries are made of seedsmen for supplies of bulbs, by persons who wish to cultivate it. We gave away the whole of our own stock of it three years ago, and have not grown it since. Messrs. Hooper and Co., of Covent Garden, once had it, but soon sold out their stock, and are now without it. If this note is seen by any persons in possession of a stock of this useful bulb, they are respectfully solicited to send as many as they can conveniently spare to Mr Shirley Hibberd, care of Messrs. Groombridge and Sons, 5, Paternoster-row, London, E.C. Should any bulbs come to hand they shall be planted, with a view to get up another stock for distribution.

**ROSE GRAFTING.**—*R. B. C.*—The only advice it seems needful to give, is this, that grafting roses is not good practice; they seldom make such nice trees as

those bubble. Directions for grafting and budding will be found in the "Rose Book." *Rosa sulphurea* will never bloom till aged, therefore you must wait.

**ROSES FROM SEED.**—*J. W. B., Phibsborough.* Your letter, dated January 24, arrived on the 26th, on which date the *FLORAL WORLD* was being printed, to be ready for the trade on the 28th. Hence it could not be answered in the February number. Rose seeds are usually pitted in sand during the time intervening between gathering and sowing, and the process of pitting certainly favours the vegetating of the seed when sown. The best time to sow is early in March. Break the hips carefully, and rub out the seeds. Sow those seeds one inch deep in boxes or large pans, filled with rich light soil, and place the boxes in any out-of-the-way place, where the sun will shine upon them a few hours daily. If sown in pans plunge the pans to the rim in an east or west border. About May some plants will appear, lift these out by means of a pointed stick, and pot them separately in four-inch pots, in rich soil; shift to six-inch pots when necessary, and keep them under frame culture till the next spring, then plant them out in rich soil to grow as they please, and flower in their own way. The reason you are advised to lift the seedling plants out and pot them, is because the majority of the seeds will not germinate till after they have been sown twelve months. Therefore they must be left undisturbed.

**GRAFTING IVIES.**—*A. B.*—This is the best time to graft ivies, though they may, needful, be grafted in autumn. The best way is by saddle grafting, as hollies and rhododendrons are done. The stocks ought to be strong and well established in the ground, or in pots; and in pots will be preferable. When the grafts are put on, a good bast binding will be sufficient, but there will be no harm in adding clay or wax for extra safety. The grafted plants should then be placed in a cold frame, and have an occasional sprinkling over the tops for six or eight weeks. In selecting grafts choose, if possible, plump, ripe wood of the previous season, and let the grafts be small. In selecting the wood of fruiting forms of ivy, you cannot mistake if you select the points of shoots on which there are no remains of fruit, as these are sure to be last year's shoots. *Hedera canariensis* is a first-rate stock, but *H. Regneriana* may be used.

**JASMINUM NUDIFORUM.**—*Erith.*—When

grown on a wall, or as a border shrub, this scarcely requires any pruning. But when grown in a pot it must be pruned in November, or when the flowers begin to show colour. Prune away the greater part of the previous year's growth, say two-thirds, so as to save all the wood on which there are flower-buds. The time to repot is when the flowering is over. Plants on walls will want occasional thinning, and the best way will be to thin out to the base, every year, a few of the oldest shoots, so as to keep the plant always renewing itself from the collar. It is one of the most useful of all known window plants, flowering at a season when a window flower is most prized, and needing only the shelter of a cool greenhouse or frame until transferred to the window to bloom.

**SHADY GARDEN.**—*W.P., Blackburn.*—The best ferns for your shady garden are Lady fern, common Lastrea, Royal Osmund, Blechnum spicatum, common polypody, hart's-tongue, holly-leaved prickly fern, and *Oncoclea sensibilis*. You may grow common auriculas, polyanthuses, pansies, primroses, periwinkle, and, in fact, most of the hardy border flowers there. By referring back, you will see many notes on shady borders. If you want a few choice things, plant the variegated Japanese honeysuckle to train along the margin, variegated periwinkle, Alexandrian laurel (*Ruscus Alexandrinus*), *Farfugium grande*, and any of the variegated *Funkias*, with variegated white Lily, and variegated Lily of the Valley. Do not move the hollies; they will do well there.

**VARIOUS.**—*T. E. P.*—Your *Daphne* must be encouraged to grow by giving plenty of water, and keeping it in the warmest place you have. After the end of May put it out of doors, plunged to the rim of the pot, where it will have the sun upon it some hours every day, and there let it remain till the end of October. This treatment will cause it to ripen the new growth, and next season it will flower freely. If you send a sketch of the greenhouse and place intended for the forcing-house, we will endeavour to advise.—*Polly.*—You will always be in trouble with dust, etc., etc., until you have a hot-water apparatus, and your best plan will be a small boiler at one end, and a tank at the other, so that the tank would serve for a propagating bed. In this case the boiler and furnace must be outside, unless you could make an opening at the end of the house, and set the boiler into the bank of earth which

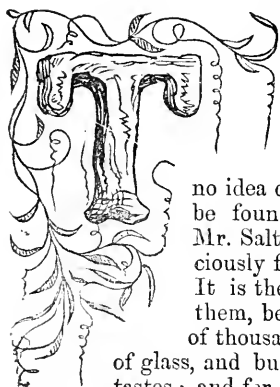
forms the border at the back. Mr. Jones, of Bankside, Southwark, would solve all your difficulties presently. If you have a furnace inside the house, you must have dust, but if it is a question what is the best stove to burn inside, there can be no doubt that Musgrave's is unequalled.—*A.B., Narberth.*—No; it is all moonshine to suppose any harm can come of digging in frozen soil. Of course frozen soil ought not to be dug in when planting trees.—*A.B., Acton.*—What they tell you about roses is nonsense. Roses on their own roots will do as well in the ground as in pots, in fact better. Of course, if you pot them you must allow liberal pot room, and use rich soil. All our plants of Jules, General, Anna, Geant, etc., about which we have so often written, are on their own roots.—*T. S.*—Better have a good slope for the lights of your frames, in order to catch the morning sun, and prevent drip inside. The frames intended for cucumbers must be deep enough, or the leaves will get injured by pressing against the light, say seven inches in the front and eighteen at the back. You had better have one-brick wall below ground, half-brick will be too slight, and heat will go through one brick readily enough.—*J. H.*—You must go to Kew; the best private collection is Mr. Mongrieditien's, Forest Hill.—*C. A.*—Probably *Senecio mikania* or *Poligynne suavis* might answer to train over your sash to screen off the sun. The Chinese yam, *Dioscorea battatas* would make a very pretty screen, and an inch of the narrowest end of a yam would be sufficient to plant for the purpose. We cannot name your crushed leaf of a plant; it may be *Tritonia uvaria*.—*N. W.*—Yours is the fern-leaved primula, *Primula sinensis filicifolia*, which you will probably only obtain true by applying to Messrs. E. G. Henderson and Son, Wellington Road, St. John's Wood.—*S. W.*—The garden is strictly private; if visitors were allowed, literary labours, to say nothing of horticultural experiments, would be impossible. By the tone of your letter, you seem to assume a right of entry; perhaps upon that subject it would be well to consult some authority on polite behaviour. Though most anxious not to offend, we have long ago resolved—having suffered many annoyances—that people who persevere in endeavours to intrude upon our privacy must be dealt with in a summary way; a polite refusal they cannot understand.

THE  
FLORAL WORLD

AND  
GARDEN GUIDE.

APRIL, 1865.

THE PYRETHRUM.



THE pyrethrum has found in Mr. Salter just such a friend and patron as years ago the chrysanthemum found. Those who know the flower only in its single form, and comparatively rusty colours, can form no idea of the beautiful outlines and lively tints to be found in the series of named varieties which Mr. Salter has sent out from his extensive and judiciously formed collection of these attractive flowers. It is the more necessary here to call attention to them, because they are so well adapted to the wants of thousands of amateurs, who have but a small extent of glass, and but limited means of indulging horticultural tastes; and for these the pyrethrum is quite worthy to become a sheet anchor. This flower possesses many peculiar advantages to recommend it to the favour of amateur florists. Like the pansy, polyanthus, pink, carnation, and other like subjects, it needs no costly appliances to bring it to perfection. It is quite hardy; it needs only a well pulverized and liberally manured loamy soil; it almost takes care of itself, but of course, when judiciously treated the result is more satisfactory than when the plants are neglected altogether. Indeed, if it wanted no care at all, it would scarcely be worthy of mention in these pages, so assiduously as they are perused by thousands of genuine enthusiasts. The season at which the pyrethrum is in perfection, is just that at which amateurs are generally worst off for flowers: it blooms at the same time as the herbaceous pæony; it is in its full glory in the early part of the summer, when as yet there are no bedding plants in bloom, when, perhaps, the dahlias are not yet planted; when, perhaps, the first crop of flowers of the autumn-sown annuals is just on the wane. It does not last long, yet so long that it must not

be described as fugacious; it lasts as long, in fact, as the majority of early blooming, hardy, herbaceous plants, and if a late bloom is wanted it may probably be had by pinching out the first buds, and allowing the plants to throw up a succession. The word "probably" is used advisedly, for on more than one occasion I have seen plants that had met with injury; as for example, their first buds being destroyed by the spade or a blow, produce another crop immediately, and which, of course, flowered long after the rest of the collection had had their day.

Any of the readers of the FLORAL WORLD, who are unacquainted with the characters of the new and improved race of pyrethrums, may picture to themselves the nature of the flowers by supposing them to be like anemone chrysanthemums of the most perfect patterns, but there are some that are without a disk, consisting throughout of ligulate florets. These may be likened to what are termed "reflexed" chrysanthemums, though usually the florets of the "double" pyrethrums are not reflexed (reflected), but lie in regular tiers, from circumference to centre, producing a hemispherical flower of fine proportions, and of bold and distinct character.

The range of colours is limited. There are several good whites, more good rose colours, very few dark, and none yellow. As a rule, the colours are good, and when the varieties are planted in groups they are rich and pure, and very distinct as garden furniture; in fact, any one possessing a collection may reasonably be proud of it.

The following are the best among some hundreds of varieties which the writer has examined solely for the purpose of determining which were the best among them:—*White and blush*: Album plenum, Annie Holborn, Boule de Neige, Bridesmaid, Candida plena, Madame Fourcade, Madame Thibaud, Princess Alexandra. *Rose and Red*: Ariadne, Ariane, Boule rosé, Brilliant, Eximium, Floribunda plena, Herman Stengen, Iveryana, Marguerite d'Anjou, Michel Buckner, Nemesis, Pink Pet, Rev. J. Dix, Rose Perfection. *Crimson and Dark*: Fulgens plenissima, Lysius, Prince of Wales, Purple Prince, Purpurea plena, Wilhelm Kramper. The foregoing selection includes about an equal proportion of anemone centred and double flowers. The prices vary from one to seven shillings each. Intending cultivators, who wish for the cheapest varieties only, will be sure of good ones, because all inferior kinds have been discarded. If a supply is ordered to range at from one to two shillings each, there will be no fear of worthless kinds coming to hand. Nevertheless, some of the newest and highest-priced varieties are so extremely beautiful that those who obtain them will never regret the outlay. The writer has a good collection, and is proud of them. They are indeed worthy of the most generous encouragement, and will repay any amateur who will give them the little attention they require.

H.



## CRIMSON AND PURPLE-LEAVED BEDDERS.

OF late years a quite new feature has been introduced in ornamental gardening by the substitution of plants with strikingly coloured foliage in the place of plants producing gay flowers. The innovation was at first regarded by many as opposed to principles of correct taste in gardening, and it was regarded as one of those freaks of fashion which are popular for a time and then pass away. But events have not justified such criticism. What are called "foliage plants" have become more and more popular every season since they first acquired importance in the disposition of colour masses and ornamental groups. There is one good reason why plants of this kind, if possessing the properties requisite in "bedders," that is, if adapted to form masses of uniform colours for purposes of contrast and harmony with other plants, should be held in high esteem. That good reason is, that from the production of the first leaf till frost kills them down in the autumn, foliage plants maintain the same character as colour agents, and produce the effect required of them throughout the whole period of their growth. In this respect they are superior to all flowering plants; but, on the other hand, the colours they afford are not generally very decisive, and the high colouring of flowers is needed to bring out the foliage tints with due effect. Rightly used, foliage plants enlarge the sphere of colour-designing, and produce combinations for which we should seek in vain for materials among plants with green leaves and gay flowers. The system of bedding, now so elaborately developed, derives some of its most important features from the association of plants with characteristic foliage with those that afford rich floral colouring. Thus *Lobelia speciosa*, which forms the most beautiful bands of bright blue on the margin of beds of scarlet geraniums, shows with tenfold effect when edged externally with *Cerastium tomentosum*, a silvery-leaved

plant of low growth, which may be clipped to a low close line, so as to furnish beds and ribbons with a finishing boundary, which by contrast with bright colours is most beautiful. There are hundreds of plants of similar character, varying in their habit of growth, for the most part easily kept and easily propagated, which may be used in the summer decoration of the garden, both to increase the variety of subjects and add to the brilliancy, by the contrast of neutral tints, of the most highly-coloured flowers. As we cannot dispose of all these in one article, we shall now direct attention to a few of the most recently introduced, and offer a few hints for their management, and the uses to which they may be put.

Among these there are some remarkably showy subjects, which every one who takes an interest in garden colouring should make acquaintance with, either with a view to immediate use in systems of bedding, or to grow for a season in order that their character may be understood for their proper use at a future time. The one which first deserves mention is *Perilla Nankinensis*, a species of balm, from China. The entire plant, stem and leaves alike, is of a deep bronzy purple colour, and with good culture plants of it may be grown to a height of three feet, and the same in breadth, when its deeply-notched and wrinkled leaves, and free branching habit, render it one of the most beautiful objects imaginable. But such specimens are not usually required for bedding purposes; if they are from four to six inches high, or even less, in May, they soon acquire robustness after being planted out, and may then be kept to any desired height by simply nipping off the tops, which will cause them to throw off side-shoots, and become very bushy. Where *Perillas* are largely used as bedders, the seed is usually sown in January, and placed in heat. As soon as the plants are furnished with two or three rough

leaves, they are pricked out into pans, from which they are in due time potted into thumb pots, and then into 60-sized pots, to be ready for turning out at bedding time. Those who have no convenience for raising them early in heat, may, nevertheless, grow Perillas; and there is good time now to have fine plants in the open ground by the first week in June.

Procure a shilling packet of seed, which will produce about three hundred plants. Sow the seed thinly, in shallow pans filled with fine earth, and cover it very lightly. Place these pans in a frame or pit, or under the stage of a greenhouse, and lay over each a sheet of glass, and shut them up close and warm. If the soil is sufficiently moist before the seed is sown, no more watering will be required till the seeds have germinated, as the glass will prevent evaporation. As soon as the seedlings appear, remove the glass and place the pans in full light, but where they can be slightly shaded during hot sunshine. They will grow rapidly; and when they have three rough leaves—that is, three leaves from the centre, not counting the original seed leaves—carefully pot them into thumb pots, in a mixture of leaf-mould, dung rotted to powder, silver sand, and loam, equal parts. When potted and watered, shut them up in a frame quite close, and let them remain so, without air, for three or four days; then give air for an hour or two in the morning; and in the course of a few days give air freely, and shut up close towards three o'clock in the afternoon. The plants will make rapid progress; and when they have quite filled the pots with roots they may be shifted into 60-sized pots, and by the time they fill those with roots it will be time also to plant them out in the beds and borders they are to occupy.

Two other plants which we associate with *Perilla Nankinensis* as equally valuable where richly coloured foliage is required, are *Atriplex hortensis rubra*, or purple orach, an old-fashioned plant belonging to the spinach family, and *Chenopodium*

*atriplicis*, also of the same family as spinach. These two plants produce the most richly-coloured foliage of any plants in our gardens, and every gardener should be acquainted with their uses and management. The purple orach created quite a sensation in the horticultural world when first used in beds with Flower of the Day Geranium at the Crystal Palace. There were very few, even among professional gardeners, who could determine the name and history of those robust-looking, hastate-leaved herbaceous plants, which from head to foot were of the colour of port wine, and not a tint of green anywhere visible. When the sunshine streams through the leaves of the purple orach the effect is charming, and we may search in vain for any similar effect among the colours of flowers. But this is of less value than perilla as a bedder. Perilla grows more and more beautiful the whole season through, and will bear a few degrees of frost unhurt. If it is desired to plant beds with it in July, or later, to take the place of annuals or other plants that have passed their heyday, the stock can be obtained by taking cuttings from the perillas six or seven weeks or more before they are required for planting out, and those cuttings will root without heat, by being shut up in a frame for a fortnight, and kept shaded. There is no limit to the extent to which perillas may be propagated from a mere pinch of seed in the first instance, and the only limit to its endurance is that imposed by the weather. On the other hand, *Atriplex hortensis rubra*, the claret-coloured spinach, will not last the season through, and it cannot be kept on from cuttings when it has passed a certain stage of its growth, and is beginning to produce seed. When young it may be topped and struck, but the cuttings rarely make good plants, and it requires a brisk heat to cause them to root; and heat destroys their rich colour, and causes the new growth to become a dingy green, so that the plants must have time to recover in a cold frame before they are fit for bedding. While it lasts, however, it

is a most beautiful object, and single plants may be grown to a height of three or four feet, or it may be kept to a height of from six inches to a foot by nipping out the tops, which causes the plants to produce side branches. When once it begins to seed, its day is over—no stopping will prevent it seeding; and even if cuttings be struck then, they are worthless as plants. To make the most of this truly fine bedder, then, it should never be sown till the beginning of April. It should be planted out small, in a rich soil, which will give it luxuriance; and in a cool, moist position, it will be in less haste to flower, than in a hot, dry position. But under any circumstances it cannot be depended on to last beyond the end of August, when it must be replaced with something else to continue the display to the end of the season.

The third plant we specified as worthy of special attention, *Chenopodium atriplicis*, is also an old-fashioned plant, the true value of which has been only recently recognized. This will grow to a height of five feet, and if allowed to run to that height is truly superb, though it will generally be more useful if kept dwarf by nipping out the points of the leading shoots, so as to cause the growth of a constant succession, and a bushy habit. The beauty of the plant consists in the rich carmine hue of the powder which covers the young leaves and stems; but as the leaves get old this powder disappears, and the leaves then assume a dingy brown or unpleasant green hue; hence, to keep up its beauty, frequent pinching off of the points is essential.

These two spinaceous plants may be raised in precisely the same way as described above for *Perilla Nankinensis*, and the soil in the seed-pans and pots should be of the same kind. When planted out, any garden soil suits them; they are, in fact, not at all particular, but, as just remarked, a cool rich soil suits the purple orach best, because of its tendency to seed early, which makes an end of its beauty. The purple orach may also be sown in April where it is to re-

main for the season; but *Chenopodium atriplicis* should never be sown in the open ground, on account of its very miffy character when young, and its tendency in consequence to damp off or perish in hot sunshine. When it attains a height of three or four inches, it is quite able to withstand any amount of moisture or sunshine, and is every way hardy and vigorous.

We have described these plants at length, not because they are either new or curious in themselves, but because in villa gardens they may be turned to account to produce very novel effects, and because also many country gardeners are as yet but imperfectly acquainted with them. In the vicinity of London, nurserymen retail plants of perilla and purple orach at prices varying from four to six shillings a dozen, and the customers suppose by the peculiar character of the plants that there is some mystery in raising stock of them. We have now shown how a few thousands may be grown, without difficulty, at the cost of a few shillings, and we have no doubt the information will be esteemed by the majority of our readers.

The fourth plant of the class is the newest, and it is unquestionably the best. Its name is *Achyranthus Verschaffeltii*; it is also known as *Iresene Herbstii*, but the first name is that usually recognized. This is an amaranthaceous plant of branching habit and free growth, the leaves of which are of a deep rich claret colour, with a vivid earmine band along the line of the midrib. A mass of it has a more gorgeous effect than that of any purple-leaved plant known; that is to say, of the kinds available for bedding, and it may be propagated from cuttings in a moderate hot-bed with the utmost facility.

*Coleus Verschaffeltii* has been justly famous in this category. The rich chocolate crimson of a great mass of this plant, when edged with *Centaurea ragusina*, is absolutely indescribable. This coleus requires a rich soil and a warm sheltered position, and it ought not to be planted till quite the end of June. To obtain stock of it, purchase

at once a few strong plants, take off the points of the shoots so as to make cuttings of them an inch long. Plant these cuttings singly in thumb pots, filled with leaf-mould or peat, and place on a hot-bed. They will enjoy a brisk moist heat, and unless very badly managed, not one will fail. *Coleus nigricans*, of the same habit as the preceding, is the darkest bedding plant shown; its leaves are black.

Those who take an interest in hardy plants, will find the following very beautiful, and well adapted for the formation of groups of ornamental foliaged plants:—*Oxalis corniculata rubra*, a close-growing, tufted plant, with chocolate and crimson leaves. *Plantago rubra*, red leaves. *Trifolium rubrum pictum*, deep brownish bronze. *Sedum telephium atropurpureum*, nearly black. *Ajuga reptans purpurescens*, nearly black.

We have yet one remark to make on this subject, and that is, that as a rule plants with ornamental foliage do not assort well in the same beds with plants that have gay flowers. For edging beds of geraniums, verbenas, etc., etc., many of those which have grey and silvery foliage are of the highest value, such as variegated arabis and alyssum, *Cerastium tomentosum*, *Stachys lanata*, etc.; but the more highly-coloured plants now before us assort best with plants that are also chiefly beautiful on account of their leaves. Thus it

will be a safer course for the inexperienced to appropriate the beds and ribbon borders in which these plants are to be used wholly to foliage plants; the effect will then be more novel and unique. As an example of the way this may be done, we will describe a foliage ribbon we had in our garden last summer. This was adopted on a border shaded with large trees, where flowering plants never give full satisfaction, owing to the deficiency of sunshine. The front line consisted of variegated *Arabis*, producing a close neat line of yellowish grey. The next line consisted of *Perilla Nankinensis* and *Atriplex hortensis rubra* mixed, the effect of which was much richer than either would be separately. When the *Atriplex* became seedy it was removed, and by nipping off the tops of the *Perilla*, these soon filled out the space by their side growth. The third row consisted of an old-fashioned border everlasting flower, called *Antennaria margaritacea*, which has bright silvery leaves, but the flowers are worthless. This was kept to its proper height and full of dense growth by frequently nipping off the tops. The back row consisted of *Coleus Verschaffelti*. Nothing could be more effective than this planting; and the rear of the border being a line of evergreen shrubs, the glowing colours and striking contrasts of the lines of plants was most beautiful.

## BEDDING ROSES.

A COLLECTION of the best hybrid perpetual roses, either on their own roots or on short stocks, is always an interesting feature in a garden; but if the varieties are numerous, we shall observe that, at the best of times, there are many not in bloom, and the blanks caused thereby destroy the harmony of the scene, regarded solely as intended to please by a uniform distribution of colour. Roses may be planted in a hundred various ways to satisfy the requirements of the planter, and yet, in every one of the

arrangements, we might fail to discover, at any season of the year, a genuine bedding effect. In fact, if roses are grouped as roses, and their culture pursued under the impulse of enthusiasm for the rose, as a subject of floricultural care and study, it will rarely happen that a display is produced such as would satisfy the requirements of persons more anxious for colour than quality, and for the greatest possible display of blooms over a given extent of ground. Yet the interests of those who entertain



such (to the florist) base ideas should be thought of; and as we have always kept in view the interests of floriculture when treating of the progress of the rose, we are now disposed to show how, in any garden tolerably well managed, beds of roses on the true bedding system may be planted and maintained with every reasonable certainty of success.

It will be seen that in making a selection for this purpose, great caution must be exercised. The most prized of all roses, the Teas, are continuous and abundant bloomers; but, with the exception of Gloire de Dijon, which is the most useful rose in existence, they are too tender to be generally used, and except in the most favoured districts in the southwest corner of the island, would either have to be taken up in autumn, and kept over winter in pots, or in large part renewed every spring, to make good the losses occasioned by the winter. This last alternative would defeat the object in view, for bedding roses are supposed to become established features, and replanting every season of some part of the collection would result in the production of a late and scanty bloom. Then, if I take a few of the most valued of hybrid perpetuals—say, for instance, Jules Margottin—we have a first-rate rose for a third or fourth row; it makes a huge bush, and produces a grand display of its cherry-coloured flowers. But this fine rose blooms in a series of efforts, and its first bloom is generally over before General Jacqueminot, Geant des Batailles, Mrs. Elliott, and other leading kinds, are quite at their best. We are to have for beds what are to be judged as beds, and not as collections of roses, continuous and late bloomers; and the choice lies among the Bengal and Noisette roses first, and next among the Hybrid perpetuals, Bourbons, and Teas, choosing the hardest, the freest, and generally the moderate growers.

That these remarks may not seem out of season, we may as well inform the beginner in rose culture that from the present time to the middle of May is the best in the whole year to plant dwarf roses from cuttings struck

last year. They may be had in any quantity from the nurseries in small pots, and may be turned out into beds without the slightest check, and will grow vigorously and bloom late in the season; and the next year, and every year after, give an early and continuous bloom, provided the selection is on the right principle in the first instance. Generally speaking, a sound loam, heavily manured, will grow any kind of rose. But the more delicate in habit, the more the variety needs a lighter soil, and especially where Teas and Noisettes are to be planted, the soil should have a large admixture of peat, leaf-mould, sharp sand, and very rotten dung, or all of these ingredients thoroughly worked into it; and the Teas and Noisettes should be filled in at planting with just such a mixture as would grow fuchsias to perfection. Roses budded or grafted on briars or manettis will do very well on a heavy soil, but on their own roots they are more particular, and whatever will temper the soil should be used for their encouragement. Plant them firmly, at distances proportionate to their habit of growth, water liberally at night during hot dry weather, and they are pretty sure to do what England requires of every one of us—that is, their duty.

Now, as to the varieties. The two most perfect bedding roses known are Cramoisie Superieure and Fabvier, of the Bengal section (*Rosa Indica*). They begin to bloom early, and they continue to bloom even after frost has withered the wettest of their buds, and they are of such a glowing fiery crimson, that, as far as mere colour is concerned, they have no equals. They are very much alike, and I have long endeavoured to determine which of the two is the best. I think I must decide for Cramoisie, but it scarcely matters which is used, or if the two are mixed in the same bed. These are very dwarf, have striking bronzy foliage, and do not assort in the same row or -mass with roses that have decidedly green leaves. In the same section of Bengal or China roses we have Archduke Charles, which may

be used for the same purpose as the two just mentioned, where a diversity is required; but it is a second-rate bedding rose; the colour is not satisfactory, though bright, and it has a coarseness of habit which will annoy a fastidious eye. Lastly, among these little Chinas, we have Mrs. Bosanquet, a delicate, pale flesh, the flowers in clusters, very double, and of the highest quality in every sense. These are all the bedders in the whole of this list, but there are plenty more of the same dwarf, neat growth, and profusely flowering habit. The Noisettes offer some beauties, and for colour Fellenberg is unequalled. It is of dwarf habit, a vigorous but not robust grower, very hardy, always in bloom, and the blooms a cheerful cherry crimson, with that minute dash of blue in it which makes it somewhat of an approach to Magenta. A true bedder is Fellenberg, and splendid in a mass. In the same section we have Ophirie, a trifle more vigorous than the last, habit racemose, foliage exquisitely beautiful, blossoms nankeen copper, very distinct, and a splendid contrast to the crimsons in a bed. Among all the beautiful Noisettes there are but three others fit for the purpose now before us—namely, Miss Glegg, Aimée Vibert, and Caroline Marneisse; the first two are nearly alike, robust growers, bright shining foliage, and abundance of white flowers in clusters; the last is a free grower and an abundant bloomer, but the tint of pink in the buds and centre of the flowers very much detracts from its merit as a bedder. Perhaps Vicomtesse d'Avesne might answer as a bedder for the sake of mauve-coloured roses, but its ugly upright habit, and its ragged appearance when a few faded blooms are allowed to hang, prevent me recommending it as I have the others. Among the Teas, Gloire de Dijon is unrivalled for a pillar, a standard, or a bed; but it grows strong, and is nothing if not big; and here then we have material for centre of a large bed, where the colour, yellow salmon, would tell grandly with circles of crimson round it. Many other Teas ask for notice,

but I am disposed to pass them all over, for the experiences of the winters 1859-60 and 1860-61 have left an impression on my mind that Teas are for rose growers, not for people who want a heap of flowers, and are not prepared to incur much trouble respecting them. If an exception is to be made in this case, it must be for Safranot, apricot in bud, and delicate buff when open; but though a tremendous bloomer, it is less continuous than the last, and must not be insisted on as unexceptionably desirable for beds.

Among the hybrid perpetuals there are true bedders, and the best is General Jacqueminot, a camellia in form, ruby velvet in colour and texture, as hardy as an oak, leaves with the delicacy of silk and the substance of parchment, and as prolific of bloom as the "daisy that never dies." It is a grand rose for a bed, and in habit intermediate between Cramoisie and the taller growers, such as Gloire des Dijon. Next we have Geant des Batailles, considerably less vivid than the General, but as continuous in bloom, and always claiming admiration. I have gathered flowers from these two on the 15th of March and the 31st of December, in the same year, and seen blooms on them every day in the whole intermediate period. In ordinary seasons they begin early in June, and make an end of their bloom by the middle of November. After these we have William Jesse, crimson tinged with lilac; Madame Vidot, flesh; Anna Alexieff, rose; Lion des Combats, Prince Leon, Comte d'Eu, and Gloire de Rosomenes, and even with these few, we are getting a little away from the mark, and there are only three that can be recommended for universal use as bedders, viz, Anna Alexieff, a first-class rose, which is most unwilling to go out of bloom; Madame Vidot, also most beautiful and full of stuff, always in bloom; and Gloire de Rosomenes, very poor flower, but the colour vivid carmine, admirable for this purpose. Among the Bourbons, Souvenir de Malmaison, flesh; Bouquet de Flore, rich rose; Acidalie, white, are all I should place in such

a list as this ; so that we pass over a vast host of the finest roses in cultivation if we adhere strictly to the idea of plentiful and continuous bloom. But we have done very well. Bedding plants are used in masses of the same kind, and we have thus a dozen distinct colours, and the varieties are twenty in number. For a thorough rose grower the list might be swelled to about sixty ; but we have kept as closely as possible to those which will accomplish the true

purpose of bedding plants in the hands of the least skilful. As there is luck in odd numbers, we must here throw in the common China, which everybody knows and grows, and those who doubt its fitness for use in groups, only need to take note of it round the margins of the Rhododendron and Pæony beds at the Crystal Palace, and it will be seen that the commonest of garden plants has an artistic value second to none in our lists.

H.

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### EXTRACTS FROM MY NOTE-BOOK.

**CLIPPING HEDGES.**—Everywhere about London hedges are clipped in a most ridiculous fashion. The usual mode is to clip the face perpendicular and the top horizontal ; the hedge is, in fact, cut square. The consequence is that the lower parts being shaded, die ; the hedge becomes a mass of sticks, with verdure only on the top. To remedy this, cut the hedge in this form, } or, as they call it in some places, } “like a hog’s back.” Then every } part will have light equally, and it will be always green and dense from top to bottom.

**PEACHES.**—In America, where peaches are better grown than in any other part of the world, the practice is to sow peach-stones, and when the trees are strong, to bud them with choice varieties. Thus the tree is never transplanted ; it is made in the orchard and not in the nursery. The American pomologists say this is one secret of the immense productiveness of their peach trees.

**ORNAMENTAL GRASSES** are sometimes troublesome to get up in the first instance from seed. Now, whoever intends to grow ornamental grasses this season had best sow the seed in March or April (the earlier the better) in pans, and place the pans on a sweet hot-bed. When the plants are up, let them be hardened by degrees, and early in May you may plant out strong tufts, and the growth will be luxuriant from the first.

**WHERE TO GROW THE REAL MAIDENHAIR FERN.**—Many growers of ferns say that they cannot grow *Adiantum capillus veneris*, though they follow strictly the recommendations in the books. Let me tell them of a certain method ; that is, if they possess a deep brick well. Take a small plant with good roots, and fix it between the bricks inside the well two or three feet from the top, and where it is not likely to be injured. In the course of twelve months, it will clothe the brickwork of the well with an almost continuous sheet of its lovely verdure. Soil it does not need ; the damp bricks will suffice for it if it has a little light. In wells that are a little warm, *Trichomanes* and *Hymenophyllums* might be grown the same way.

**TO FLOWER SEEDLING GERANIUMS THE FIRST SEASON.**—Sow in a brisk heat on the 1st of February. Prick them into small pots as soon as large enough to handle, and keep them in a warm place near the glass till the bedding-plants are removed from the house. Then shift to 6-inch pots, and put them in the house. Give plenty of air all summer, and they will all bloom in August and September. This is a better way than sowing one season to flower the next, because it saves the trouble of keeping the seedlings all winter, which is a nuisance, seeing that a majority of them are sure to be worthless. By the quick method they are all proved before

winter, and we keep only such as are worth house-room.

**ARUNDO CONSPICUA.**—I had a plant of this noble grass from Mr. Stafford, of Hyde, near Manchester, a year ago. It grew last season to very stately dimensions, forming a grand tuft of somewhat the same character as the pampas grass, but more robust and rigid. It is now, after much hard weather, quite green and fresh. Those who love ornamental grasses should at once procure *Arundo conspicua*.

**DOUBLE PRIMULAS.**—Compared with these, there is no single primula worth growing. In November last, I made a call at Mr. Fraser's Lea Bridge Nurseries, and saw a house-full of double primulas in full bloom. Some were specimens in 8 and 10-inch pots, and formed huge tufts of leaves and flowers of such exquisite beauty, it would be absurd to attempt to describe them. The leaves spread out over the rim of the pot, and form a rich base, above which spring large trusses of white, blush, and rose-

coloured flowers, each separate flower a perfect rosette. Of all delicate winter and spring blooming plants, there can be nothing to surpass the new double primulas. But let no one despise the single ones; they are charming things, and when in bloom make capital window plants.

**JAPANESE HONEYSUCKLE.**—The lovely *Lonicera brachypoda aureoreticulata* ("What's in a name?") is as hardy as any plant in our gardens. It will grow in any soil, and in any position, and the variegation never varies. I have a fine plant on the summit of my bastion, where it has been several times hard frozen of late, but is now pushing its new shoots with vigour. When grown in a pot under glass, and trained to a huge sugar-loaf outline, it is a very handsome plant for decorating. It will be observed (by those who *do* observe) that the young leaves in spring are at first of the same shape as oak-leaves. They afterwards change to a simple ovate form.

### EXHIBITION FUCHSIAS.

DURING the years 1861 and 1862, I gave at some length in these pages particulars of comparisons of various fuchsias, as adapted for bedding, exhibition, and other purposes. Readers in want of general information on fuchsias will find, on referring to the volume for 1861, much to interest them, especially as to the characters and habits of the specific and hybrid forms of fuchsias that represent large sections of the family. It is because those articles dealt with all general questions that the present is confined to the particular subject of growing exhibition varieties.

**FUCHSIAS MAY BE RAISED FROM SEED** with the greatest ease; and this is the method to be followed by those who hope to raise new and useful varieties. When it is desired merely to increase the number of certain kinds, seed should never be collected, the plants should be propagated from cuttings only; and the best season

for such work is during February, March, and April. In saying "seed should never be collected," a distinct object is intended, and it is to save the inexperienced amateur from disappointment. In raising seedling fuchsias, not more than one per cent. of their number can be expected to prove better than varieties we already possess. Therefore hundreds of plants must be bloomed to obtain a few worth keeping; and as there are not many persons who can devote the space and time to the culture of seedlings on a large scale, it is right that a warning should be set up here, so that only those who are prepared to incur serious labour may involve themselves in the trouble of raising seedling fuchsias. But, for the amateur bent on conquering difficulties, the fuchsia is an interesting subject.

There is no flower so easy to hybridize, because either stamens or stigmas can be removed at will with

the greatest facility; and as pollen is abundantly produced, there is no difficulty in the operation. But it requires judgment to determine on the varieties which have to be used for crossing, and the flowers selected must be dealt with as soon as they open: it would be best, indeed, to remove the stamens from the mother flowers previous to the expansion of the sepals by opening them artificially, so as the more effectually to prevent fertilization by the natural process. As the fuchsia ripens berries in abundance, seed is always obtainable in plenty; and those who save the seed as produced, without taking any trouble to effect a cross, will have almost as good a chance of improved varieties as those who manipulate most diligently.

The berries should be gathered when quite ripe; they should then be crushed, and the pulp washed away from the seed; the seeds spread on paper, and dried in the sun, and put away till March, which is the best time to sow them. The ardent cultivator will, however, prefer to sow a batch as soon as gathered from the earliest flowers, in order to get strong plants before winter. In a warm house, most of these, if the wood was well ripened the previous autumn, will flower early in the spring; and their merits can be then sufficiently determined, and a few be saved to prove by summer cultivation, the utterly worthless to be committed at once to the muck-pit.

TO PROPAGATE FROM CUTTINGS, get the old plants into active growth in a moist pit, on a dung-bed, or a warm greenhouse. Take off the young shoots with a heel when about two inches long, put them round the sides of 5-inch pots, in silver sand, place them in a steady bottom-heat, and they will be rooted in a week. Cuttings of one inch will make as good plants as those of larger growth; it matters not, indeed, how small they are, if plump and stubby. Fortunately for the inexperienced, the fuchsia does not easily suffer from damp in the cutting pots, if the temperature be between 60° and 70°; we have rooted them in pans of sand

and water—the water half an inch above the surface of the sand—without losing more than two or three per cent. from the smallest cuttings. Where the stock can be kept growing all winter, the autumn is a good time to propagate, as the plants can be grown to much greater size before blooming. There is no better practice for beginners than the propagation of the fuchsia.

POT CULTURE FOR SPECIMENS.—Well-rotted turf and old dung are indispensable in the culture of the fuchsia. The compost for specimen plants should be sound loam, rotten dung, and turf, equal parts, with enough sand to make the mixture porous. It is impossible to give directions as to the proportion of sand, as that must depend upon the texture of the loam; the lighter that is, the less sand will be required. It is important, however, for the cultivator to bear in mind, that the lighter the soil, the more rapid will be the growth; and, *vice versa*, in a heavy compost the growth will be slow. For purposes of exhibition, or in growing specimen plants for decorative purposes, a quick growth is not desirable; and in a firm compost the plants will make shorter joints and stouter wood than in a very light soil. In raising a large stock, a considerable proportion of leaf-mould may be used, in which they will make rapid progress. At the first potting from the cutting-pans the soil may be leaf-mould, old dung, and turf, equal parts; this mixture will not require the addition of sand. In shifting to forty-eights or thirty-twos, a fair proportion of yellow loam should be used, to promote a sturdy habit. At every stage of growth, and until bloom is quite over, the fuchsia requires liberal supplies of water, but the drainage must be perfect; no good result can be expected if the pots are water-logged; but with effectual drainage they can scarcely have too much water, and they like it overhead as well as at the root. A warm, moist air is eminently favourable to growth in the early part of the season; but when the plants are in bloom they need a drier air, and

the use of the syringe should be discontinued, as it splashes the pollen about the foliage, and spoils their beauty.

The fuchsia is partial to shade, but should not be denied some amount of sunshine. Seeing what tremendous growth any vigorous variety will make in the open ground, when the soil is rich, and water is supplied in abundance, it is evident that sunshine is by no means baneful. But the fierce glare and dry heat to which they are sometimes subjected under glass, is detrimental, and fine plants cannot be produced under such circumstances, unless shading is resorted to during the mid-day in sunny weather. The dark varieties will bear and require more sun than the light kinds. Excess of sunshine, moreover, will cause the blooms to be shed before opening, and defects of drainage bring about a similar result.

Whatever the form and character of the plants, it is most important to have the wood well ripened in autumn; growing, as we do, about two hundred varieties, we are obliged to adopt the simplest plan of accomplishing this.

As the plants go out of bloom they are removed to a bed of ashes in a pit, the lights of which are removed; there the supply of water is diminished, they are exposed to all weathers, and pretty well take care of themselves until they have tasted a slight frost, after which they are removed for the winter. Standards and pyramids of large size are kept moving all winter. Small stock plants for the next season are stored in a cool house, and merely protected from the frost until February, when they are started in a gentle heat over a dung-bed or hot-water tank, and cuttings taken as required.

**PROPERTIES.**—It is no easy matter to determine the proper proportions of a show fuchsia. Our old favourite, Duchess of Lancaster, is too long in the tube; Big Ben is too large and loose in the corolla; and Crinoline, though so attractive, cannot be considered perfect in form—in fact, we could not endure many such varieties.

The tube should certainly be visible from the berry to the opening of the sepals; the sepals should be broad and reflexed, so as to show their under surfaces; and the corolla should form a close cup, with the least possible indentations at the overlapping of the petals. Prince Leopold comes very near to what I imagine to be the form of a perfect fuchsia; but the corolla is rather too large and Crinoline-like thoroughly to satisfy me. Earl of Devon, Bo-Peep, Excellent, Autocrat, Souvenir de Chiswick, Albert Smith, and Catherine Hayes, are the best-proportioned fuchsias I can call to mind; they are thoroughly symmetrical, with substantial reflexed sepals, close cup-like corollas, and their colours are exquisite. In regard to colour, selfs, such as Alpha and Comte de Boileau, are of no value, though useful as bedders and border flowers. A good contrast is needed between sepals and corolla; and in light flowers the white, whether of sepals or corolla, should be pure, with no stain of green, brown, or orange, the first defect being very common. Conspicua and Madame Cornelissen very nearly satisfy every requirement, though their colouring is a reversion of the ordinary rule. Roi des Blanchés has a very pure white calyx, though otherwise a second-class flower. The rich purple of Schiller contrasts most beautifully with the white sepals when grown under glass, but in beds the white of the sepals acquires a brown stain. The more pure and definite the colours, if combined with good qualities of form, the higher will the flower rank in the order of merit. The footstalks should be long enough to allow the flowers to droop gracefully, and graceful curving lines should prevail throughout the plant, both in disposition of the branches, foliage, and clusters of flowers.

#### A SELECTION OF THIRTY VARIETIES ADAPTED FOR EXHIBITION.

*Dark.*—Comet, Senator, Always Ready, Earl of Devon, Josefa, Pauline, Prince Imperial, Lord Macaulay, Lord Eleho, Souvenir de Chiswick,

Little Bo-peep, Tristram Shandy. *Light*.—Guiding Star, Queen of Hanover, Minnie Banks, Fair Oriana, Reine Blanche, Rose of Castile, Venus de Medici, Schiller, Dr. Livingstone, Annie, Princess Alice, Duchess of Lancaster. *White Corolla*.—Conspicua, Madame Cornelissen, Marie Cornelissen, Princess of Prussia. *Double*.—Hercules, Universal, Grand Duke.

A SELECTION OF TWELVE SUPERB VARIETIES, TO BE SENT OUT IN THE SPRING OF 1865.

*Aurora* (Bull).—Corolla beautifully expanded and exquisitely formed, of the richest purple, with distinct red base, and a central crimson vein in each petal; tube and sepals dark crimson, the latter reflexed back to the tube.

*Brilliant* (Bull).—Broad bright red sepals, well reflexed, short, well-formed rich purple corolla, with each of the petals triangularly marked with crimson.

*Evangeline* (Bull).—Deep crimson tube and sepals, the latter reflexed; very large, much expanded, open, rich purple corolla.

*Hector* (Bull).—Beautifully even well-formed rich purple corolla, largely expanded, with bright ruby-red sepals completely reflexed.

*Juliette* (Bull).—Pink tube and

sepals, the latter reflexed and recurved; large striking lavender-coloured corolla.

*Lucrezia Borgia* (E. G. Henderson).—Single, in the style of Prince Leopold; corolla of immense size, bell-shaped, smooth and substantial, striped lake and purple; sepals crimson scarlet; a fine subject.

*Puritani* (E. G. Henderson and Son).—Like Acmé, and more free in habit; a charming variety.

*Reviver* (Bull).—Carmine tube and sepals, elegantly reflexed, very thick barrel-shaped wax-like purple corolla.

*Vivian* (Bull).—Intense dark crimson tube and sepals, horizontally reflexed, with dark maroon double corolla.

*Diadem* (Smith).—One of the grandest double fuchsias known; sepals waxy scarlet; corolla dark violet, with vermilion feathers.

*Fantastic* (Smith).—A remarkable variety; sepals scarlet, corolla mauve, the latter consisting of eight parts, four of which expand into the form of a bell, and the other four form a tube in the centre, embracing the filaments.

*General Lee* (Smith).—A fine double variety; sepals vivid crimson red, finely reflexed; corolla violet purple, very large, smooth, and of great substance; habit of plant robust.

## AUCUBA JAPONICA, AND ITS KINDRED.

THE recent introduction to this country of the male plant of *Aucuba Japonica*, and the important effect which its establishment in our gardens is likely to have upon the appearance of the variety we already possess, will perhaps render a few remarks on the subject interesting.

The genus *Aucuba* belongs to the natural order *Cornaceæ*, or Cornels, a family of plants which are found exclusively in the northern hemisphere, chiefly in the temperate and cold regions, and more particularly those of North America and Nepaul. Its chief characteristics are, *leaves* oppo-

site, petiolate, ovate lanceolate, acuminate, toothed, shining, pale green, beautifully spotted with yellow, having the midrib rather prominent, the rest of the leaf reticulately veined. The flowers are small, petals blood-coloured, buds angular. The leaves are large, toothed, and veiny, and the petioles are articulated with the branches, and dilated at the base; hence there is some analogy in the genus to *Fraxinus*. This genus was included by Jussieu in the order *Rhamnii*; but from its having no affinity whatever to the families into which that order has been since di-

vided, its place in the natural system remained for some time undetermined, but it was eventually placed in the order Cornaceæ. As we only possessed one sex of the tree in Europe, and that the female, it prevented its being accurately examined, although it appears to have been well known, both by Siebold and Zuccarini, who have given excellent figures of both sexes in their Flora of Japan.

With us, *Aucuba Japonica* has invariably light green leaves, beautifully mottled with yellow; but Thunberg says, that in Japan the leaves are sometimes green, without any yellow; and he describes it as growing to the height of a man, or higher, and common in various places in Japan, both wild and cultivated. In Britain it is sometimes called Variegated Laurel, although *Aucuba* is the name by which it is known in Japan.

When first introduced into this country, it was grown in stoves and greenhouses, but as soon as it was discovered that it was quite hardy, and that, moreover, it was not particular as to soil or situation, it speedily found its way into gardens all over the kingdom, and is at the present time such a general favourite, that there is scarcely a garden of any pretensions in which it is not to be found, forming, by its beautiful foliage and noble habit, at all times a charming object, while in the winter it is the principal ornament.

The fruit is a red drupe, of the size and shape of a laurel berry, and contains a single stone, which has a bitter, nauseous kernel; the pulp is whitish, and rather sweet. These berries have never yet been produced in this country, although the plants bear every season a profusion of flowers; not because the climate is incapable of ripening them, as we are told in some books on botany, but because we had only the plants which bear the female or pistilliferous flowers; and, consequently, as there was no pollen to fructify them, they have hitherto been incapable of producing fruit. However, Mr. Standish, of Bagshot, at length succeeded in procuring from Japan the male plant, which is now generally distributed,

and is known at the nurseries as *Aucuba Japonica mascula*. This plant was discovered by Mr. R. Fortune, in a garden near Yeddo, the capital of Japan, and sent home by him in a Ward's case. The flowers are of the same size and shape as those of the plants we already possess, the only apparent difference being that they bear four stamens instead of a style. We may therefore safely predict that we shall shortly have the pleasure of seeing in our gardens the *Aucuba*, bearing its clusters of beautiful red berries, which will add a very great additional charm to those which it already possesses.

The mildness of the winter of 1862-3 had a singular effect upon *Aucubas* growing in various parts of the country. Some of the larger specimens produced a number of red berries resembling the ordinary fruit, but very much smaller, and, of course, not containing seed, as its production would be impossible without the assistance of the male flowers. These abortive berries have been mostly produced by plants which grow in the shade, and generally damp situations, where they catch the drip from trees. We are told by those in whose gardens they have grown, that the plants in open situations have not produced any.

For many years only one species of *Aucuba* was known to botanists; but a few years since another species was discovered on the Himalayan Mountains, from whence it was sent to this country, and was described by Mr. D. Hooker, and figured in the "Bot. Mag.," t. 1197, and in the "Illustrations of Himalayan Plants," pl. xii. It is called *Aucuba Himalaica*, and in all its important characteristics very greatly resembles the *Aucuba* of Japan—the only difference between them being that with the former the leaves are longer and straighter, and the petals longer, straighter, and more acuminate. These characters, as well as the immense geographical distances between the native localities of the two plants, have led botanists to regard the two as distinct species. It should not be forgotten, however, that these differences are very slight;



for when the acuminate points of the petals come to be considered, although of more importance than the same disposition in the leaves, yet they are analogous in the two organs; and the petals being merely modifications of leaves, the character observed with one may frequently be found with the other. It is very possible that the *Aucuba* in question may be found along the north and east of Central Asia, on the high chain of humid and snowy mountains on the west of China; and it is also probable that between the countries where the two species are found, there may exist specimens which unite the characters of both of them, and will demonstrate that they are merely varieties of one species.

The leaves of *A. Himalaica* are of a beautiful dark green colour, and the berries a rich coral red, changing to white at the crown. It forms one of the most striking examples of the botanical affinity which exists between the flora of the temperate parts of the Himalaya and that of China and Japan—an affinity which is not partaken by the flora of Europe. It would be easy to cite many examples—such, for instance, as *Enkianthus*, *Skinneria*, *Camellia*, *Deutzia*, *Helwingia*, *Stachyurus*; and, besides them, *Panax*, *Hydrangea*, *Dielytra*, *Kadsura*, *Hellboellia*, *Magnolia*, *Sassafras*, and *Trillium*—the last eight of which are also common to the northern part of America. All these genera are rare in Western Himalaya, and but very few are found in Cash-

mere; while, on the other hand, a great number of the trees and shrubs of Europe which are neither indigenous to China, Japan, or North America, are found in abundance in Western Himalaya, and advance even as far east as Siam.

The Himalayan *Aucuba* is found at an elevation of from 7,000 to 10,000 feet above the level of the sea, in such situations as render it probable that it will live and flourish in Europe in the open air, if protected from the spring frosts. It grows only in damp localities, where mosses and lichens are found suspended from its branches. It is a very ornamental plant, especially during fructification, and requires only the ordinary culture of plants of the same kind, and may be very readily propagated, when required, by grafting upon stocks of the old species. M. Verschaffelt is of opinion that this plant may be grown and fruited in the open air, by simply protecting it from the spring frosts, in the same manner as peach-trees are ordinarily protected in our gardens; but the only way to put the matter beyond a doubt is to resort to actual experiment, by which means it can soon be satisfactorily ascertained whether or not it is able to stand our winter and spring frosts. If it proves hardy, it will be a very desirable acquisition to the garden, as its rich clusters of coral red berries, when seen peeping out from under the dark green leaves, cannot fail to call forth the unqualified admiration of all beholders.

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## A MODE OF OBTAINING NUMEROUS BUDS ON CAMELLIAS.

BY M. DAMANN, HORTICULTURIST, OF GORLITZ.

To produce this result, and obtain fine healthy camellias, which will remain in flower from the month of December to April, they should be repotted directly they have ceased flowering and before their fresh buds appear, which else would be sure to suffer. The most suitable soil is that

formed by a mixture of one part fat loam with two parts peat-mould, combined with the necessary quantity of sand. The camellias are kept warm and under cover until their new roots begin to shoot forth. They must be but moderately watered at the root, but constantly and abundantly sy-

ringed all over. As soon as the young roots begin to be firm in the earth, the plants will require a much greater quantity of air, and, in a very short time, these new roots will cause them to develop vigorous branches, on which the flower-buds will form, and on no account must the plants be placed in the open air till these buds have attained sufficient development. From the commencement of July to the end of August the camellias may remain out of doors; longer is not advisable, since in our climate the later days of summer are subject to heavy rain, which would be very prejudicial, and, together with the chilly nights frequent at this season, would cause the foliage of the plants to become yellow.

When the camellias are replaced in the greenhouse, every care must

be taken to so regulate the temperature that they shall become by degrees accustomed to the change. When the colder seasons of October and November arrive, the greenhouse must be occasionally heated for the purpose of obtaining an early flowering. This warming process requires the greatest prudence, and extreme care is requisite to prevent the air becoming too dry, as this would kill the buds as effectually as would the withering of the points of the roots. Many horticulturists keep camellias housed all the summer; but this is not advisable, as the open air is most useful for strengthening the buds, which are invariably found most vigorous where the plants have been treated as above, and which consequently produce flowers of greater perfection.

### FLOWER SHOWS IN MARCH.

ROYAL BOTANIC SOCIETY'S FIRST SPRING SHOW (Saturday, March 18).

—The opening show of this Society was eminently successful, though the weather was most unfavourable. At an early hour the Princess of Wales and suite arrived, and was soon after followed by the Duchess of Cambridge and the Princess Mary. There was a large and fashionable attendance, and the display of flowers in the tent and the conservatory was both brilliant and interesting.

*Hyacinths and Tulips* contributed the grandest masses of colour, and were the principal attractions. Mr. W. Paul and Messrs. Cutbush and Son contributed fine collections of 100 each, and also fine groups of twelve and eighteen. These were skilfully staged, and were in perfection both as to cultivation and condition. The varieties were for the most part the same in both collections; and to give the names at length would be to occupy space unprofitably, but the names of the smaller collections may be useful. *Messrs. Cutbush's Twelve Hyacinths*: Baron Von Tuyll, Macaulay, Grand Vedette, Emmeline, Grand Lilas, Mont Blanc, Von

Schiller, Le Prophete, Marie, Florence Nightingale. *Mr. W. Paul's Twelve Hyacinths*: Macaulay, Ida, Garrick, Alba maxima, Solfaterre, King of Blues, Tubiflora, Grand Lilas, Prince Albert, Grandeur à Merveille, Von Schiller, Von Speyk. The best Hyacinths exhibited in the class for amateurs were from Mr. Young, gardener to R. Barclay, Esq., Highgate. Mr. Young's plants were superbly bloomed, and were remarkably uniform in character; they were Mont Blanc, Bleu Aimable, General Havelock, Van Speyk, Grandeur à Merveille, Sultan's Favourite (flesh, with pink stripe, fine), Charles Dickens, Grand Lilas, Howard, Madame Van der Hoop, Argus, Von Schiller, Princess Clothilde, Ida, Queen of the Netherlands, Mimosa. Early Tulips were shown in almost endless variety, and a selection from the whole may be useful. The best early Tulips in the show:—Archduc d'Autriche, bronze red, yellow margin, very neat, and the colouring precise; Cerise Gris de Lin, chocolate, with fawn edges, fine; Couleur Cardinal, flamed scarlet; Cottage Maid, rose-pink, white stripe, fine; Duc

Van Thol, five varieties—scarlet, yellow, vermilion, and white—all fine, but the last-named the least desirable; Feu d'Anvers, fine crimson; Duchesse de Parma, bronze crimson, bordered buff; Cramoisie Royale, rich crimson, slightly broken with white feather; Cramoisie Superb; Fabiola, purplish rose, pale lilac feather; Golden Prince, bright yellow; Keiser Kroon, gorgeous gold with crimson flame; La Plaisante, rosy-purple; Pottebakker, white and yellow, both superb; Proserpine, salmon-tinted rose; Roi Pepin, white striped; Rose Luisante, lovely carmine-rose; Tom Moore, a curious shade of reddish-saffron, very neat, and superbly formed; Vermilion Brilliant, brilliant scarlet, one of the most effective.

*Camellias*.—The principal exhibitors were Mr. B. S. Williams, Mr. W. Paul, Mr. Todman, Mr. Trussler, and Mr. Todd. Among the varieties, the following were fine:—Colvilli, Imbricata, Fimbriata, Ochroleuca, Variegata, Lady Hume's Blush, Donckelaari, Reticulata, Rossi, Lavinia Maggi, Henry Favre, Giardino Franchetti, Innocenza, Monarch, Duchess of Grafton, Lucullus, Beali, Mathotiana, Reine des Fleurs, Archiduchessa Augusta, Belle Jeannette, Caryophylloides, Monteroni, Feasti, Sarah Frost, Alba Illustrata, Optima, Eximia, Jenny Lind, Bride, King.

*Roses*.—Mr. W. Paul put up a grand collection of cut roses, which, considering the season, were worthy of the highest praise. The following were noted as being particularly good, neither thin, nor false in colour, nor faulty in outline; and it is a good list for the 18th of March in such a cold season as the present:—Anna Alexieff, very fine; Peter Lawson, fine; Gloire de Dijon, repeated all over the boxes, and always good and true—what a never-fail rose it is; John Nasmyth, middling; Madame H. Jacquin, fine; Louise de Savoie, extra fine, quite as good as the first blooms in a cool house; Napoleon (Ch.), round as a ball, colour bright rose, a fine rose; President, superb; Madame Damaizin, Alba rosea—this is like Souvenir de Malmaison, but a better form; Alfred de Rougemont,

Safrano, very fine; Rubens, fine; Madame Victor Verdier, La Quintinie, Marquis de Foucault, Madame Furtado, Comtesse de la Bartha, a fine globular tea; Madame C. Crapelet, Triomphe de Guillot Fils, La-marque, not quite out, and all the better, for the charming groups of half-expanded buds, added a rare and peculiar grace to the otherwise rich collection; Rev. H. Dombrain, Devoniensis, Madame Falcot, Vicomtesse de Cazes, Jaune d'Or, Lord Macaulay, Moiret, Duchess of Sutherland—this old friend, not long since one of the most famous roses known, had a charmingly fresh appearance, and lost nothing by comparison with later productions; Senateur Vaisse, good, but showing the effect of forcing. There was only one collection of pot roses, and they were perfect little specimens in 8-inch pots, with six or seven blooms each, and those blooms such as only the most expert cultivators could produce. These came from Messrs. Paul and Son, of Ches-hunt, and their fresh, lusty, and lustrous appearance was worthy of a firm that has so long held, and so well keeps, a foremost place in the cultivation of the queen of flowers. Amateur rosarians should not rest till they have seen such specimens as these; and there is no better way of seeing them than at a flower show, and, having seen them, they ought not to rest till they have succeeded in producing plants like them, and to rest then will be out of the question; they will at once aim at higher things. The varieties were Devoniensis, Souvenir d'un Ami, Madame St. Joseph, Madame Falcot, President, Alba rosea, Charles Lefebvre, Peter Lawson, John Hopper. The last three gave the teas their due proportion of colour, and the last of all (John Hopper) was the brightest and most beautiful rose in the show.

*Primulas, Cinerarias, Cyclamens*.—The primulas were nearly past their prime, but there were some interesting collections. From Mr. Todman, a pretty lot, comprising Candidissima, white; Fairy, blush; Alba plena, blush-white; Rubra grandiflora, and Atro rosea, all double, very distinct,

the flowers forming exquisite rosettes. From Messrs. E. G. Henderson and Sons, St. John's Wood, a grand collection, amongst them the elegant *Filicifolia*, rather past its prime; *Carminata splendens*, large carmine, single, very beautiful, and quite distinct in colour from all other primulas; *Anemonæfolia*, a curiosity, the leaves dull dusty green, pubescent, finely divided, flowers lively pink in large bunches. The most novel plant in this collection was a variegated-leaved *Sinensis*, the foliage richly coloured greyish-amber, the flowers lively pink; this will be a great acquisition for spring decoration, and probably a difficult variety to do. Mr. Wetherell sent a fine lot of seedling cinerarias, amongst them several grand crimson selfs, and some finely-formed bold and brilliant whites, with heavy crimson margins. One of the greatest attractions was a collection of 120 cyclamens from Messrs. E. G. Henderson and Sons, in such a style of getting up as is rarely seen. The deliciously soft haze of colour of this great mass of plants gave it a peculiar distinctness, as a feature amongst so many more striking forms of vegetation and stronger tones of colouring, and their perfume made one forget for a time the discomfort of the chilly tent, as if the "sweet south" had come at last laden with odours from a "bank of violets." In this collection were all the varieties of persicum, including, of course, the accepted type, which must be the basis of comparison in judging the rest. *Pallidum* is whiter than the type, rather smaller, the base lively rose. *Album*

is the finest white, and it is all white—a remarkably pure and beautiful cyclamen. *Rubrum*, rich lilac-rose, almost magenta, extremely beautiful. *Roseum coccineum*, not well named, like the last, but a shade paler; *Marginatum*, soft hazy rose, rich carmine base. Numbers of the lovely little *Atkinsi* were used to fill in between the large plants of persicum, making a sort of pavement of jewels. Among the miscellaneous contributions was a complete set of species and varieties of *Aucubas*, from Mr. Bull, of Chelsea.

UNITED HORTICULTURAL SOCIETY.—This newly-formed Society has before it the prospect of great success and usefulness. The promoters, from the first, determined that the exhibitions should be held in some suitable place in the heart of the city of London, so as to be conveniently situated for the residents in every district of the suburbs of the metropolis. To find a suitable place so situated has proved a serious task; in fact, it appears that no really suitable place exists in the city, and those few that might be adapted for the purpose are no more obtainable for flower-shows than the caverns of the moon. At the time of writing this, nothing has been definitely determined as to the locality of the exhibitions, but it is probable that for some time to come they will be held in Albion Hall, London Wall. The dates fixed for exhibitions during the present year are the following:—April 11, May 9, June 6, June 20, July 18, August 1, August 15, September 12, September 26, October 10, November 14, December 12.

## WINTER FLOWERING OR TREE CARNATIONS.

THESE superb winter flowering plants are not usually well managed in private establishments; and several correspondents having simultaneously made inquiries about them, particulars of their management have been obtained from one of the most eminent cultivators, who for many years past has had extensive experience with them, being under contract to supply a cer-

tain number of flowers daily during the season to a leading firm in Covent Garden Flower Market.

The plants are propagated from cuttings of two or three joints in length; the first are put in early in the month of March, and afterwards a few other batches for succession to the middle of April. They root quickly and certainly on a moist dung

heat, having the same treatment and being often in company with cuttings of verbenas, petunias, and other bedding plants. When rooted, they are potted into large thumbs, in light rich compost, and again placed in a gentle heat. When established in these pots, they are removed to a greenhouse or pit, and they remain there till the end of May or beginning of June, according to the weather and the strength of the plants.

When removed to the pit, a certain number of the forwardest should be selected to push on for early bloom. These, if carefully dealt with, will begin to bloom in November, and will continue blooming several weeks. None of these should be stopped. The rest should be stopped, both to ensure a later bloom and to make finer plants of them. The process of stopping consists in nipping out the point of the shoot so as to cause the plant to throw out side shoots.

Towards the end of their term of residence in the pit they must have air night and day, to render them hardy. In the first week of June they must be shifted into 6-inch pots, the soil being two parts turfy loam and one part thoroughly decomposed manure, with a fair sprinkling of sand, according to the quality of the loam. The best material to drain the pots is broken oyster shells. When potted, they are plunged in coal ashes, in the open air, in a sheltered spot, and are never allowed to want water.

In the first week of July the forwardest and strongest plants are selected and shifted into 8 or 10-inch pots, the same compost being used as before. Afterwards a few others of the forwardest are shifted on to make specimens to bloom in February. Those intended to bloom in November should have every encouragement; give them a sheltered position, plenty of water, and do not shift them late or into pots too large, or they may not bloom as early as desired.

In the latter part of September they must all be housed, but must have plenty of air and be regularly watered. In October begin to assist them with weak liquid manure water if the pots are full of roots.

But if the pots are not full of roots, they must not have manure water. It only remains to see that they are securely and neatly staked so that when in bloom they will be handsome, and the weight of the blooms will not break the stems.

Old plants are comparatively valueless. But if people prefer to keep them, they should be pruned back in March, and be placed in a warm pit or greenhouse to induce new growth. About three weeks after the pruning, shake them out of the pots, cut back the roots, and repot them with fresh soil in the same pots, and place them on a very mild bottom-heat. At the end of May these should be plunged in coal ashes in an open quarter, and have the same attention as already described for the stock of yearling plants.

Another mode of disposing of old plants is to let them remain in their pots without pruning, and to plant them out against a south wall in June. Give them plenty of water, and they will flower finely in September and October, and if protected with a mat in severe weather, may survive the winter.

The following are eighteen varieties that may be relied upon to produce noble flowers in great plenty:—*Archimede*, yellow fringed, tipped red. *Ariadne*, orange yellow ground, crimson flake, fine form.

*Beauty*, pure white, pink stripe.

*Charles Ballet*, red striped crimson.

*Delicata*, pure white, margined pink.

*Evening Star*, scarlet and crimson flake.

*Garibaldi*, purple, very sweet.

*Gloire de Permillieux*, scarlet, dwarf.

*Hope*, scarlet and crimson flake.

*Jupiter*, scarlet.

*La Géante*, blood red.

*Magna coccinea*, crimson clove.

*Oscar*, canary yellow, striped rose.

*Perfection*, white, with bizarre flakes of purple and crimson, equal to a show carnation.

*Queen of Whites*, the best white and a true clove.

*Souvenir de la Malmaison*, rosy flesh, very fragrant.

*Vandael*, yellow self.

*Victor Emmanuel*, pure yellow-rosy crimson flakes.

## HOOPER'S ETRUSCAN WARE.

Among the many contrivances for hiding the ugliness of common flower pots, and rendering potted plants

hard, biscuit-like ware, thin, and light, and of remarkably fine texture. The colours adopted are chiefly a pure Egyptian red, black, and white, and as the designs are mostly reproductions of classic examples, there is nothing to offend, but on the other hand, much to gratify, the purest taste. In justification of these remarks, a few figures are subjoined, which, however, only indicate the general character of the designs. They afford no idea of their exquisite colouring.

During the past few years many attempts have been made to provide tasteful receptacles for potted plants when introduced to the drawing-room, or placed upon the



really fit for the elegant associations of the dining or drawing-room table, there are none that so completely and satisfactorily accomplish the desired object as the new Etruscan pots, vases, and jardinières which have been brought out by Messrs. Hooper, of the Central Avenue, Covent Garden. These are made in various forms and sizes, so as to be adapted for use as receptacles for common flower-pots containing plants, for cut flowers, grasses, etc., or to fit with glass shades, and appropriate



dinner table, and though much ingenuity has been displayed in these, there has usually been something objectionable about them. One serious defect common to the majority of recent productions is, that the colour is simply laid on the surface, so that ordinary wear rubs it off, and exposure to damp causes it to be destroyed by mildew. An objection equally fatal is, that the designs are in most cases inelegant and the colours too gaudy. The Etruscan ware has the colours burnt in, and there is no attempt made to catch the eye with meretricious painting.

for ferns and lycopodiums, or for bulbs or groups of miscellaneous plants arranged as trophies for festive gatherings, etc. The material is a

## APRIL, 1865.—30 DAYS.

PHASES OF THE MOON.—First Quarter, 3rd, 1h. 19m. morn.; Full, 11th, 4h. 28m. morn.; Last Quarter, 18th, 11h. 20m. after.; New, 25th, 2h. 13m. after.

AVERAGES FOR THE MONTH.—Bar. 29·921. Therm. max. 57°, min. 39°, mean 46½°. Rain, 1·6 inches. Prevailing winds N.W. and N.E. Sleet and freezing rains rather common, with sharp night frosts and sudden outbursts of hot weather. It is a trying month.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	Sun sets.	Barom.		Therm.				
	h. m.	h. m.							
1	5 38	6 31	29·69	29·63	54	31	42·5	·00	Thalictrium anemonoides fl. pl.
2	5 35	6 33	29·93	29·85	53	36	44·5	·00	Draba Hirta.
3	5 33	6 35	29·94	29·80	61	44	52·5	·03	Sanguinaria Canadensis grandis.
4	5 31	6 36	29·99	29·84	64	34	49·0	·18	Adonis vernalis.
5	5 28	6 38	30·21	30 15	45	34	39·5	·54	Anchusa sempervirens.
6	5 26	6 40	30·20	30 17	50	39	44·5	·00	Ranunculus gramineus.
7	5 24	6 41	30·26	30·22	53	36	44·5	·00	Meconopsis (Stylophor) diphyll.
8	5 22	6 43	30·33	30·29	59	35	47·0	·00	Corydalis nobilis.
9	5 20	6 45	30·26	30 15	61	47	54·0	·00	Corydalis tuberosa.
10	5 17	6 46	30·14	30·09	63	40	51·5	·00	Schivereckia podolica.
11	5 15	6 48	30·05	30·00	70	36	53·0	·00	Waldsteinia geoides
12	5 13	6 50	30·03	30·01	61	25	43·0	·00	Symphitum Caucasianum
13	5 11	6 51	30·05	30 00	59	29	44·0	·00	Dielytra Canadensis.
14	5 9	6 53	29·92	29·75	63	27	45·0	·00	Waldsteinia trifoliata.
15	5 6	6 55	29·69	29 65	70	42	56·0	·00	Alyssum saxatile.
16	5 4	6 56	29·70	29·70	50	38	44·0	·02	Dodecatheon meadia.
17	5 2	6 58	30·00	29·86	64	27	45·5	·00	Chelidonium grandiflo.
18	5 0	7 0	30·04	30·01	67	27	47·0	·00	Soldanella alpina.
19	4 58	7 1	29·96	29·90	69	30	49·5	·00	Ammogeton scorzone rifolium
20	4 56	7 3	29·91	29·90	75	32	53·5	·00	Dielytra eximia.
21	4 54	7 5	30·06	29·96	71	33	52·0	·00	Dodecatheon giganteum.
22	4 52	7 6	30·15	30·12	65	26	45·5	·00	Polemonium reptans.
23	4 50	7 8	30·21	30·18	69	37	53·0	·00	Chelidonium laciniatum.
24	4 48	7 9	30·23	30·14	60	34	47·0	·00	Dodecatheon albiflorum.
25	4 46	7 11	30·14	30·08	61	35	48·0	·00	Symphitum orientale.
26	4 44	7 13	30·11	30·11	57	41	49·0	·01	Pulsanaria mollis.
27	4 42	7 14	30·15	30·11	61	40	51·0	·00	Doronicum Austriacum
28	4 40	7 16	30·19	30·07	61	40	50·5	·00	Dielytra formosa.
29	4 38	7 18	30·17	30·01	66	38	52·0	·00	Doronicum calumnæ.
30	4 36	7 19	30·09	30·11	63	38	50·5	·00	Aubretia grandiflora.

PROBABLE WEATHER FOR APRIL, 1865.—The forecast for last month was especially defective in promising "settled and fine weather," from the 16th to the end, as it was about the 16th that the strong gales from the east, and very severe frost, commenced, lasting to the 24th, when the wind went back to the west, and rain followed. Next month, fine and settled for the first ten days, thence to the 15th or 18th, frequent changes, with gales, driving rains, and occasional frosts. From 18th to 25th, cold and dry, barometer high, wind easterly; 26th to the end, genial, sunny and settled.

EXHIBITIONS ANNOUNCED.—April 8, Royal Botanic; April 15, Royal Horticultural; April 25, Nice; April 29, Royal Botanic; May 10, Weymouth and Dorset; May 13, Royal Horticultural; May 20, Crystal Palace; May 24, Royal Botanic; June 3, Royal Horticultural; June 6, Brentwood; June 8, Leeds; June 10, Royal Horticultural; June 14, Royal Botanic; June 14 and 15, York; June 24, Crystal Palace rose show; July 5, Royal Botanic; July 6, Peterborough; August 3, Langport; August 25, Bishop Auckland; September 6 and 7, Crystal Palace; November 16, Bri-tol.

SPECIAL EXHIBITIONS.—April to 12, Hyacinths, at Messrs. Henderson and Sons, Pine Apple Place, Edgware Road; June 5 to 12, American plants, at Royal Botanic.

## THE GARDEN GUIDE FOR APRIL.

**KITCHEN GARDEN.**—Successional sowings may be made of all leading kitchen crops, and where the work of the last month has been delayed, seeds got in early will not be much behind those sown last month. Sow Windsor Longpod, and Johnson's Wonderful beans; Hair's Mammoth, Auvergne, and Veitch's Perfection peas, and a few rows of the earlier sorts to come in before the late peas are ready. In small gardens the dwarf kinds are always to be preferred. Sowings should be made of horn carrot, savoy, Brussels sprouts, Scotch kale, broccoli, cauliflowers, and cabbages, for autumn use, a succession of such things being preferable to a glut all at once for a private grower. Among cabbages, Atkins's Matchless, Shilling's Queen, Early York, and West Ham are good sorts to sow now, but the main crop of cabbages should be up by this time, and must be hoed between when the ground is in a fit state. Beet should be sown in the second week, in ground deeply dug, but not manured; the main crop of celery should be sown on a rich warm border, the surface to be made light and fine; sow thin, and merely dust the seed over. Sow also onions, lettuce, radish, small salad, seakale, and asparagus—the two last in drills, one foot apart, and one inch deep for asparagus, and two inches for seakale. Another mode of raising seakale plants is to sow in four-foot beds, the seed to be in patches of eight inches diameter, and two feet apart, and about eight seeds in each, the plants to be thinned to three plants in each patch; the ground should be rich, well drained, and deep. Beds may also be formed now by planting roots, but the best plantations are those raised on the spot from seeds. Those who purpose raising seedling rhubarb plants should sow about the middle of the month in shallow drills, eighteen inches apart, dropping the seeds in patches, six inches from each other. Potatoes not yet planted should be got in without delay, and towards the end of the month scarlet runners and French beans may be sown; the runners should have a warm dry position until the 1st of May, when they may be sown in almost any soil or situation without risk, but like most other things yield the best crops on ground well dug and manured. The main crop of carrots should be got in about the 15th of the month, and there is still time for a crop of parsnips, but they must be sown

directly. Slips of kitchen herbs may be put in any time this month, and will root quicker if planted in a rather dry sandy border.

**FRUIT GARDEN.**—Wall trees must have protection from the cutting east winds, and the protection should be of a kind easily removed, so that the trees have free air upon them night and day, weather permitting, and be covered with the least possible trouble if the wind shifts to east or north. It will generally be found that those who exclaim against protecting have been in the habit of shutting the trees up as if they were muffled bells. In the open quarters, pruning and grafting must be completed quickly. Give abundance of water to fruit trees in pots, and see that the orchard-house is in an orderly state; if it is now crammed with plants from other houses, as is too often the case, there will be but a small crop of fruit.

**FLOWER GARDEN.**—Seeds of hardy annuals and perennials are to be sown early, and towards the end of the month the more tender kinds may be safely committed to the ground; but very small seeds of choice things had better not be sown till next month, as heavy rains may wash them down into the soil, and they may be lost. Perennials may be planted out, and old stools of phlox, chrysanthemum, lychnis, etc., may be parted. Dahlia roots may also be panted, and if the shoots appear before night-frosts are over, they may be protected by flower-pots inverted over them, and the holes stopped with pieces of tile. Tigridia bulbs may be planted two inches deep. A light netting, or some similar protection, will be found useful now as a protection to tulip beds, and if the foliage gets frozen, water them with cold water before the sun gets on them. Walks should be turned and rolled, and grass plots dressed, so as to give an air of neatness and order to the whole of the ground.

**GREENHOUSE AND CONSERVATORY.**—General collections should only have a moderate heat, and a strong healthy growth should be promoted by giving plenty of air, with a view of putting out the fires for the season. Many specimen plants will want liberal shifts, and all subjects not immediately required in flower should be regularly and frequently stopped, to induce bushy growth and form good heads. Water and liquid manure must be more freely given, and vigilant



efforts must be made to keep down green-fly and thrips. Many of the less tender things may be removed to cold pits, to increase the room for other things that want continued protection to make fine plants. Young stuff from the propagating-house should be potted as fast as rooted, and kept close till started afresh, and then be gradually inured to air and light, so as to be strong by the middle of May. All tropical plants required for summer blooming in the house should be got on without delay, and a quick growth promoted, so as to allow them as long a season as possible for blooming, and ripening their buds for next season. Average temperature this month, 55° by night, 60° to 65° by day. Where desirable, the house may be shut up with sun-heat, to render fire unnecessary.

STOVE. — Many choice subjects may now be propagated, such as justicias, euphorbias, eranthemums, etc.; use for all such a brisk moist heat. Recently potted specimens will now be growing freely, and must have plenty of water, and crowding must be avoided. On fine days the thermometer may go up to 90°, which must be the maximum; to prevent any further rise, give air. Orchids will require frequent attention, and those in bloom to be kept tolerably cool, to prolong their beauty.

Water must be used abundantly, both to keep roots moist and to fill the atmosphere with vapour.

VINERY.—Vines in bloom must be kept warm and dry; air may be given, but it must be with care, so as to neither admit damp nor cause any check by lowering the temperature. Brush the hand over the bloom lightly at midday, to assist in setting the fruit. In forward houses set about thinning the bunches as soon as they are the size of peas.

PINERY.—If there is any lack of water now, red spider will make sad havoc. Keep up a good growing temperature, and pay special attention to plants showing fruit; young stock, 65° to 75°; fruiting plants, 70° to 85°.

PITS AND FRAMES. — As auriculas show colour, remove them to a shady and sheltered situation under hand-glasses placed upon bricks, and on frosty nights put mats over them. Remove carnations and picotees from the frames. If bedding stock is still in request, put in more cuttings; a heat of 90° may be used now if the cuttings are of stout young wood. China roses may be propagated now by taking off young shoots close to the old wood when four inches long, and plunging in a moderate heat.

## TO CORRESPONDENTS.

A PREVENTIVE OF ONION GRUB.—For a number of years past I have been sadly tormented by the onion grub; in some seasons they destroyed my whole crop, but the last two seasons I have been quite free from the pest by using the following mixture:—To a barrowful of dry sawdust mix two quarts of coal tar; mix them thoroughly, so that the sawdust may be quite blackened by the coal tar, and have the appearance of soot. In the beginning of May I sow the above quantity over four beds 30 feet long by 3½ feet broad. It is not at all injurious to the young onions. The smell of the coal tar, I suppose, banishes the onion fly, as I have had fine healthy crops since using the above precaution.  
—N. D.

RIBBON AND BEDS.—*Ibid.*—1st row, *Lobelia ramosoides*, 6 inches apart; 2nd, Flower of the Day, 1 foot; 3rd, Tom Thumb, 1 foot; 4th, *Calceolaria rugosa*, 1 foot; Rollison's Unique, 1 foot 6 inches. Or, 1st, Variegated Mint, *Cerastium*, and *Lobelia*, plant and plant, 9

inches wide; 2nd, *Verbena Brilliant de Vaise*, 15 inches; 3rd, *Verbena Andre*, 15 inches; 4th, *Calceolaria Prince of Orange*, 15 inches. For the eight beds, *Heliotrope*, *Verbena Defiance*, *Verbena Madame Rongier*, and *Verbena St. Margaret*, in order as named, to peg down; *Calceolaria Amplexicaulis*, Flower of the Day, *Geranium Lady Plymouth*, *Calceolaria Canary Bird*, to grow erect. Arrange in the order named.

DELPHINIUM CHINENSE.—*R.T.E.*—This may be had in bloom in the coming autumn from seed sown at the latter end of March, if they are "pushed on," as gardeners call it—that is if they are kept in the greenhouse till May, and regularly shifted, first to thumb pots, then to the next size, and so on, as fast as they fill their pots with roots. Then if planted out at the end of May, and carefully tended as to watering, a good bloom will result.

CLIMBING ROSES: ONE SHIFT SYSTEM.—*Lover of Flowers.*—The best six climbing roses for an eastern aspect are:

*Sempervirens* Felicité perpetué, Myrianthes, Rosa plena, Banksiaeflora, and *Hybrid China* Laure Davoust, and Menoux. So many papers on chrysanthemums have appeared in this work, that of late we have purposely avoided the subject. By referring back, you will find all you want. To shift cuttings from the pots in which they are struck to those in which they are to bloom, is not advisable. It is called the "one shift system," and though practised with success by many cultivators, no beginner should attempt it. The soil gets sour before the roots find their way into it, and the plants grow coarse. By shifting on from size to size, the plants acquire a compact thrifty habit, and bloom more satisfactory.

**ASPLENIUM BULBIFERUM.**—*C. A. J.*—This may be propagated to any extent from the spores, and the simplest way to do it is to break some soft stone to pieces, of the size of hazel nuts, and spread a layer of the stone over a surface of damp peat, or cocoa-nut dust, rub off the spores so that they fall on the stone, and cover with a bell-glass. But very few fern growers ever raise this from spores, for the fronds produce young plants in abundance, and these can be taken off and potted, and soon make fine plants.

**BLUE HYDRANGEAS.**—The students of the **FLORAL WORLD** owe you a vote of thanks for suggesting the production of blue hydrangeas. This experiment will be amusing, and perhaps the results will be instructing. Let us endeavour to produce specimens worthy of being exhibited on the tables of the "United Horticultural Society," accompanied by plain statements of the ways and means that have been employed.—*M. B.*, Upper Norwood. [In penning that paper, we forgot to add our opinion that blue hydrangeas are hydrangeas spoiled. Let those who admire them do their best to produce them; for our own gratification, we would not bestow a single moment in an endeavour to change the flowers from the soft pleasing pink hue which they ordinarily have. But let them come to the U. H. S. by all means, that a fair criticism may be made.]

**BOOKS ON FERNS.**—*C. A. J. and P. B.*—All Mr. Lowe's works on ferns are good, though the descriptions are scant, and there are but few notes on cultivation. Sometimes fault may be found with the pictures; nevertheless, the plates are as a whole beautiful and correct, and the volumes are remarkably low priced. The volume just completed on "Our

Native Ferns," price 21s., contains superb portraits and excellent descriptions of British species. Newman's "British Ferns" is an elegant work, and the notes on cultivation are practical and suggestive. Mr. Newman's great sin is needless trifling with the nomenclature. Writers on ferns seem to think it necessary to rearrange the classes and rename the species, in order to demonstrate their cleverness. Sowerby's Ferns, with descriptions by Johnson, contains good figures, but the text is commonplace. Moore's Handbook is invaluable; but as Mr. Moore has attached his name to a lot of cheap volumes, which are horribly got up, and are second-hand siftings, we advise you to order the one published by Messrs. Groombridge at 5s., which is a beautiful pocket volume containing excellent figures and masterly descriptions. The "Nature Printed Ferns" and Hooker's "Century of Exotic Ferns" are superb productions, but costly. There are dozens of cheap (?) works on ferns, which are not worth a moment's attention; and we forbear to mention their names, for it is not agreeable to name things expressly to condemn them.

**VARIOUS.**—*J. G. Kendal.*—Your greenhouse plants, with yellow leaves, are probably water-logged; repot them, and in doing so, use plenty of drainage. Guano would not benefit cuttings of plants at all. Charcoal is beneficial to plants if placed in the bottoms of the pots.—*E. N.*—We make it a rule never to tell people what to plant in their beds and borders; the colours that would please one person might disgust another. We shall give examples of planting beds and ribbons next month, as we do every year. See page 51 of last number for annuals. Your cobeas does not need "preserving" during summer; it will preserve itself. Small cuttings of variegated balm, put in pans, will make roots and be strong by planting out time.—*F. Gardener.*—We really cannot advise you what to grow in your lean-to; there are very few vegetables that do any good under glass. We never advise people what to grow indoors or out; but when they tell us what they think of doing, or wish to do, we are ready to give an opinion, and to advise, if needful.—*C. F. Erdington.*—Usually, communications are sent to 5, Paternoster Row; but in the case of flowers to be judged, it is best to send them direct to Mr. Hibberd, Stoke Newington, London, N.

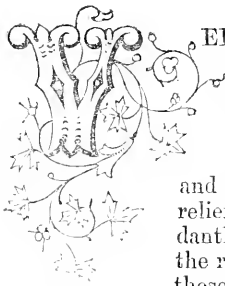
THE  
**FLORAL WORLD**

AND

**GARDEN GUIDE.**

MAY, 1865.

SHRUBBY VERONICAS.



VERONICAS are at present esteemed by the few and but little known to the many in the gardening world. Yet of the many choice plants adapted to the wants of amateurs these ought to rank very high, and be grown extensively. When well grown they are massive in outline, and their handsome dark green leaves afford a fine relief to the colours of their flowers, which are abundantly produced, and are always pleasing. Among the reasons that present themselves in recommending these plants to the more favourable notice of amateurs are the following :—They are in the first instance highly

ornamental, and well adapted for greenhouse and conservatory decoration, and for plunging out of doors, where in the autumn they appear to great advantage if the plants are large and skilfully grouped. They are so nearly hardy that the protection of an unheated greenhouse is quite sufficient to carry them through the winter safely. They do not quickly suffer from neglect ; if rather dry at the root, or if watered to excess, there is not the immediate or extensive mischief produced which would occur in the case of many other favourites, but, of course, every kind of ill-treatment is an injury to veronicas, and they deserve good treatment. Lastly, they do not appear to suffer from dust, smoke, and atmospheric impurities, so that they are good town flowers, and in every sense well adapted for those amateur cultivators who are often away from home, and consequently unable to afford to plants of delicate habit the regular and careful attentions they require.

The shrubby veronicas can be grown in various ways, as may be determined by the wants of the cultivator. They are sometimes planted against dwarf walls, and in sheltered places do not greatly suffer from the frosts of winter. The writer has seen in a garden in Hants a dividing fence formed of *V. Andersoni*, which presented a remarkable and

most beautiful appearance at all seasons, and especially when in flower. For ordinary decorative purposes pot specimens have the best effect when formed into regular pyramids with an even distribution of furniture from top to bottom. A good specimen should measure four feet in height from the rim of the pot, and four feet through at the base, tapering thence regularly to the summit. When grown for plunging out of doors to form autumn groups, a columnar style of training will be the best, or say an outline approximating to a Lombardy poplar, as this allows of placing the plants close together, and a better effect is produced than by plunging specimens broad at the base.

To grow fine specimens, the soil should be good turfy loam enriched with a third part of decomposed hot-bed manure, and with an admixture of broken crocks or bricks to keep the soil open. The young plant should be trained perfectly straight so as to secure a strong leader, from which in subsequent growth a regular disposition of side branches will proceed. From April to August the plants are to be shifted to larger and larger pots as they require them; they ought never to be thoroughly pot-bound until they have attained their full size, and are wanted to flower finely; but, on the other hand, each shift should be slight, as over potting at any stage is nearly as bad as allowing them to become pot-bound. After the middle of August there should be no more repotting, but in the month of April all the specimens should be turned out of their pots, the balls reduced, and much of the old soil be removed, and repotted again either into the same or into pots one size larger. As in the spring they do not evince much activity of growth, they may be pruned back when repotted. This should be done in a way to cause a regular disposition of shoots according to the form required, and as they break freely from old shoots and from the stem, ugly specimens may be pruned very severely, and if kept shaded and frequently syringed, with only a little water at the root, will soon throw out abundance of shoots, which the cultivator can keep or remove as may be needful. At the beginning of June all fast-growing plants which it is desired to form into compact specimens should be stopped; that is, the points of the shoots should be pinched out; this will cause them to produce side shoots, and there will be ample time for these side shoots to be fully matured before the close of the season.

The following varieties are the best in cultivation—*Andersoni*, grows freely, and flowers abundantly; the variegated leaved variety of *Andersoni* is extremely beautiful and more tender than the green-leaved kind. *Anne de Beauxen*, bright rose and white; *Devoniensis cœrulea multiflora*, dark violet and white; *Gloire de Lorraine*, blue and white, beautiful habit; *Imperatrice Eugénie*, amaranth; *Mammoth*, violet and white; *Multiflora*, dark violet and white; *Rubra elegantissima*, violet purple; *Rubra splendida*, rich crimson.

#### FLOWER SHOWS IN APRIL.

ROYAL BOTANIC SOCIETY'S SECOND SPRING SHOW, APRIL 8.—The lovely weather brought a full tide of visitors to the second spring show; and although the arrangements were on the usual limited scale of "spring meet-

ings," the large attendance of fashionable company made it quite a gala day, and the promenade became almost crowded towards the latter part of the morning. The principal feature was azaleas, and these were so grouped as to make a rich display of colour. In other respects this was a most enjoyable show. Pot roses were abundant and most beautiful; cut roses were shown in such plenty as to be quite an exhibition of themselves; and hyacinths, early tulips, cyclamens, and cinerarias were to be seen in great plenty; and there was enough of large ferns, palms, dracenas, and other bold forms of foliage to break up the masses of colour, and to make a delightful variety, so that whichever way the eye turned it was sure to be refreshed.

AZALEAS.—Mr. Charles Turner, of Slough, sent the finest specimens; they were all in pyramid outlines, and nearly true pyramids, with a slight crinoline swell midway between the apex and the base. They were about five feet high and five feet through, all very evenly bloomed, yet so fresh that they will no doubt do duty at several shows before they begin to wane. The varieties were all of the best: Prince Jerome, Iveryana, Holfordii, Criterion, Flower of the Day, Empress Eugenie. Mr. Todman, gardener to R. Hudson, Esq., sent a splendid six, very evenly trained, and in perfection of bloom; they were Criterion, Concinna, Iveryana, Princess Royal, Triumphans, and Roi Leopold. One great excellence of these was, that they were all alike as to size and training. Mr. Young, gardener to H. R. Barclay, Esq., sent a monster *Conspicua purpurea* (label illegible), Criterion, Empress Eugenie, *Semi duplex maculata*, and *Adolphe flore pleno*. Mr. Wheeler, gardener to Sir F. H. Goldsmid, Bart., sent a group of fine large round-headed and rather freely-trained plants: they were Triumphans, barrel-shaped, massive, and very effective; *Etoile de Flandres*, Duke of Devonshire, *Semi-duplex maculata*, and two others. Mr. B. S. Williams sent plants of medium size, in fine condition, and

very uniform; they were *Delecta*, superb; Countess of Stamford, *Rubra-plena*, a fiery red rosette-flowered kind; Magnet, Triumphans and another. In the class for six, Messrs. Lane and Son sent some plants of medium size, which were very stiffly trained, and rather thin, though the bloom was perfect. Amongst them were *Rosea alba cineta*, in the way of Criterion, very attractive, the flowers being of large size and fine form; and Magnificent, a superb white. Messrs. Lane also sent a collection of about fifty beautiful small specimens of just the right size and make for home decoration; they were, in fact, the perfection of conservatory specimens, and I should like to be always sure of meeting with such in every private garden I visit. They averaged two feet in height, and the same through at the base, the outlines pyramidal or related thereto, and quite solid throughout, with healthy leafage and handsome flowers. Amongst them were the following: Iveryana, still one of the most perfect whites; *Perfecta elegans*, Roi Leopold, Criterion, Advance, a beautiful variety, like a show pelargonium, rather deep and quakeress-bonnet like, smooth, fine petals, colour deep rich carmine, top spotted deep lake, forming a rich blotch; it is an improvement on Perfection as to colour; Duke of Cambridge, Perryana, *Elegantissima*, Madame Verschaffelt—this is a great improvement on Criterion, the flower being larger, very finely formed, the colour clear warm flesh, shading to lilac-blush, the top richly spotted crimson; The Bride, a fine white, with faint green stain in the centre; Rubens, Amana, a charming small-flowering kind in the way of Obtusa, the flowers like buttons, the colour rich purplish rose; it is nearly hardy; Iveryana, Sir H. Havelock, President Clays, this is a fine variety, the colour warm salmon-flesh, top spotted red, edges white, very distinct and beautiful; Roi Leopold, large and finely formed; Louise Margottin, an unattractive white; President Humann, dull salmon-red, top spotted crimson, scarcely to be equalled as

to the size of its flowers, which are admirably formed; Flag of Truce, a superb white; Mars, large, finely formed, colour fiery red, top spotted one shade deeper than the ground colour; the finest of this class of reds.

**STOVE AND GREENHOUSE PLANTS** were well shown, though not abundant. Mr. B. S. Williams, Mr. Bull, Mr. Wheeler, and Mr. Young, were the principal exhibitors.

**ROSES.**—The finest group of plants came from Mr. W. Paul, Waltham Cross. They were twenty-four in number, large, freely trained out without facing, and in perfection of leafage and bloom. The varieties were Jules Margottin, John Hopper, Madame Damaizin, Victor Verdier, Madame Boll, Alba rosea, Celine Forestier, Beauty of Waltham, glowing with colour, a grand rose; Madame St. Joseph, a perfect bouquet; Senateur Vaisse, Madame Caillat, Madame Cambaceres, Madame Clemence Joigneaux, Vainqueur de Goliath, Madame Alfred de Rougemont, F. Lacharme, General Jacqueminot, Souvenir d'un Ami, Le Rhone, Paul Delameillèray, very like Senateur Vaisse; Madame Derreux Douville, Mrs. W. Paul, superb for depth of colour, finely formed; Pierre Notting, very full and globular, deep dull crimson; Princess of Wales, apparently thin, beautiful in bud, and visibly related to General Jacqueminot. Messrs. Paul and Son had a collection of smaller plants, very compact, the leafage rich and waxy, the flowers few but unsurpassable in quality; they were notable for freshness, but, as a whole, made a far less effective display than those just described.

**NEW ROSES.**—There were two new Roses shown. Messrs. Paul and Son had H. P. Princess Mary of Cambridge, large, cupped, stout, symmetrical, colour clear pinky-rose, a beautiful rose, and the colour acceptable in these days of crimson multiplied. Mr. W. Paul showed T. Marechal Niel, the form that of Adam or Louise de Savoie, large, smooth, full, compact, stout, the colour clear lively lemon-yellow. If

this flowers freely, it will be one of the best of the golden roses, and will bring gold to the fortunate possessor of the stock.

**CINERARIAS** were in no way remarkable for quality, though there were some nice plants, and they made a pretty feature in the exhibition. The best were from Messrs. Dobson and Son, of Isleworth. Nice collections were sent by Mr. James, gardener to F. Watson, Esq., and Mr. R. Marcham, gardener to E. Oates, Esq. The best varieties in the exhibition were the following: Lord Elgin, fine magenta self; Miss Smith, heavily margined purplish-blue, with purple disk; Admiration, heavily margined magenta; Master F. Watson, heavily margined magenta, the white ground more conspicuous than in the last; Mrs. Harvey, crimson-purple margin, bluish disk; Duke of Cambridge, a grand deep crimson self; Snowflake, pure white, bluish disk, most beautiful, yet rather thin and rough; Regulator, a fine bluish-purple self.

**SEEDLING CINERARIAS.**—The best was Lord Amberley, a finely-formed smooth flower, with very broad florets, the colour a deep plum, shaded with violet.

**MISCELLANEOUS.**—Collections of 100 varieties of hyacinths and early tulips came from Mr. W. Paul and Messrs. Cutbush and Son, and made a beautiful effect, but they were evidently past their best. Not so Messrs. E. G. Henderson and Son's collection of varieties of Cyclamen persicum; they were still fresh and marvellously beautiful. Mr. Bartlett, of Shaftesbury Road, Hammersmith, sent some nicely-forced lily of the valley. A very interesting feature was a collection of British ferns from Mr. J. Holland, gardener to R. W. Peake, Esq., Isleworth.

**UNITED HORTICULTURAL SOCIETY.**—**FIRST EXHIBITION, TUESDAY, APRIL 11.**—The United Horticultural has entered upon its career with a glorious promise of success. Literally, as respects the exhibition, the society had but one disadvantage, and that was of serious import. It has been already said that the endeavours

of the committee to find a suitable place for the exhibitions *within the City* were all in vain, and that Albion Hall, Moorgate Street, had been rented for the purpose, as the only alternative between carrying out the programme in the best way possible or abandoning it altogether. All things considered, the course pursued by the committee has been fully justified by events. They had predetermined that to hold the exhibitions at a tavern would be objectionable, and that by some means or other an exhibition room must be found within a short distance of the Royal Exchange; and therefore, though Albion Hall is certainly not a suitable place, it appears at present to be the only place available which in any degree realizes the necessary conditions. The staging, chiefly under Mr. Rhodes's direction, was very skilfully done. On either side of the walk down the centre were tables covered with groups of plants, with causeways between. The platform and organ were completely screened by a trophy group of specimen azaleas and large furnishing plants, contributed by Messrs. Lane and Son, of Berkhamstead, Mr. B. S. Williams, of Holloway, and Mr. O. Rhodes, of Sydenham. The groups on the tables comprised orchids, azaleas, stove and greenhouse plants, roses, hyacinths, cinerarias, etc., etc.

**ORCHIDS.**—The principal exhibitors were Mr. Wilson, gardener to W. Marshall, Esq., of Enfield, and Mr. Baker, gardener to A. Bassett, Esq., of Stamford Hill. Mr. Baker's group comprised superb specimens of *Phalænopsis Schilleriana*, *Ionopsis paniculatus*, *Dendrobium anosmum*, the rare and beautiful *Odontoglossum Pescatorei*, *Cattleya amethystoglossa*, *Dendrobium nobile*, *Cypripedium villosum*, in a remarkable condition of freshness and beauty, the finely-developed flowers shining like some elaborate work in enamel. Mr. Wilson put up a beautiful specimen of *Phalænopsis grandiflora*, a group of *Lycaste Skinneri*, and among other orchids a few rarities. Of these the most noticeable was *Aspasia lunulata*, sepals green with dark

spots, petals white, lip broad, with central spot of dull rose; and the very pretty *Dendrobium xanthophlebium*. Among Mr. Baker's rarities were the following: *Lælia cinnabarina ensifolia*, the leaves long and sword-like, flowers intense orange with white fringed lip; *Odontoglossum gloriosum*; *Epidendrum* sp., New Granada, sepals purplish-brown, lip large, white, with small spot of pale rose.

**ROSES.**—Messrs. Paul and Son, of Cheshunt, made a magnificent display of pot roses and cut roses. Among the plants were fine examples of Madame Willermoz, Maurice Bernardin, Modele de Perfection, Lord Clyde, Le Baron Rothschild, Souvenir d'un Ami, Professor Koch, Niphetos, Duc de Rohan, Rubens, John Hopper, Alba rosea, Anna Alexieff, Admiral Gravina, Marquise Foucault, President, etc. Among the cut flowers were the following, all good varieties to force for spring flowers, and as shown in the present instance, admirably representing the pre-eminent skill and experience in rose culture of the famous Cheshunt firm: Louise de Savoie, Rev. H. Dombain, Madame Damaizin, Anna de Diesbach, Duc de Cazes, President, Lord Clyde, *Lælia*, Bernard Palissy, Souvenir d'un Ami, Devonienais, Abbe Reynand, L'Enfant Trouve, F. Lacharme, Victor Verdier, David Pradel, Souvenir de Comte Cavour, Madame Caillat, Geant des Batailles (this old friend looked quite respectable among the newer race of crimson, like one of the old aristocracy, dignified and self-possessed in the midst of feverish millionaires), Triomphe des Beaux Artes, Alba rosea, Madame Charles Wood, Anna Alexieff, Senateur Vaisse, Enfant de Lyon, Lord Herbert, Solfaterre, Prince Camille de Rohan, George Paul, Pierre Notting, Madame Domage, Virginal, John Hopper, Madame Furtado, Admiral Gravina, Celine Forestier, Souvenir d'Elise Vardon, Comte de Paris, Beauty of Waltham, Madame Valembourg, Colonel de Rougemont, Souvenir de David, Madame D. Douville, Narcisse, Centifolia rosea, Madame

Pauline Labonte, Gloire de Sacre Cœur, Madame Julie Daran, Lord Raglan, Comtesse Chabrand, Gloire de Dijon, Adam, Jules Margottin, Senateur Vaisse, Madame Willermoz, and about a dozen more.

#### STOVE AND GREENHOUSE PLANTS.

—Mr. John Fraser, of Lea Bridge Road, put up a grand group, in which were fine specimens of *Acacia Drummondii*, *Erica nitida*, *Epacris grandiflora*, *Dracæna Cooperi*, *Statice Holfordii*, *Acacia eriocarpa*, *Caladium Veitchii*, with the most beautifully-formed sagittate leaf of all the *Caladium* family, rich as it is in noble outlines, a gem this of the first water; *Polygala Dalmaisiana*, *Boronia pinnata*, the noble *Sphærogyne latifolia*, etc., etc. Mr. B. S. Williams sent *Pandanus reflexus*, *Pandanus elegans*, *Yucca Stokesii*, and other fine foliage plants, with which were grouped some glorious specimens of *Amaryllis*, amongst them *Marginata conspicua*, *Ackermanni pulcherrima*, *Robustum*, a fine dark flower, *Cleopatra*, etc., etc. Mr. Wheeler, gardener to J. Philpot, Esq., of Stamford Hill, made a very telling group with specimens of *Maxillaria Harrisoni*, *Azalea triumphans*, *Croton variegata*, *Eriostemon pulchellum* and *lanceifolium*, *Tropæolum tricolor*, *Phajus grandiflora*, *Lachenalia quadricolor*, etc., etc., all superbly grown, and in perfection of bloom and freshness. Mr. O. Rhodes put up some huge specimen *Ericas*, amongst them *Hartnelli major*, *profusa*, *aristata*, etc.

#### MISCELLANEOUS AND NOVELTIES.

—One of the most interesting of the miscellaneous subjects was a collection of forced strawberries from Mr. Kaile, gardener to Earl Lovelace; these were of huge size, fine in colour and ripeness; the varieties were *Empress Eugenic*, *Admiral Dundas*, *General Havelock*, and *British Queen*. Mr. John Newton, of Enfield, sent a collection of apples in admirable condition; the varieties were *Pearson's Plate*, flavour rich and piquant; *Golden Russet*, *Nonpareil*, *Winter Hawthornden*, *Ribston Pippin*, very highly coloured; *Fearn's Pippin*,

*Scarlet Nonpareil*, *Golden Harvey*, *Downton Nonpareil*. Also a noble sample of *Baldry's Defiance* rhubarb from the open ground, the stems stout, and fifteen inches in length, and a basket of excellent mushrooms. Mr. Charles Turner, of Slough, sent *Azalea Duke of Buccleuch*, quite new, and truly superb; colour dark red, petals very broad and smooth, flower extra large, symmetrical, and of great substance. From the same, *Philadelphus Mexicana*, a neat-habited shrub, with white flowers of the ordinary *Philadelphus* type. If hardy, invaluable; in any case, well worth cultivating for conservatory purposes. From Mr. Wilson, gardener to W. Marshall, Esq., a new *Tropæolum* in the way of *peregrinum*, the flowers dull orange, shading to dull purple at the margin, the lip opening greenish yellow; not showy, but elegant and interesting. From the same, a grand specimen of *Adiantum capillus veneris*. From Mr. Aldred, nurseryman, Kilburn, a collection of *Anætochilus* in beautiful condition, also a collection of *Cinerarias*, and a collection of seedling *zonale geraniums*. From Messrs. Glendinning, of Chiswick Nursery, a fine box of *Camellia* blossoms, comprising most of the species reported on lately. From the same, a huge specimen of *Erica Sindryana*, and a number of coniferous trees for furnishing the entrance, and for odd purposes. From Mr. Shirley Hibberd, a collection of *hyacinths*, amongst which were fine spikes of *Laurens Koster*, *Duke of Wellington*, *Lina*, *Amy*, *Heroine*, *Mont Blanc*, *Charles Dickens*, *Grand Lilas*, etc., etc. Also from the same, a box of honey, grown at Stoke Newington. The weight of the box was twenty pounds, the comb comparatively white and very regular, and the quality in every respect equal to that shown by Mr. Hibberd at the meetings of the Apian Society, five years ago, so that the progress of building operations at Stoke Newington has not yet seriously affected the character of the honey grown there.



## BOUQUET DAHLIAS.

GERMAN florists have not only a more catholic taste, but a better climate than English ones, and to the double advantage we are no doubt indebted for many of the fine strains of annual seeds, and many of the peculiar races of ornamental plants which the Teutonic cultivators have presented to us. The writer of this was a witness, last year, of the great difference between a German and an English florist. It happened that the representative of a great German house visited a large grower of a certain tribe of florists' flowers. The German visitor rambled over the grounds on the first morning of his stay, and as he went he inserted in various places some short sticks, which he cut for the purpose from a hedge of willow. In the course of his walk he met his host, the owner of the ground; he also was walking through, and marking certain plants by tying strips of bast to them. After the usual greetings, the Englishman said he had been marking a few good seedlings, which had bloomed for the first time that morning, and he had also drawn out and left to be killed by the sunshine many that he had found to be worthless. "Yes," said the German visitor, "you have done well to save a few in those rows; when you look through the rows I have inspected, you must save all that I have marked." A smile passed over the Englishman's face as he looked at one of these, and took the measure of its inferiority, but it vanished as the German seized him by the arm, and said, "I knew the perfect flowers would not escape your eye, so I did not mark any; those that I have marked will be valuable for bouquets, for beds, for great groups—in short, for any and every purpose except exhibiting." The Englishman had hitherto moved in a narrow groove, but in an instant he had escaped from its trammels, and his gains at the end of the season were largely increased by his turning to account all the plants his German friend had marked, as well as those he had marked himself.

Indeed, when Herr M.— bade him farewell, he said, "This is the difference between your practice and mine; you look to see how much you can destroy, I to see how much I can keep. If we at home had not adopted such a policy long ago, you English would never have had the benefit of the many fine kinds of stocks, asters, balsams, etc., etc., which we annually send you."

The race of bouquet dahlias are the result of selections made from seedling dahlias, according to the German policy of keeping everything good, without reference to any peculiar standard of properties. Hence amongst them are to be found a considerable variety of forms and proportions, and it requires discrimination on the part of the cultivator to select the best and neglect the worst. Show dahlias are noble ornaments of the garden, but they are too lumpy for appropriation to fill vases and form bouquets. The true bouquet dahlias are invaluable for cutting, and they come to perfection at a time when the border flowers begin to wane, and when, therefore, flowers for vases are scarce. For this, if for no other reason, they should be grown by all who have need for autumn flowers.

As happens so commonly as scarcely to call for remark, a great many dahlias have been sent out as members of the pompon or bouquet class, which really belong to no class at all. Therefore it is we advise cultivators to be careful in selecting, for under the name of pompones they may have many varieties too small for show, not good as border flowers, and yet far too large and heavy for vases and bouquets. In such a case as this, a good list is invaluable; and we are enabled to present one, which, though short, is nevertheless lengthy enough for all ordinary purposes, and thoroughly safe, for it is the result of a careful personal inspection of all the varieties that have been catalogued as pompons. The smallness of the flowers of the best bouquet varieties is one of their best

qualities. If we could obtain perfect flowers of the size of a shilling, it would be a great advantage, but anything larger than half-a-crown ought not to be tolerated. The flowers should approximate in outline to a section of a sphere, rounding up well to a crown, and be regularly quilled, and as close and compact as a show ranunculus. It is delightful to observe the symmetry of some of the bouquet varieties; they have the perfection of florists' flowers, and it is quite possible they may yet be shown as such—perhaps in a class for miniature dahlias; for to call them bouquets would ruin them for show purposes.

To grow these dahlias is a very simple affair. It is well not to plant too soon. The second week in May is the best time; and if delay cannot be avoided, they may be planted as late as the second week in June, to ensure a good bloom. But it is not advisable to delay the planting later than the second week in May, as if hot, dry weather overtakes them before they have made an abundance of roots, they become infested with thrip or red spider, and bloom very poorly. An open, sunny position, and a rich, loamy soil are desirable; but unlike the show varieties, they may be grown tolerably well in a border partially shaded by trees, and in soil of ordinary border quality. They must be securely staked, and have abundance of water during dry hot weather. The following is a list of the most perfect varieties in cultivation, selected from a collection of ninety varieties. Those marked (\*) are suitable for bedding:—

*Annie*, rosy blush, tipped violet.

*Bessie*, buff yellow, shaded red.

*Conqueror*, claret crimson.

*Fairy Child*,\* crimson, margined white.

*German Daisy*,\* rose shading to blush.

*Linda*, buff, tipped bronze.

*Little Darling*, amaranth rose.

*Little Dear*, blush white, tipped violet.

*Little Mistress*, violet purple.

*Little Najade*,\* blush, edged crimson.

*Little Philip*, creamy buff, edged rosy lilac.

*Pet of the Village*, pure buff, tipped bronze crimson.

*Pretty Polly*,\* lilac self.

*Tom Rover*, rosy violet, salmon centre.

#### A SELECTION OF EXHIBITION DAHLIAS FOR 1865.

The following are 50 of the best show dahlias, including new and old varieties, and representing all the classes. A carefully-prepared selection of 132 varieties will be found in the "Garden Oracle" of 1865:—

LIGHT.—Miss Henshawe, Hon. Mrs. Trotter, Miss Pressley, Mrs. H. Vyse, Charlotte Dorling, Serenity, Anna Keynes, Princess Alexandra.

YELLOW AND ORANGE.—Norfolk Hero, Chairman, Golden Drop, Hugh Miller, Charles Turner, Lord Russell, General Jackson, William Dodd, Fanny Purchase, Willie Austin, Chelsea Hero, Golden Admiration.

CRIMSON AND RED.—John Keynes, Madge Wildfire, Disraeli, Lady Franklin, Merveille, Sidney Herbert, Triomphe de Peeq, Donald Beaton, Scarlet Gem, Lord Clyde.

PURPLE AND MAROON.—Andrew Dodd, Lord Derby, Earl of Shaftesbury, Midnight, Pre-eminent, Beauty of Hilperton, Erebus.

LILAC.—Baron Taunton, Juno, Marquis of Bowmont, Jenny Austin, Lilac Queen.

STRIPED AND SPOTTED.—Countess of Shelbourne, The Bride, Charles Perry, Garibaldi, Octoroon.

TIPPED.—Lady Paxton, Norah Creina, Queen Mab.

#### SPECIMEN MUSK PLANTS.

A PLANT which is so universal a favourite, I am surprised more pains are not taken to make it more attrac-

tive in form, instead of its being allowed to run straggling and weakly, as we mostly see it. It is capable,

with assistance, of doing more than many people may imagine. With a view to induce improvement in its growth, I would suggest that prizes be offered at our exhibitions—say, for three best pots. I am not an exhibitor now, but if you will kindly allow me a little space, I will, for the guidance of others, give a hint or two, which are easily carried out, and will repay those who adopt a plan I tried some time since as an experiment.

The roots of musk, like those of mint, run under the surface of the soil, which, by continued watering, loses the nourishment so essential to the plant.

Cuttings, well grown, make much better plants than those obtained by division of the roots.

My method is to take a vigorous young cutting, well rooted, plant it in about four inches of a rich compost at the bottom of a half-peck flower-pot, placed in the warmest part of the greenhouse, where it will grow rapidly, pinch out the leader, and as it grows I frequently add more soil, until the pot is filled to within an inch of the top; by this time the pot is well filled with roots which have struck out from all parts of the plant thus buried, hence it grows more vigorously than when it has only a few roots running under the surface. I place a number of neatly-cut sticks about two inches apart all round the edge of the pot, draw and tie them together at the top, thus forming a

cone about eighteen inches high above the rim. I then take some fine matting, pass it round each stick, commencing at the bottom, and as the plant grows continue to place these bands round to keep the foliage inside. As the flowers make their appearance, I take them off until the trellis is nearly filled, which will not be long, for the plant may be almost seen to grow; I then let it bloom at will. A frequent turn of the pot will prevent drawing to one side.

I now let the shoots which come through the trellis fall down round the pot, which will soon be almost invisible; the whole then presents a most beautiful pillar of about two feet in height, covered with flowers of a larger size than commonly seen on musk, and not a stick of its support to be seen; by this time it requires a little assistance with clear manure water, not too strong. I should also say, that frequent syringings with chilled water is of great and almost essential service.

I once sent six of them to a flower-show, and they were the admiration of every one there; many inquired if it was not a different variety from the common musk. This may not be a new plant, but I have not seen musk grown thus by any one, and would advise lovers of this favourite of mine, where practicable, to try the effect.

R. J., in *Midland and Northern Florist*.

## FORMING BUSH AND PYRAMID TREES.

### No. 1.—THE SPINDLE OR DISTAFF.

THERE are many amateur fruit-growers in need of a few words of guidance as to the best method of pruning and training their miniature fruit-trees. It is simply impossible to lay down rules for universal application, and I do not feel sure that I shall succeed in dealing explicitly and practically with the case in a general way. If knowing something about it be an important qualification for the task, then I have at least a chance of success, for though my

collection of hardy fruit-trees is of very limited extent, I defy any cultivator in England to produce better examples of miniature trees—trees that are severally compact, handsome, formed to certain models, as for example, round bushes, stiff spindles, cones, pyramids, etc., and that are also as fruitful as trees can be, and the fruit uniformly disposed over their entire superficies. Exactly how to form any particular tree to a pyramid, or distaff, or bush, cannot be

told. Yet, perhaps something may be said with the object of rendering it easy for the amateur to teach himself; and it is only in the hope of doing this that I have taken up the subject; I do not, cannot, and will not attempt to teach on paper that which can be learnt only by actual observation, long continued among the trees themselves, and at the price of many mistakes.

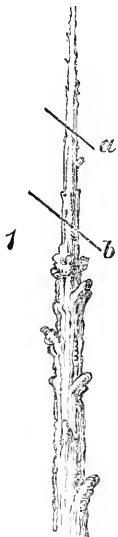
Let us first note a few fundamental facts, upon the influence and meaning of which much of our practice depends. Every tree grows more or less in the same manner when young, forming at first a few vigorous shoots, and as these again lengthen in subsequent seasons, the wood originally formed throws out small twigs or spurs, which ultimately produce fruit. Usually the first season of grafting, the graft starts away, and forms a stiff, strong leader, with perhaps two or three side-shoots. If we leave it unpruned, the leader extends itself, the next season more side-shoots are produced, and the first-formed side-shoots produce laterals and embryo spurs. The tendency of the sap is *always upwards*, hence, if we take a leading shoot at the end of the season, and nail it to a wall in a horizontal position, it will the next year extend itself very little. It may produce spurs the whole of its length, or it may produce side-shoots the whole of its length, and it may produce spurs and side-shoots in about equal proportions. If, in the month of March, you were to ask a practical cultivator what sort of growth he should expect from the leading shoot which you had trained horizontally, he would tell you to expect from near its base a strong shoot, and if a strong shoot came at the base, then, probably, as that strong shoot would use the chief part of the sap of the tree, the horizontal shoot would be unable to produce side-shoots, and would produce spurs instead. In all cases there must be a tree first, there must be leaders and side-shoots, and when these are formed we may hope to see fruit spurs, and thereafter fruit.

The interest that attaches to the

cultivation of miniature trees arises principally from the fact, that they are, by the peculiar treatment they receive, induced to form fruit spurs much earlier than they would do if allowed to grow naturally. The first matter of importance is to graft them upon suitable stocks; those stocks, *cæteris paribus*, being the best which afford to the scion but a limited supply of sap, for abundance of sap produces wood, a less supply induces fruitfulness. We see an exemplification of this in the lower parts of the ripe shoots of strong trees; for the lower parts of those shoots have less sap than the topmost parts of the shoots, hence fruit buds are formed, but where the sap is rushing upwards with full vigour, there few and strong shoots are produced. Proper stocks are therefore not only desirable, but necessary, as if the stocks communicate an excessive vigour to the grafts, no pruning, and, indeed, no artificial treatment will convert them into handsome and fruitful miniature trees. But supposing the stocks to be right in each case, the next point is to determine what is to be the shape of the future tree. Now, there is one imperious Dictator on such matters: let Dame Nature pronounce what in each particular case is to be the shape of the tree. Some kinds of pears, apples, plums, etc., are naturally of slow growth, and produce short twigs abundantly; others of strong, vigorous habit, will make long rods. It is best not to violate the natural habit of the variety; let us take a long rod, and form it to a spindle or distaff, as represented in *FLORAL WORLD*, vol. vi., p. 52. In my fruit-garden I have some Jargonelle pears grown in this way; they are as straight as scaffold-poles, and in winter look like scaffold-poles, into which thousands of tenter-hooks have been driven. In each case the graft made a straight shoot which was allowed to grow its full length. The next season the side-buds began to push, and were pinched. The trees resented this interference by throwing out side-shoots innumerable after every pinching; but these were again pinched, and so the

sap finding no outlet that way, the leading bud at top grew with immense vigour, and was allowed to do so, both to keep the roots in activity and to preserve the health of the whole tree. It must always be remembered that the growth of the roots corresponds with the growth of leaves and branches; if we suppress wood buds we suppress roots also; if a tree cannot form shoots above ground, neither will it form roots below.

At the end of the season the top of the leader of each of these distaff trees has the appearance of fig. 1. The growth of the season is easily traced to the point it started from, both by the slightly swollen condition of the wood at the junction of old and young, and by the short incipient fruit spurs on the old wood, and



the absence of such on the young wood. The question is, what is to be done with this leading shoot? The answer to that depends on circumstances. If the tree is unfruitful and still inclined to grow vigorously, it may be well not to shorten the leader at all, the superabundance of sap escaping that way may induce the complete ripening of the spurs below, and the production the next season of a plentiful crop. But if the tree is in good bearing condition, the fruit will consume so much of its sap that it will be but little disposed to make wood by rampant growth. We

may then consider another interesting question; do we wish to increase the height of the tree, or is it high enough? If we wish to lengthen out the scaffold pole, the mark *a* will be about the best point at which to prune. This will leave half a dozen good buds to develop into spurs and a top bud to lead the way again. If the tree is tall enough, we must cut at *b*, and by pinching the top shoots, if they

push too strong, convert them into spurs instead of allowing them development as wood shoots.

Now you see we are engaged in a quiet war with the imperious dictator. The tree is full of vigour, and though producing abundance of fruit has still abundance of sap to spare. The month of May has come, and what do we see? From the point *b*, to which



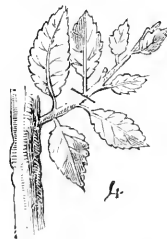
the tree was pruned, two shoots have started with about equal vigour. One of these is in a direct line with the old stem, the other is a perpendicular side-shoot; they are both going up at such a pace as to show that there are more races in the month of May than those which take place at Epsom. As soon as this is discovered to be

the case we adopt measures calculated to preserve the form of the tree, and at the same convert some of this vigorous growth to a good account. If both are cut in close, new shoots will arise, probably a whole thicket of thin spray, making the head of the tree like the ribs of an umbrella, and pinch as we may, the sap will be too much for us; so that the end of it will be that at the winter pruning the head will have to be cut back below all these thin shoots, which will result in the loss of a portion of that ripe hard wood, which it has taken three summers to produce. The proper course is a compromise between art and nature. The proper leader need only have the point pinched out; this will cause it to ripen its full length of new wood, and probably cause every side-bud to produce an incipient fruit-spur. As for the side-shoot, that must be suppressed, and the best way will be to remove it by means of a sharp knife at the point *a*. As the leader is allowed to take a good share of the sap, this side-shoot will probably not push again, but the two or three leaves left will keep the stump alive, and perhaps mature the buds at their base, so that in the end, the remains of the shoot *a* may become a fruit spur.

Concurrently with this vigorous growth at the head of the tree there will be a less vigorous growth elsewhere, every detail of which must be watched by the cultivator. From various parts of the tree young shoots are pushing. There is the very short twig with three or four small leaves set round a terminal point like a rosette. This will never become a shoot; it is an incipient fruit-spur; next season it will give you flowers and fruit; leave it alone. On the lower parts of old branches of fruit trees, pears especially, twigs of this kind abound, and if the shape and size of the tree are of no consequence, any strong ripe shoot will ultimately produce twigs of the kind if allowed to grow in its own way unchecked. You will also notice feeble wood shoots, which while they differ from the embryo spurs in a visible tendency to lengthen themselves out, do not grow with

such vigour as to form strong shoots of a kind analogous to that we have just pruned back at *a*, fig. 2. These feeble shoots, are in fact, laterals, which if left alone, will produce spurs, but which if pinched in betimes will themselves become spurs.

It is for the cultivator to determine whether to pinch them back or not. If a side-shoot is wanted to fill up a gap in the furniture of the tree, then the shoot may be allowed to push and ripen. If not pinch it back to the fourth leaf as in fig. 3, and it will probably give no more trouble during the season. Then, again, we shall find stronger shoots of a vigour intermediate between 2 and 3. These may be called subsidiary leaders. If left to grow they will become strong side-shoots, and the probability is that a few of them will be of great service; in fact, it is impossible to form nice bushes or pyramids without such shoots. But when the tree is formed, all such shoots must be suppressed, and the simplest and most effectual method is to pinch them back to three leaves, as in fig. 4. The word "pinch" is used because the thumb-nail is the best of all pruning implements and when the shoot is soft enough for the thumb-nail to cut it through is the best time for the



operation. But if the pinching is delayed beyond that, as it has been in fig. 4, the shoot will be tough, and must be cut with a small sharp knife. It is best, however, always to pinch when the shoot is quite soft, hence the first pinching should take place at the end of April, or early in May,

that the shoots pinched may have time to push again, the sap so expended serving to mature the buds which lie at the base of the shoot and which it is intended to develop into fruit-spurs.

When the pinched shoots do again push, the secondary twigs must be pinched back to two leaves; this check will probably suffice to defeat the purpose of the tree. Instead of struggling to produce wood, it will now elaborate the buds at the bases of the pinched shoots into embryo spurs, and the result will be early fruitfulness of small trees instead of late fruitfulness of large ones.

The principal difficulty of the beginner is to discover the limits within which these pinchings and prunings may be practised. It is only up to a certain point that we may interfere with nature with any advantage to ourselves. Let me give you a case in point. Among a number of trees grafted in 1859, were some Victoria plums. These were grafted near the ground with the intention of forming them into bushes. The trees said "no," for they threw up powerful leaders and acquired a height of six to nine feet the first season. I then endeavoured to make distaffs of them, but in spite of every attempt to check their growth, they started again, then divided

naturally and formed heads. At the end of 1860 a few of them were severely cut back, in fact to skeletons; others were left unpruned. Those left unpruned enlarged their heads in 1862, those severely cut back threw out a forest of shoots in all directions; they were pinched and cut, but all to no purpose; they *would grow*. In the autumn of 1862 a few of those with fine heads were selected and planted out from the nursery and left to grow as they pleased; the others that had been pruned severely were again cut back, but were left covered with short twigs. The first lot are now handsome young trees, and, at the moment of writing this are completely smothered with bloom. But where is this bloom? It is on the top branches—that is to say, regularly distributed throughout the heads of the trees; and on the stems where the side-shoots were pinched and cut there is a regular bristling of little twigs, all green with leaves, but not a bloom amongst them. Thus, you see, we must not interfere with Nature rashly; sometimes, by allowing a certain degree of vigour, we may do more to encourage fruitfulness than by checking the growth, so that the whole tree becomes debilitated. The sap is the blood; it must circulate, or there can be no work done. S. H.

## THE COTTAGE GARDEN.

### NOTES ON A FEW OF THE FINEST HARDY HERBACEOUS BORDER FLOWERS.

IN looking over a catalogue of plants, the amateur is much more apt to be bewildered than informed. He sees lists of names longer than his purse, and to pronounce some of them he ought to be capable to go through the process unhurt of combining the sound of a cough, a sneeze, a wheezing in the head, and a husk of barley in the throat. If he could pronounce them all, he could not in another way pronounce which to have and which to refuse, for are they not all described with the use of laudatory adjectives—"splendid," "brilliant," "fine," "handsome," and "prodigious"?

Yet if a few really useful, hardy herbaceous plants can be selected, they are invaluable to people who do not soar into the highest heavens of horticulture, and those who do so cannot despise them. Generally speaking, they propagate themselves, so that, once obtained, they spread, and may be divided every season; then the majority are not at all particular about soil, and a considerable number will thrive under the shade of trees, and produce an abundance of showy spikes of bloom the whole summer long; some bloom early and some late, and some are always blooming,

so that a border well stocked is rich in colour all summer-time, and shows a few patches of lively green all winter. Let us see what we have in this class worthy to be described as "everybody's flowers." Let us begin with—

*Blue.*—For a sunny border of good loam *Delphinium formosum* and *Hendersonii* give magnificent spikes of blue. When they are half gone, and before much seed is formed, cut the flower-stems away, and they will bloom again, and make two displays instead of one. The bee larkspur, which is a perennial *Delphinium*, is as common as a weed, and almost grand when its tall stems are loaded with pale blue flowers. See it in the beds on the lower terrace at the Crystal Palace, or in the herbaceous borders at Kew, and say is it not at once a prince's and a poor man's flower? *Tradescantia Virginia*, blue again, always in bloom, and a graceful grass-like foliage, very common, a cottage plant, but who would be without it? *Aconitum napellus* is rather coarse, but bold and showy, and a fine clump of it looks grand in the rear of a border, and no garden can very well do without it. *Aquilegias* produce deep blues, and blue and pink shades, and when large and double are not only border but florists' flowers, and have been improved with assiduous care, so that to have any but the best would be a folly. The perennial borage, though a coarse-looking plant, puts on a blue livery in its short summer season that cannot be surpassed in all the retinue of Flora. The dwarf *Campanulas* come into the front line for patches of blue and white—exquisitely beautiful; and the Canterbury bell everybody knows, but how rarely do we see a row of it, and what can beat a row of it if supported with other colours of good herbaceous plants? *Honesty*, an ancient biennial, is one of the first and most cheerful of spring flowers; colour a bluish-lilac, and when the flowers are gone it will amuse you to watch the growth of the seed-pods. If we make the *Lupins* end the list of blues, it is not because the list of blues is at an

end, but because it will suffice so far for people who don't want to have their heads turned. We ought to add the squill, for the sake of its spring flowers, for though it is a bulb, it will grow anywhere in the shade along with violets and forget-me-not.

*Crimsons and reds* are more plentiful, but we shall specify only a few. You remember the French willow or French stock, *Lythrum salicaria*, blooming so gaily in your grandmother's garden; why is it not in your garden also, in a damp place, to comfort you with its tall spikes of rosy-purple flowers, when the summer-heat makes you too idle to trouble about any plant that cannot take care of itself, as that will, if you only leave it alone? The scarlet *Lychnis*, where is that? dug in and destroyed when the borders were "done up." Send to the nursery for a dozen, and plant them in the third row at equal distances, you shall have compact heads of deep scarlet flowers for your little pains. The Oriental poppy is positively too gaudy and too fleeting to be worth many words; but it must elicit admiration; how it glows like a little elinker just raked out of a furnace, and mounted on a green wire to mock the sun. *Agrostemma flos Jovis*, the real Jove's flower—lovely flowers of soft deep rose, and foliage hoary like frosted silver. It will grow anywhere, and sow its own seeds by dozens. The columbines come in again here for dull reds and lively pinks; so do the pinks themselves, and the Indian pink is one of the best border plants known. The *Potentillas*, especially *P. sanguinea*, will either sprawl over a bank, or, by the help of a few neat sticks, make pretty upright stems of rich crimson and blood-coloured flowers. Foxgloves are not to be depended on in gardens; but where they do thrive, they produce charming spikes of rose, pink, and flesh-coloured flowers. If you can grow them to look equal to those in the hedgerow, you may consider you have done something. What shall we say of *Dielytra spectabilis*, the most beautiful of all hardy herbaceous plants, esteemed as furni-



ture for conservatories and flower-shows, except that it may be bought for sixpence, and will grow in any good garden soil, and take care of itself entirely for a hundred years? Procure plenty of plants at once, turn them out without injury, and do not touch them for three years, and you will have huge stools and a glorious show from the end of April to the end of July. The common Valerian, *Centranthus macrosiphon*, is very showy, colour pinkish-red, plant foud of chalk and a dry position; suit its whims if you can. Snap-dragons produce a hundred shades of colour, from the deepest crimson to pure white. Have them good in the first instance, and they will sow themselves; they like a dry, sunny position, and have no objection to old mortar and brick-bats. For the front line there are Belgian daisies, very cheap and exquisitely beautiful; *Geranium sanguinea*, and Lancastriense, two very charming rock plants that thrive also in any border.

*Yellows* are plentiful and good; the finest yellow flowering herbaceous plant we have is *Enothera Fraseri*, and the next best is *Lysimachia thyrsiflora*, a very hardy plant, which forms close crowns in the autumn, and may be divided every spring. It will grow anywhere, in shade or sun, on a bank or in a wet border. The *Rudbeckias* are noble orange and yellow flowering plants, apt to die in winter, so take them up and pot them in October, and plant out again in April. *Cheiranthus Marshalli*, a lovely orange flowered wallflower, is largely used as a bedder, is generally described as a biennial; we have stools of it ten years old, so if you like to leave it alone you may, and it will pay a liberal rent. *Escholtzia Californica* is a true perennial, and having sown it as an annual leave it alone, and it will become a perennial with the most gaudy of all flowers. The *Helianthemum* is a truly grand herbaceous plant, but you must not call it the "everlasting sun-flower," or it may be despised by people who play at being fashionable. *Hemerocallis*, the Day Lily, is fit for the finest mixed border ever planted, and

would grow as well in that dust-hole of a place, the area round St. Paul's, as in the most open garden in the country. It is a real good town flower. *Enothera fruticosa* and *corymbosa* are the best of the evening primroses for mixed borders, and very beautiful they are with their immense heads of clear yellow flowers. They like shade and moisture, but are not particular.

Now for a few *Whites*. The perennial candytuft is the most useful of all the hardy border white flowers, and it forms a low spreading bush, capital for the front line along with white *Arabis*, which blooms at the same time. *Campanula rotundifolia alba* is exquisitely beautiful, and the whole summer long produces bells enough on a single clump for all the fairies in the world to ring their midnight peals upon. *Geranium aconitifolium* is a useful white of tall growth, very pretty but soon over; and that reminds me of the double blue geranium, which ought to have had a place in the first list; it is a real gem. *Iberis buxifolia* is exquisitely beautiful, large white blossoms in dense trusses, and the foliage lovely all the winter through. For those who cannot grow ferns there is Solomon's Seal; it loves a shady bank, and to be left alone; and is it not a graceful thing from the end of March to the end of July? White *Arabis* is the best of all spring flowers. Lilies do not belong to the strictly herbaceous list, but the common white lily ought to have a place in a border containing such plants as the foregoing, and as any soil suits it, and shade is better than sun, why should it be left out? Grand in its stately purity is *Lilium candidum*, and with peonies, hollyhocks, phloxes, pansies, sweet Williams, and a sprinkle of annuals, would make up a border which the most fastidious could not dare to scorn. With the exception of a very few, the whole of the above may be raised from seed sown in May or June, but it is slow work to wait for bloom by that process, and plants can be had so cheap that it is scarcely worth the while of any to take trouble with seed.

FIDO FIDES.

## LACHENALIA TRICOLOR.

AMIDST the numerous varieties of bulbous-rooted plants whose flowers adorn our greenhouses during the earlier months of the year, few deserve or are better entitled to the gardener's attention than the one named above. Their beautiful spikes of trumpet-shaped red and yellow coloured flowers, whether intermixed with other plants or otherwise, are sure to be attractive. To me it is a matter of surprise that their culture among floriculturists is not more universal, as they are not of recent introduction, having been brought into this country from the Cape of Good Hope in the year 1774; and, unlike the Hyacinth, Narcissus, etc., they do not require to be purchased annually that sound and good flowering bulbs may be secured, as the *Lachenalia* increases every year in number and strength, if the grower will bestow some degree of care. This induces me to offer a few simple rules for the cultivator as practised successfully by myself.

Towards the latter part of July, I turn them out of the pots in which they had flowered the previous spring, they having been allowed to remain dormant in the same during the summer months; in sorting them the stronger bulbs are selected, and five of each are planted in a six-inch size pot, commonly known as 32's. Good drainage and clean pots are indispensable. With me they thrive best in a strong loam (not clayey), but of a silky or soft texture; add to this about a fourth part of dry rotten manure, with a little sand. If the manure be decayed cow-dung, so much the better, provided it is free from worms. They are then placed in that part of a cool pit where the influence of the solar rays act but slightly on them—the object being in

the present stage of their growth to check too rapid an evaporation in the soil, as frequent watering when there is not an abundance of rootlets to absorb the fluid would tend to diminish the nutritious properties of the soil. When they have begun to vegetate freely, expose them more fully to the light and air; their rich dark green speckled leaves will then soon begin to strengthen in growth. That a healthy vigour may be preserved during the winter months, place them on the upper shelf of a greenhouse, near the glass, but do not neglect carefully watering them. You will occasionally find water, from drip and other causes, in the centre of the bulb where the flower-stalk is emitted; it would be as well to dislodge the same, although I do not think its presence is of any material consequence. As the flower-spikes become perceptible, allow the pots as much room as your means will admit of for the display of their vigorous foliage. During the blooming season, shade on hot sunny days; this will preserve the colour as well as the flowers. When they have ceased blooming, gradually ripen the bulbs by reducing the quantity of water, till you wholly discontinue the supply, when they may be put in any corner of the greenhouse till the period of disturbing them as previously recommended.

The offsets or smaller bulbs may be planted, ten or twelve or more in number, according to their size, in a five-inch or 48-sized pot; they will not all flower, yet you may increase your stock of strong-flowering bulbs for selecting from in the ensuing season. The *Lachenalia* will submit to be forced, but it is at the expense of weakening both the bulb and the flower-spike. J. F. M'ELROY.

## CELOSIAS FOR DECORATION.

IN the GARDEN ORACLE for 1863 we gave a short account of our experimental culture of some varieties of *Celosia pyramidalis*, undertaken for

the purpose of determining what might be done with them in the absence of the usual aids to the development of flowers of tender amaranths. The result proved that these elegant plants do not need stove treatment, and in fact, for all ordinary purposes of decoration, were not to be considered as in any way more tender than our favourite old border annual *Love Lies Bleeding*. We return to this subject for the purpose of recommending the culture of these new *Celosias* for out-door decoration, for which they are admirably suited, provided they are brought forward under glass with care, expressly for the purpose of making a special effect among bedders, or for the adornment of the terrace or woodland walk. We very much fear that that most graceful of promenade plants, *Humea elegans*, will be put quite in the shade when these plumous cockscombs have been fairly tried; for these provide similar feathery plumes of crimson and scarlet, and have the advantage of an ample and elegant foliage, which *Humeas* invariably lack when they arrive at their full perfection. But we have no wish to disparage *Humea elegans*; it is a gem in its way, and will never quit the gardens where it has once made itself a favourite. To make the best use of these *Celosias* for garden use, the present is the best time to sow, because it is not desir-

able to have the plants in too forward a state. It would be next to murder to put them out of doors before June, but then it may be done with perfect safety. It would not be difficult to make a very long and elaborate essay on the subject; but as there is no need for it, we content ourselves with advising the cultivator to sow thinly in pans filled with a mixture of rotten dung, leaf-mould, and peat dust; to place the pans on a dung-bed, and cover them with squares of glass; and when the seedlings are large enough to handle, to pot them singly into 60-sized pots, filled with loam from rotted turf, rotten dung, and leaf-mould, equal parts of each, and to replace them in a moist heat of 65° to 70°, and as soon as they start away, to water liberally and shift again when needful to 48-sized pots. In these pots they will soon show bloom, and if kept moderately close, the spikes will acquire a great size, and there will be a fine mass of foliage to the rims of the pots. On the 1st of June, or soon after, they should be taken to a cool house for a week, then to a pit, where they are to be covered only at night, for a few days; and they may then end their pilgrimage by being turned out into vases, baskets, or beds; and there can be no confusion as to their colours, for they will all show what they are and intend to be for the rest of the season.

[Written to appear in April.]

## KEEPING AND KILLING WINDOW FLOWERS.

HOWEVER free from dust or injurious exhalations the atmosphere of a room or small conservatory may be, the plants kept there require as much air as the temperature and other circumstances will admit of. Even in the depth of winter, we have occasional warm sunny days, when, if only for an hour at noon, the windows should be opened, and the fresh air allowed to play amongst the foliage; and at other seasons air should be given regularly, as a matter of course. Too often window plants get air only

by accident, and the consequence is that they get weak and spindling; their blooms fall in the bud, the leaves turn yellow, and then insects appear to prey upon their unhealthy juices. But certain precautions are necessary. Cold draughts are generally injurious; a whistling east wind, that would cause an attack of toothache to the cultivator, will not be likely to benefit any rather tender plant, especially if it has been previously kept in a warm temperature. So, also, an intensely hot sunshine

will be likely to exhaust the plants, a smart gale will sometimes cause the leaves to flag as if they had not had water for a week past. I will tell you how to kill a collection of plants in an hour, and the process will perhaps serve to impress upon the mind the necessity of avoiding whatever approaches to violent treatment in the management of plants. You may purchase from a hawker a few hydrangeas, pelargoniums, genistas, and cinerarias, in full bloom. Place them on the flagstones, where there is a

brisk breeze and a bright sun. Then drench them overhead three times with cold water, from the rose of a common watering-pot. In an hour's time, they will be found in a drooping and dying state, and no novice in horticulture will be able to restore them. They are, in fact, killed, through the rapid transition from a warm forcing-house to a fresh breeze and sunshine, and the chill caused by the dash of water upon them.—*Hibberd's Garden Oracle.*

### NOTICES OF BOOKS.

*The Chrysanthemum: its History, Cultivation, etc.* By JOHN SALTER, F.R.H.S. Groombridge & Sons. — This beautiful volume is a masterpiece of horticultural literature, and will deservedly add to Mr. Salter's well-earned fame as an improver of the chrysanthemum, and one of its ablest vindicators. No one so well fitted to deal with this subject as he, for Mr. Salter has sent out from his nursery more good varieties than any other cultivator, and for many years past has produced an exhibition which cultivators find it not only agreeable but necessary to see, for at these exhibitions the new varieties are seen in flower for the first time. This volume treats at length of the history of the chrysanthemum, and contains many historical particulars never before related. The cultural directions are plain and practical; Mr. Salter has kept back nothing which the amateur might expect or desire to know, of all the various modes of treating the flower for home decoration or exhibition. The volume is superbly produced, the pictures are beautiful, and in their truthfulness like life itself.

*Letters on the Utilization of London Sewage, addressed to the Lord Mayor of London.* By BARON LIEBIG, W. H. Collingridge.—This is an authorized edition of Baron Liebig's letters to the Corporation

on the profitable appropriation of the London sewage. The information it contains on the effects and values of manures, and on the effects of manures on soils and crops, is of priceless value to all who are interested in the cultivation of the soil. Baron Liebig estimates the value of Peruvian guano to be £7 14s. per ton. The price at which it is now selling is £13 10s. per ton, nearly double its real value. The London sewage he values at 1.84 of a penny per ton, or a fraction over 1½d. He says, sewage applied to poor sands is wasted, but on arable loams it is of great value; but will need the help occasionally of manures rich in phosphoric acid, as it contains proportionately less of that necessity than is needful for a due preservation of the fertility of the land.

*Flora Parvula, or Gleanings among Favourite Flowers.* W. MACKINTOSH.—A beautiful little volume of extracts from various authors on the uses, histories, and associations of flowers. The extracts are well chosen, though the editor appears to have a somewhat limited range of literary experiences, as the authors quoted are comparatively few. It is beautifully printed, and will no doubt be a favourite with young people, and will do them good.

## MAY, 1865.—31 DAYS.

PHASES OF THE MOON.—First Quarter, 2nd, 4h. 4m. after. ; Full, 10th, 5h. 23m. after. ; Last Quarter, 18th, 6h. 39m. morn. ; New, 24th, 10h. 49m. after.

AVERAGES FOR THE MONTH.—Bar. 29·934. Therm. max. 64°, min. 42°, mean 53°. Rain, 1·9 inches. Prevailing winds N., N.W., and N.E. Sharp night-frosts to be expected whenever the wind veers towards E. Great increase in the sun-heat this month.

D	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	sets.	Barom.		Therm.				
M	h. m.	h. m.							
1	4 34	7 21	39·15	30·01	67	47	57·0	·09	<i>Dielytra spectabilis</i> .
2	4 32	7 23	29·82	29·74	66	50	58·0	·18	<i>Anchusa angustifolia</i> .
3	4 30	7 24	29·88	29·67	60	44	52·0	·12	<i>Phlox subulata</i> .
4	4 28	7 26	29·83	29·70	54	42	48·0	·09	<i>Echium violaceum</i> .
5	4 27	7 27	29·93	29·89	69	32	46·0	·00	<i>Statice Fortuni</i> .
6	4 25	7 29	29·94	29·77	68	40	54·0	·55	<i>Saxifraga Pennsylvaniaea</i> .
7	4 23	7 31	29·80	29·77	69	30	49·5	·10	<i>Thalictrum aquilegifolium</i> .
8	4 21	7 32	29·74	29·62	56	43	49·5	·02	<i>Leontodon aureum</i> .
9	4 20	7 34	29·74	29·59	57	48	52·5	·28	<i>Gentiana angustifolia</i> .
10	4 18	7 35	29·87	29·85	61	45	53·0	·02	<i>Tragopogon porrifolius</i> .
11	4 17	7 37	29·86	29·80	55	47	46·0	·01	<i>Lychuis diurna plena</i> .
12	4 15	7 38	29·87	29·77	65	36	50·5	·00	<i>Papaver croceum</i> .
13	4 13	7 40	30·09	29·97	73	34	53·5	·00	<i>Trollium Europaeus</i> .
14	4 12	7 41	30·10	30·09	75	44	59·5	·00	<i>Saxifraga purpurescens</i> .
15	4 10	7 43	30·12	30·07	83	43	63·0	·00	<i>Cerastium Biebersteinii</i> .
16	4 9	7 44	30·17	30·14	82	40	61·0	·00	<i>Papaver orientale</i> .
17	4 7	7 46	30·18	30·15	81	42	61·5	·00	<i>Saxifraga aizoon</i> .
18	4 6	7 47	30·21	30·15	83	43	63·0	·00	<i>Ajuga Genevensis</i> .
19	4 5	7 49	30·19	30·16	81	43	62·0	·00	<i>Gentiana Altaica</i> .
20	4 3	7 50	30·16	29·92	82	44	63·0	·16	<i>Anthemis tomentosa</i> .
21	4 2	7 52	30·00	29·94	63	44	53·5	·01	<i>Saxifraga caespitosa</i> .
22	4 1	7 53	29·98	29·94	74	35	54·5	·00	<i>Symphitum echinatum</i> .
23	3 59	7 54	30·13	29·92	60	26	43·0	·00	<i>Linum Sibericum</i> .
24	3 58	7 56	30·22	30·17	60	30	45·0	·00	<i>Nemophila paniculata</i> .
25	3 57	7 57	30·05	29·88	71	42	56·5	·00	<i>Geranium Lancastriense</i> .
26	3 56	7 58	29·99	29·94	60	36	48·0	·00	<i>Saxifraga rotundifolia</i> .
27	3 55	7 59	30·05	29·90	68	37	52·5	·00	<i>Aquilegia alpina</i> .
28	3 54	8 1	30·01	29·90	68	42	55·0	·00	<i>Phlox ovata</i> .
29	3 53	8 2	29·97	29·84	67	25	46·0	·00	<i>Symphitum asperimium</i> .
30	3 52	8 3	29·99	29·76	62	28	45·0	·00	<i>Salvia chamaedrifolia</i> .
31	3 51	8 4	29·73	29·69	67	40	53·5	·24	<i>Saponaria oeymoides</i> .

PROBABLE WEATHER FOR MAY, 1865.—The excessive heat and brilliant weather of the past month was not distinctly promised in the previous forecast; yet it was a good forecast, and defective only in regard to the rains, which occurred in the middle of the month, and which were unaccompanied with gales or frosts. Next month, much rain and some cold weather. From the 1st to the 10th ungenial and changeable, with heavy rains; thence to the 18th generally fine, with wind easterly; 19th to end warm, wind mostly from S.W. to W., and showers frequent.

EXHIBITIONS DURING MAY, 1865.—10th, Weymouth and Dorset; 13th, Royal Horticultural Show of Orchids; 20th, Crystal Palace, Flowers and Fruit; 24th, the Royal Botanic Society, First Grand Show; 31st, United Horticultural Society, First Summer Show.

## THE GARDEN GUIDE FOR MAY.

**KITCHEN GARDEN.**—Put sticks to rows of peas as soon as they require it; well bank up those that are forward. Thin parsnips and carrots to eight inches apart. Transplant from seed-beds of cabbage, broccoli, etc., as fast as the plants are large enough to handle, leaving the smallest to get stronger before removing them. Choose showery weather, if possible, for transplanting, or else give shade for a few days, and gentle watering. Thin out celery, and make up small beds for the plants on very rich, hard ground. Trenches should now be made for celery, and six inches of rotten dung forked into the bottom of each. A dull or showery day should be chosen to put out the plants, and plenty of water given during dry weather. Look to seed-beds, and transplant; well hoe and clear the ground as may be necessary. Sow beans and peas for succession; savoy for late crop. Cabbage, broccoli, kale, beetroot, kidney beans, both runners and dwarfs, lettuces, spinach, turnips, cucumbers, and marrows may now be sown in the open ground for a late supply.

**FRUIT GARDEN.**—Bush and pyramid fruit-trees will want pinching in to the third or fourth leaf from the base. Where large crops of fruit are set, thin severely, but not all at once, as the more fruit the poorer will its quality be. Give strawberries plenty of water. If raspberries have not been mulched, give them at once a top-dressing of half-rotten dung. Do not dig it in. In the orchard-house renew the mulchings if needful; give plenty of water.

**FLOWER GARDEN.**—This is a good time to sow hardy and half-hardy perennials of all kinds, to get strong plants for winter, either to remain out, or have the protection of a frame, or to take up and pot for early blooming in the greenhouse. Lovers of the Chinese primula should sow now for the next spring. Late-planted roses should have plenty of water, and the surface mulched, and similar treatment given to hollyhocks and chrysanthemums put out last month. Carnations and picotees should be staked without delay, and their shoots thinned. Part and plant polyanthus and primroses that have done blooming, and give them a rich loam and a shady aspect. Where it is intended to have new gravel, it would be advisable to defer it till the beds are filled, and the whole garden acquiring its full summer gaiety; a coating of new gravel then will add much

to its fresh and bright appearance. Roll and mow grass turf frequently, to promote a fine close growth.

**GREENHOUSE AND CONSERVATORY.**—Where plants are crowded, many may be removed to frames, so as to allow of a freer circulation of air. Shift, stop, and tie out all soft-wooded plants that are advancing in growth; but if required to bloom shortly, they must not be disturbed, merely kept in shape, and have plenty of water and free ventilation. Continue to strike bedding stock for late blooming. Fuchsias, geraniums, verbenas, and petunias make beautiful specimens for pot blooming in the autumn, if struck now and kept regularly stopped till July. Camellias and azaleas that have made their young shoots should have a little more ventilation to prepare them to go in the open air next month to ripen their wood. Pelargoniums out of bloom to be cut in and allowed to break before repotting them, and the syringe and fumigator kept in use, as may be necessary, to destroy red spider and green fly.

**STOVE.**—Climbers now want plenty of room and liberal culture; the syringe to be used frequently. Propagating must be attended to. Begonias must be repotted as they go out of bloom. Temp. 65° to 70° night, 75° to 85° day.

**VINERY.**—Vines in inside borders should be liberally supplied with water. Vines in pots frequent supplies of liquid manure, and stopping of laterals to regulate the growth. Red spider must be kept in check by painting the pipes with a mixture of sulphur, lime, soot, and water. Thin the bunches regularly.

**PINERY.**—Suckers should be removed as soon as they make their appearance, except so far as they may be required for stock. Queens never produce good fruit unless the suckers are removed early. Young pines, for winter fruiting, should be in a rather light soil, to prevent excess of moisture from stagnating about them. Temp. 75° night, 85° to 90° day.

**PITS AND FRAMES** that have been emptied of their winter occupants will now be useful for hardening bedding plants previous to planting out. Cucumbers and melons must have good culture, and regular stopping and training; they should be looked to daily. Always keep a canful of water in each frame, to have it tepid for use.

## TO CORRESPONDENTS.

**LOASA AURUNTIACA.**—*J.A.M.*—This beautiful annual is quite unfit for flowering in pots. It is half hardy, and requires therefore to be raised in heat, and kept growing in pots under glass till the second week in May. It should then be planted out in a loamy or peaty border, against a south wall, or to cover a bower or trellis. If fairly dealt with, it will run twenty feet. If you must grow it in a pot, pot them singly in pots as large as you can conveniently deal with, and insert in the pots tall rods drawn to a point at top, to form a cone, or any wire design that pleases you. Train them to the supports in regular spirals, barber's-pole fashion; this allows of great extension of the plant, without demanding excessively tall trellises. In training and managing these plants in pots, you will probably frequently suffer from the stinging effects of their leaves; they should at all times be kept out of reach of children, as they are both stinging and poisonous.

**CULTURE OF THE LILY OF THE VALLEY FOR EXHIBITION.**—The lilies of the valley shown at the late flower shows have been particularly beautiful. Can you oblige "A Constant Subscriber" by giving a description of the way in which so much *flower* is produced, with the very small proportion of leaves?—*Sunninghill*. [The following directions for cultivating lily of the valley for exhibition are supplied by Mr. Howard, gardener to James Brand, Esq., of Balham; Sunninghill cannot do better than follow so safe a guide:—“The lily of the valley is not particular as to the aspect in which it is placed or planted, but does not like to be too much shaded with trees, or roasted too much in a walled garden by the reflection upon it of sun-heat. The soil should be light and sandy, trenched two feet deep, digging in plenty of good rotten cow or horse manure and leaf-mould. Plant four rows in a bed in patches of twelve or eighteen crowns to a patch (each patch in a circle of six inches), about eighteen inches from clump to clump, and two feet from row to row. Take care to plant them

- - -  
diagonally, thus— - - - Do not

- - -  
bury the crowns above half an inch, as they will not ripen well if buried deeply.

The best time to plant is October or November, but they may be planted any time from October to March. After they begin to grow in the spring, keep the surface well hoed and open all summer, and before the hot weather sets in lay an inch of long dung between the rows and plants, so as to keep the soil from getting too dry. When the hot weather sets in, water well twice a week in case the weather is dry, taking care to saturate the border a foot or two deep, to persuade the roots to go down after the dung; but if you only sprinkle the top over, the roots will come up to the surface, and the heat of the sun will kill them, so that when you want to take up your patches in the autumn, they will have but poor weak crowns instead of good strong ones. When the leaves die down, they may be taken up and potted in as small-sized pots as the patches can be got into. Use light rich sandy soil, well drained, and plunge the pots in coal-ashes or sand out of doors until wanted to start. They may be started at 50° in October, and gradually raised to 70° to get them into bloom in December. In February or March they can be got into flower in three weeks by placing them in a temperature of 65° to 70°. A few of the leading nurserymen (Veitch of Chelsea, and Low of Clapton) have imported them from Holland for the last few years, from their bulb growers, all ready for forcing, in very fine condition, and the quantity imported increases very largely every year. It strikes me that they may be grown as well in England as on the Continent, if they are well cared for. They want a year's rest after forcing, and they are all the better to stand a couple of years before you pot them, for they gain strength, and can be got in flower earlier. It is bad policy to grow them in pots a season before forcing them, as you derive no benefit from it. If you have not good crowns to start with in the autumn, you must not expect any flower. They do not stir at the roots until after the flowers are thrown up. The flowers should show up the first, and then the leaves follow; it is rather difficult to induce them to throw any leaves in the autumn at all. You may get from twelve to forty-five spikes on a good patch of plants in a 32-sized pot, with from eleven to thirteen bells on a spike. The leaves

and spikes may be set out at equal distances when in flower with a bit of moss of any kind: if green, all the better.]

SELECTIONS.—*J. W. B. and others.*—*Twelve Antirrhinums*: Ackergill, Beadsmán, Bravo, Crimson King, Eugenie Scribe, Lord Clyde, Mammoth, Modesta, Optimum, Queen Mab, Striata perfecta, William M. Wardrop. *Twenty-four Auriculas*: Gr. E. Stretch's Alexander, Campbell's Admiral Napier, Cumming's Oliver Cromwell, Hudson's Apollo, Smith's Sir William Wallace, Page's Champion, Olliver's Lovely Ann, Gy. Headley's Superb, Captain Barclay, Jeffrey's Sir H. Havelock, Turner's Mr. Marnock, Reid's Miss Giddings, Fletcher's Ne Plus Ultra, Moor's Violet, Traill's General Niell, Backlow's Morning Star, W. E. Lightbody's Fair Maid, Lightbody's Countess of Dunmore, Lee's Bright Venus, Wild's Bright Phœbus, S. Spalding's Bessie Bell, Martin's Eclipse, Martin's Mrs. Sturroch, Campbell's Pizarro. *Eighteen Azaleas*: Beauty of Reigate, Coronata, Criterion, General Williams, Iveryana, Eulalie Van Geert, Chelsoni, Sanguinea, Perryana, Cedo Nulli, Broughtoni, Rosalie, Admiration, Louise Margottin, Murrayana, Lateritia, Gem, Rosea albocincta. *Twelve Show Calceolarias*: Ajax, Desirable Exelsior, Gem, Hebe, Indispensable, King of Sardinia, Lady Franklin, Lady Palmerston, Rubens, Sir Colin Campbell, William Dickson. *Twelve for Beds*: Amplexicaulis, Canariensis, Cloth of Gold, Gaines's Yellow, Aurea floribunda, Aurantia floribunda, Prince of Orange, Viscosissima, Gem, Victor Emmanuel, General Wolfe, Prince Louis of Hesse. *Twelve Herbaceous Calceolarias*: Agnes, Mrs. Adair, Nymph, Princess, Albion, Arab, Cavalier, Lady Bute, Neatness, Nora, Sir C. Napier, Una. *Twenty-four Show Carnations*: Admiral Curzon, John Keitch, Warrior, Lady Peel, Garibaldi, Fanny, Apollo, Lord Goderich, Sportsman, Splendour, Merrimac, Lovely Ann, Brutus, Black Diamond, Squire Meynell, Henry Steward, John Beet, Meteor, Earl of Stamford, John Bayley, Favourite, Prince of Denmark, Miss Eaton, Flora's Garland. *Thirty-six Show Chrysanthemums*: (Best twelve marked thus \*)—Abbe Passaglia\*, Beverley, Cardinal Antonelli, Cassandra, Chernb, Dr. Brock, Dupont de l'Eure, Duchess of Wellington, Empress of India\*, Golden Trilby, General Bainbriggie, General Hardinge, Her Majesty\*, Jardin des Plantes\*, Lady St. Clair\*,

Lady Slade, Lady Hardinge\*, Lord Ranelagh, Marechal Duroc\*, Novelty\*, Nil Desperandum, Oliver Cromwell, Prince Alfred, Princess of Wales, Princess Royal\*, Queen of England\*, Reverend J. Dix\*, Rifleman, R. James, Stellaris globosa\*, St. Patrick, Sir Stafford Carey, Talbot, Themis, White Globe, Yellow Formosum. *Thirty-six Show Pansies*: Miss E. Cochrane, Ladyburn Beauty, Francis Low, Princess of Prussia, Chancellor, Lord Clyde, Lady L. Dundas, Eclat, Lavinia, Kinleith, Masterpiece, Mary Lamb, Perfection, Jessie Laird, Cherub, Prince Imperial, Blink Bonny, Cupid, Prince of Wales, Serena, Mrs. Laird, G. Wilson, Miss Muir, John Elston, Attraction, A. McNab, Mrs. G. Potts, Queen of Whites, Rev. H. Dombain, Alexander Whamond, David Inglis, James Fergie, Marquis of Tweeddale, Noir, William Dean. *Twenty-four Show Pelargoniums*: Ariel, Bacchus, Beadsmán, Conflagration, Desdemona, Empress Eugenie, Etna, Fairest of the Fair, Festus, Guilaine Severeys, Lady Canning, Leotard, Lilacina, Lord Clyde, Osiris, Prince of Prussia, Queen of Whites, Rose Celestial, Sanspareil, Sir Colin Campbell, Scarlet Floribunda, Spotted Gem, Viola. *Twelve Fancy Pelargoniums*: Acme, Arabella Goldard, Celestial, Clemanthe, Cloth of Silver, Crystal Beauty, Delicatum, Ellen Beck, Hebe, Lady Craven, Madame Rougiere, Roi des Fantaisies. *Twenty-four Pentstemons*: Alphonse Karr, Albicans, Baroness Sempill, Buckii, Carl Appelius, Charles Wood, Clio, Criterion, Flora, George Inglis, John Salter, Lord Elgin, Leonie Kien, Monarch, Major Stewart, Queen of Blues, Mrs. Pollock, Mrs. Steams, Odyle, Purple Prince, Rose of England, Roseus grandiflorus, Scarlet Gem, Tynninghamii. *Twenty-four Phloxes*: Lady Copley, Princess of Wales, Atlas, Clio, Colonel Dundas, Downeana, Duchess of Sutherland, Iphitus, Lady Abercrombie, Lady Musgrave, Madame Breon, Miss E. Spedding, Miss Hope, Miss Meiklam, Mr. Lithgow, Mrs. Buttar, Mrs. Collins Wood, Mrs. Dickson, Mrs. Sinclair Wemyss, Princess Alexandra, Rubens, Admiration, Lier-valli, Countess of Home. *Twelve Show Picotees*: Mr. Varley, Advance, Miss Williams, Sarah Ann, Eliza, Mary, Jemima, Mrs. Dodwell, Sheriff of Oxford, Finis, Miss Sewell, Flower of the Day. *Twenty-four Show Pinks*: Rev. G. Jeans, Attraction, President, Blondin, Lizzie, Ernest, Victory, Exquisite, Bertram, Dr. Maclean, Constance, Elcho,



Nina, Device, Delicata, Mrs. Norman, Diadem, Excellent, Beauty of Bath, Maria, Harlequin, Picturata, Cristabel, New Criterion.

**HOLLYHOCKS FOR EXHIBITION.**—*R. B. S. C.*—The following are the best twelve, and they will cost you five to seven shillings a plant: Acteon, rosy-buff; Countess of Craven, soft rosy-peach; Glory, rosy-red; Lord Rokeby, glowing magenta; Mrs. M. Binning, deep rose; Neatness, deep crimson; The Queen, blush white; Alexander Shearer, deep red-crimson; Countess of Stradbroke, canary and cream; David Foulis, rosy-lilac; Golden Fleece, gold-yellow; Lilac Perfection, lilac shaded with chocolate; Primrose Gem, clear primrose. The following are a superb twelve, which will average three shillings each: Amabilis, purplish-crimson; Annie Elphinstone, white; Cherub, cerise-salmon; Countess Russell, rosy-peach; Empress Eugenie, French white; Euphrosine, blush and rose; Garibaldi, fiery-crimson; George Keith, rosy crimson; Lord Loughborough, ruby; Prince Imperial, mulberry; Queen of the Yellows, yellow; Miss Nightingale Improved, light sulphur. The following twenty-four may be had at a shilling or eighteen-pence each; they are all fine exhibition flowers, though, as a whole, not equal to the preceding: Advancer, white and chocolate; Amandine, purplish-crimson; Black Knight, maroon-black; Beauty of Cheshunt, light rose; Beauty of Walden, rosy-carmine; Dulcis, French white; Flora Macdonald, primrose; Flower of the Forest, shaded lilac; Gipsy Queen, tinted blush; Hon. K. Neville, pure white; Hon. Mrs. Ashley, lilac; Illuminator, scarlet-carmine; John M. Lindsay, crimson; Leviathan, bluish-purple; Optima, pale straw; Pourpre de Tyre, purple; Walden Masterpiece, orange-salmon; William Dean, rosy-salmon; Solfaterre Improved, pale yellow; Queen of the Whites, white; Purple Perfection, purple; Prince Charlie, shaded purple; Perfection, deep blush, silvery edges; Ossian, bright crimson. There is a good selection of the best fifty in the "Garden Oracle" for 1865.

**CINERARIA MARITIMA AND CERASTIUM.**—*Codex.*—*Cineraria maritima* is a hardy plant, and on elevated positions, where the soil is chalky, it will survive the winter. But in gardens it is generally taken up and potted, with liberal drainage, and may be wintered in a frame or pit. It may be propagated either by

seeds or cuttings. The cuttings do not root quickly, but if a thousand were put in there would not be the loss of one, if in three parts sand, and only kept moderately moist. We propagate it all seasons without bottom-heat, but in April is the best time for novices. *Cerastium tomentosum* may remain out all winter, and be taken up in the spring and divided. If wanted in quantities, the young tops may be struck either with or without the help of heat.

**FUCHSIA FULGENS.**—*Z. Z.*—This fine old fuchsia, the parent of some highly-valued varieties, is not half so much grown as it ought to be. In these days of foliage decoration it ought to come into a good place, for the sake of its fine leaves. It is one of the easiest of things to grow. There can be no better way of managing it than to plant out young well-rooted plants in a moist bed, enriched with a good deal of leaf-mould and well-rotted cow-dung. There let them grow and bloom as they like, and in a dry season give plenty of water; it can hardly have too much if the drainage is good. At the end of October take them up, cut them close over to the crown, and stow their roots in boxes with some poor sandy soil shcock well amongst them, and keep just moist enough to prevent shrivelling. Put the box on the top of a fire as soon after Christmas as you like, and keep it there till the roots throw up new growths, from which take as many cuttings as you want, and strike with a pretty good bottom-heat. These will make fine pot plants, which are to have good shifts as they require it, and a saucer to each for water after the middle of May. The roots from which the cuttings have been taken may be potted, and got hard by May to be planted out again. Clumps of four or five plants together in the front of a mixed border look fine. For all other purposes it may be grown the same as any other fuchsia.

**OLEANDER AND DAPHNE.**—*R. Tolling.*—Oleanders rarely do well unless started in a moderate heat in spring. The best time for pruning is after they have finished their summer bloom. Perhaps the plants suffer for want of water, without plenty of which they are sure to decline. All the Nerium tribe bloom on shoots of the previous year; therefore, if cut back now, you will lose the blooms of this season. Close pruning is the only remedy for a "straggling appearance." Your daphnes ought not to be turning yellow—surely there must be

something wrong at the roots of your plants. Are the balls in the pots caked into an impervious mass, so that the plants are starving?

**SUBSTITUTES FOR FLOWER OF THE DAY.—**

*R. A. W. P.*—To make a contrast against the bronzy foliage and vivid blossoms of *Lobelia fulgens*, you may use *Cerastium tomentosum*, variegated mint, variegated alyssum, variegated dead-nettle, variegated periwinkle, or *Venus's navelwort*. The only one about which there is a doubt is the variegated dead-nettle, which in a rich soil runs back to a healthy green. The periwinkle makes a first-rate substitute for Flower of the Day, and is most beautiful when in good keeping. All those named are quite hardy, and the *Venus's navelwort* is an annual that does not last long, but is exquisite in its glittering silvery effect when at its best. A reserve plot of it, sown as soon as the flower-buds of the first begin to appear, will be ready to transplant to take the place of the first, when its day is over, and for a few pence a genuine good feature may be secured.

**WORMS IN POTTING COMPOST.—**

*S. P.*—There is one infallible method of treating potting stuff if suspected of containing vermin of any kind, and that is to make the pots ready a day before they are to be used, and water the soil in them with boiling water. Scald also as much as you will want for filling in. Next day it will be none too moist to work with, and there will not be a live creature in it. Don't use coal-ashes in your potting stuff any more; that is just the way to spoil it. A dose of boiling-water round the wood-work of the bin will clear away wood-lice, and as for the stuff heaped up in the open air, earthworms will do it more good than harm, as long as it lays together. Earthworms should never be ruthlessly destroyed; they are appointed by nature to ventilate the subsoil by boring it in channels for the admission of air. On grass they may be ejected when troublesome by means of lime water.

**POTATOES SPROUTED.—***A. B.*—If the sets have sprouted in the dark, the sprouts will be weak and worthless; if you *must* use large potatoes, it is better to cut them into sets with four or five eyes to each than use them whole. It is a good rule to use none but whole sets of middling size. These three points are distinct from one another, but you appear to lump them into one. If potatoes

make blanched sprouts of two or three inches long, there is, of course, no way of restoring them to the state they were in before they sprouted.

**COMPOSTS.—***Amateur.*—The gardener may hint as much as he pleases about the compost being too poor; we could show him some specimens grown in cocoa-nut dust alone which he might not be able to equal with a choice of all the soils in the world. You must give plenty of water to fuchsias, and keep them shaded. For roses in pots use equal parts stiff loam or clay and rotten dung; for pelargoniums, mellow turfy loam, with a half part of leaf-mould and rotten dung added, say in all—loam 4, leaf 1, manure 1.

**BEGIN AT THE BEGINNING.—***W. M. R.*—

We cannot imagine how to supply the information you require. But how comes it that you address your letter to the editor of the "Garden Oracle," seeing that there will be no publication of that work till November next, and then there will be no space for replies to correspondents? We can only advise you to begin at the beginning, and do not expect too much from books. Learn to dig, trench, and hoe; all the rest will come easy when you have mastered these first steps.

**NAMES OF PLANTS.—***Brentingby.*—

The purple-leaved plant is the well-known "purple orach," *Atriplex hortensis rubra*. The other is *Sedum denticulatum*, a very useful rock plant. The orach is a grand plant on a bank or rockery, if left to attain its full stature; as a bedder it has been superseded by *Coleus Verschaffelti*. The two plants lately sent are *Gnaphalium lanatum* and *Sedum denticulatum*.

**HORTICULTURAL EMPLOYMENT OF CHLORIDE OF LIME.—***J. R. N.*—

The eminent chemist, Professor E. Kopff, states, that if a little chloride of lime be sprinkled on a plank in stables, all species of flies, especially stinging ones, will be driven away; and that if leguminous plants be sprinkled with a weak solution of the same salt, they will be preserved from the ravages of insects, snails, etc. The same beneficial effect may be produced on fruit-trees, by making a paste formed of one part of chloride of lime in powder and half a part of some fatty substance, and forming a narrow circle of the paste round the tree. Iats and mice, he says, quit the spots where the chloride is deposited.

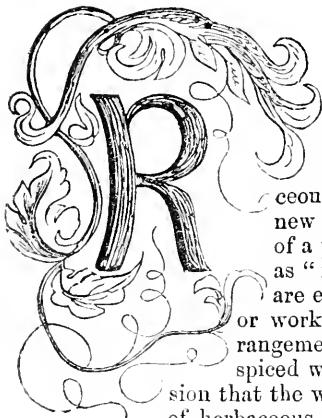
THE  
**FLORAL WORLD**

AND

**GARDEN GUIDE.**

JUNE, 1865.

LESS COLOUR AND MORE BEAUTY.



READERS of horticultural journals must be much amused sometimes at the various aspects of the conflict which has been carried on for many years past between the partisans of the old fashioned herbaceous border plants and the partisans of the new race of "bedding plants." In one page of a journal they see all the bedders denounced as "rubbish," in the next page, perhaps, there are elaborate essays on combinations of colour, or working out tasteful designs, and on the arrangement of particular varieties, the whole so spiced with enthusiasm as to lead to the conclusion that the writer is in favour of a complete abolition of herbaceous plants, and would have none but "bedders" grown, whether in the garden of the duke or of the ploughman. Sometimes the representatives of the two classes come to high words, and if we fail to gain information by listening to their respective arguments, we are pretty sure to learn that there is as much room for the display of ill-feeling and the development of ridiculous prejudices in horticulture as in all other pursuits. The wise man is never in haste to join either party to a dispute; he knows that in the majority of cases each has some amount of truth on his side, that it is indeed the exaggeration of the importance of one truth, and the depreciation of the importance, or perhaps the denial of another, that forms the foundation of disputes in most cases, and impartial observation of the course of the conflict will usually show that the truths to be finally accepted,

each at its proper value, lie between the two extremes adopted by the two parties to the contention. No doubt it is so in the case before us, and it may be of less importance to reconcile the combatants than to combine the systems they represent, so as to obtain from each its utmost advantages.

It is very certain that in the majority of private gardens much of the space devoted to plants which make but little display till autumn, might be more advantageously devoted to plants which flower plentifully in spring and early summer, when the sensitiveness of the eye to colour, and the newness of everything that adorns the face of nature, enhance our enjoyment of floral elegancies. It is certain that spring flowers afford a delight differing both in character and intensity from that with which we view the more richly coloured masses of autumnal flowers. Let us have both, and let us have both in plenty; there can be nothing easier, but with many it will need more courage than they at present dream of to carry into effect a combination of the two classes of decorative plants. Nevertheless, such a combination is desirable for several reasons. It has been long matter for regret that the rage for bedding displays has well nigh driven out of cultivation some of the choicest gems of the mixed border, and reduced gardening (as practised by amateurs) to a monotonous routine. Its truly intellectual pleasures are now but little known amongst those thousands of amateur cultivators who begin in May to plant "bedders," and in October to take them up, and in those two operations have their chief employment and recreation in the garden. To restore the spring flowers to their proper place in the order of horticultural dignities will be the greatest boon that can be conferred on those who attach themselves to gardening solely because of its recreative attractions. Another reason for combining the two systems is that, while it will admit of the display of geraniums, verbenas, and others of the recognized class of "bedders" so as to gratify the love of colour to which these plants so admirably minister, it will tend to check the tendency of amateurs to imitate the planting in grand places, which is a violation of true taste in ninety-nine cases out of every hundred where the imitation is carried into effect. Promenade colouring depends for its appropriateness on the style and extent of the place in which it is adopted. Given the terraces at Sydenham, and a holiday-making throng who *do not dwell on the spot*, and the gorgeous colouring of the chain patterns and ribbons is most appropriate, but in small private gardens such colouring is by far too grand; it destroys the *quiet* which belongs of right to a domestic scene, it prohibits the eye from observing and admiring the beauty of less gaudy objects, and to say the least of it, it is costly beyond the degree of satisfaction it affords.

The remedy is not hard of attainment. Let there be a systematic grouping of all the most beautiful of the hardy herbaceous plants in the beds and compartments that have been designed for bedders. These will bloom in their season, and make brilliant displays of colour during the months of March, April, and May. Let there be between and amongst them gaps left for the reception of geraniums, verbenas, calceolarias, and other of the summer bedders, and let these be planted when the proper time comes. The result will be that, instead of solid masses of colour, there will be refreshing and quieting breadths of

green, intermingled with the more brilliant tones of floral colouring, and these breadths of green will oftentimes serve to harmonize colours that, by the present vitiated taste for display, are often brought together most discordantly. Let us just call to mind one common abortion in the planting of small gardens (an abortion, however, which, with many others like it, the FLORAL WORLD has well nigh swept away)—that is, the association of scarlet geraniums and orange coloured calceolarias, the two loudest colours known, and the two that artists use most cautiously. Let the amateur persist if he will in making these the chief components of a pattern; but if we can induce him to plant between them a series of clumps of perennial Iberis, Alyssum saxatile, Arabis alpina, Myosotis alpestris, some of the fancy pansies, Phlox subulata, Corydalis lutea, and other early blooming plants, we shall secure to him a glorious display of flowers at a time when it is too soon to plant the bedders; and when these early flowers are over, the plants will furnish relieving breadths of green, to render more beautiful than they would be otherwise such displays of bedders as the cultivator may desire to indulge in.

In these remarks a mere hint is given of what is meant by the proposed combination of the principal features of the old borders and the modern style of promenade colouring. If followed out, it will be found to afford endless entertainment, and to be full of promise and most happy results. Let those who prefer to see everything in its season, and to have flowers in all seasons, begin seriously to consider how best to combine the most attractive features of the border and the promenade. It can be done and will be done; those who do it first and best shall have the greatest honour.

S. H.

## FLOWER SHOWS IN APRIL AND MAY.

ROYAL BOTANIC SOCIETY.—THIRD SPRING SHOW, April 29—This was a beautiful and interesting exhibition, and was favoured with brilliant weather, and a very large and fashionable attendance.

Roses were indescribably fresh and beautiful; the large plants shown by Mr. C. Turner and Mr. W. Paul were models of what exhibition roses should be—large solid round bushes, showing no evidences of being hard tied or stiffly trained, but free and natural in outline, with abundant and healthy leafage down to the rim of the pot, and the flowers at regular distances all over the plant. The race to-day was between Mr. Turner and Mr. W. Paul, and they were well matched. Mr. Turner's great plants comprised Souvenir de Malmaison, General Jacqueminot, wonderfully

fresh and bright; Baronne Prevost, Gloire de Dijon, Souvenir d'un Ami. Mr. W. Paul had Charles Lawson, Madame Boll, a very coarse but showy rose; Vainqueur de Goliath, Souvenir d'un Ami, Jean Goujon, coarse; Senateur Vaisse, Lælia, opening rather confusedly, as if it had been hard-up for water a week before; Celine Forestier, superb. Messrs. Paul and Son sent Anna Alexieff, Juno, a fine old rose, and deserving of more notice than it gets of late; Souvenir d'un Ami, Paul Ricaut, John Hopper, Lælia, General Jacqueminot, Senateur Vaisse.

New Roses. — Mr. Turner sent Mrs. W. Paul, which happened to stand in front of General Jacqueminot (H. P.), and appeared so much like it that the tallies might have been changed, and there are not many

folks living who would have put them right again, saying for a certainty, "This is the General, and this Mrs. Paul." *Alba rosea* improves; it is quite an acquisition, the form of the flower is so good, and the habit so manageable. Lord Clyde is effective, but will probably very soon come to be regarded as a second-class rose. Mr. W. Paul sent *Madame de Stella*: this is in the style of Charles Lawson, with a lighter green leaf, and the flower slightly improved in form, a very nice and useful rose; *Alba rosea*, *Madame A. Rougemont*. Messrs. Paul and Son sent *Madame de Stella*, *Vainqueur de Goliath*, and *Jean Goujon*, coarse, as in Mr. W. Paul's collection of large specimens. It is an effective variety, and will suit those who view plants as they should view stage scenery; that is, at some distance; it will not bear inspection. Making a class for themselves, and acting precisely as in the case of the azalea show, Messrs. Lane and Son, of Great Berkhamstead, sent a large collection of roses, all medium-sized conservatory plants, most beautifully grown and bloomed. The most noticeable amongst them were *Charles Lefebvre*, *Victor Verdier*, *Prince Camille de Rohan*, *Madame Willermoz*, *Anna Alexieff*, *Reynolds Hole*, this was in marvellous condition, it is a refined rose, the form exquisite, the colour one shade of carmine added to *Anna Alexieff*; Lord Clyde, *Souvenir d'un Ami*, *Duchess of Sutherland*; this had a coarse appearance in the company of so many roses of more recent introduction; *Moiré*, *John Hopper*, *Victor Verdier*, huge camellia-like petals, no coarseness, though the flowers were of monstrous size; *Madame Boutin*, *Professor Koch*, *Madame Freesman*, *H. Laurentius*, *Princess of Wales*, thin, China-looking, and all eyes; *Souvenir d'un Ami*.

*Cut Roses* were shown only by Messrs. Paul and Son, who put up seven boxes full of glowing flowers. The most noticeable for distinctness and quality were the following:—*Vainqueur de Goliath*, *Cardinal Patrizzi*, *Goubault*, *Madame J. Daran*, *Marechal Vaillant*, *Madame Da-*

*maizin*, *Louise de Savoie*, *Prince Camille de Rohan*, *Niphetos*, the curious pale-tinted long buds of this have a charming effect in the midst of high-coloured perpetuals; *Madame Damaizin* is equally striking, delicate, and graceful; *Victor Verdier*, *Deuil du Prince Albert*, a very curious rose, with blackish centre and vivid carmine margin, as flat and round as a crown-piece, and about the same size; *Madame Falcot*, *F. Lacharme*, *Paul Ricaut*, *Madame William*, *General Jacqueminot*, *Madame Prevost*, *Alpaide de Rotalier*, rather flat; *President*, *Comtesse de Chabriland*, *Rev. H. Dombtrain*, *Duc de Wellington* (what humbug to gallicize such a name as this! the vendors of roses ought to take francs at the price of shillings as a proper return for acquiescing in such nonsense), *Amiral La Peyrouse*, a fine rose.

*Rhododendrons and Azaleas.*—

Messrs. F. and A. Smith sent *rhododendron Queen of England*, a hybrid, with very much of *Edgworthi* about it, but the leaf longer and the flower longer. *Edgworthi* has no tube, and the petals expand in a reflected manner, so as to make a broad face. This has a long tube, the flower from the base to the tip of the petals measuring at least four inches, and about the same across, colour white, shading to very soft pinky-blush. This is a fine subject, and will be a favourite with growers of hardwooded plants. Mr. Parker, of Tooting, sent the beautiful *rhododendron Countess of Haddington*, which was so much admired as a novelty last year; the delicate blush long-tubed flowers are unique in their beauty. In Mr. Bull's collection of new plants occurred *rhododendron Thibaudiensis*, small, cylindrical, erica-like flowers, tube reddish-orange shading to sulphur limb, a very choice and beautiful species, a very decided acquisition for decorative purposes, and of great importance to botanists. From the same, *azalea Madame Dominique Vervaene*, quite an exhibition variety, finely formed, colour pale pink, shading to white at the margin. Messrs. F. and A. Smith sent a number of new azaleas: Pico-

tee, medium size, good form, white faintly striped and flaked pale red, second-rate. Mr. Marnock, a bold red, good form. Flag of Truce, well worth showing with new varieties, though it has made its character, and needs only time to be received with favour everywhere. Galatea, medium size, smooth, paper-like in texture, colour strong salmon-red, in the way of *Perfecta elegans*. This variety has a close habit of growth, naturally forming a dense bush, and flowering with extravagant profusion. It will be a valuable decorative variety. Beatrice, medium size, smooth, good form, colour clear pale salmon-pink, habit apparently weak. Prince of Orange, fine strong orange-red, pretty well known as a fine azalea. Oracle, medium size, smooth, campanulate, paper-like substance, colour clear lively pure pink, with slight carmine blotch, very compact habit of growth, and blooming in a sheet of colour; a fine variety. Clapham Beauty, one shade deeper in colour than Oracle, and apparently not so good; but it was placed so far back, I could not see it fairly. Richard Cobden, large, smooth, petals pointed, colour rosy-crimson; bold and handsome. *Maculata*, medium size, pointed petals, flower pinched up; showy, but not good.

*Pelargoniums*. — The six fancies from Mr. Weir, gardener to Mrs. Hodson, the Elms, Hampstead, were the best in the tent, better considerably than Mr. Turner's, and better considerably than the average of the best *pelargoniums* seen at this time of year. They were of full exhibition size, low, dense, convex, solid, and symmetrical, and an even sheet of bloom all over. The varieties were *Carminatum*, Queen of Roses, Jenny Lind, Acme, Celestial, Attraction. Mr. Wiggins sent leggy plants well bloomed, *Empress Eugenie*, *Roseum*, *Princess Mathilde*, *Pline*, magnificent for colour; *Beadsman*, *Regina formosa*. Mr. C. Turner was first in the nurserymen's class with a fine lot which, however, were by no means equal to Mr. Weir's, being rather long-legged and loose; the varieties were *Pescatorei*, *Amazon*, *Beacon*,

*Desdemona*, *William Bull*, *Sir Colin Campbell*.

*Auriculas*. — Mr. C. Turner put up the best collection of six; they were in beautiful condition, the trusses large, the pips well developed, with no evidences of having been forced on by stimulants, and the characters true; the varieties were Strong's *Sir Isaac Newton*, Headly's *George Lightbody*, Turner's *Negro*, Turner's Mr. Marnock, Spalding's *Bessie Bell*, Chapman's *Sophia*; the body colour of this is a lovely tone of violet when true, as it was in this case, and very finely done. Mr. Turner sent also a collection of thirty, making a pretty little exhibition of themselves. They were Taylor's *Glory*, Faulkner's *Ne Plus Ultra*, Poppelwell's *Conqueror*, Lightbody's *Meteor Flag*, Barlow's *Morning Star*, Howard's *Lord Nelson*, Turner's *Unexpected*, Turner's *Ensign*, Smith's *Lycurgus*, Oliver's *Lovely Ann*, Seedling, lively maroon self, a truss of twelve pips, rather rough, but of good size and pure paste; Lightbody's *Meteor Flag*, several plants with two trusses each; Turner's *Webster*, Dickson's *Duke of Cambridge*, Lightbody's *Fair Maid*; this is an attractive variety, being excessively white, but it is very deficient in form, and a difficult variety to manage; none but first-class growers can make anything of it; Headley's *Stapleford Hero*, Gairn's *Model*, Waterhouse's *Conqueror of Europe*, Headley's *Splendour*, Chapman's *Maria*, Read's *Miss Giddings*, Lightbody's *Countess of Dunmore*, Martin's *Mrs. Sturrock*, Fletcher's *Ne Plus Ultra*, Dickson's *Duke of Cambridge*, Lee's *Bright Venus*, Warris's *Union*, two trusses, one of nine pips, the other seven. Mr. James Butcher, of South Street, Camberwell, sent the best lot in the amateur class; *Bright Phœbus*, Hudson's *Apollo*, Martin's *Mrs. Sturrock*, Smith's *Waterloo*, Clark's *Mary*, a fine grey edge, not much known; Chapman's *Maria*. Mr. James, gardener to W. F. Watson, Esq., Isleworth, second, with *Bright Venus*, *Bright Phœbus*, Chapman's *Sophia*, *Meteor Flag*, Warris's *Union*, two trusses with fourteen pips in all; and fine; *Lancashire Hero*, not out.

*New Auriculas.*—Mr. Turner was the principal exhibitor of new varieties. Turner's Master Hole is a large show self, the pip flat, but rough, colour deep dull maroon, paste jagged; an inferior variety as shown on this occasion. Turner's Rev. J. Bramball is a promising green edge, warm purple body colour, in the way of Warris's Union. Turner's Titian (alpine) is pretty and quite unique, pip small, truss of six pips, very compact, and rising only three inches (or less) out of a tuft of light green leaves, colour rich crimson shaded, paste bright gold. Turner's John Leech, deep bronzy crimson sulphur paste, a first-class alpine. Butcher's John Trail was shown in good condition, and looked as well as when previously reported on.

*Herbaceous Calceolarias* were grandly shown by Messrs. Dobson and Son, of Isleworth, and Mr. James; they made a very fine feature, and were justly admired, their various and beautiful markings rendering it interesting to inspect them after the first surprise at the sight of their gorgeous colouring was over. The following were the best: Multiflora, a curious shade of scarlet-crimson; Charmer, buff-yellow ground, chocolate crimson spots, very fine; Ruby Queen, dark crimson; Amy, straw, with umber spots; Admiration, purplish-carmine; Delicatum, primrose, and dull crimson spots; Beauty, buff ground, heavily spotted carmine-crimson; Lord Derby, gold ground, heavy orange-crimson spots; Ensign, deep dull crimson; Miss Williams, straw ground, shading at the chin to soft purplish-red, and overspread with deeper purplish-red spots; Master F. Watson, primrose ground, heavily overspread with the richest carmine, and nearly a self; Lavinia, pale yellow and dull crimson.

*Novelties.*—There was a rich profusion of interesting subjects, new and old. Most worthy of all the curiosities of this show were the few little gems sent up by Messrs. Backhouse and Son, of York. *Narcissus juncifolium*, the rush-leaved *Narcissus*, a charming little thing, which at first sight appeared to be nearly

related to *N. bulbocodium*, but was soon seen to be quite distinct, the segments of the perianth being very short, and each flower presenting a nearly flat face; the colour is bright yellow. *Primula ciliata* is a remarkably beautiful herbaceous plant, on which the language of eulogy might be exhausted, and yet leave unsaid half that ought to be said in its praise. The specimen sent was in an 8-inch pot, and consisted of half a dozen tufts of primula-looking leaves, and the same number of auricula-like trusses of vivid purplish-crimson flowers, each with a neat buff-yellow eye. *Iberis* species, about a foot high, with thin flowers of a dirty white; apparently of no value, though the plant may have passed its best state. *Primula farinosa* acaulis: botanists who have gathered the typical *P. farinosa* in the wet moorlands of Yorkshire will understand what a gem is this "stemless" variety, if I say that it forms a cushion-like tuft, barely one inch high, consisting of oblong glassy-green leaves, overspread with small lilac-pink flowers. The species grows a foot high sometimes, and is rarely seen of less stature than nine inches. It is a beautiful primula, but altogether outdone in beauty by this mountain gem, which was found at Cronkey Fell, Teesdale. *Andromeda hypnoides*, one of the most elegant of the pigmy *Andromedas* which abound in the sub-arctic regions. This comes from Lapland, and is a re-introduction. It was originally introduced in 1798, and was figured in "Bot. Mag.," t. 2936. It bears some resemblance to *Erica tetralix*; the flowers completely cover the plant; they are quite andromeda-like in character, waxy-white, with distinct chocolate-coloured calyx. From Mr. W. Paul: *Deutzia crenata* flore pleno, quite double, and very showy. From the same, *Raphiolepis ovata*, a pretty shrub, with ovate leaves and lauris inus-like flowers. It is figured in the last issue of the "Botanical Magazine." Mr. B. S. Williams sent *Gymnogramma Paraoni*, densely crested, and smothered with frosted gold, a gem for fern growers. *Maranta Van den Heckeii*, leaf with



grey feather down centre, and grey zigzag band all round, under side bronzy chocolate. *Peperomia arifolia*, fine marbled leaf. *Anthurium angustifolium*, small plants, not yet in character, outline of leaf very bold, and divided by bars of grey-green. *Chamæranthemum reticulatum*, large ovate leaf, dull green, grey midrib and grey veins, flower-stalk rising. *Asplenium Phyllipense*, finely-divided fronds. *Asplenium alatum*, once-divided fronds, large pinnae, viviparous, handsome. From Mr. W. Thompson, Taverna Street, Ipswich. *Aubrietia Græca*, a pretty compact-growing rosy-purple flowered species, the flowers large and flat.

**NATIONAL AURICULA SHOW, CAMBRIDGE.** April 6.—This took place in connection with the grand Exhibition of the Cambridgeshire Horticultural Society. The society's exhibition took place in the Guildhall; the auricula show in a room adjoining. The principal attraction for exhibitors was the silver cup, which was taken by Mr. Charles Turner, of Slough, whose plants were in superb condition, lusty in health, mostly well out, and with no trace of the coarseness which was but too perceptible in 1864, when the plants appeared to have been subjected to stimulants. Mr. Turner's silver cup lot were—Taylor's Glory, Cheetham's Lancashire Hero, Fletcher's Ne Plus Ultra, Ashworth's Regular, Headly's Conductor (not much known, in the way of Turner's Ensign), Spalding's Bessie Bell, Spalding's Metropolitan, Turner's Ensign. First in collections of eight, Mr. Richard Headly, Stapleford, with Headly's George Lightbody, Advancer, green edge; Charles Brown, grey edge; Ann Smith, Sturrock's Mrs. Sturrock, Lightbody's Meteor Flag, Page's Champion, Summerscale's Catherina. These were a very even and beautiful collection. Second, Mr. J. L. Coleman, of Norwich, with Fletcher's Ne Plus Ultra, Cheetham's National Hero, Lightbody's Colonel Saylor, Eclipse, Lightbody's Meteor Flag, Dickson's Duke of Cambridge, poor; Lightbody's Sir William Peel, fine. Third, Mr. J. Douglas, of York, the secretary of

the society. In this lot was a nice seedling, pip average size, flat, and smooth, colour pure maroon, thin paste. Mr. C. Turner was first in collections of four with Howard's Lord Nelson, Lee's Bright Venus, Headly's George Lightbody, and Master Hole, a striking dark self, large, rather rough, colour blackish maroon, good paste, and thrum excellent. Second, Mr. R. Headly with Traill's Napoleon, Grey \*\*\*\*\*, grey edge, petals large and pointed, heavy maroon body colour, narrow paste, large eye. Another seedling in the same lot has a lively violet-blue body colour, and a sharp white edge; a very pleasing flower, though not smooth enough. Another seedling is a violet self, quite a rough flower, though showy.

*Green-edged*: 1st, Mr. Charles Turner, with Lightbody's Inkerman. 2nd, Mr. Charles Turner, with Dickson's Duke of Cambridge. 3rd, Mr. R. Headly, with Seedling, lively maroon shading to red, clear green edge, pure paste, large eye, rough. 4th, Mr. Charles Turner, with Olliver's Lovely Ann. 5th, Mr. Headly, Seedling, dull brown, thin body colour, paste good, eye too large.—*Grey-edged*: 1st, Mr. H. Stewart, of York, with Conqueror of Europe. 2nd, Mr. R. Headly, Seedling, in the way of Conqueror of Europe; a refined flower, body colour darker than Conqueror, and eye more decided yellow. Mr. Headly told me he expected this would beat Conqueror; it is certainly a very promising seedling, but it has none of the bold, dashing, and distinctive character of the old favourite about it at present. 3rd, Mr. Charles Turner, with Barlow's Morning Star. 4th, Mr. Charles Turner, with Headly's Stapleford Hero. 5th, Mr. Charles Turner, with Headly's George Lightbody.—*White-edged*: 1st, Mr. J. L. Coleman, of Norwich, with No. 68, a superb seedling, large, circular, smooth, ground blackish maroon, paste very pure, large eye. 2nd, Mr. R. Headly, No. 34, a beautiful violet ground, the pip not flat enough, wanted a day or two more to show its character fairly. 3rd, Mr. R. Headly, No. 38, a rather rough but

pretty seedling, ground purplish black, rather eupped, paste excellent. 4th, Mr. R. Headly, No. 33, a very distinct and attractive variety, leaves of great size and very mealy, like those of *Salvia argentea*, truss loose, body colour maroon, in a thin, sharp, circular line, edge tolerably good, paste excellent. 5th, Mr. R. Headly, No. 38, body colour dull purple and run through, an inferior flower.—*Selfs*: 1st, Mr. C. Turner, with Campbell's Pizarro, sixteen pips in the truss, fine. 2nd, the same, with Martin's Mrs. Sturrock. 3rd, Mr. Stewart, of York, with Seedling No. 1, broad colour fine violet, small pure paste, neat eye. 4th, Mr. C. Turner, Spalding's Metropolitan, twenty in the truss. 5th, Mr. R. Headly, Seedling of no value. In this class was shown, by Mr. Butcher, Robert Trail; not placed.

UNITED HORTICULTURAL SOCIETY.  
—The May meeting of this society was what is termed a "Gardeners' Meeting," and was devoted to an examination of novelties and curiosities. Wm. Marshall, Esq., of Enfield, the president, exhibited a peculiar form of *Dendrobium Dayanum*. Mr. Baker, gardener to A. Bassett, Esq., Stamford Hill, brought

three beautiful orchids, namely, *Oncidium bifolium*, *Cattleya mossiæ*, with the sepals so coloured as to appear as if furnished with a double lip, and *Cattleya citrina* var. *Pescatorei*. Mr. Oubridge, of Stoke Newington, exhibited a new and beautiful variegated sport of *Stella geranium*, which was much admired. Mr. Hibberd sent a fine specimen of the variegated Japanese honeysuckle and a specimen tree *sempervivum* as examples of successful cultivation. The next exhibition of the society will be held on Whit-Tuesday, June 6th, and is likely to be a most attractive and, in some respects, a novel affair. Through the kind intercession of Alfred Smee, Esq., F.R.S., the committee have obtained permission to hold the exhibition on the lawn in the beautiful garden of Finsbury Circus, and they intend, therefore, to produce as grand a display as the space at their command will admit of, with the very proper accompaniment of a military band and the usual festive accessories. It will be quite a new thing for the city of London to be entertained with an out-door flower-show, and no doubt, if favoured with suitable weather, it will be thoroughly successful.

## FORMING BUSH AND PYRAMID TREES.

### No. 2.—THE DWARF BUSH.

WHEN I look over my little trees in order to make notes in my mind of the points that require to be dealt with at length in these papers, I am struck with the fact that with respect to very many of them, there is literally nothing to say. For instance, I have many neat round bushes, smothered with fruit, which have never been pruned or pinched at all. Do what I might with them, I could not improve them, but I might easily spoil them altogether by doing too much. Being on suitable stocks, and subjected to biennial lifting, their growth is so moderate and regular that they make only enough wood to keep the size of the bush slowly in-

creasing, and every addition of new becomes speedily fruitful, so that with increase of magnitude there is also increase of production. I have just observed a little lot of pear bushes. They are Louise Bonne of Jersey, six years from the graft, two and a half feet high, each bush consisting of eight to ten rods, which spring from the same point and bend upwards, so as to form the tree to the exact shape of a goblet, and these rods are regularly clothed with fruit-spurs from base to summit, and are now hung with a regular and beautiful crop of pears. This cordon style is very different from the ordinary round bush, in which the principal

branches break out into secondary branches, and these again into laterals, on which, for the most part, are the fruit-spurs. It is of this class, which may be roughly said to be formed without plan, that I shall make a few observations now, as it is the easiest form of bush to produce, requires the least care and attention, and all things considered, is, though the least artistic, the most useful.

When it is said that the tree is formed "without plan," there is a slight exaggeration. The plan is to arrange in a given compass, and in an outline which may be, for simplicity's sake, termed "round," the largest possible number of branches, laterals, and fruit-bearing twigs. The cultivator must always bear in mind that any growth which tends to put the tree out of shape, or spoil its proportions, is inimical to success, and that every objectionable feature allowed to continue will become more objectionable the next season, and tend sooner or later, to spoil the tree altogether. One of the principal objects of the cultivator must be to check the tendency of the tree to increase in height, and encourage every tendency to the formation of wood near the bottom. Suppose the graft put on this spring, and now starting nicely, it may, if a vigorous growing variety, make a rod three feet or more this season, in spite of its being on a dwarfing stock. When it has grown two feet, nip out the point, and you may get a few side-branches formed sufficiently early for the wood to be well ripened. I will suppose the tree to be as represented in the cut at the close of the season. The question arises, how is it to be pruned? There can be but one method, and that is, shorten back the leader to a point where the wood is thoroughly hard, and the side-branches the same; and with a view to form a bush as speedily as possible, the pruning may be performed after the fashion represented in the diagram. The result of pruning back to the ripe, hard wood, will be that the next spring the top or terminal bud left on each shoot will lead the way, and grow with vigour. Let

them do so in order to extend the skeleton, and get the foundation of the tree established. But while these are pushing, there will also be produced numerous thin spray-like side-shoots in all parts of the tree. As soon as you perceive these, pinch them all back to the third leaf; that is, leave only three leaves, and when the buds from the axils of those leaves have pushed, pinch them back in like manner to two leaves. It is important to perform this operation early; if the first pinching is not done



by about the middle of May, and the second pinching by the middle of June, there is no fair prospect of attaining the desired result thereby. But if the pinching takes place at the proper time, while the points of the shoots are quite soft and very few leaves are fully developed, those pinched-back twigs will give up the endeavour to form wood, their vigour will be reduced by the pinching process, and they will form embryo blossom buds for your special benefit the next season.

Meanwhile, as you have allowed the top buds to push, because you

want more wood, you must have an eye to their welfare, and endeavour to induce them also to form embryo fruit-spurs. At the end of June pinch out the points of all the leaders; this will stay their growth for a time, but they will recover, and begin to put out side-shoots; pinch these if they grow beyond a mere point, leaving only three leaves. If they form rosette-like tufts of leaves, and show no inclination to form lateral shoots, leave them alone; they are doing their duty. Much pinching of the side-shoots of wood in the first year is not desirable, because we want such wood as we have well ripened before winter. In fact, it must be particularly well ripened the second season, because, although embryo flower-buds may be formed the second season, they will not result in fruit the third season, unless in the autumn of the second season the wood which bears them is ripened so as to be quite hard and of a dark colour. It is to allow time for this that the pinching should be performed as early as possible. If delayed beyond the proper time, it is an injury rather than a benefit.

At the winter pruning there will probably be required some shortening back of shoots that have escaped pinching, and of others that have pushed late and have not been observed. In the winter pruning the matter of principal importance will be to preserve the rounded contour of the tree, to remove shoots that cross each other (for such things will happen, in spite of the utmost watchfulness, in the growing season), and to remove the soft sappy points of shoots that are not well ripened.

The third season ought to bring with it a crop of fruit, and for ever after the trees should bear more and more, and become and more compact and handsome. As soon as the trees have begun to grow in spring, the finger and thumb pruning must commence and be from time to time continued. But wherever a shoot is wanted to fill up a gap, one should be allowed to push, and all late growths that arise through a wet autumn or through the trees being

in too rich a soil had best be allowed to push, as, if pinched, they can come to nothing, and it is best to let the sap have its way in such cases, and remove the gross shoots to within one or two buds of their base at winter pruning. In removing other surplus shoots, it is good practice always to leave one or two buds. Never cut them clean to the base unless they are in such positions that the formation of fruit-spurs from the buds at the base would be useless. It will be impossible to form every tree to an exact model; each variety has its own peculiar habit of growth; and it is not desirable to chop a tree about in order to induce it to grow in some way contrary to its nature. The chief object of the cultivator is not so much to alter the habit of the tree, as to coax its nutritive energies into the formation of fruit-buds at an early age. If carefully watched over the first few years, they will require but little attention after they have become fruitful, as the tendency to vigorous growth will then be checked.



But, if all goes well, the cultivator may expect, in the third or fourth year, trees of some such form and fertility as is represented in the accompanying sketch from one among many fruitful bushes in our own collection. H.

## NOVELTIES AMONG BEDDING PLANTS.

Of course the month of May brought with it heaps of catalogues, and in these catalogues heaps of "novelties," all of them far surpassing whatever of their respective classes had been seen before. There may be people who buy all the novelties annually, to take their risk of good, bad, and indifferent; and the advantage of such a course will be to keep those who follow it a few seasons in advance of other people in the plentiful use of the best of bedding plants, because by obtaining early possession of novelties, those which prove really good can be propagated at once, and be used freely the next season, when other folks are just hearing of them for the first time. But there are not many people who indulge in novelties to such an extent as that, yet all true gardeners like to know about a good thing as early as possible, and some notes on novelties that are specially interesting may be as useful this season as similar notes have been in seasons past. And I can have no difficulty in indicating what to buy, beg, or avoid, for there is not a subject of any importance in the hands of any of the trade but I have seen again and again, and in many instances in its original condition while in the raiser's hands, and when showing its true character prior to being chopped up for the propagators. I shall endeavour, therefore, to advise you of the best of the new varieties of a few of the most popular classes of bedding plants.

It seems proper to begin with geraniums, and of course Mr. William Paul's set, which may be looked upon as the floral remains of the late Donald Beaton, claim first attention. The best of these are *Amy Hogg*, a fine nosegay new in colour; *Indian Yellow*, the nearest approach to yellow yet obtained in geraniums; *Black Dwarf*, a superb dwarf bedding nosegay, with crimson scarlet flowers, which has been well proved at the Crystal Palace; *Donald Beaton*, orange-scarlet, the flowers of immense size; and *Mrs. William Paul*,

a true florist's flower, the form perfect, and the colour a delicate and pleasing tone of rosy peach. *Glow-worm* is a true bedder, with two colours in the flower, the top petals being fiery scarlet, the lower petals flushed with purple; the result is a peculiar glow, which will be very telling in beds. There are four others in the set, namely, *Duchess*, *Magenta Queen*, *Orange Nosegay*, and *Scarlet Gem*, which are all good, but the six first named are the gems of this collection, and none who have any taste for this class of plants will regret the purchase of them.

Messrs. James Carter and Co. are also in possession of varieties raised by Mr. Beaton; the best of their varieties are *Premier*, a fine grower, with blooms intermediate in colour between *Lady Colum* and *Lord Palmerston*, or in other words, a clear, warm, reddish pink; this will be a charming variety for ribbon lines; *Wild Charlie*, this will be valuable because it is a thorough good bedder, of a class in which true bedders are few, namely, the class with salmon coloured flowers. One of the good points in *Wild Charlie*'s character is, that it keeps in bloom till quite the end of the season, when many other varieties are quite past their best. There are three others in this list, namely, *Beaton's Perfection*, which may be described as a strong growing *Lady Colum*; *Forester*, a scarlet of robust growth; and *Sunrise*, a beautiful tricolour. The first named two are strongly recommended, the other three are of much less importance as novelties.

In Messrs. E. G. Henderson's list occur nine new variegated geraniums. Of these the following are undoubted acquisitions:—*Silver Star*, a free growing, creamy edged variegated, showing a slight rosy tint within the zone of olive-brown. It is one of the finest in the silver leaved section. *Twilight*, a silver leaved variegated, in the style of *Fairy*, the leafage very bright and distinct, the flowers warm salmon rose, and most abundantly

produced. It is a gem for ribbon work, and is sure to become a favourite. *Queen of Nosegays* is the name Messrs. Henderson have adopted for their fine variegated shoot of Stella. It is magnificently variegated, the margin showing cream at first, and afterwards changing to white. In bloom it is as free and as grand as the green-leaved Stella. *Bicolor splendens* is a gold leaf variegated of fine habit, and a leaf richly marked with a bronze zone and a golden margin. The flowers are scarlet. There are others in this list, namely, *Red Rover*, *Princess Dagmar*, *Cinderella*, *Mrs. Longfield*, and *Mrs. Maxwell Hutton*, which may prove to be of great value, but they do not at present claim from us such decided admiration as the four above named.

One of the neatest of the dwarf growing scarlets for front lines is *Little Treasure*, now being sent out by Messrs. Saltmarsh and Son, of Chelmsford. This is of very neat habit, with small dark zoned leaves and large flowers of the same colour and character as those of *Attraction*. This will suit all classes of growers; it will no doubt quite supersede *Little David* where a thoroughly dwarf and showy scarlet is required. Another fine variety from the same house is *Luna*, which remotely resembles *Mrs. Milford*. The leaf has a greenish sulphur-coloured ground, and a sharp zone of cinnamon brown. It is one of the most distinct and striking of all the variegated leaved geraniums, and is no doubt capable of working out some very novel and interesting effects in garden colouring.

Before we quit the geraniums I must say of *White Perfection*, raised by Mr. F. J. Cnaylor, and being sent out by Messrs. E. G. Henderson and Son, that it is far superior to *Madame Vaucher* for out-door culture. It is less robust in habit, it has a fine foliage, and its snow white flowers do not change to bluish, as those of *Madame Vaucher* do, after a long period of brilliant weather. I hope every lover of white geraniums who reads this will secure *White Perfection* on my recommendation.

In verbenas there are a few more varieties offered of the "velvet cushion" type, which is the perfection of style for bedding purposes. These verbenas partake largely of the character of *V. Venosa*, which ought never to have other than a first-class place in the catalogue of bedders; they are of dwarf compact habit, less leafy and less straggling than the majority of varieties hitherto used for bedding purposes. Supposing the reader to possess *Velvet Cushion*, which is one of the best bedding verbenas known, the following should be added as soon as convenient: *Ariel*, crimson rose; *Cordelia*, dark rose; *Juliet*, purple. *Lady Binning* verberna is of the common florists' strain, and is of first-class quality for both bedding and pot culture. The colour is crimson-scarlet, with white centre, a fine flower and a fine truss.

In Tropæolums there are several varieties of the highest importance. My friend Mr. George, of Stamford Hill, was the fortunate raiser of two varieties last year, which are distinct from all others in being almost of shrubby habit; that is, instead of trailing on the ground, which is the habit of the Lobbianum section, they form distinct round-headed, bush-like masses, which are completely smothered with flowers all the summer long. These two are called respectively *Tropæolum compactum coccineum*, flowers scarlet, and *T. Compactum luteum*, flowers yellow. These, with others, are offered by Messrs. E. G. Henderson and Son. Of the others they offer, I can say nothing, but I can give the two named a good character, having seen them growing while in the possession of the raiser. Messrs. Carter offer two novelties of the Tom Thumb section. The first is *Double Tom Thumb*. This has the fine colour and fine habit of the original, but being double it is much more massive and lasts much longer, and it can be kept on from cuttings with the greatest ease. The other is *King of Tom Thumbs*. This has intense scarlet flowers, and a beautiful bluish green foliage, and being kept on from cuttings, is always the

same, which is not the case with Tom Thumbs grown from seed.

Among miscellaneous subjects I must not forget the most beautiful varieties of double Senecios, of which Messrs. Dillistone, of Sible Hedingham, Essex, sent me examples last year. I do not know under what names these are being sent out, but I can say of them that they surpass

all the senecios I have ever before seen; one is a large globular and finely formed purple flower, the other a purplish crimson. Whoever would like to secure plants to propagate from should order them at once, and plant them out, so as to see their beauty before investing time and strength in increasing them.

S. H.

## ROSE GOSSIP.—No. XI.

### BAD ROSES.

OUR worthy Editor has suggested to me a paper upon "bad" roses. Now whether he is merely "poking fun at me," or whether he really thinks something useful upon the subject may be offered to those tyros who join the ranks of rose-growers every year, I cannot tell; nevertheless, I will essay a few remarks from the latter stand-point.

The theme is certainly prolific, for it may be asserted with the incontrovertibility of one of Euclid's axioms, that three-fourths of the roses named in the catalogues are more or less entitled to the denomination of "bad,"—some positively, others relatively so, that is under certain conditions, and for certain purposes. To the latter may be added varieties that—like other beauties—are uncertain and capricious, sometimes displaying perfections that all must admire, at others growing and flowering most unsatisfactorily. Both of the latter sections are frequently seen upon the exhibition tables, and are too often selected through that most fallacious medium, by the inexperienced or unwary. It is to this numerous class among rose lovers that the following animadversions are more particularly addressed, in the hope of saving them much discouragement and disappointment. Passing by therefore exploded kinds generally known as worthless, it is the last two sections that will be passed under review, because many of them will appear at the approaching flower-shows; pos-

sibly in the process I may lay myself open to dispute from some who still admire the condemned varieties or whose favourable circumstances influence their cultivation in an exceptional manner.

To a proper appreciation of the subject it will be necessary in the first place to understand what special defects are fatal to the value of a rose.

Uncertainty, as hinted above, is one; so is an unhealthy constitution. Other disqualifications are—weakly habit of growth; want of doubleness and its opposite fault, hardness of the eye, which prevents the flower opening well; shyness, for of what use is a flower, however beautiful, which you seldom see? coarseness, and ragged edges, and split blooms, and indistinctness of character. A colour which will not stand exposure to the sun and air is also a serious drawback. Examined by these tests, how many of the varieties advertised each season will bear investigation? It is probable that one hundred and fifty names would exhaust the really distinct and first-rate roses contained in every class, and it would be well if all possessing a predominance of the before-named faults were at once consigned to the hades of floral oblivion.

Proceeding, then, to analyze the pretensions of certain well known roses of some prestige and popularity, we will begin with *Geant des Batailles* as representing a class. This is a bad rose, and the parent of numerous seedlings among which I do not know

a superior variety. Its colour, from which it derived its popularity, is so fleeting that in an hour or two after expansion it changes to a foxy purple, most offensive to the eye of taste. Moreover, in any but the most favourable soils and atmospheres, it degenerates in growth and size, losing even its brilliant temporary scarlet. Eugene Appert, the best of its descendants, has but the one point—colour—in its favour, and will, I suspect, be relegated at an early date from the “stand” to odd corners in the border. I would earnestly recommend amateurs who cannot give roses the highest treatment to avoid this rose, and consequently its seedlings, such as Louis Chaix, Bacchus, Buffon, Comte de Beaufort, Comte de Falloux, John Waterer, Gregoire Bonrdillon, Andre Desportes, Francis I., and others.

Then, again, there are the “bad Jacqueminots.” I am not going to question the “General” himself, for he has undoubted excellences to compensate for one or two deficiencies. These are copiously represented now-a-days; perhaps half the novelties brought out, season after season, belong to them. Colour in some degree they all possess, but their other prime features are large petals, loose forms, and goggling eyes. In fact, they are mere exaggerations of their parent’s defects, and should only be tolerated in distant corners, where colour may tell, but approach to which is too difficult to allow their inherent viciousness to thrust itself into sight. Some of the most prominent varieties of these, often shown, too, which the uninitiated should avoid, are Oriflamme de St. Louis, Triomphe d’Amiens, Abd-el-Kader, L’Eblouissante, Turenne, Madame Valembourg, Amiral La Peyrouse, Abbe Reynaud, and others too numerous to mention. I am not sure that Lord Clyde should not be included. Triomphe des Beaux Arts comes nearest in good qualities to its progenitor. I have seen it, in rich soil, on a south wall, make a splendid climber, flowering up to Christmas.

Louis XIV. is also really a bad rose, and the type of an undesirable race, in spite of richness of colour.

Remembering the severe remarks, in one of the Editor’s interesting papers, upon those who depreciated this rose, I fear this statement may bring down upon me a castigation. Nevertheless, experience will not permit me to shirk the matter. I confess I have never been able to do this variety, and I have seen, at several nurseries, whole quarters of it, from which a single tolerable bloom could not be cut; some plants were covered with mouldy unopened balls; some never showing for bloom at all. One characteristic of the growth of this breed appears to be long and vigorous shoots the *first* season, after which it throws out only twiggy laterals, most of which are blind. To stand a chance, therefore, of flowers, you require fresh plants every year. Emperor Napoleon, Leonce Moise, Wm. Paul, Alphonse Damaizin, are after the same style, which only ought to be ventured upon by the select few.

Lord Raglan, I am sorry to say, must come under condemnation for its unthrifty constitution: it has a habit, on worked plants especially, of turning sickly, and dying off without any apparent cause. Francis Arago is a bad Lord Raglan.

La Reine may be considered as the parent of the bad openers. This fine rose, when it will do, has given several excellent seedlings, and many more of an inferior quality, some of the least suitable of which for general purposes are, Reine de Danemark, Louise d’Autriche, Duc d’Ossuna, Auguste Mie, bad near towns; Robert de Brie (?), Reine d’Angleterre: perhaps Jean Baptist, Guillot, Ardoisè de Lyon, and other hard-eyed roses, have also a touch of this blood, in spite of their colour.

There are many other roses which may be considered relatively bad, owing to some prominent drawback, that are not easily referable to special types, such as the following:—Madame Furtado and Prince Leon, unsatisfactory growers. General Washington, blooms apt to split. Gloire de Chatillon, a bad Madame Masson, itself too dwarf in growth. Deuil de Prince Albert, and Senateur



Reveil. Robert Fortune, too dwarf in habit. Reine des Violettes, colour flies. Triomphe de l'Exposition, capricious according to locality, like the *passé* Mrs. Elliott. Gloire de Santhenay, Wm. Griffiths, Duc de Cazes, Souvenir de Comte Cavour. (Margottin's), all shy. Peter Lawson, loose. Jean Touvais, ragged. Souvenir de Lady Eardley, not durable enough. Queen Victoria, bad opener. Marechal Vaillant, Maurice Bernardin, and Olivier Delhomme, bad for town districts. Many more might be added, but it is necessary to pause here, from considerations of space. The same reason prohibits comment upon the Bourbons and Noisettes, which is of

less consequence, as only first-rate kinds of them appear at the shows; nor is it necessary to revert to "Teas," the limited number of which, suited for out-door culture, is so generally known.

It will be seen these strictures have been confined to varieties likely to appear at the forthcoming exhibitions, and respecting which amateurs are most open to be misled. The favoured few, however, who enjoy the enviable possession of true rose soils and unexceptionable climates, and with whom space is no considerations, may revel at pleasure in all kinds of roses, good, bad, and indifferent.

W. D. PRIOR.

Homerton, May 19.

## A SELECTION OF ONE HUNDRED AND TWO VARIETIES OF BEDDING GERANIUMS.

In the April number of the Proceedings the Royal Horticultural Society is a Report by the Floral Committee on Bedding Geraniums grown for trial at Chiswick last year. The whole number of varieties now reported on is 245, out of which the Committee have selected 61 for 3 marks, which are equivalent to first-class certificates, and 41 for 2 marks, or second-class certificates, making in all 102 varieties, which they consider of the highest merit. It follows that no fewer than 143 of the varieties commonly entered in catalogues or competing for places there, are considered by the Committee to be of inferior quality, and therefore not worthy of being cultivated. Amongst these 143, however, are many that deserve some distinction, and a few that certainly equal—all points considered—some of those that have first or second marks. Nevertheless the report is a valuable one, and the 102 varieties it recommends are certainly among the best that are known. We have added an asterisk, thus \*, to those varieties that are eminently adapted for pot culture.

### SERIES I.—PLAIN-LEAVED VARIETIES.

#### 1. *Flowers scarlet.*

*First-class.*—Eleanor, Faust, Lady Rokey, Little Major, Punch, Trentham Scarlet, Waltham Pet.

*Second-class.*—Achilles.

#### . *Flowers cerise or rosy scarlet.*

*First-class.*—Lady Middleton.\*

*Second-class.*—Visitor.

#### 3. *Flowers rose-pink.*

*First-class.*—Christine,\* Rose Queen.

*Second class.*—None.

### SERIES II.—ZONATE VARIETIES.

#### 1. *Flowers scarlet.*

*First-class.*—Adonis,\* Amiral Protet,\* Attraction,\* Clipper, Garibaldi (W. North), Maitin Giveau,\* Victor Emmanuel, Vivid, Volcano.

*Second-class.*—Cheshire Hero, Commissioner, Cottage Maid, Emperor of the French, Harry Hieover, Lucien Tisserand, Persian, Princess of Prussia,\* Red Riding Hood, Rev. J. Dix.

#### 2. *Flowers cerise, rosy scarlet, or rose.*

*First-class.*—Hector, Herald of Spring,\* Lord of the Isles,\* Monsieur Martin, Nora,\* Roi d'Italie,\* Umpire.

*Second-class.*—Aspasia, Beauty, Bonnie Dundee, Cecilia, Comte de Morny,\* Effective, Francois Chardine, Giralda, Paul Labbé, Pink Pearl.

#### 3. *Flowers salmon or flesh colour.*

*First-class.*—Aurora,\* Princess Mary, St. Finere.

*Second-class.*—Auricula, Fanty, Prince of Hesse, Rosamond,\* Souvenir du 8 Juin.

4. *Flowers white.*

*First-class.*—Madame Vaucher,\* White Perfection.

*Second-class.*—None.

5. *Flowers white or pale-coloured, with salmon eye.*

*First-class.*—Amelina Grisau,\* Beauty,\* (E. G. Henderson), Eugenie Mezard (syn. Madame Rudersdorf), Francois Desbois,\* Leonie Nivelet.\*

*Second-class.*—Marie Labbe.\*

6. *Flowers rose-pink.*

*First-class.*—Eve, Flora, Helen Lindsay,\* Rose Rendatler.\*

*Second-class.*—Amy, Madame Cassier, Minnie.

## SERIES III.—MARBLE-LEAVED ZONATE VARIETIES.

*First-class.*—Sheen Rival.

*Second-class.*—None.

## SERIES IV.—NOSEGAY VARIETIES.

1. *Leaves zonate.*

*First-class.*—Cybister, Merrimac (Salter), Stella.

*Second-class.*—Lady Colum,\* Lord Palmerston, Magenta, Merrimac (Carter), Monitor.

2. *Leaves variegated with white.*

*First-class.*—Variegated Nosegay.

*Second-class.*—None.

## SERIES V.—SILVER VARIEGATED VARIETIES.

1. *Leaves zonate and marginate.—(a) Margins white.*

*First-class.*—Argus,\* Countess of Warwick,\* Fontainebleau,\* Picturatum, St. Clair.

*Second-class.*—Julia, Silver Chain.

2. *Leaves marginate, not zonate.—(a) Margins white.*

*First-class.*—Alma,\* Bijou, Jane, Queen of Queens.\*

*Second-class.*—None.

(b). *Margins cream-coloured.*

*First-class.*—Flower of Spring,\* Silver Queen.\*

*Second-class.*—Annie,\* Meteor.

## SERIES VI.—GOLDEN VARIEGATED LEAVES.

1. *Leaves zonate and marginate.*

*First-class.*—Mrs. Pollock,\* Sunset.\*

*Second-class.*—None.

2. *Leaves marginate, not zonate.*

*First-class.*—Cloth of Gold,\* Golden Chain,\* Golden Fleece.\*

*Second-class.*—Golden Harkaway.

## SWEET-SCENTED FLOWERS.

EVERY one knows of a few favourite flowers that are very sweet-scented, and that are grown as much for their odour as their beauty. Tastes differ, and you will observe that some persons never apply their noses to a flower or leaf of any kind, and we confess we are of the number. Though enjoying the odour of flowers with a real zest, we have such a passion for colour, that, unless the fragrance of a flower is sufficiently powerful to arrest our attention, it is rarely we think to ascertain if it is odorous or not. On the other hand, many persons put the olfactory nerves in action at first sight of a flower, and will forgive any and every fault as to form and colour if it be but sweet-scented. There are very few flowers but emit an agreeable odour, though it may be faint. We can detect a flowery freshness in the air of an

orchard-house early of a spring morning from the blooms of pears and peaches, and we can see in the centre of the pear blooms thick drops of honey glittering like amber for the attraction of the bees. Everybody knows the fragrance of mignonette, heliotrope, Aloysia citriodora (commonly called scented verbena), sweet pea, lilac, hawthorn, lime, lavender, sweet-briar, southernwood, violets, hyacinths, honeysuckle, white jasmine, clematis, cytisus, musk, meadowsweet, cloves, stocks, wall-flowers, and (to pass by a thousand others) the queen of flowers—most beautiful of all in colour, form, foliage, and fragrance—the rose. But there are a few exquisitely scented plants which very few know of, and at this time of year it is as well to call attention to them for the purpose of adding to the garden pleasures of

those who literally "follow their nose" in making selections of plants for culture.

One of our favourite shrubs, which we grow in a wet peat bed, is *Myrica gale* the sweet gale (or box myrtle), a native of Britain, and quite hardy. This is more deliciously scented than any myrtle, and the best of all vegetable products to place in drawers with clothing, to render them delightfully perfumed. When nearing this plant during a garden ramble, the nose is informed of its proximity to a source of a most refreshing and agreeable spicy odour, and a twig of the plant broken off at any time, winter or summer, will retain its fragrance for months, if kept inclosed in a book or between folds of linen. Hung up anywhere in a room, it will diffuse its sweet odour for weeks together in the atmosphere; and, as the plants grow freely, it only needs to be cut at judiciously, and it will supply twigs all the year round for any purpose for which its fragrance may be required. This plant is plentiful on the dreary wastes of Dartmoor, where the red pebbly heath soil seems to suit it admirably. It will grow anywhere with hardy heaths and rhododendrons, and when bearing catkins is an interesting though not a beautiful object. When the sweet gale is boiled, a wax rises to the surface of the water, which, if collected and made into candles, emit the same spicy fragrance while burning.

Another quite hardy plant rarely seen in English gardens, and the most deliciously scented of all herbaceous plants, is *Thymus Corsica* the Corsican thyme. This forms a close spreading tuft like a miniature decumbent chickweed, and before it comes into bloom is attractive only for its close felt-like appearance, having somewhat the aspect of a tuft of moss or spergula. But it always emits some amount of thymy odour, which is more powerful than any other thyme when the leaves are rubbed or bruised by the hand. During June, July, and August, it is covered with myriads of little purple flowers not much larger than the

head of a pin, and then for its fragrance it is of the highest value. Ladies who amuse themselves in the garden should obtain this thyme and keep it; we have grown it for many years on a very simple plan. The tufts are grown in five-inch pots; when the season is at an end, the pots are placed in a cold frame, and simply left alone till spring. By that time all the plants have died, but the surface of the mould is covered with seedlings, self-sown in the pots the previous season. These are carefully lifted out in clumps of two or three together, and planted in the centres of pots filled with fresh soil, consisting of sweepings of the peat bin, with leaf-mould, rotten dung, and sand; any light rich sandy mixture will do. One plant placed in the centre will soon cover a five-inch pot, as the branches run along and root as they go; these will sow their own seeds as before, and the species need never be lost. This Corsican thyme is a suitable plant for the chinks in front of a rockery, and a very good companion for it is the variegated form of the common thyme, *Thymus vulgaris variegata*. This is a sweet pretty shrub, with yellowish-grey leaves, the points of which are tinged of a lively red during its first growth in spring. When in bloom it has no beauty, but is powerfully fragrant. There is a variegated variety of our English wild thyme, *Thymus serpyllum variegata* which has all the mountain aroma of the species. All the varieties and species of *Thymus* thrive in English gardens, on sandy banks, but in damp or shady situations they do not live long, or at least rarely survive the winter.

In Covent Garden Market, immense numbers of (so-called) orange blossoms are sold during winter and spring; of course the purchasers are mostly concerned in the purchases of wedding cakes and white gloves, but the orange blossoms are the first requisites when bride, bridegroom, the ring, and the parson are in readiness. Now it is very rarely that real orange blossoms are sold at all; the flowers so called are the produce of a lovely evergreen called *Gardenia citriodora*,

which is grown in a moist stove, and with good treatment blooms most profusely; in fact, little plants a few inches high will produce a dozen blossoms at a time. This may be grown as well in a warm greenhouse, but it will not there bloom in the depth of winter. *Gardenia radicans* is much better for a cool house, and never fails to reward the careful cultivator with an abundance of its fragrant white blossoms. The way to manage them is to prune directly after flowering, and grow them rapidly in a moist heat; nothing better than the heat of fermenting material, the moisture from which they quite relish. Harden them off in autumn; keep them rather dry during winter; and start them into bloom in a moist heat in spring. Without warmth and moisture, Gardenias rarely bloom as they ought, but become infested with black-fly, and are then more plague than profit.

A climber of great value to

amateurs is *Rhynchospermum jasminoides*. It belongs to the natural order of Dogbanes. When planted out in peat and loam, and carried up the back wall of a greenhouse, it forms a neat climber, and when in bloom it perfumes the house most delightfully. No conservatory, used as a promenade, should be without it. As it rarely grows more than four or five feet high, it should only be used on a low trellis, and does better planted out than in a pot.

For those who love old-fashioned border plants, we will add here that Solomon's seal, generally regarded as odourless, emits a delightful honey-like fragrance when cut and placed in a vase in the sitting-room. As this is one of the commonest of plants and one of the most elegant, many may enjoy a breath of spring who are so bad off as to be without stocks and wallflowers. Other fragrant flowers are omitted from this list because too well known to need vindication or even mention.

### HOE VERSUS WATER-POT.

HOEING is one of the much-neglected operations of which few have considered the value, and to keep down weeds is generally the sole object of using the hoe. Certainly that is a good object, and if these observations quicken the vigilance of gardeners who are a wee bit careless upon the growth of groundsel, couch, and bindweed, and other rampant weeds among their crops, it will serve one good purpose. But it must have frequently come under the notice of practical men that a piece of cabbage or cauliflower frequently hoed between, even to the extent of working the instrument very near their roots, always grow to finer proportions than similar breadths left to take care of themselves, with the ground trodden between to the hardness of a Babylonian brick, "to keep the moisture in and the heat out." In such a case it is made evident

that there is a virtue in the hoe beyond the killing of weeds that rob away the nourishment required by the crop; and if the problem of their well-doing is to be solved by observation, it must be at daybreak, when every leaf is loaded with dew. Then it will be seen that ground recently hoed or pointed over with a small fork is uniformly moist, while hard ground adjoining the same plot is almost as dry as during the heat of a sunny day. The solution is simple enough. The rough open surface absorbs a large amount of dew, not simply because it is broken, but because it presents a greater extent of radiating surfaces, for the deposition of dew depends on the radiation of heat at the immediate surface, and the subsoil need not and will not be colder than the subsoil of hard ground, although it has a greater power of surface

radiation. In fact, ground frequently hoed becomes warmer from its more ready absorption and conduction downwards of solar heat, so that the roots of the plants are kept warmer and moister in broken ground than in close hard ground, and therefore the vigorous growth of vegetation is promoted. Prominence has been given in English journals to the conclusions of M. Duchartre on the disposition and effect of dew upon plants, as reported on in the last number of the "Annales des Sciences Naturelles;" and for the experiments so carefully conducted and so ingeniously devised M. Duchartre deserves the highest praise. But in the conclusions there is nothing new. We have ourselves frequently indicated to gardeners that the chief benefit of dew to plants arose through its absorption by the soil for the nourishment of their roots. In the *FLORAL WORLD* of July, 1859, we find the following, just to the point:—"Look at a piece of loam, baked hard with heat, planted with dahlias, cabbages, or what not; not a drop of water, or, if plenty, the labour of carrying and delivering would be too much to think of. Use the hoe over that piece of ground, as if you would let out the last drop of moisture from the soil by evaporation. But, presto! you have conquered the enemy. Next morning the plants look fresher, they grow above ground and below ground, and get substance, when it appears as if the heat ought to kill them." It comes to this, that if you cannot soak the ground with water, you have only to break the surface and it will soak itself. The more heat by day the more dew by night, the more cloudless the sky the heavier the deposition of moisture between sunset and sunrise.

M. Duchartre's experiments show that if the dew is allowed to settle on the leaves of plants, and not on the soil in which their roots are, they gain nothing in weight, whereas when the dew is allowed to condense on the soil they gain considerably. A plant weighing 969.50 grammes was so placed that the soil in the pot had the full influence of the dew, and it

had gained in weight when the dew was removed from the leaves 13 grammes. Another weighing 1034.95 grammes gained 6.90 grammes. In other experiments where the soil in the pots was hermetically sealed, there was not only no gain of weight by dew, but a positive loss, which goes very far to prove that plants do not absorb much moisture by their leaf surfaces, and may perhaps give a new turn to our ideas on syringing. But let that pass, we will not throw away the syringe yet awhile. Plants with hard waxy leaves, such as *Veronica Lindleyana*, certainly do not absorb much, but they need to be kept clean; and plants with porous leaves, like the vine, do absorb largely, and may be kept alive for some time with the roots dried up, if the leaves are frequently wetted. But the hoeing is the matter we wish our readers to think about and act upon. The hoe is an irrigator of as much value to the English gardener as the Shadoof is to the wretched cultivator of millet on the banks of the Zab or Tigris, and where people are wasting their strength in conveying hogsheads of water which are often more harm than good, the labour might in most cases be saved, the ground kept clean at the same time, and the plants encouraged to push their roots about in search for nourishment by the use of the hoe, and the hoe alone. Take notice of a rhubarb leaf; the midrib forms a depressed groove, and the leaf slopes up on each side of it, somewhat in the fashion of the two sides of a wooden water-shoot. The upper surface of the leaf-stalk is channelled too, and all night long the leaf distils dew from the atmosphere, the water trickles to the midrib, and thence finds its way by the channel of the stalk direct to the heart of the plant, for the benefit of its roots and rising leaves. This is the way nature makes almost every plant its own irrigator: we must co-operate with nature, and by the use of the hoe assist the soil also to drink freely of the dew of heaven, that we may enjoy thereby the fatness of the earth.

## GARDEN WASTE AND GARDEN ECONOMY.

In the processes of gardening there are many things wasted for want of knowing to what they may be applied, or how to apply them. For instance, the trimmings and prunings of trees and bushes are applicable to several purposes. First, they may be overhauled and cut into shape and size for supporting peas, runner beans, nasturtiums, etc. This being done in the depth of winter, will save time in the spring and summer. The smaller brush may be tied into faggots for building pits for forcing early crops with the aid of dung-heat; other portions may be cut short for fire-wood; and here it is advisable for those who have but a small supply, and would make the most of it, to cut it short almost as chaff, not allowing more than three inches in length; the ease and comfort with which it is used will amply repay the extra time it takes in chopping. It is also far more effective in a given quantity. Cut it while green, as it chops easier, and is stowed away in a smaller compass for drying. A stock of wood for lighting greenhouse or other fires, may be always kept on hand, even with a small supply. In lighting greenhouse fires, I have always found it both expeditious and economical to have a piece of clean deal wood, and having thrust the sticks into the furnace, with a knife make a few shavings from the deal wood, place them under the sticks, and apply the match. In this way the fire is lighted quickly, and with far less smoke than when straw is used. Generally there is a great deal of refuse, both from kitchen and flower gardens, not applicable for lighting fires, as stumps of cabbage, brocoli, etc., the stalks of dahlias, chrysanthemums and other plants; these may be made useful by drying and charring them, and mixing the charred remains with the soil. All matter that will readily decompose should be taken care of, and thrown together to rot for manure. Decomposition may be hastened, and offensiveness prevented, by using quicklime. Never apply anything in a

putrescent state to the ground as manure. The slag or scoria from furnaces makes an excellent covering for drains, or for the bottom of paths. The sifted ashes makes a good flooring to stand pots on. Straight twigs from trees are useful to tie up plants. Small twigs are useful for pegging down trailing plants, for layering, etc. Cut them into lengths of about four inches, break them in the middle, they will not wholly dis sever, and may be thrust down one foot each side of the shoot to be laid. This is an expeditious method. Possibly in no case is the want of economy more felt than in heating plant-houses. Heating by means of hot water is doubtless both safe and economical, but I could never understand why the flue system could not be made thoroughly efficient; where they are otherwise it may more often be attributed to improper construction and after-management than in the system itself. Near the fire the flue should be thick and strong, and if possible under the pathway, the whole length of the house, the advantage of this is manifest, both for securing heat where it is most available, and preventing the escape of noxious fumes, which are often fatal to plants. Having carried the flue the whole length under the path, let it be carried back again above ground. This second length may be constructed of brick on edge, being further from the fire. A third length may be made of earthen pipes, and another and still another of the same; for let it be observed that the heat ascends with the smoke, and in an ordinary flue nine-tenths of the heat escapes at the chimney and is lost—the object being to secure the heat filtered from smoke and noxious gases, which is in fact effected by passing through the sides of the flue. Therefore the greater the given length of flue, the more heat is secured; and provided it is made with continued ascent, the flue should be as long as possible; the additional expense will be soon saved in the cost of fuel.

## JUNE, 1865.—30 DAYS.

PHASES OF THE MOON.—First Quarter, 1st, 8h. 22m. morn.; Full, 9th, 9h. 41m. morn.; Last Quarter, 16th, 11h. 53m. morn.; New, 23rd, 7h. 57m. after.

AVERAGES FOR THE MONTH.—Bar. 29·973. Therm. max. 71°, min. 50°, mean 58½°. Rain, 1·99 inches. Prevailing winds S. by W., and W. by N. The wind liable to frequent shifts, but east winds rare after the 8th. Nights often cold, and the first half as variable as May.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	Sun sets.	Barom.		Therm.				
	h. m.	h. m.							
1	3 51	8 5	29·76	29·68	58	35	46·5	·00	<i>Viola calcarata.</i>
2	3 50	8 6	29·78	29·72	62	48	55·0	·00	<i>Bahia lanata.</i>
3	3 49	8 7	29·80	29·79	62	39	50·5	·07	<i>Salvia rugosa.</i>
4	3 48	8 8	29·91	29·87	69	35	52·0	·26	<i>Achillea montana.</i>
5	3 48	8 9	29·93	29·84	71	49	60·0	·00	<i>Silene maritima.</i>
6	3 47	8 10	29·97	29·92	75	36	55·5	·02	<i>Geranium endresii.</i>
7	3 47	8 11	29·99	29·90	80	44	62·0	·00	<i>Coronilla squamata.</i>
8	3 46	8 12	29·90	29·81	79	41	60·0	·00	<i>Spirea filipendula.</i>
9	3 46	8 12	29·92	29·79	73	39	56·0	·03	<i>Dictamnus fraxinella.</i>
10	3 45	8 13	29·88	29·87	78	40	59·0	·03	<i>Ononis rotundifolia.</i>
11	3 45	8 14	29·93	29·75	72	39	55·5	·00	<i>Crucianella stylosa.</i>
12	3 44	8 15	29·79	29·72	73	41	57·0	·06	<i>Prunella alba.</i>
13	3 44	8 15	29·61	29·57	69	35	52·0	·46	<i>Lotus corniculatus.</i>
14	3 44	8 16	29·58	29·46	70	47	58·5	·08	<i>Prunella Pennsylvanica.</i>
15	3 44	8 16	29·70	29·49	72	39	55·5	·16	<i>Verbascum phœnicium.</i>
16	3 44	8 17	30·00	29·81	74	46	60·0	·00	<i>Polygonum viviparum.</i>
17	3 44	8 17	30·07	30·05	76	44	60·0	·14	<i>Symphitum Caucasium.</i>
18	3 44	8 17	30·11	29·95	75	45	60·0	·01	<i>Lysimachia Thyrasiflora.</i>
19	3 44	8 18	30·22	30·19	74	39	56·5	·00	<i>Viola montana.</i>
20	3 44	8 18	30·25	30·10	74	50	62·0	·00	<i>Lychnis viscaria splendens.</i>
21	3 44	8 18	30·11	30·06	71	44	57·5	·00	<i>Stenactis speciosa.</i>
22	3 45	8 19	30·12	30·03	70	50	60·0	·00	<i>Genista sagittalis.</i>
23	3 45	8 19	29·96	29·91	69	42	55·5	·17	<i>Achillea eupatorium.</i>
24	3 45	8 19	30·16	30·10	66	52	59·0	·00	<i>Armeria cephalotes.</i>
25	3 46	8 19	30·04	29·94	72	53	62·5	·08	<i>Vittadina lobata.</i>
26	3 46	8 19	29·92	29·87	73	34	53·5	·02	<i>Dianthus atro-rubens.</i>
27	3 47	8 19	30·12	30·05	67	39	53·0	·06	<i>Onosma Taurica.</i>
28	3 47	8 19	30·15	30·03	71	52	61·5	·02	<i>Lychnis Haageana.</i>
29	3 48	8 18	30·02	29·85	75	53	64·0	·05	<i>Achillea tomentosa.</i>
30	3 48	8 18	29·93	29·89	72	40	56·0	·00	<i>Dianthus œsius.</i>

PROBABLE WEATHER FOR JUNE, 1865.—The forecast for last month was justified in every detail by events. We had rain, frost, and heat, as promised, and the month closed with the summer thoroughly established. There is no doubt we have before us a grand season. Rain has fallen already in sufficient quantity to carry all established crops forward two months, and, in fact, for corn, grass, and all kinds of fruits, we scarcely need rain again till the middle of July. Next month generally very fine. From 1st to 10th variable, much heat, and occasional storms, wind S.W. to S.E. 11th to 17th clear, bright, less heat, but a good average temperature, wind S.E. to N.E. 18th to the end of the month changeable, but mostly bright and hot. Showers, with thunder, probably every three or four days, and in the intervals sunshine and much heat.

## THE GARDEN GUIDE FOR JUNE.

**KITCHEN GARDEN.**—A quick eye and quick hand are now necessary to keep pace with the season. Weeds grow apace, and the pests of the garden are in fullest vigour. Prick out cauliflowers from the seed-bed; plant celery in trenches, well manured, transplant cabbage, kale, broccoli, etc., between showers, or else give plenty of water. Plant out vegetable marrows, ridge cucumbers, tomatoes, and capsicums. Hand-weed onion-beds. Potatoes ought to have been all planted long ago; but if there is room for a patch where any other crop has been taken off, they may still be got in. Thin out wherever crops are crowded, and keep the hoe and water-pot in constant use, and let not a drop of liquid manure or liquid sewage be wasted. The best season for transplanting hardy evergreens is during June and July. Any gaps in the borders and shrubberies may therefore be at once filled up, and beds of rhododendrons and other Americans may be planted. Water well until the July rains come on; after which they will be safe.

Sow salads, kidney beans, broad beans, and peas, for succession. Sow principal crops of broccoli and turnips.

**FRUIT GARDEN.**—Cut all runners away from strawberries, unless new plants are wanted, in which case plunge pots under the joints, and let them root into pots at

once. Vines want frequent attention now, to thin out superfluous shoots and train any wanted to cover any gaps in the wall. Continue to disbud wall-trees, and, where this has been neglected, take away fore-right shoots, first by nipping off the point; and in another week cut them back to the old wood. Bud plums, peaches, and apricots. Prune away the centre shoots of currants and gooseberries, to keep the bushes open.

**FLOWER GARDEN.**—Dahlias may still be put out, and late-blooming herbaceous plants may be planted. Pompones struck now will make good plants. Syringe roses with weak tobacco-water, if at all infested with fly, follow with a syringing with clear water. Plunge pot-plants in coal ashes. Shade flowers intended for exhibition. Take up bulbs as soon as the leaves fade.

**GREENHOUSE AND STOVE.**—As soon as the ordinary stock is turned out to harden, clear the house, and get some balsams and asters forward to keep the stages gay during the next two months. Put up shading to prolong the beauty of plants in flower. Cut in any plants that have done blooming; repot pelargoniums when they have made plenty of short shoots. Stove plants will want abundance of water, and New Holland plants should have frequent shifts.

## TO CORRESPONDENTS.

**SETTING GRAPES.** — *T. M. W.* — The "setting" of grapes is accomplished by the deposition of the pollen on the stigmas of the flowers, an operation which is, of course, influenced by many circumstances. If the pollen is damp, it is either rendered infertile, or the stigma, being also damp, will not receive it. Then, for the perfecting of the pollen a certain degree of heat is required, and for its distribution some movement of the atmosphere or agitation of the flowers is needful. It follows that the "setting" of grapes is most likely to be accomplished by keeping the atmosphere of the house tolerably dry while the vines are in bloom. A free circulation of air is also needful; and usually it is best to slightly increase the heat until the grapes are developed to a

visible size. Varieties that are described as "good setters" do not need any special care to insure a crop; but those described as "shy," or "bad setters," should have the aid of extra heat while in flower; and during that period the cultivator should, at mid-day, for several days together, gently draw the branches through his hands, or by a light touch with a stick give them a gentle shaking. "Setting" is not to be confounded with planting. If your query refers to the latter operation, the reply is, that this is the best time in the whole year to plant vines in greenhouses. For nine good vines to be grown in green house temperature, we should recommend three Black Hamburg, and one each of the following: Early Auvergne Frontignan, Primavis Frontignan, Chasselas Royale,



Royal Muscadine, Champion Hamburg, and Trencham Black. Camellia cuttings are to be struck in sandy peat.

BOOKS ON PLANTS. — *T. Scriven.* — You may find some first-rate botanical works in the catalogue of second-books issued by Mr. Wesley, Queen's Head Passage, Paternoster Row, E.C. Mr. Wheldon, Panyer Alley, Paternoster Row, frequently has second-hand botanical works for sale. The handsomest plant picture-book of the present day is the "Illustrated Bouquet," published in quarterly parts, at 10s. 6d. each, by Messrs. E. G. Henderson and Son, St. John's Wood, London, N.W. There are about forty numbers now published. The "Floral Magazine," published by Messrs. Reeve at 2s. 6d. monthly, is admirably illustrated. "L'Illustration Horticole," published by M. Verschaffelt, of Ghent, is a beautiful and able work, principally devoted to the illustration of new plants; this may be obtained through the post, by subscribing 15s. per annum. Application for it may be made to M. Verschaffelt direct, or to Mr. Silberrad, of Tower Street, London, E.C. Lastly, the "Botanical Magazine," edited by Sir W. J. Hooker, is published monthly, price 3s. 6d., and is indispensable to all who are interested in new plants. There are other works of the kind, some of them worthless, others scarcely necessary, except to persons who require *all* the illustrated floral and botanical works, and such, of course, are in no need of guidance as to which are best worth the price charged for them. There is no fee charged for replies to queries.

Would you oblige me with your opinion, in your May number, of the following with respect to my "*Vines*," planted three years ago last October, in the best of borders, and well drained. The second year they ran up to the top of the rafters, and were cut down two-thirds; last year they bore fruit, perhaps six or eight bunches, each very fine, and were cut down one-third; this year, the fourth, they are very vigorous, showing more than an average of a bunch and a half from each eye, and seem very strong and vigorous. We have at present left one bunch to each eye. Is this quantity of fruit too much, and how many bunches would you recommend to each vine? — [You have done well, and there is no doubt will go on doing well. You do not say what is the length of rafter, and that is an important matter in connection with every question relating to

vines. If you leave eight bunches on each rod you will probably tax the vines as severely as they will bear this season; and by reducing the crop to that average, the bunches will probably be fine. Leave none on the leading shoot, and do not stop that till it reaches the top of the house. This came after the May number was printed.]

CHRYSANTHEMUM CULTURE. — I do not find anything that quite meets my case in any of the papers in the *FLORAL WORLD* on the subject of Chrysanthemums. My practice has hitherto been to take cuttings in April, and to plant out into the open ground about June, or as early as the plants are strong enough; they get rich soil, liquid manure, etc., and at the end of September are potted for flowering, and placed in an orchard house from which the trees have been removed to other quarters. By this method we have good strong plants, which keep their leaves well, and have *some* good flowers, but generally the flowers are scanty and late, and some last season did not flower at all. The pompones succeeded best, except Bob, which I have had for three seasons with hardly as many flowers each season. Would it be an improvement to pot earlier, say in the end of July? or must the plants be kept in pots all the season, to ensure plenty of flowers? None of my neighbours cultivate chrysanthemums, so I have no opportunity for comparing notes. My varieties are Queen of England, Alfred Salter, Christine, Prince Albert, Jardin des Plantes, Yellow Perfection, Nancy de Sermet, King of Anemones, and some others of which I do not know the names, besides a number of pompones. Can anything be done now to prevent the recurrence of a fungus on the leaves of some pear trees, which last season totally destroyed the crop of fruit? — *Constant Reader.* [We print this at length because we hear of many failures in chrysanthemum growing; and as every point in the practice, so far as can be judged by the most experienced cultivators, has been treated at length in the *FLORAL WORLD*, the causes of failure in particular instances can only be discovered by publishing the details of failures when they come to hand. Our readers are aware that we grow these plants largely for plunging. We may as well say that a failure with even a single plant, much less a batch, is a rare occurrence with us; yet we grow as many varieties as can by any possibility be worked into the plunging system, in

order to have them constantly under notice to be familiar with their differences and peculiarities. Success in our case is not the result of any extravagant care or labour. The old stools are kept in a pit, and from time to time are divided and potted in small pots during winter and spring, as opportunities occur. This part of the work is always completed by the end of April; and in the meantime, if rooted suckers of any kind are not sufficiently plentiful, cuttings are struck in heat, and potted off as soon as they are strong enough. We reckon on having the whole stock out of doors fully exposed on a plunge bed by the middle of May; and thenceforward they are shifted out as they require it, and are in their blooming pots by the middle of July. The soil used is good loam, with a moderate addition of manure and some coarse grit. If the exact composition of the compost is required, we cannot give it, for we really do not know what are the proportions used; but a good rule will be—loam three parts, rotten dung one part, powdered oyster shells one part, coarse grit one part. As above remarked, the bloom is usually very satisfactory, last year Bob, Riquiqui, and other of the late kinds, were full out by the 8th of November, and made a gay show in the beds till about the 8th of December, when they were worn out. Four years ago we planted a lot, and had them taken up and potted in September. They grew very strong, and when potted were remarkably fine plants. But they bloomed very badly; in fact, such kinds as Brilliant and Autumnna were only half out by the 5th of November, and many of the plants were spoilt by frost before they made a respectable show. Here, then, is a failure which directly illustrates the query before us. Probably "Constant Reader" obtains too coarse a growth; and on the strength of long experience we venture to advise—1st, That the plants that are to bloom under glass had best be grown in pots from first to last, and the earlier they are rooted the better. 2nd, That they be not over-potted, but shifted from size to size as they require it; so that at no period of their growth will they have an opportunity for growing rank. 3rd, That they have their last shift in July, and that after the 1st day of July there is no more stopping. Late stopping is a common cause of failure; and the practice does not allow the plants time to form flower buds. 4th, That the flower buds

be thinned as soon as they are visible, and as a rule the top bud, that is the centre, or as it is sometimes called, the "crown bud," only be left on each shoot. 5th, That the plants remain out of doors till the end of September in cold climates, and the middle of October in all favourable positions. As the first frost usually occurs about the 25th of October, it is best to save them from it; otherwise the longer they are out the better. "Constant Reader" probably puts the plants in pots too late and under glass too soon. In short, the failure of this correspondent is evidently the result of prolonging the growth of the plants to too late a period, so that the wood is not ripened during July and August as it should be.

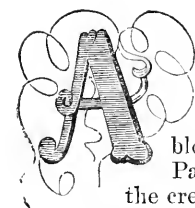
VINES IN A GROUND VINERY.—*P. V.*—To leave a vine "three feet in length, the thickness of a cedar pencil, with a dozen buds on it," as received from the nursery, will not do. Cut it down to the plump-est bud, about six buds from the base, and rub away the three lowest buds. You will thus perhaps have three buds and a leader. Let the leader start along with the buds left below it till these side-shoots are two inches long. Then pinch them back, and a fortnight afterwards remove them altogether. You will thus get a straight strong rod to train along the trench. Next season, cut back the leader to twelve buds from the base, and then the side-shoots are to be allowed to push till they show their bunches, and then be stopped one bud above the bunch, and all laterals be stopped two buds from the base of the shoot they come from. Every year you must leave on each spur a bud for fruit and a bud for wood, the wood bud to be the one next the base of the spur, and the fruit bud to be the fourth or fifth from it; the intermediate buds to be removed.

FERN CULTURE.—*J. Carter.*—*Asplenium nidus* is ordinarily propagated from spores. A healthy plant never makes offsets. For spores, therefore, you must wait in hope. Mr. Chitty tells us of a plant which lost its crown through bad management, but after being kept with care for twelve months it made three offsets, which are now independent and respectable young plants. *Asplenium Halleri* is not in Mr. Sim's catalogue; but remember that is a catalogue of plants offered for sale, and if Mr. Sim has no stock of it sufficient to justify an entry, there is no reason for it to appear.

THE  
FLORAL WORLD  
AND  
GARDEN GUIDE.

JULY, 1865.

ROSES IN 1865.



THE great Rose Show held at the Crystal Palace on the twenty-fourth of last month, there could be no question that this is not an altogether good season for roses. To be sure there were plenty of fine blooms, and many fine collections. Messrs. Mitchell, Paul and Son, Keynes, Francis, and Cranston, sustained the credit of their respective establishments in the classes for trade exhibitors. So among the amateur collections, the splendid samples from Mr. Hedge and Mr. Hole were a delight to all who saw them, and contrasted agreeably with the poor collections which abounded on every hand. Taking the exhibition as a whole, it was evident that the intensely hot weather, with east winds and a dry atmosphere, had seriously impoverished the blooms in a majority of instances, so that in size and substance they were inferior to roses of former years. I made some progress in classifying the collections, as to their several qualities and the kinds of soil which produced them; but I had not made sufficient progress before the barriers were removed to enable me to speak decisively as to any relationship that could be proved to exist between good and bad roses and good and bad soils; but I think I may venture to say that a large proportion of the smallest and thinnest roses came from districts where light soils prevail. However, it is certain that the best flowers were from trees that had had liberal cultivation; the size of the leaves accompanying them was evidence sufficient to prove that only on stout wood and healthy plants are roses fit for show produced. This of course leads to the further conclusion, that a firm soil, abundance of manure, and, if it can be had, abundance of water also, are needful elements in the cultivation of the rose; for it must be understood that merely sticking a plant in the

ground, and then leaving it to fight the battle with the elements, is not cultivation at all.

Glancing through the names of the winning collections, it is gratifying to observe that among the recently-introduced varieties there are many of very superior excellence. The good roses of 1862 still hold a high place, but a few of those of 1863, 1864, and 1865 are evidently worthy to be associated with them. Among high-coloured kinds, *Lord Macaulay*, *Senateur Vaisse*, *Alfred de Rougemont*, *Baron Adolphe de Rothschild*, *Charles Lefebvre*, *Duc de Rohan*, *Francois Lacharme*, *Le Rhone*, and *Maurice Bernardin*, are all magnificent roses, and if any one of them is to be selected from the rest as pre-eminently beautiful, it must be *Francois Lacharme*, the colour of which is exquisite, and the form absolutely perfect—that is to say, when well grown, and it ought to be well grown, or it may lack its proper character, and be unjustly pronounced second-rate. With these varieties at our command, why should we any longer propagate such varieties as *Geant des Batailles*, *Lord Raglan*, *General Jaqueminot*, and the rest of the thin and quickly-changing, crimson-coloured perpetuals? In its own particular section, *Jules Margottin*, that most constant of old friends, remains as steadfast as ever. The newer *Victor Verdier* is as yet unsurpassed, and it is perhaps unsurpassable. *Comtesse de Chabillant* is still a first-class rose. But here we may place as their equals a few of the newest, such as *Beauty of Waltham*, *John Hopper*, a magnificent flower when well grown; *La Esmeralda*, which has improved since it made its first appearance; *President Lincoln*, *Princess Alice*, *Sœur de Anges*, *Alpaide de Rotalier*, *Kate Hausburg*, *La Duchesse de Morny*, *Madame Derreux Douville*. Good white roses are almost as scarce as ever, although among the novelties of the past few years several specimens have been offered us. *Louise Dorzins* is certainly acceptable and ought to have a place in every garden, though it cannot be considered a first-class rose; it is in fact too much of a noisette in style and habit ever to acquire importance at exhibitions. But among the light kinds, we have *Madame Alfred de Rougemont*, with the exquisite form of the old “cabbage rose,” the ground pure white most delicately shaded with carmine. Nearly, but not quite so good, is *Madame de Canrobert*, white tinged with peach, a large, full, and nicely-cupped flower. *Emotion* is a pleasing flower, the form good, and the arrangement of the petals most refined and distinct. *Madame Macker*, white, with a rosy tinge, is also worth a place in the rosarium.

Having made a general survey of the hybrid perpetuals, the result is the following selection of varieties as the best in the several classes, including old and new, to the autumn of 1864.

ROSE AND RED.—*Alpaide de Rotalier*, *Alphonse Belin*, *Alphonse Karr* (shy but beautiful), *Anna Alexieff*, *Anna de Diesbach*. *Beauty of Waltham*, *Belle de Bourg la Reine*, *Comtesse de Chabillant*, *Comtesse de Courey*, *Emile Dulac*, *General Washington*, *Jules Margottin*, *Kate Hausburg*, *La Duchesse de Morny*, *La Reine de la Pape*, *La Ville de St. Denis*, *Louis Van Houtte*, *Madame Donage*, *Madame Eugene Verdier*, *Madame Hector Jacquin*, *Madame Knorr*, *Mathurin Regnier*, *Souvenir de la Reine d'Angleterre*, *Victor Verdier*, *William Griffith*, *Baron Gonella*, *Modele de Perfection*.

**LIGHT.**—Caroline de Sansal (shy), Duchesse de Magenta, Imperatrice Eugenie, Louise Darzins, Louise Magnan, Madame Alfred de Rougemont, Madame de Canrobert, Madame Derreux Douville, Madame Rivers, Madame Vidot, Mademoiselle Bonnaire, Virginal, Emotion.

**CRIMSON AND CRIMSON SHADES.**—Admiral Nelson (poor in quality, but glorious for colour and profusion of bloom—a real garden rose), Alphonse Damaizin, Amiral la Peyrouse, Baron Adolphe de Rothschild, Baronne Pelletan de Kinkelin, Bernard Pallissy, Charles Lefebvre, Claude Million, Duc de Rohan, Francois Lacharme, Gabriel de Peyronny, John Hopper, Le Baron de Rothschild, Lord Macaulay, Madame Charles Wood, Maurice Bernardin, Mrs. William Paul, Princess of Wales, Vainqueur de Solferino, Souvenir de M. Rousseau.

**DARK.**—Abbé Reynaud, Alexander Dumas, Alfred de Rougemont, Amiral Gravina, Deuil de Prince Albert (small and flat, but very distinct and superb in colour), Duc de Cazes, Empereur de Maroc, Marechal Souchet, Monte Christo, Prince Canille de Rohan, Vulcan.

Respecting the varieties of 1865, some observations will be made next month. S. H.

## FERNS AND FERN CASES.

(Continued from page 7.)

33. *ACROPHORUS hispidus*.—This is a semi hare's-foot fern, which is sometimes catalogued as *Davallia Novæ-Zelandiæ*. It has creeping stems, which produce neat triangular fronds, averaging three inches wide; they are deep green, finely divided, smooth and shining. It is extremely pretty, and is admirably adapted to plant amongst pieces of rock, over which its creeping rhizomes soon extend themselves.

34. *ANEMIA adiantifolia*.—A scarce and elegant small-flowering fern, with erect slender stalks, bearing thick-textured leafy fronds, from the points of which proceed little spikes of fructification. It bears a close atmosphere well, and if allowed to establish itself, will, in the course of two seasons, form a fine plant.

35. *ANEMIA phyllitidis*.—This is sometimes catalogued and described as *Anemidietyon phyllitidis* (J. Smith). It has been frequently recommended in these pages as a very superior case fern. It is of comparatively bold habit, producing smooth triangular fronds from a crown.

From the lowest pair of leaflets (pinnae) rise the fertile spikes, or flowers, which add greatly to its beauty and interest.

36. *ADIANTUM fulvum*.—Since the list of *Adiantums* was made out (Vol. vii., p. 191), I have noticed two species which had escaped me. They are both thriving in a small case, and are extremely beautiful. *A. fulvum* is a fine fern, the fronds half drooping, rising to a height of six to nine inches. They are divided into seven branches, the central one the longest. The pinnules are nearly round. In habit this fern resembles *A. assimile*, which, however, is only thrice-divided. The young growth is downy, and of a beautiful pinky tint, which renders it a very interesting fern.

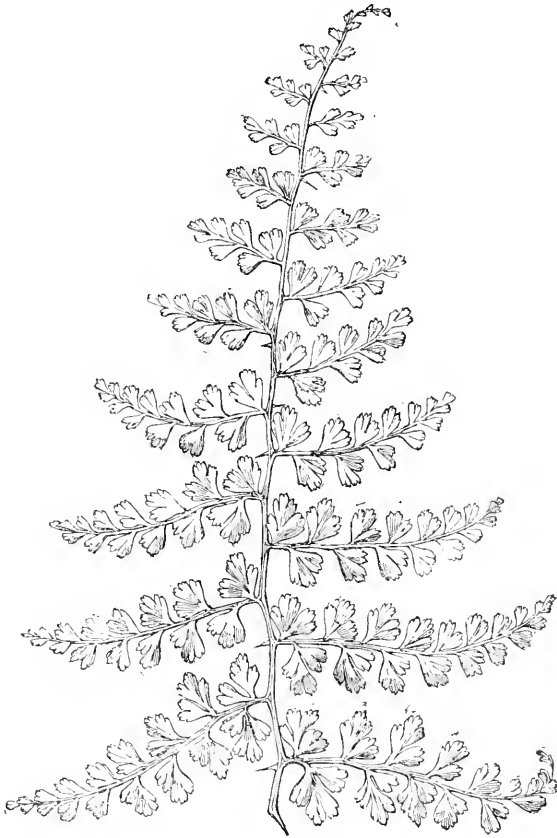
37. *A. cristatum*.—A very distinct and beautiful fern. The fronds are about three inches long, nearly erect, divided into two to four pinnae, one of which is longer than the rest. The pinnules are slightly toothed, and overlap. The colour is a rich deep shining green.

38. *CAMPYLONEURUM angustifo-*

*lium*.—A quite polypodium-looking fern, of rather strong growth. The fronds are erect, entire, a quarter of an inch wide, pointed, deep green, leathery in texture, and rise from a creeping stem. In the case it has a very bold and distinct appearance, and makes an agreeable variation

pretty fern for suspending in a case. The smooth, entire, wavy fronds rise from clustering stems, which in a well-established specimen quite clothe the receptacle in which the specimen is cultivated.

41. *DAVALLIA aculeata*.—This rare and exquisitely beautiful fern merits



DAVALLIA ACULEATA.

among ferns with finely-divided fronds.

39. *C. lucidum*.—A fern of rigid habit, with erect, entire, leathery shining fronds rising from a creeping caudex. When in fruit it is most beautiful, owing to its prominent yellow spore clusters.

40. *C. caespitosum*.—This is a

more than a brief notice, both on account of its distinctive habit and its adaptability to ease cultivation. The fronds are of extremely light texture, and remotely resemble those of *Adiantum cuneatum*. The slender stems bear triangular, distantly-divided, light-green fronds, on the under sides of which are numerous

woody thorns, which serve to support the fronds when the plant is so placed that they rest against any perpendicular surface, and it thus acquires the character of a partially scandent fern. When grown in the case it requires some light support, such as a few slender twigs placed amongst the fronds, or very fine copper wires crossed at intervals, and so arranged as not to obtrude upon the eye, which would mar the exquisite beauty of this delicately-constructed fern.

42. *D. Canariensis*.—This is the well-known and beautiful "hare's-foot" fern. It is nearly hardy, and grows freely if carefully treated. To succeed with it under case cultivation, care must be taken to preserve it from excessive moisture; hence it will be best to plant it on a little hillock, consisting of small pieces of broken brick or stone, over which it will soon extend its handsome "hare's-foot" rhizomes. Under every circumstance of cultivation the "hare's-foot" fern requires a rather dry position; it is much more often killed by damp than by all other causes put together. In a shady ventilated greenhouse it will grow superbly, if preserved from stagnant moisture at all seasons, and especially during winter.

43. *D. bullata*, of much finer texture and smaller growth than the last. It is extremely pretty, and will

never disappoint if properly planted in the first instance. This, like the last, requires a hillock to show its tawny rhizomes to advantage, as well as to preserve it from excessive moisture.

44. *D. pentaphylla*.—This is very distinct from the ordinary character of Davallias, the fronds consisting of two to three pairs of strap-shaped divisions. It is an excellent fern for suspending.

45. *D. dissecta*.—This is of robust habit, though the fronds are delicately divided and extremely beautiful, owing to their fine colour and glossy surface. The scaly rhizome is a conspicuous feature in a good specimen. It may be grown either on a hillock or suspended, and either way is one of the finest of the Davallias. Like many other fine ferns, however, it is only when young that it is of any value as a case fern. If not removed when it attains to some size, the fronds decay as fast as they grow, and ultimately it becomes quite unsightly. Every fern that grows too large for the dimensions of a case should be removed, and its place supplied with a small plant of the same or some other kind. A greenhouse may be cheaply stocked with fine specimens by growing seedling plants in cases for a year or two, and then potting them, and giving them needful attention as specimens.

(To be continued.)

## BEDDING PLANTS WITH GOLD AND SILVER LEAVES.

THOUGH the majority of these plants are used as edgings to beds, in order to subdue and tone down and harmonize strong colours, there are many eminently adapted for forming masses, especially where large breadths of neutral tints are required in the centres and connecting points of geometric patterns. The subjects now to be dealt with may be grouped in two distinct classes, namely, plants with "variegated" leaves, which have originated from species with green

leaves, and plants which are naturally woolly, silvery, or snowy in appearance, without being "variegated." The distinction is of much importance, and we will cite two cases to illustrate it. The variegated periwinkle is a plant we suppose to be known to everybody. If that is not known to all who read this, then let a variegated-leaved geranium serve for the purpose. If in either of these cases the leaf is examined, it will be seen that its beauty consists in the

combination of a mottling, or band, or lines of cream or amber, upon a green ground, or the centre of the leaf is green and the margin white. In any case there is a certain proportion of green in the leaf, which may not be perceptible when the plants are in large masses, because of the superior attractiveness of the white; nevertheless it is there, and the example is one of strict variegation, the result of a sport from a variety wholly green and without variegation at all. Take, on the other hand, a plant of *Cineraria maritima*, otherwise called the "Powdered Beau" and "Dusty Bob;" or if you do not know that, take *Cerastium tomentosum*; or, better known still, take the Rose Campion of the borders. In each of these cases the leaves have none of the ordinary green hue common to vegetation; the *Cineraria maritima* is covered with a grey dust, as if flour had been sprinkled upon it; the leaves of the *Cerastium* are covered with grey hairs, and have a woolly appearance when viewed under a lens, and glisten like silver when placed beside blue lobelia in full bloom; the leaves of the Campion are also woolly; and in all these three cases the silvery appearance is natural to the plant, not the consequence of a sport, and, strictly speaking, they are not variegated. Now, this distinction is of importance as a matter of art and as a matter of culture. In the first consideration, the effect of plants with leaves naturally silvered is generally more decisive. But on that point differences of opinion as well as of fact may arise; for though Lady Plymouth, Dandy, Flower of the Day, and Alma geraniums are strictly variegated plants, and have a certain proportion of green in their composition, nothing can surpass them for beauty when used appropriately in combination with other plants. Still the radical distinction remains that these have originated out of varieties that were not variegated, whereas the other class are what they are by virtue of their original constitution, and have been silvery, woolly, dusty, etc., etc., from the beginning of the world.

As a matter of culture, the distinction is of immense importance. Plants that are naturally of a silvery or golden hue cannot be altered in their character, though they may be spoiled or killed by bad management; whereas true variegated plants may be changed to their original green colour, and the variegation destroyed by improper management. This is a matter that practical gardeners—though they know all about it—do not always bear in mind as they should, and hence in one garden the same variety of variegated plant will be seen in greater perfection than in another. With plants naturally of a silvery hue, all that is necessary is to provide them with a soil suited to their constitution; with variegated plants the soil should generally be a trifle poorer than for the green-leaved types of the variegated varieties. We have proved by experiment that Dandy, one of the loveliest of the minimum variegated geraniums, becomes as green as grass when planted out in a soil heavily manured, and that the same plants, removed into a poor soil, recovered their variegation, and had the same beautiful effect as originally. Look at any border containing a row of the common variegated mint, and it will be a great chance if you do not see amongst the plants many strong shoots wholly green, the plant reverting back to its original condition through being well fed in a rich soil. So with the pretty variegated *Arabis*; one of the best of plants for a close edging of yellowish-grey, it will every year produce a few green shoots; and if those are not removed, they soon take the whole strength of the roots to themselves, and, overpowering the variegated shoots, in course of time restore the plant to the condition of the common green-leaved *Arabis* of the borders.

The lesson is obvious, that variegated plants should not be too well fed; and yet it is possible to grow them vigorously without danger. Pure yellow loam with plenty of turf in it is a most nourishing staple for any plant that likes loam, and most variegated plants will thrive in it, and



grow to a good size, if specimens are required without a change of character. But a third part of half-rotten dung mixed with the loam would spoil the beauty of at least one-half the best variegated plants we possess, and frequent doses of strong manure water would do the same thing without the dung. Peat, sand, and chalk are all favourable to the preservation of the silvery and golden hues of variegated plants; and beds and borders in which they are to be planted should be liberally dressed with those materials in preference to stimulating manures; and if they are not obtainable, sifted sweepings of gravel walks, with pounded bricks and oyster-shells, are equally useful, as they afford a certain amount of nourishment without stimulating. Take *Farfugium grande*, and grow it as you would a cauliflower, and instead of the leaves being boldly mottled and blotched with gold and amber, they will be almost wholly green. Leave the plant alone till it has consumed the gross food given to it, and is beginning to starve, and once more its leaves acquire their proper beauty; and if amply supplied with water during the growing season, will acquire their proper size as well as their proper colouring. Mr. Salter, of Hammersmith, who is the greatest collector of plants with variegated foliage, hears frequently from his customers that the plants they have had of him lost their variegation, and are not better than hedge weeds; but the growers are at fault through giving these choice subjects too much food. If they would pot them in turfy loam and peat, with an admixture of about a fourth part chalk or broken bricks, they would secure vigour without sacrificing character; but setting a high value on the exquisitely-marked varieties they have obtained, they go a step too far in the use of stimulating manures.

LEAVES NATURALLY OF A SILVERY  
HUE.

*Antennaria margaritacea*, a hardy herbaceous everlasting, common in cottage gardens, grows two to three

feet high, forming large masses of silvery foliage, and in July produces unattractive yellow blossoms. This is a capital ribbon plant, and if propagated any time from March to May, or taken up and divided in April, may be kept to a close line by nipping out the points of the shoots.

*Centaurea candidissima*, the whitest-leaved plant we have, requires protection in the greenhouse during winter. Is propagated by offsets, in the same way as daisies and auriculas. It will take some time to get up a stock of this for extensive use; but it is well worth the waiting for, as there is nothing more striking for a brilliant white line or margin, and single plants are useful for tree stumps, borders, and rockeries; and it is an attractive pot plant for the conservatory. Some fine plants of this superb species lived through the past winter in a bed out of doors, at Mr. Salter's nursery, Hammersmith.

*Cineraria maritima*.—A beautiful shrub for rockeries; old plants make fine centres to beds of scarlet or crimson. Cuttings will strike without heat at any season of the year, but are a long time forming roots. It likes a dry chalky soil, and, though quite hardy, should be taken up for the winter, unless the position is dry and sheltered; damp is death to it. To use this as a bedder, let it flower, save the seed, and sow in February; it is then admirable for a first or second row, kept to the required height by nipping.

*Cerastium tomentosum* and *Biebersteinii*.—The first has been extensively used for some years past, and is best known about London as forming the silvery edgings to beds of blue lobelia and scarlet geranium at the Crystal Palace. They are both quite hardy, and thrive in any soil or situation, and if left in the ground over winter, produce beautiful masses of white flowers early in spring time. But for strictly bedding purposes it should be propagated from cuttings at the end of March or early in April, as a vigorous growth is not required. When planted out in May, place the plants four inches apart, and as they grow nip out the points all through

the season, which will keep it regular and dense in growth. Of the two, *C. tomentosum* is the best.

*Artemisia glacialis* and *argentea*.—

These silvery-leaved wormwoods are of excellent habit and quite hardy. They require poor sandy soil and a dry position.

*Santolina rosmarinifolium*.—A very beautiful glaucous-leaved plant, of easy cultivation, quite hardy, and delighting in chalk and sand. Every student of colour effects should have it, with a view to its extensive use when occasions arise requiring a silvery plant of a decidedly shrubby character easily kept and propagated.

*Stachys lanata*.—A hardy woolly-leaved plant, which will be useful to those who want a plant of the habit of *Centaurea candidissima*, but have not the convenience for keeping stock over winter. It spreads laterally in tufts, forming dense masses of grey foliage never more than six inches high, requiring no nipping down. Most easily propagated by division.

*Achillea clavenna* is a neat silvery-leaved plant, well adapted for edgings. If its flowers were kept pinched back, it would be very uniform and neat, but the flowers are by no means objectionable, except in highly-coloured and very formal parterres.

*A. Egyptiaca* produces fine yellow flowers, and is very distinct in its grey leafage.

*Festuca glauca*.—A most beautiful glaucous-leaved grass, which will grow finely in any rather dry position. It does not make so good an edging as it promises to when seen in separate tufts, but, in some form or other, it ought to be found in every garden.

*Sedum glaucum*.—This is a close-growing species, which forms a perfectly close surface of neat glaucous growth. It will be invaluable for hot dry soils, where bedding-plants of many kinds do not thrive well. It is also a gem for rockwork.

*Variogated mint*, which we suppose everybody knows well enough. Nevertheless it is often strangely confounded with variegated balm, variegated arabis, and variegated dead-nettle. The balm and the dead-nettle

are of no use for bedding, but make nice clumps on shady rockeries; whereas the mint, which may be identified as easily by its odour as any other way, will grow in any soil or situation, and, when used in masses, is one of the best plants of this class that we possess. There are various ways of turning it to account. As a front row to Purple Nosegay Geranium, or Rubens Geranium, or Trentham Rose Geranium, it is best used alone; but as a front row to *Perilla Nankinensis* it has a superb effect, if intermixed with Lord Raglan Verbena. It scarcely matters how late this mint is propagated, so that it has just formed roots at the time of putting out. When it is required to run up six to nine inches, the plants should be strong, in 60-sized pots, from cuttings taken early in spring; but, if required very short and close, April is quite early enough to strike it. We have made bright solid edgings by putting in cuttings in May, while geraniums were hardening in pits, and, when rooted, planting them without any intermediate process of potting. They take hold of the ground in a few days, and, being a free grower, it soon requires nipping down, which makes it dense and bushy. We would make a hundred feet out of half-a-dozen plants in 48-sized pots the first week in May, and have them on the ground in a passable state by the middle of June, by which time the geraniums and verbenas would be showing good trusses. But the best time generally to propagate it is March, when choice should be made of shoots not entirely white or nearly green, but fully variegated, and with enough green in them to insure vigorous health. Wherever a green shoot appears, it should be cut away to the root, or it will soon war against the variegated shoots by its superior vigour. Once get possession of this useful plant, and it need never be lost, and to keep it true needs only ordinary watchfulness. It is a charming contrast to blue, purple, or scarlet. There is a golden-leaved variety equally beautiful, but of less value for bedding, because the same colour can be so

much better obtained from flowers. It is, however, worth having, and is very effective as a ribbon plant. Two plants of the mint and one of blue lobelia, alternating in a row, make a soft bluish-grey, which sets off scarlet to perfection.

*Arabis alpina variegata*.—Let us call things by their right names, and, as one step towards it, give up the practice of naming this "*Alyssum variegata*." There is this difference between them: *Arabis* is, in all its forms, an herbaceous trailing plant; *Alyssum* is a miniature shrub. This variegated *arabis* grows in close, dense tufts, spreading laterally, the leaves mottled with yellowish-white, the flowers white, and plentifully produced in April and May. It is hardy wherever the soil is dry, but is apt to perish in winter in damp situations. We always pot up the whole stock in October, and winter them in frames. If a very close line of clear yellowish-grey is required, this is the best plant in existence for the purpose. It may be propagated at any time, either by putting cuttings into sand in seed-pans from May to August, and again with the aid of a little heat in February or March, or may be increased by division every autumn when the plants are taken up, or in April when they are planted. Like the variegated mint, it is a poor man's bedder, and is truly beautiful when well done. In a rich soil, it has the same tendency as the mint to throw up green shoots, which should be removed as soon as they are perceptible.

*Alyssum dentatum variegatum*.—This is a miniature shrub, with narrow silvery leaves and white flowers, easily propagated from cuttings in spring and autumn, and is very white and attractive as an edging to any brilliant-coloured bed. It is rather tender, rarely lives through the winter out of doors, does not like damp or a fat soil, is most at home on sand and in an elevated position. Nevertheless, as a bedder, taken up for the winter, and kept in pots well drained and filled with poor soil, it will thrive almost anywhere when planted out. Three years ago, the

most dazzling beds ever thought of were to be seen at the Crystal Palace on the Rose Mount. They consisted of Variegated *Alyssum* and Flower of the Day Geranium, mixed; the worst of it is, the mixture is so bright that the eye cannot bear it while the sun shines. It would be still more like fixed lightning by using *Alma Geranium*, the trusses of which are of a more decided scarlet.

*Scrophularia nodosa variegata*.—This is a novelty of the highest merit. It is quite hardy, grows well in any ordinary good soil; the leaves match those of geraniums for size, and are densely edged with white. It appears to stand extremes of weather as well as any plant in our garden, and looks almost as well in winter as in summer. For amateurs, whose conveniences and means are limited, this is a most valuable acquisition. In appearance it is like a miniature copy of the variegated *Hydrangea*.

*Thymus vulgaris variegatus*, *Thymus serpyllum variegatus*.—The first is a fast-growing and very pretty variegated shrub, which may occasionally be found useful to mix with low-growing plants of strong colours to soften down the glare. It is not showy in a mass, and on the two or three occasions when we have used it as an edging it was not very effective. Yet it is worth having, and we can imagine a bed of some low-growing and gay annuals, such as *Venus's Looking-glass*, or *Silene armeria*, would be greatly improved by the interspersions of this thyme amongst the plants.

*Vinca major elegantissima*, *V. major reticulata*, *V. minor argentea*, *V. minor aurea*.—Here are four variegated periwinkles, all exquisitely beautiful and well adapted for amateurs who cannot keep a large stock of variegated geraniums all winter. They grow to perfection in the shade, and no matter what rubbish the soil consists of. All four should be in every garden, to clothe banks and shady borders; and when required for use on a large scale, that which suits best in habit and colour should be propagated by cuttings in spring. The first and last-named are the showiest;

there is nothing in the way of variegated plants to surpass them.

*Agaltea celestis variegata*. — This has been puffed into notoriety to such an extent, that people who have not seen it may very well imagine it to be the greatest wonder of the nineteenth century. Now there is nothing wonderful about it, and, so far as variegation is concerned, we have many plants of the same habit and tint that far surpass it in general excellence. We have it planted out now sufficiently near variegated arabis to show that the latter is the brighter of the two, and that the tone of grey is much the same, as there is just enough yellow in the leaf to give to a mass of it the effect of a pale wash of buff colour. We are not condemning it; its merits are many; it grows close and neat, and flowers freely; and as the flowers are blue, that must be thought of in using it as an edging.

*Bellis perennis*, the variety generally distributed in the trade, called "aucubifolia," is one of the prettiest bedding plants in existence. The leaves are of a rich gold yellow, netted with green veins, and the flowers crimson, double, and plentifully produced. Whoever is in need of something new for a front line, or for filling narrow beds on a terrace, should obtain this pretty daisy, and propagate it from offsets all the summer long, and keep the whole stock in pots through the winter. It is quite hardy, but too delicate a plant to be left to fight the battle with the weather. Those who know it, and would like to use it in quantity at once, can obtain a supply of any of the leading nurseries at six shillings per dozen. For its intrinsic merit it is worth five times that price, and was bought up as fast as it could be propagated, a few years ago, at five shillings each.

## ROCKERIES.—HARDY FERNS.

### SAXIFRAGA ICELANDICA.

Go into your garden in the sultry noon of July, and how soon do you tire of the blinding glare of the bedding plants. You turn in vain for relief to the ragged burnt-up turf. Oh, for a broad, cool depth of dewy green-sward! Sighing for rain, and shading your eyes with your hands, you look aloft, but not the shadow of a cloud obscures the bright expanse of blue. But before you return to the house, come with me to that corner at the bottom, which you say is too shady to grow anything where nature is indeed unadorned, and so well repays your neglect with such plentiful crops of weeds and stones. There will we smoke the pipe of peace beneath the shadow of that ugly scene. I will tell you how, by the aid of no magician's wand, but simply by the outlay of a few shillings and a little labour, I have transformed such a spot into one on which the eye delights to linger, and whose beauty winter's icy fingers cannot all efface.

On my rockery I have a constant succession of flowers for above eleven months in the year, commencing with the winter aconite in January, soon hid in the blooms of the snowdrops, crocuses, and daffodils, at the edge where they have remained for years undisturbed by the summer plants. These are succeeded by the earliest single tulips, replaced by the glorious double, and these again by the tall, graceful single, including gesneriana and the parrot tulips. Amongst them come, "veiled in a cloud of fragrance," hyacinth and narriissi, intermixed with "pale primroses that die unmarried," violets, lilies, rhododendrons, and various herbaceous plants. The purchase of a few bedding plants in bloom carries on the succession till the large old geraniums come into bloom. Before the eddying gusts of autumn scatter their richly-dyed petals, the gladoli burst out in beauty, the Tritomas lift up their flambeaux of living fire, and the chrysanthemums, with Heileborus niger,

linger long around the footsteps of the departing year.

Now for a relief to the gorgeous mass of colour on the sunnier parts of the bank, a few yards of the blessed country, a clear, quiet pool, set in a framework of ferns, such as we light upon in the still sequestered nook of some hoary wood, bodily transported here. This, with a few simple materials, I have produced. First making a firm foundation on the same level as the path, I placed there a flower-pot two feet across, and about the same depth, and then extended the rockery to include it, resting the pot on a row of bricks. To prevent any future unsightly sinking of the mould, it was beaten moderately firm round the pot as I approached the top; this is important. Next the path is a slightly inclined plane falling away from the water for growing the smaller ferns; everywhere else the earth is above the pond, sloping down to it. There is a constant filtration through the sides of the pot to the roots of the ferns; this waste, about an inch daily, is replaced when they are watered overhead. As the ice forms in winter, it is broken and thrown out for about half its depth; after that only broken. In an open spot a six-inch pot full of crocks is sunk, and on a mound raised about six inches above it, *Asplenium Trichomanes* is growing in perfection. Few would now believe that my plants of *Filix-mas* are the same as once grew on a dry part of the bank. I have besides some of its finer varieties—*Polystichum* and *Polypodium vulgare*, *Blechnum spicant*, *Filix-fœmina*, *Pteris aquilina*, *Osmunda*, etc., some planted close to the water, arching gracefully over it, others at proper distances from it, all growing in riotous luxuriance. Mingled with their feathery foliage, equally rejoicing in a wet situation, are *Dielytra spectabilis*, with its delicate sprays of deep pink flowers, *Spirea variegata*, the large arrow-shaped and nearly evergreen leaves

of *Arum maculatum*, and the erect, beautifully-spotted stem, palm-like leaves and tropical-looking bloom of *Arum dracunculus*.

Of all plants for surfacing hardy ferneries none can equal *Saxifraga Icelandica*. Though the brick-like redness of the pot soon wore off, the edges were disagreeably obtusive; and last year I tried *Arabis alpina* for an edging, but it did not relish either the shade of the umbrageous ferns or the moisture, and ran away from both into the open spots. This year I removed it when out of bloom, and in its place pulled to pieces a small tuft of *S. Icelandica*, of which I had just sufficient to make a scarcely perceptible band of green round the pond. Now it has spread over into the water, growing for an inch all round upon its surface. No trace of the means by which the water is retained is visible, and a closer imitation of a natural pool it is impossible to conceive. On the outside it has run far and wide over the roots and crowns of the ferns, which its close moss-like growth will protect in winter. It flourishes as well where the fronds are densest and admit but a small amount of light, as in the perfectly open spaces, while the rapidity of its growth equals *Lycopodium denticulatum* in a fern case. And when the glory of the garden has departed, and one by one its favourites have left us like the voices and the faces we knew and loved so well in bygone years, and the ferns have betaken them to their winter sleep, leaving only the cold hard outlines of the iron-bound earth and rugged stones behind, the *Saxifraga* will remain, green as in the sunny summer-time, unharmed by frost; its lovely sheet of verdure, through the dark tempestuous days, enduring as the Christian's hope—his anticipation of the period when

“The storms of wintry Time have quickly past  
And one unbounded spring encircles all.”

*Deptford.*

JAS. W. DEAN.

## THE CINERARIA.

THE Cineraria is one of the many high-class flowers which prove to be so nearly hardy that everybody may cultivate them; and this is the reason why geraniums, calceolarias, fuchsias, genistas, pansies, auriculas, chrysanthemums, dahlias, and cinerarias are the most popular of popular flowers. We will suppose all Cinerarias have just done blooming. Those that were really good, save; those that were poor or only middling, throw away; for it is a waste of time to propagate anything of a second or third-rate character. As soon as your good plants begin to look shabby, cut off the flower-stems, and trim out any flower-buds that may be seen pushing from below; it would be a folly to let them bloom any longer, because the plants would be exhausted. Prepare a bed of coal-ashes in an open shady place, and on this bed range the pots containing the plants. If any offsets have risen and grown pretty strong, slip them off very neatly with a sharp knife, taking care that you have as much root as belongs to them, and then pile up round the stem of each of the old plants a little cone of fine sandy mould, the more sandy the better. Pot the offsets at once into small pots, water them, and place them in a cold frame, on a bed of ashes; shade them for a fortnight, and by that time they will be well rooted.

In the meantime the old plants will, from the base of the stem, put out fibres into the sandy soil that was piled round the collar of each, and numerous offsets will break through, each of which must be slipped off when possessed of two or more leaves, and potted as just described. In this way every good plant will give you from half a dozen to a dozen young ones, and you will have stock to start with. If the old plants are turned out into a border after flowering, they will be still more prolific of shoots and suckers.

When the offsets have been potted about three weeks, they will require shifting into pots a size larger, and though at the first potting

any light fibrous sandy soil will do—and there ought to be plenty of sharp silver-sand mixed with it—at the next potting they must have a soil specially prepared for them, and this soil must be compounded thus:—Get some turfy loam from an upland pasture, some two-year old leaf-mould, and some fibrous peat, some very rotten cow-dung, some river-sand, and plenty of broken potsherds in various sizes, some being as small as peas. In making up the compost, use turfy loam two bushels, peat, leaf-mould, and cow-dung one bushel each, and half a bushel of sharp river-sand. The compost must be well chopped up, and brought to a friable condition—in fact, made as fine as it can be *without sifting*. Never sift your soils unless specially directed to do so; the practice has marred many a good man's work, who thought that fine flowers and fine soil were necessarily related to each other. From the time the plants have this second potting, they grow steadily, and must never get pot-bound. To know when to shift them, turn one out carefully and ascertain the state of the roots; if they fill the pot, then the plant must have a pot a size larger, and so on till they get into eight-inch pots for blooming; but of that presently. Beware of one error common to beginners—never place a choice plant in a pot larger than it can fill in a few weeks; the secret of success is in the succession of shifts, one size larger each time, except in the case of such plants as do not bear shifting at all, very few of which are classed as “florists' flowers.”

Another mode of raising young stock is by seed. This should be sown during May and June, if purchased; and if raised at home from choice specimen plants, sow it the moment it is sufficiently ripe. The best way to sow it is to procure some shallow pans; fill them with fine light soil, water moderately, sprinkle the seed thinly on the surface, and just cover with silver sand. In a cold pit they need no artificial heat. As soon as the seedlings have two or

three leaves, prick them out into small pots, in a similar light soil, adding a little leaf-mould to nourish them; and as soon as they fill these small pots, with roots, shift them to a size larger and use the compost just described. From this time seedlings and offsets need the same treatment. If the seed is really good, the seedling plants will make the finest show at blooming time: there is nothing like sowing seed if you want variety in florists' flowers; they come of all colours in endless profusion, and they have generally greater strength than plants propagated from offsets or cuttings.

By this time "Jack Frost" will be making an occasional morning call, and your *Cinerarias* must be prepared to pass through the winter safely. Though these plants are generally wintered in greenhouses, it should be borne in mind that they cannot stand any amount of heat; in fact, they winter best in a common cold frame, well banked up with litter or dry fern, to keep the frost from penetrating at the sides and ends. Give them a shift as they require it, using always plenty of drainage, and putting over the layer of broken pots some of the rougher parts of the compost, to prevent the soil from washing down and causing them to be water-logged. There are few things that root faster than the *Cineraria*, so you must keep a sharp look out to give them more room as they require it. Every shift is a slight check that causes the plant to grow dwarf and compact, at the same time the additional root-room given strengthens the formation of the trusses of bloom, which should ultimately rise up in dense heads from close-growing, broad-leaved, healthy-looking plants. They are very brittle, and in potting must be handled tenderly, as every injury leads to a loss of sap, which deteriorates the plant and causes imperfect blooming.

When winter has fairly set in, every necessary precaution must be taken to prevent injury from frost.

In severe weather the frames must be covered with mats night and day, and even litter or fern added to that, if the frost should be intense; for though they repudiate heat, they also flinch before frost, and once seriously attacked never recover. Every fine day give air and light; but rather than let frost into the frames, they may be kept covered up for a fortnight together; though, of course, that is not advisable unless the case is desperate. By having the plants strong and healthy, and well aired up to the last moment, and then kept as dry and clean as possible, there will be little fear of losses from frost, if the precautions that we advise be adopted in time.

As soon as the first blush of springs calls vegetation to its seasonal renewal, bring your *Cinerarias* to the greenhouse, and give them a cool place very close to the glass. If you have no greenhouse, let them remain in the frames, or bring the forwardest in-doors, to complete their growth in the windows. Now the flower-stems will push rapidly from your healthy large-leaved plants. Those that want opening and supporting with sticks must be neatly banded; but if for exhibition, all such supports must be removed a day or two before the show. A *Cineraria* should have a solid truss, the flowers touching each other, and forming one grand globular mass of intensely bright colour. Each individual flower should be nearly or quite circular, and the less the florets divide around the edge the better; in fact, a model flower should be as completely circular as a florin, with no visible indentations on the edge, the central disk measuring one-third of the entire diameter, and the colour, whatever it is, decided and brilliant. Even finely-coloured flowers are apt to come loose, and with deep divisions between the florets.

The following twelve are good—Lord Elgin, Perfection, Conqueror, Miss Franklin, Miss Eleanor, Regulator, Viola, Admiral of the Blue, Amy, Queen Bertha, Reynolds Hole, Prairie Bird.

## RECENT EXHIBITIONS.

ROYAL BOTANIC SOCIETY, FIRST GREAT SHOW, Wednesday, May 24. —This exhibition was favoured in every way—Azaleas were at their best; pot Roses were at least respectable and effective, if their days of decline were near at hand; Orchids were grand; Pelargoniums wonderful; stove and greenhouse plants abundant and fine, and most valuable they were for purposes of grouping, serving to break up the masses of glowing colour, and afford the relief of mountains of greenery, and various sobering tints which afforded repose to the eye. The grandest examples of Azaleas came from Mr. Veitch and Mr. Turner; the first had a group of eight, and the other of six side by side, the plants averaging five feet high and four feet through, trained as rather stiff pyramids, and solid with colour. Mr. B. S. Williams, Messrs. Lane and Son, Mr. John Fraser, among trade exhibitors; and Mr. Carson, Mr. Wheeler, gardener to J. Philpot, Esq., Mr. Wheeler, gardener to Sir F. H. Goldsmid, Bart., and Mr. Todman were the principal exhibitors among amateurs. To single out specimens or enumerate varieties would be an endless task, and perhaps on this occasion had best not be attempted. Pot Roses were shown in the best style by Mr. W. Paul, whose noble plants were still fresh and in magnificent bloom. Messrs. Lane and Son, Mr. Francis, and Messrs. Paul and Son trod close on his heels, and all the others were stale, some few lamentably so, and no wonder, after such weather as we have had. One of the most beautiful features was a collection of herbaceous Calceolarias from Mr. James, comprising six named kinds, and a batch of unnamed seedlings. Strange that with such examples constantly before them as Mr. James and Messrs. Dobson present, the exhibiting cultivators do not take in hand these grand subjects, and do full justice to them.

*Stove and Greenhouse Plants* were shown abundantly, and everywhere

amongst them were signs that horticulture thrives with us in spite of the millstone that hangs about its neck, for plant-growing is assuredly one of the best tests, both of the extent to which the art is patronized by the wealthy, and the skill and spirit that animate the gardeners of the present day. In the grand lot of sixteen from Mr. Whitbread occurred *Polygala acuminata*, a plant not often seen; it was a fine specimen, tied very hard, and so recently, that the ties were as conspicuous as the flowers. In a good six from Mr. Kemp, gardener to Earl Percy, occurred *Allamanda nerifolia*, a very nice species for specimen culture, with small tubular yellow flowers. In a collection of ten from Mr. A. Ingram occurred a noble round-headed specimen of *Erica coccinea* minor, completely covered with its small wax-like tubes, one of the gems of the exhibition. In Mr. Carson's ten, *Azalea Lateritia*, four feet high, and the same through, as round as a ball and solid with bloom. Very near it were Mr. Wheeler's eight Azaleas, with *Reine des Belges* in the midst of them, a great wall of glorious rose-pink flowers, with tufts of green leaves peeping out all over. Mr. Chilman had in his ten *Chorozema varium nanum*, finely grown and bloomed. Mr. Wheeler had *Boronia serrulata* well done, and Mr. Page a superb *Stephanotis floribunda*. Messrs. A. Henderson and Co. put up one of their extra grand groups of giants near one of the entrances to the tent, including a huge *Medinilla*, a *Caladium bicolor*, *Vinca rosea*, a mighty *Croton*, and a few small plants of *Clianthus Dampieri*, with well-developed blooms. Messrs. Lee, of Hammersmith, sent a very choice group of fifteen. Here was a remarkable example of the variegated-leaved pine-apple, *Ananassa sativa variegata*, with one fruit advancing, and that fruit carrying seven crowns of variegated leaves, a magnificent object. Mr. O. Rhodes, of Sydenham, put up a fine ten, in which *Ixora coccinea*, and the showy yellow-



flowered *Azalea sinensis*, played conspicuous parts.

*Pelargoniums* were in perfection. In the nurserymen's class, the two great competitors had the positions they acquired at the Crystal Palace reversed: Mr. Turner first, Mr. Fraser second, both for show and fancy kinds. The getting up of the plants in both cases shows an advance in point of style; they are less flat than has been the wont for some years past, and, being well rounded over at the sides, show a greater extent of flowering surface, and are at the same time less stiff and formal than hitherto. Mr. Turner's twelve were Guillaume Severeyns, Rembrandt, Prince of Prussia, Royal Albert, Pizarro, Viola, Fair Rosamond, Fairest of the Fair, Lord Clyde, Garibaldi, Lady Canning, Desdemona. Mr. Fraser's were Osiris, Desdemona, Sir Colin Campbell, Festus, Empress Eugenie, Lilacina, James Lodge, Peacock, Lord Clyde, Sylph, Etna, Leander. But far superior to either of the great trade collections were the ten plants from Mr. Bailey, of Shardloes, who led the way among the amateurs. I measured the three which occupied the middle line of the group, and their heads were four feet six inches across, without noticing the extreme outside flower either way; a tape laid carefully over, so as to give the exact linear measurement of the convex face of either of the plants, would, I am sure, have run out quite six feet. And they were not merely large; they were evenly trained, and solid with healthy foliage and a superb bloom. The varieties were Rose Celestial, The Belle, Sanspareil, these being the three greatest in the middle of the group; Lord Clyde, Sir Colin Campbell, Spotted Gem, Ariel, Etna, Lady Canning, Guillaume Severeyns. Mr. Wiggins, of Isleworth, occupied a most honourable position as second to this lot; Mr. Wiggins's plants were indeed in remarkably fine condition, though so far surpassed by Mr. Bailey's gigantic and perfect specimens. Eurydice, Maid of Honour, Regina formosa, fine for colour; Diana, Pericles, Alba regina, Princess of Denmark, President,

Spotted Nonpareil. Fancies were charmingly fresh in their lively hues and delicate muslin texture of flowers. Mr. Turner's lot were Modestum, Ellen Beck, Roi des Fantaises, Undine, Delicatum, Lady Craven. Mr. Fraser's were Multiflora, Cloth of Silver, Lady Craven, Clara Novello, Marionette, Delicatum.

*New Pelargoniums*.—The finest seedling show *Pelargonium* in the tent was unquestionably one from Mr. Hoyle, of Reading. This was William Hoyle, a companion to the superb John Hoyle, of last season. The plant stood with about a score of others, all seedlings, and in glancing at them, it inevitably rested on William Hoyle, which in form, proportions, smoothness, and carriage is certainly a remarkable variety. The flower is of medium size, broad, overlapping, very smooth and stout petals, top crimson-black, the bottom petals maroon-crimson shading to black, outline sharply defined by a narrow edge of carmine all round. From the same: Selina, bottom pure carmine, with light shade of violet, white throat, top veined cloud of black, margin carmine, form not satisfactory. Mrs. Waite, bottom petals clear warm salmon flesh, pure white throat, top medium-veined, dark blotch, broad margin of cherry pink, fine form, pure colouring, but the flower a little rough. Nabob, large, rather long in the petal, bottom petals clear lake with small blotch, dark top. Charles Turner, bottom petals rich carmine, white throat, dark top, margin of carmine, fine round outline, smooth, first-rate, Lady of Quality, bottom richly veined lake, top dark, smooth. From Mr. Nye, gardener to Mr. Foster, at Clewer Manor: Marion, large, round, smooth, fine petal; bottom rosy-carmine, clear white throat, dark top, carmine margin, fine. Alabmas, bottom veined lake, dark top, rough. Virgil, carmine, lake veins, dark top, Elegans, large, bottom rich lake, dark top. Nero, a promising dark flower, apparently not shown at its best, likely to prove first-rate. Diana, lively cherry colour, dark top. Marc Antony, rich lake, dark top. From

Mr. Wiggins, gardener to Mr. Beck, Isleworth: Purity, pale flesh, maroon top. Prince of Orange, long petal, orange-carmine, top veined, dark. Rosy Circle, rose, white throat, dark top. Othello, violet-crimson, dark top, very promising. From Mr. Bull: a fancy called *Le Veseuve*, rich lake, overspread with maroon veins, magnificent for colour and very free to bloom. Decorator, a show kind, rosy-lake, dark top and dark cloudy blotch. From Mr. Turner: *Silver Mantle*, a fancy which was shown last year. It has a blush ground, with pale rosy blotch, top soft rose. From the same: *Revival*, a lively fancy, cherry-carmine and blush; also *Lady Boston*, rosy-carmine, white margin; *Clytie*, white, with washy pink spots. Zonales were not largely shown. From Mr. Hally, of Blackheath, a few tricolors—*Sirius*, small leaf, green disc, creamy margin, fine carmine zone. *Princess of Wales*, sulphur margin, and red zone. *James Sherman*, pale creamy margin and red zone. From Messrs. F. and A. Smith: *Conspicua*, a painted zonale, white, with salmon eye. Criterion, of the old horseshoe class, light scarlet flowers. *Crystal Palace Gem*, this has a sulphur-tinted leafage, and orange-scarlet flowers. *General Sherman*, horseshoe leaves, flowers lively salmon-scarlet.

*Miscellaneous and Novelties.*—

Messrs. Veitch had a beautiful collection of new and rare plants, foremost amongst which should be named the fine *Odontoglossum cordatum*, sepals and petals warm cinnamon, blotched with dull green, lip whitish, with cinnamon spots; a very pretty species, and one that will look fine in a specimen state. *Cypripedium Pearcei*, now pretty well known. *Leptopteris superba*, a remarkably fine filmy fern, partaking largely of the character of *Todea pellucida*, but much more dense and rich in habit, the beautiful fronds being faced with bristle-like pinnules, giving it somewhat the appearance of the leaves of tansy, but ten thousand times more refined and delicate. *Cephalotis follicularis*, a beautiful specimen, with abundance of fine pitchers and one spike of flowers rising, but why shown

as a new plant there was no record to tell. *Dracæna nigra*, neat habit, dark purplish-bronze, almost black. *Anthurium scherzerianum*, a fine pan of this showy orontiad, covered all over with its brilliant orange-scarlet spadices. Several of the new *Diffenbachias*, the most attractive being *Barraquiniana*, which has a stem like polished ivory, and leaves finely variegated with white patches. *Maranta Veitchii*, short broad leaves, richly marked with crescentic bands of dark green and grey-green, showing a perfectly geometric pattern in beautiful shades of colour. *Anthurium cordifolium*—this will be a noble plant when grown to its full dimensions; the leaf is one of the grandest of the fine class to which it belongs. Mr. Bull sent a large number of new plants, amongst them a collection of *Aucubas*, green and variegated, and of both sexes, some bearing berries, some remarkable for the magnificent painting of their leaves. *Wood-sia polystichoides Veitchianum*, from Mr. Bull, is a nice-looking fern, with greyish-green fronds, the pinnules like those of *Blechnum spicant*, but auricled on the superior margin. *Cissus amazonica*, beautiful lanceolate leaves, dark dull green, mottled grey. *Salvadora persica*, the "mustard-tree" of Scripture, a very unattractive plant. *Bougainvillea* species, dull purplish-red bracts; not attractive. *Elegans Japonicus albo variegatus*, one of Fortune's Japanese acquisitions; a very pretty shrub, greyish amber and dark green. *Cyanophyllum reticulatum*, the leaf neatly reticulated, but not equal to *magnificum*. *Ligustrum ovalifolium variegatum*, a finely variegated form of this best of the hardy privets. If it keeps its colour true when planted out, it will be a most beautiful shrub, but no variegated privet has yet been known to keep true for any length of time. *Sedum azoidea variegatum*, a charming arborescent species with variegated leaves. *Sphærogyné cinnamomea*, cinnamon-coloured stem and branches, and the leaves marked out underneath with cinnamon midrib and veins. *Colonyction sanguineum*, a beautiful *Cissus*-like climber, leaf

dull, bronzy-brown. *Viburnum lan-tana fol. var.*, a variegated-leaved Guelder Rose. *Aralia platanifolia*, fine plane-tree like leaves, a noble species. *Lychnis senno variegata*, flowers red, with white stripes. From Messrs. Jackson and Son; *Clerodendron Thompsoniæ Balfourii*, the sepals snow-white and the petals deep crimson; not so beautiful as the original. From the same: *Columnea erythropea*, from Brazil, a handsome *Siphocampylos*-looking plant, but belonging to a different family, being a true Gesnerwort; the tubular flowers dull red, with reddish sepals. From Mr. Thompson, of Ipswich, a few gems for the herbaceous garden, and most precious amongst them *Aquilegia cœrulea*, lavender-blue and white, the spurs long. Last, but not least, Messrs. Barr and Sugden made a beautiful display of fern cases of all shapes and sizes, and furnished with Ferns, Begonias, Caladiums, and other delicate, fairy-like forms of vegetation adapted for this sort of treatment.

SECOND GREAT SHOW, Wednesday, June 14.—*Florists' Flowers*.—Mr. Turner sent the best 24 pinks; they were: Rev. J. Jeans, Victory, Christabel, Helen, Pride of Colchester, Attraction, Bertie, Elcho, Constance, Exquisite, James Hogg, Picturata, Ernest, Captivation, Princess of Wales, Mrs. Stevens, Device, Mr. Hobbs, Madame Teitjens, Mrs. Maclean, Nina, Excellent, Mary Ann, Marginata. Messrs. Hooper, of Widcombe Hill, Bath, spirited growers of florists' flowers, and the champions for the West of England, second with Blondin, Stonewall Jackson, Defiance, Black Prince, Mrs. Smith, Old England, Device, Attraction, Discolor, Mrs. More, Mrs. Maclean, British Queen, Constance, Dr. Maclean, Colonel Hogg, Purple Perfection, Dr. Smith, Clara, Rose of Sherborne, Emily, Victory, George Trigwell, Mrs. Chater, Lucy. Mr. C. F. Kingston, of Bath, sent a nice twelve; they were Blondin, Device, Mrs. Chater, Mrs. Smith, Lovely, Purple Perfection, Beauty of Bath, Elizabeth, Fair Maid, Julia, Black Prince, Excellent. Messrs. Downie,

Laird, and Laing, took their usual place as leaders in Pansies, and their first prize, thirty-six, was as fine a lot as was ever shown in such a season of east winds and high barometer, the two conditions the most unfavourable for Pansies. Messrs. Downie and Co.'s flowers were stout and fresh even late in the afternoon; they were skilfully put up, and not less skilfully selected so as to include the *creme de la creme* of the Pansies of the present day. The varieties were Tennyson, Mr. Hope, Attraction, William Austin, Cupid, Telegram, Rev. H. Dombrain, Chancellor, Sir L. Stewart, George Wilson, Mary Lamb, Queen of Whites, Eclat, Lady L. Dundas, Yellow Queen, John Elston, Princess of Wales, Miss Hill, Mr. Hopkins, Francis Low, Countess of Rosslyn, Perfection, A. Tait, Lavinia, Vesta (D. L. and L.) bottom petals clear straw, sharp and small purple-rayed blotch, orange eye, side petals small rayed purple blotch, superb in form, smooth and exact in colouring; J. Graham, Alice Downie, Peeress, J. White, John Downie, Ladyburn Beauty, Miss Williamson, Kinlieth, Invincible, Jessie Laird, Masterpiece. Messrs. Hooper, of Bath, second, with Mrs. Carr, Narcissus, Stonewall Jackson, Miss Williamson, large smooth, purple yellow eye; Lord Clyde, Great Eastern, Perfection, Sultana, Lord Chancellor, Madame Vestris, Curlew, Colonel Wyndham, Queen of the Seas, Lady L. Dundas, Beautiful Star, Richard Heady, Charles Kean, Dr. Fleming, Emblem, Prince Consort, Golden Jewel, Excellent, Cherub, Countess of Rosslyn, White Lady, Gem of Yellows, and a lot of seedlings of average merit. Mr. C. F. Kingston, of Bath, sent a very uneven twenty-four; the best of them were Dr. Smith, W. Merricks, Snowball, Mrs. Kingston, Challenge, Lady Palmerston, Prince of Darkness, a fine bluish-purple self; William Penn, Beautiful Star, Stonewall Jackson, Beauty, Harry, Defiance, John Bull, Madame Vestris, Prince of Wales, Excellent, Pride of Bath. Mr. Porter, gardener to the Hon. J. Ashley, Copt Hall, Epping, sent a collection

of seedlings; the best of these was Paul Prv, a large, smooth, finely-formed flower. One of the best seedlings in the show was a *Verbena* from Messrs. Perkins and Son, of Coventry; it is called Shakspeare. It is of large size; broad petals, smooth, circular, and flat; the truss large and compact; colour crimson-scarlet, with lemon eye. It is quite distinct from all the fine scarlet varieties of late years, such as Lord Leigh, etc., etc. Another equally meritorious subject was a new *Petunia* from Mr. Clarke, of Streatham, and I am particular in calling attention to it, because I do not name a third part of the new *Petunias* that I see, for the simple reason that they are generally rubbish. This fine seedling is called Illuminator. It is a single flower, finely formed, the colour rosy-purple, with a broad white stripe up the centre of every petal, so that when the flower is fairly expanded it presents a distinct white star of five rays. This is distinct from all other *Petunias* of the class, even if we go back so far as Madame Ferguson, and I think will beat them all. No small share of the interest attaching to the novelties at this show was the collection of *Lilium auratum* from Mr. Turner. There were twenty plants, all carrying superb flowers, and each differing in character from all the rest. We may say, therefore, that this was an exhibition of twenty varieties of *auratum*, and a glorious exhibition it was. In some the segments of the perianth are long and narrow, in others very broad; and there can be no question that as a florist would judge them is the proper way to judge them, and then the broad petals win the day. In respect of breadth of petal (I use the term for convenience merely), there was one plant conspicuous and without an equal; this had fine golden stripes, and appeared to be typical in its colouring. Beside it stood another broad-petalled variety with red stripe, and these two were no doubt the best in the group, though all were so beautiful that it was almost a sin to make comparisons. Mr. Holland, gardener to R. W. Peake,

Esq., Isleworth, sent a plant of *Cyclamen Peakinum*, as fresh and full of bloom as in early spring. This perpetual blooming *Cyclamen* is perhaps the most interesting variety of European known. Mr. B. S. Williams, Mr. Veitch, and Mr. Bull contributed new plants in great plenty; the only subject amongst them that I noted as of special importance was a variegated variety of *Juniperus virginia*, with snow-white shoots intermixed with green shoots. If such a thing can be grown to some size out of doors, it will be worth any money; for a specimen lawn tree there could be nothing so beautiful. It is called elegantissima. Messrs. Ivery, of Dorking, sent a collection of new varieties of British ferns, some beautiful, some ugly, and some neither the one nor the other. *Athyrium f. f. incompletum* has the fronds but slightly differing from the type, but they are depauperated all through; it is of no value. *Polystichum angulare decurrens* might as well be sent back to its native hedgerow, or wherever else it came from; it has no merit. *Scolopendrium vulgare flabellatum* is a fine crested form, badly named. This all collectors should have if they can afford it. *Athyrium f. f. multifurcatum* has the points finely forked; it is appropriately named, and very beautiful. *A. f. f. Fieldi decompositum* is finely tasselled, and the pinnæ show a tendency to return to the type, which indeed *Fieldii* does in all its conditions, so that in a few years it will probably be run out. *Polystichum angulare rotundatum* has very round pinnules; it is distinct and pretty.

*New Geraniums.*— There were many very interesting zonales amongst the novelties, and I made notes of all the best. From Mr. Wilson, gardener to Sir R. Howard, Fulham: Fulham Rival, one of the Mrs. Milford school, but not so good; leaf sulphur-yellow, with cinnamon zone. Lady Howard, a rather nice variegate, the leaf with stellate green disk, creamy margin, and pale rosy zone. From Mr. Bull: Sterling, neat Stella-like leafage, and finely-formed bright scarlet flowers. *Ranunculi-*

flora plenissima, the best of the double varieties I have yet seen; this is very double, and approaches towards the rosette form, which I think they must come to if they are ever to be in high favour; the colour is crimson-scarlet; the leaves are large, dull green, and remind one of Queen or Punch. Sunlight, a good light scarlet. From Messrs. Downie, Laird, and Laing, Forest Hill: Wiltshire Lass, dull green leaf with dull green zone, fine trusses and flowers, finely formed, colour nearly that of Rose Rendatler, or a shade or two warmer; this is a fine zonale of the exhibition class. From Mr. James Holland: Rosalie, which improves upon acquaintance, and is certainly a first-class variety, the form being fine and the colour good, light cerise-scarlet. Spring Grove Beauty, Annie Broome; these have been reported on. From Mr. Windsor, gardener to J. R. Ravenshill, Esq., Walthamstow: Pink Perfection, very much like Mrs. W. Paul, and perhaps as good. Gladiateur, good zone, flowers light clear salmon-flesh, distinct and good margin, rather long in the petal. Great Eastern, a fine clear scarlet, without zone. Symmetry, large and loose, clear flesh with white eye, a very pleasing flower. Sir Robert Peel, leaf zoned, flowers fine, colour pure scarlet. Exhibitor, dull zone, very fine form, cerise-scarlet. From Mr. C. Southby, Clapham: Golden Queen, leaf yellowish-green, faint cinnamon zone, scarlet flowers, good. Rainbow, like Countess of Warwick, with warmer tint of rose in the zone. If this is kept, the name ought to be altered, as there is a second-rate variegate in cultivation of the same name. As this is only second-rate, perhaps it would be no loss to cancel it.

Stove and greenhouse plants, heaths, pelargoniums, roses, etc., etc., were contributed in great plenty, and were the most part superb in quality, and comprised the best subjects in the several classes.

#### UNITED HORTICULTURAL SOCIETY.

—At the gardeners' meeting held at Albion Hall on Tuesday the 20th ult., William Marshall, Esq., the president, in the chair, a few interesting

plants and flowers were exhibited, and their merits discussed. From Mr. George, Stamford Hill, *Tropæolum compactum coccineum*, a complete plant, and some trusses of its flowers. In this variety are combined all the good qualities of *T. Lobbianum elegans*, and the common Tom Thumb, the fine flowers and neat habit of the first, and the compact bush-like growth of the second. The leaves are very small, and the finely-formed scarlet flowers are held up at a uniform height above the leaves. Each plant forms a flowery tuft about a foot across, and it is invaluable for ribbon-work and margins of beds. A first-class certificate was awarded it on account of its value for bedding purposes. From the same, *Delphinium formosum* v. *Masterpiece*, the flowers of which are very large, light blue, and have a conspicuous white eye. It was greatly admired, and was compared with the variety "Beauty," which was raised by Mr. George a few years since. The meeting requested Mr. George to bring it forward again, either in the coming autumn, or in the next season, as it was impossible to judge it fairly unless a complete truss were shown.

Some conversation arose as to the peculiarities of the season, several members stating that roses were already past their best and in some districts touched with mildew, and fears were entertained that at forthcoming shows roses would be deficient both in numbers and quality. It was also remarked that *Liliums* were greatly in advance of their ordinary dates of blooming.

Proposals were submitted to the meeting for a flower show to be held in Finsbury Circus on the 12th of July, and it was stated that the inhabitants had consented to allow the society to occupy the garden on the same free conditions as on the last occasion, and that they had, unsolicited, made a liberal subscription in behalf of the show. The proposals were agreed to, and the committee was charged with the carrying of them into effect. The next show will, therefore, take place in Finsbury Circus on Wednesday, July 12.

## TRIAL OF EARLY PEAS.

IN the spring of this year it was proposed by Messrs. Carter that the early peas should be carefully tried, and proved under our superintendence at Waterloo Nursery, Kilburn, a fine open spot of ground with a subsoil of stiff clay. We communicated our intention to Messrs. Sutton of Reading and Messrs. Dickson of Chester, and they both kindly forwarded true stocks of their early peas. Messrs. Fairhead, hearing of the experiment, also wished their varieties to be tested. We procured Carpenter's Express and Dillistone's Early Prolific from the raisers. The peas were all sown on the 15th of March, one long row of each, side by side of the following named sorts:—Sutton's Ringleader, Fairhead's Conqueror, Dillistone's Early Prolific, Carter's First Early, Fairhead's Railway, Sangster's No. 1, Carpenter's Express, Fairhead's Hardy Early, Dickson's First and Best Early.

The following five varieties—Dillistone's Early Prolific, Sutton's Ringleader, Carter's First Crop, Fairhead's Conqueror, and Fairhead's Railway—all proved the same identical pea; in fact so much so, that they all appeared alike in height (two feet), time of flowering (13th of May), colour of the foliage, style of growth, measurement of the pods, their shape, number of peas contained in the pods, the peculiar property of all these five sorts in producing a mass of pods from the bottom to the top of haulm, and the whole crop being fit for use simultaneously; the entire row, if need be, can be

gathered and used the same day; again, the flavour all alike. We must, therefore, so far as our trial and judgment are concerned, remark that, throughout all the stages of their growth, there cannot be found a shade of difference. We therefore consider that honour should be given where honour is due, and that Mr. Dillistone must have the merit of sending out the earliest pea known. If turned out by machinery, these varieties could not be more alike.

We now come to Sangster's No. 1, Dickson's First and Best Early, Carpenter's Express, and Fairhead's Hardy Early. These we treated exactly alike, one long row of each variety planted side by side. Excepting that Sangster's No. 1 and Carpenter's Express have flowers of a whiter colour, there is absolutely not the shadow of a difference between these four sorts—the same height, three feet and a half; in flower May 20th; style of growth, flavour of the peas, shape of pods, etc., all alike. One noticeable feature in these varieties is that several successive gatherings may be picked day after day; they do not come in all at once. These four sorts are quite ten days later under ordinary cultivation. The five early varieties were fit for use June 3rd; these four later sorts not until the 13th. No doubt much depends upon locality, snug and warm borders, dry subsoil, and other similar contingencies.

A. HENDERSON AND SON,  
*Pine Apple Place, Edgware Road.*

A NEW GREEN FOR CONFECTIONERY, perfectly innocuous, may be thus formed:—Infuse for twenty-four hours 0.32 gramme of saffron in 7 grammes of distilled water; then take 0.26 gramme of carmine of indigo, and in use it in the same manner in 15.60 of distilled water. By mixing the two liquids a large quantity of a beautiful, strong, green dye may

be obtained. Ten grammes of this solution will colour 1000 grammes of sugar. This dye may be kept for a long time by evaporating the liquor to dryness or transforming it into a syrup. The most beautiful green colour now used, is formed by the dangerous preparations of copper or arsenic.—*Journal de Pharmacie.*

## JULY, 1865.—31 DAYS.

PHASES OF THE MOON.—First Quarter, 1st, 1h. 41m. morn.; Full, 8th, 8h. 27m. after.; Last Quarter, 15th, 4h. 26m. after.; New, 22nd, 6h. 29m. after.; First Quarter, 30th, 7h. 9m. after.

AVERAGES FOR THE MONTH.—Bar. 29·970. Therm. max. 73°, min. 53°, mean 61½°. Rain, 2·7 inches. Prevailing winds N.W. and S. by S.W. When wind veers to W. expect rain, and if from E. to S.W. by a sudden shift, thunder also. Range of temperature comparatively small.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	sets.	Barom.		Therm.				
	h. m.	h. m.							
1	3 49	8 18	29·93	29·92	69	41	55·0	·00	Coronilla Iberica.
2	3 50	8 17	29·92	29·57	71	47	59·0	·14	Symphitum asperinum.
3	3 50	8 17	29·71	29·58	71	40	55·5	·08	Armeria formosa.
4	3 51	8 17	29·99	29·92	75	49	57·5	·00	Platycodon grandiflorum.
5	3 52	8 16	30·02	29·99	76	36	56·0	·00	Gypsophila Stevenii.
6	3 53	8 16	30·10	30·09	77	48	62·5	·00	Potentilla M'Nabiana.
7	3 54	8 15	30·12	30·08	74	35	54·5	·00	Chelone barbata.
8	3 54	8 14	30·01	30·10	65	41	53·0	·00	Verbascum lagurus.
9	3 55	8 14	30·09	29·98	68	50	59·0	·00	Primula cortusoides.
10	3 56	8 13	30·03	30·02	70	49	59·5	·00	Oenothera speciosa.
11	3 57	8 12	30·04	30·04	81	49	65·0	·00	Alstroemeria aurea.
12	3 59	8 11	30·09	30·03	77	49	63·0	·00	Phyteuma Hispanica.
13	4 0	8 10	30·04	30·01	76	42	59·0	·09	Campanula macrantha.
14	4 1	8 10	30·08	30·05	80	36	58·0	·00	Sanguisorba Canadensis.
15	4 2	8 9	30·08	30·06	79	47	63·0	·00	Lythrum roseum superbum.
16	4 3	8 8	30·10	30·09	76	39	52·5	·00	Arenaria cæspitosa.
17	4 4	8 7	30·12	30·04	82	44	63·0	·01	Myosotis alpestris.
18	4 6	8 5	30·07	30·03	82	44	63·0	·00	Morina longifolia.
19	4 7	8 4	30·05	30·02	86	46	66·0	·00	Gentiana cruciata.
20	4 8	8 3	30·05	29·99	87	47	67·0	·09	Achillea ptarmicæ.
21	4 9	8 2	29·91	29·82	81	49	65·0	·10	Oenothera serotina.
22	4 11	8 1	29·86	29·85	76	50	63·0	·00	Malva Morenii.
23	4 12	7 59	29·96	29·94	79	43	61·0	·00	Antennaria margaritifera.
24	4 13	7 58	29·92	29·81	78	46	62·0	·12	Helenium pumilum.
25	4 15	7 57	29·79	29·61	73	50	61·5	·03	Helianthemum Carolinianum.
26	4 16	7 55	29·91	29·74	77	39	58·0	·00	Papaver alpinum.
27	4 18	7 54	29·96	29·84	78	52	65·0	·00	Epilobium angustifolium.
28	4 19	7 52	30·00	29·81	79	45	62·0	·00	Epilobium strictum.
29	4 21	7 51	30·05	30·02	82	43	62·5	·00	Nemophila phacelioides.
30	4 22	7 49	30·13	30·11	80	52	66·0	·00	Saponaria cæspitosa.
31	4 24	7 48	30·12	29·94	83	49	66·0	·00	Hedysarum splendens.

PROBABLE WEATHER FOR JULY, 1865.—The forecast for June indicated plainly the magnificent weather we have had, and was correct in the most minute particulars. Next month, good summer weather, with temperature high, and a good average fall of rain. From the 1st to the 15th changeable, with occasional showers, and sometimes heavy rain with thunder, and in the intervals much sun heat; wind S.W. to N.W. Thence to 20th, wind N.W. to N.E., atmosphere dry and clear, hot days and cold nights. Thence to the end, genial and fine, the heat not oppressive, occasional showers, wind S.E. to S.W. and sometimes round to N.

## THE GARDEN GUIDE FOR JULY.

**WATERING.**—A few remarks on watering may be useful here. As a rule, water should never be given until the further withholding of it would be detrimental to the plants. Plants left to battle with drought send their roots down deep in search of moisture, and when rain does come, they benefit more by it than those that have regular waterings all along. If the ground is dug deeply, and kept in good heart, plants that have once got established will bear drought for almost any length of time; but things lately planted, and that have not had time to "get hold," must be kept supplied. Succulent vegetables, too, which ought to be kept growing quick, must have abundance; and of course plants in pots must have sufficient. There are two important points to be attended to in giving water: one is to expose the water to the sun before using it, to render it soft and warm; and the other is to give a thorough soaking at once, sufficient to keep the ground moist for a week. Supposing the supply to be limited but regular, the best way of economizing both water and time is to take the garden piece by piece, watering each piece thoroughly every evening, and then beginning again, as at first. Surface sprinklings bring the roots to the surface in search of the moisture, which, when they reach it, is insufficient to nourish them, but, on the contrary, causes exhaustion, by inducing the growth of fibres within reach of the burning rays of the sun. Plants in pots, in windows, and on gravel paths, are very much tried by the heating action of the sun, and to keep their roots cool, it is advisable to dip the pots into larger ones, and fill between the two with moss. This is the proper way to use ornamental pots, and the dressing of moss may be made to hide the inside pot which contains the plant, by arranging it neatly over the surface of the soil.

**KITCHEN GARDEN.**—Where early crops are coming off, clear the ground, and dig it over at once; it is a folly to wait for the last handful of peas or beans. As soon as the rows cease to be profitable, destroy them, and clear the ground. Dig deep, and plant out Brussels sprouts, green collards, kale, savoy, cabbages, broccolis, etc. If the plants are crowded in the seed-bed, it is best to get them out at once. Have all ready, and in the evening put out as many rows as possible, and give a little water to every plant. Next morning lay

a few boughs or mats over them, to shade off the sun, and the next evening get out more, till the planting is finished. This is better than waiting for rain, which may be so heavy as to render the ground unfit to be trodden on, and, if succeeded immediately by heat, the plants will flag as much as if put out in dry weather, whereas, being already in the ground, the smallest shower benefits them. Seed-beds for winter spinach should now be made up and well manured, and the seed got in without delay. In gathering French and runner beans, take all or none. If seed is desired, leave a row untouched. Never take green pods and seeds from the same plants. Take up onions, shallots, and garlic as they ripen, and store for winter. Give asparagus beds plenty of liquid manure, and use the grass mowings from the lawn as mulchings, to prevent the soil from cracking. Earth up celery for early use, but the rows that are not forward must be kept open and well watered, as the plants grow very slowly after being earthed up, the object of the earthing being to blanch it only. Also plant out the main crop of celery as soon as the ground can be got ready. Cut down artichokes. Hoe between all growing crops, and especially between potatoes. Top runners, and keep them well staked. Sow the last succession of runners and French beans; also lettuce, endive, Stadt-holder and Mitchell's cauliflower, radish, small salads, spinach, peas, and turnips. Land lying high and dry may be planted with potatoes now, for use early next spring.

**FRUIT GARDEN.**—Keep gooseberry and currant bushes open in the centre, and leave on the bush-fruits only as much wood as will bear a fine crop next season. Cuttings of gooseberries and currants may be struck now in a moist shady border. Mulch raspberries with half-rotten dung. Strawberry beds now want special attention. Strong-rooted runners should be taken off to form new plantations, and be pricked out into well-manured beds, pretty close together, to strengthen, preparatory to making new beds in September; or they may be laid in small pots, with a stone or peg to fix them, and will root directly. After three years, strawberry beds cease to pay, and should be broken up, and the ground trenched for winter crops. Tie in and tram as needful, and use the syringe to wall trees, if the weather should be dry, and especially with east



winds. Continue to bud stone-fruit trees for orchard-house and pot culture. Thin out weak spray on all bush trees, and fore-right shoots on wall fruits. Maiden trees intended to be trained should be stopped, to make them break into side-shoots, as a whole season's growth is thus saved.

**FLOWER GARDEN.**—Budding is the most important operation this month. After heavy rains is the best time, and the operation should be performed at dawn or after sunset; but early morning is the best, as the sap then flows freely. Cuttings of all kinds may now be struck out of doors, including, besides bedding-plants of all kinds, most kinds of hardy evergreen shrubs, the young shoots of which soon make roots in the shade. Dahlias want special attention as they come into bloom; earwigs must be trapped with bean-stalks, or a handful of hay may be stuffed into an empty flower-pot, and put on a stake, and the vermin shaken out into salt and water every morning. Another lot of pom-pone chrysanthemums should be struck this month, under hand-glasses, to make dwarf plants for the window and greenhouse in autumn. Get strong plants of chrysanthemums into their places in the borders, so that the heavy rains this month may establish them. Layer pinks, carnations, and picotees, and put pipings of the same into a gentle bottom-heat. Another lot of annuals may be sown early in the month, to keep up the gaiety of the borders.

**GREENHOUSE AND CONSERVATORY.**—Shift all greenhouse plants required for late blooming, and grow them on to a good size before allowing them to blossom. Cinerarias for winter blooming must have good culture, and shifts as required, and camellias may be shifted, if necessary; but if well potted in the first instance, they will flourish in the same pots for three seasons in succession; and to overpot them is to do them an injury, from which they may never recover. Ericas generally require to be pruned and cleared of seed-pods and dead flowers. Put out all the ventricosas in the open air, in a north aspect, and shelter with spare lights during heavy rain. All those with woolly leaves to be put in cold pits, and kept shaded at midday. Any not shifted in the spring, cut in at once, and as soon as they break repot them. Repot *leschenaultias*. Every kind of hard-wooded plants may be repotted now, if out of bloom.

**STOVE.**—*Aclimenes* and *clerodendrons* require weak liquid manure to keep them in full vigour and beauty; shade at mid-

day, and keep up a moist heat. *Globe amaranths* must have a moist heat of 75°, and be near the glass. If not all potted, pot at once in 48 and 32 size, with *fuchsia* compost. *Ixoras* done blooming to be cut in close, and placed in a bark-bed to break afresh. See that the plants for winter blooming are doing well, and pay especial attention to *Euphorbia jaequiniflora* and *Poinsettia pulcherrima*. Give air at every favourable opportunity. Plants newly potted to have very moderate supplies of water at the root, but to be aided with a moist, warm atmosphere. Orchids need no fire-heat now, except during cold, unseasonable weather; but the proper temperature must be secured by a judicious system of ventilation, and closing early. This is a good time to sponge the leaves of large specimen plants.

**VINERY.**—In vineries, great attention must be paid to keeping the foliage healthy to the last, as on this depends the maturation of the buds that are to fruit next season. Keep up a moist atmosphere, and watch vigilantly against red spider. Vines heavily laden with fruit must have the assistance of strong manure-water. Be careful not to cut away laterals too freely, as they are most useful in helping the maturation of the bunches; be careful to keep the bunches shaded with a few leaves, by tying the laterals over where necessary.

**PINERY.**—As pines colour, they should be kept moderately dry. Plants shy of fruiting should be kept dry for awhile, to cause a check, and then be literally soaked, and kept warm and moist, and the new growth will result in the production of fruit. But to check them before they are well matured may cause premature fruiting, and should not be done until the plants have had a long course of liberal culture. Young stock must be encouraged to grow strong, by allowing plenty of room in which to expand their leaves; give plenty of water, and repot as necessary.

**PITS AND FRAMES.**—As a pit is a hot-bed by day and a greenhouse by night, an immense amount of propagating may be carried on now by the aid of sun-heat only. If cuttings of tricolor and other delicate-habited *geraniums* are taken now and planted in pots, and placed on a bed of soil in a frame slightly shaded, they will make fine plants before winter. Cucumbers that have been long bearing, and are now getting the worse for wear, may be made to begin again by simply taking off the lights, and leaving them to fight it out like ridged-out plants.

## TO CORRESPONDENTS.

**PLANTING A CIRCULAR BED.**—Will you please tell me if the following design for filling a round bed, about 12 or 13 feet diameter, will look well when it is executed? If you think it will not, will you please suggest any omissions or alterations? Outside row, 1, *Lobelia speciosa*; next, 2, Variegated Alyssum; 3, Purple King Verbena; 4, Cloth of Gold Geranium; 5, Cerise Unique; 6, Alma Variegated; 7, Spitfire Geranium; 8, *Cineraria maritima*; centre, a few of Mrs. Pollock. If you think it would be better to do so, one or two of the ribbons could be omitted. Hoping you will be so kind as to answer my inquiry in your next issue, if possible.—*Amateur*. [This letter, dated May 25, came to hand May 29, when the June number of the FLORAL WORLD was not only printed, but thousands had been sent away to remote parts of the country. The writer appears to confound the planting of a regular bed with the planting of a ribbon. These two things are quite distinct. This is tolerably good planting (except the centre) for a regular bed of 12 feet diameter; but three kinds of plants would be plenty for a bold effect—say centre of old plants of *Cineraria maritima*, broad band of Cerise Unique, and margin of blue *Lobelia*. But if it is required to have circles of several distinct colours, several of the same things may be used, but the arrangement must be different. As it is, Mrs. Pollock would be lost, owing to the strong growth of the outer circles. Supposing the writer to have stock of the kinds named, and wishing to use as many as possible in the same bed, the following would be a better arrangement:—1, *Lobelia speciosa*; 2, Variegated Alyssum; 3, Purple King Verbena; 4, Cloth of Gold Geranium; 5, Cerise Unique; 6, Alma; all the rest to be omitted; or the following scheme could be adopted:—1, *Lobelia speciosa*; 2, Cloth of Gold; 3, Purple King; 4, Mrs. Pollock; 5, *Cineraria maritima*. The last would be the best, and a very telling bed.]

**NAMES OF PLANTS, ETC.**—*T. J. II.*—1, *Notholaena tenera*; 2, looks like *Chielanthes radiata*, but is too much shrivelled up to determine; 3, a seed-

ling of 4, which is a good specimen of *Pteris serrulata*. No. 4 was the only decent specimen sent.—*Brentingby*. In your letter of April 24, the plants were *Sedum denticulatum* and *Gnaphalium lanatum*. In your letter sent lately, *Artemisia argentea*, and a leaf which apparently belongs to a species of *Hepatica*. You know we never name plants (except in rare cases) from leaves only.—*Mr. S. Edmonton*. We cannot advise you where for certain to obtain the orange boxes. There is a firm at Kingston where they are made. Such things are usually made by a neighbouring carpenter, as, if to be sent any distance, the carriage is expensive.

**HARDY CLEMATISES.**—*Linlithgow*—You describe your soil as cold, and heavy, and damp. Now there can be no worse soil for any kind of clematis, for those plants love warm, dry, chalky soils, and a warm, dry climate. In the county of Kent, and especially where chalk crops out, the hardy kinds of clematis grow like weeds, and flower marvelously; but how you are to succeed with it in Linlithgow, 400 feet above the sea level, and in a late cold climate, we cannot imagine. However, here is a list of thoroughly hardy kinds; probably you will never lose one of them through cold, but whether they will all suit the climate we are not prepared to say—*Azurea grandiflora*, *Cœrulea odorata*, *Flammula*, *Flava*, *Florida*, *Helena*, *Hendersonii*, *Lanuginosa pallida*, *Montana*, *Sophia*, *Viticella pleno*. No doubt Jackman's new varieties are as hardy as any, but it would not be wise for you to plant them till they are to be had cheap.

**STRAWBERRY LEAVES PUNCTURED.**—*E. E.*, *Machynlleth*—The leaves sent have been punctured by a species of jumping beetle. When the pest first began its ravages, the plants should have been dusted with fresh pounded lime twice a week. This would not have injured the leaves, but would have made them unpalatable to the beetle. As the breeding season has arrived, it will be advised to spread a fine coat of gas lime on the soil between the plants, which will prevent the establishment of colonies in the soil for next season.

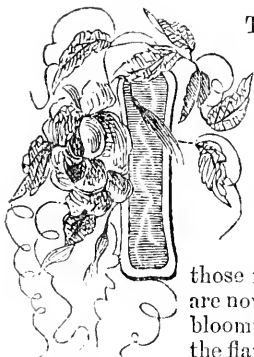
THE  
FLORAL WORLD

AND

GARDEN GUIDE.

AUGUST, 1865.

ROSES IN 1865.



It is an interesting fact that Isabella Gray, the golden-yellow rose, which became famous in the first year of the National Rose Show, and has scarcely been heard of since, has again challenged criticism in a bold manner by her appearance in first-class winning collections at all the great exhibitions this season. That Isabella Gray passed out of public view for a time was simply due to the fact that though she produced plenty of flowers, those flowers usually refused to open. But the trees are now acquiring age, which is as important for a free blooming of yellow roses as it is for the perfecting of the flavours of good wines, and the doctrine respecting these beauties, which is laid down in the "Rose Book,"

is being agreeably and instructively illustrated: the fact is of importance in this way, that it teaches us we cannot fairly judge any rose until it has been in the country some years, for time must be allowed for the full development of its character, and especially in the case of all yellow roses. And these remarks guide us directly to one of the best of the new roses, one that is an acquisition, indeed, and about the goodness of which there can be no doubt. *Marechal Niel* has been exhibited all through the spring and summer both by trade and amateur growers, and in all cases was fine in form and colour, a true, pure, yellow rose, very large, full, smooth, with handsome foliage, a free flowering habit, probably the finest yellow rose at present known. There is a rumour of another yellow being on its way from France to England, but for that we must wait. If it be true that M. Lacharme of Lyons has succeeded in raising a veritable hybrid perpetual of a gold-yellow colour, and a fine free habit, he will certainly achieve the

distinction of being placed at the head of modern rosarians, the author of the grandest of all rose conquests.

Referring to the prize lists of the shows of the present season, and to my own notes of new roses that have bloomed at home, I find that I can recommend the following:—*Achille Gonod*, in the style of that prince of perpetuals, Jules Margottin; the colour carmine-red, the flowers large and finely formed, the growth vigorous, good throughout. *Charles Margottin*, glossy carmine, deepening to fiery-red in the centre, the flowers large, the outside petals reflected, the growth vigorous. *Duchesse de Caylus*, medium size, but described as large, the form good, the colour brilliant carmine. *Duchesse de Medina Cali*, a large, bold, finely-formed rose, the colour purplish-crimson, the growth admirable and apparently as free as the General, which it far surpasses in quality. *King's Acre* is a good rose, though it has not been well shown this season; what it lacks in quality, it makes amends for in its fine habit and vigorous constitution. *Madame Charles Verdier*, a charming flower, the form exquisite, the colour vivid-rose shading to vermilion. This is one of the gems of the season. *Marguerite de St. Amand*, a large, handsome, finely-built flower, colour rosy-flesh. *Rushton Radcliffe*, lively cerise-red, rather thin, a free bloomer, and must be well grown to insure substance. *James Veitch* is described as a perpetual moss. In my examples of it, there is no moss on the calyx, but the flowers are plentifully produced, and they are of good form, the colour deep violet shaded with rosy-carmine.

Those who already possess these varieties no doubt have them on Manetti stocks. Those who now purchase them, also, will probably obtain them no other way. The assiduous rosarian will, therefore, at once set about striking a few eyes or cuttings of each, and as this is the best time in the whole year for such work, we hope our rose-loving friends will obtain the best of the new roses, and at once set about propagating them on their own roots.

S. H.

## A PRACTICAL CODE OF MANAGEMENT FOR A SMALL GREENHOUSE.

MANY who are attracted by the beauty of delicate and choice plants, which they see shown at exhibitions, from gardens where both skill and means are at hand for bringing them to that state of perfection, are often led, in consequence, to admit plants into their collections unsuited to their means and knowledge, only to see them pine and die. Those, then, who have only a greenhouse cannot do justice to stove plants; and those who are novices, must let alone some of the most delicate of greenhouse plants, until they have accomplished, satisfactorily, the growth of such of our old favourites as are here enumerated, none of which are difficult subjects, provided the rules laid down are kept in view, and, as nearly as circumstances permit, acted upon. But in order to make a fair start in gardening, sundry other things besides the greenhouse must be provided. These consist of soils, pots, bell-glasses, or hand-lights, under which to place newly-potted small plants for a short period, or to place over cuttings; syringes, watering-cans, stakes, and tying material; a few wire bas-

kets to suspend from the roof, in which to grow trailing-plants, such as ivy-leaved geraniums, *Isolepis gracilis*, *Lycopodium denticulatum*, *Tradescantia zebrina*, or any other plants of prostrate habit.

Pots of different sizes, ranging from two to eleven inches in diameter, should be kept in stock, so that any plant that requires potting may be put into the size pot it requires. All pots not in use should be kept under cover, otherwise the wet and frost will destroy them. The kind of pots best calculated to preserve plants in health are the common red earthen pots. It is true that, under first-rate treatment, plants have been made to succeed in china and glass pots; but their close texture rendering them impervious to moisture and air, consequently less likely to be successful in the hands of the inexperienced. New pots should be put into a tub of water for a few hours before being used, that their pores may be thoroughly charged with moisture, in order that they may not desiccate the soil put into them; and all pots, likewise, from which plants are taken should be well scrubbed and cleaned before being again used.

*Soil.*—Where a great collection of tropical and other plants from every quarter of the globe are grown, it is necessary to have a corresponding array of soils and composts; but our amateur's stock may be of very simple pretensions. Indeed, a friend of the writer's, who lived in the City, and had a well-furnished greenhouse upon the leads of his dwelling-house, procured his soils from a nurseryman, and had a neat seat at one end of his greenhouse, beneath which was concealed large glazed earthen jars; these had lids of zinc, and kept the soil always ready at hand, and in a proper state for potting; that is to say, a state between wet and dry, when it is neither dusty, nor so wet as to stick to the fingers. If dusty, when used, it would be very difficult to properly and thoroughly moisten it afterwards; and if too wet, it would be converted into mud during the potting process; but if in a state between the two extremes, it falls nicely

between the roots of the plant, and takes water kindly when done. If the amateur prepares his own composts, let him lay down a flooring of marl and cinder ashes well rammed, or cement and gravel, or some such material, upon which to lay his soil. Then procure one load of tender loam—the top spit from a pasture or common, or the grassy border of a field; half a load of horse and cow-dung, picked from a meadow or public road. From the latter they have a portion of coarse grit gathered with them, which is serviceable. Then get together all weeds, sticks, and other rubbish, and char them, putting out the fire before they are burnt to ashes. Five or six bushels of this may be put to the heap; or, if no refuse of this kind is at hand, refuse charcoal, from the dealers, may be used, first breaking it small. Mix these together and put into a compact heap, which may be turned over once, after laying together for six months, and will then be in a state for use; and, with the exception of a small stock of silver-sand and another of peat-earth, is all the compost absolutely necessary for growing the common greenhouse plants. But as I know that peat-earth is extremely scarce and difficult to procure in some parts, and if our amateur is not wealthy, the carriage of the same from a distance might prove a source of uneasiness, I will, therefore, tell him how to make a very good substitute for it, which will be likely to answer his purpose as well, if not better, than the real peat, provided he do not aim at the growth of heaths or azaleas. Scoop out a hole in the ground, into which put two barrow-loads of *cow-dung*, three barrow-loads of the decayed sticks and vegetable refuse from a wood-stack, or some other such source, one barrow-load of silver-sand, slightly cover with the soil that was scooped out of the hole, to keep the mass moist and prevent birds scraping amongst it. When thoroughly rotted to a powder, take up and keep in some convenient vessel for use.

*Potting.*—All pots have a hole in the bottom, which is intended for the

escape of superfluous moisture—one of the most important things in plant culture; and in order to effect this properly, a piece of broken pot should be laid with the hollow side downwards over the hole, and other smaller pieces upon it, in quantity proportioned to the size of the pot; for instance, a two or three inch pot will drain by one piece of potsherd and a little piece of moss over it, whilst a ten inch pot will require at least an inch in depth all over its bottom—and growers of delicate-rooted plants use a great deal more—for pots under four inches in diameter, it will be necessary to sift the soil through a coarse sieve, but for larger pots the soil may be broken sufficiently by the spade, it being of importance to retain the fibrous parts for the future nourishment of the plant potted in it. When about to pot a plant, draw off a few rough pieces of the soil, and put first upon the drainage before putting the finer soil in; and whether planting a plant, or filling the pots for seeds or cuttings, press the soil rather firmly in, and when the plant has a ball of earth, and is taken from one pot to be transferred to another, it will be necessary to use a blunt stick to press the soil well in between the ball and the pot, taking care not to injure the roots in so doing; and be sure so to regulate the plant in its new pot that the top of the old ball may be only slightly covered with new soil, as much mischief often comes to plants through the stem being too deeply buried; finish off with a little fine soil, and leave about half an inch of the rim of the pot clear, so that it may hold water when given; and in order that the soil may not be disturbed and washed out, give the first few waterings through a rose, and be sure the whole mass of soil is wetted throughout. To accomplish this, it may be necessary to water several times at short intervals; for if not done at first, the plant may languish and die for want of it, whilst the surface looks moist. There is another little point or two in connection with fresh potted plants it may be worth while to notice, viz., that they should be allowed to drain

before removal, as the shaking of pots of wet soil disarranges its texture, and causes it to settle too compactly; it is proper, likewise, to get a portion of soil under cover before winter, so that it is not necessary to have recourse to wet and frozen soil when wanted for use. Worms are great enemies to the well-being of plants, when they insinuate themselves into the pot, they must therefore be carefully removed by picking from the soil as it is being used; but should it be discovered that any are in the pots, carefully turn the plant out upon the left hand, and endeavour to catch them; or should the plant be too large for this, use a little clear lime-water, made by steeping a lump of fresh lime in a jug of water, which will bring them to the surface. Should the drainage of the pot be found to be choked, and the soil in consequence sour, it will be best to shake away as much as possible of the old soil, and repot the plant in a clean pot and fresh soil.

*Water and Watering.*—It is desirable that plants should be watered with rain water, but as this cannot always be done, water from wells or pipes must in such cases be used, *but should never be given in a cold state*, as a quart of boiling water to a gallon of cold will, in a great measure, rectify it, and save the cultivator the mortification of seeing the leaves of his plants turn yellow and drop off. So important do I consider this point that I never give cold spring water even to kitchen garden crops; and when in charge of a large place, had daily a copper going to supply hot water for all purposes of watering and syringing; and for syringing, I consider it should be as warm as one can comfortably bear the hand in. To promote the growth of the plants in April, May, and June, syringing should be done on the afternoon of bright days, just as the house is losing the full force of the sun's rays, say from three to five o'clock; the moisture will then be diffused into vapour instead of hanging coldly about the plants, as it would do if given at a later period of the day; and to syringe in the morning may be at-

tended with danger, for the sun striking upon the wet foliage might disfigure it. Syringing in a greenhouse will scarcely be required, excepting during the period named, whilst the general stock is making its principal growth; even then plants in flower must be shunned, but the object sought by syringing is not so much to drench the plants, as to create a soft, growing atmosphere, which may be accomplished if done before the sun is wholly off the house, by throwing the water into the air, and upon the floor and walls. Any individual plant or climber, on the other hand, that shows the presence of red spider, at whatever season, must be soundly soused; and this may be best done, in the case of pot plants, by laying them down upon a bast mat, and playing the syringe well at the under sides of the leaves; and this must be repeated often, until the spider is put to flight.

Watering at the root is an important matter; if plants are not supplied with as much as they require, they do not attain to the perfection, either in stature or flower, they are capable of, and are, in consequence, more subject to the attacks of insects. On the other hand, if supplied with more than they require, the soil turns sour, the leaves of the plant turn yellow, and it soon puts on anything but a pleasing appearance; then, in order to shun these extremes, use observation, and give water whenever the soil seem to be approaching a state of dryness, and at no other time; this may happen twice a-day, or twice in a week, but give it then, and give it effectually, so that it passes out at the bottom of the pot. Plants that have filled their pots full of roots, and plants in active growth, will be found to require much water in hot weather, but less in dull and damp weather; whilst others that have not so filled their pots, or that are not so vigorous, would be only ruined by a like application. The same rule holds good in the application of liquid manure, and in the using of paws to set the pots in, both of the latter do more harm than good, unless the pots are full of roots. The best liquid manure

for pot plants, is made by steeping horse and dry cowdung in a tub or tank, so constructed that the liquid can be drawn off clear, for turbid manure water renders the pots unsightly. The above is simple and can scarcely do harm; but guano and other artificial manures must be used with extreme caution, say no more than half an ounce to a gallon of water.

*Insects.*—The green-fly, or aphid, clusters upon the points of young tender shoots and the under sides of the leaves, and increases at a prodigious rate; these are destroyed by burning tobacco in the house, with all the ventilation and crevices closely stopped. Thrips, which often infest myrtles, azaleas, and even cinerarias, may be looked for on the under sides of the leaves; these may be banished by repeated smokings, but are rather tenacious. Scale, brown and white, infest such plants as acacia, orange, nerium, myrtles, etc.; these may be removed by patiently washing each leaf with a tooth-brush, and a mixture of soft-soap, sulphur, and tobacco-juice. When the plant is gone over in this way, syringe well with clean warm water. Slugs should be looked for by candle-light, and impaled by a skewer.

*Temperature and Air.*—Although a change of air to plants is of great importance, I do not recommend that “the sashes should be thrown open at all times when it is not frosty,” but at all proper periods when it can be done without starving the plants by cold. From November until March, give air only at the top of the house, so as to avoid cold draughts among the plants; after that time, it may be given on all suitable occasions both back and front. Seize the opportunity to air freely on the mornings of bright days, from the time the air of the house begins to be sensibly influenced by the sun’s rays until the meridian is passed, then begin to close, so as to retain a portion of the solar warmth, and not allow the house to remain open until the temperature has declined to the same point as the external air; and, if possible, every day that the sun

makes the least appearance, effect a change of air, if only for an hour, without lowering materially the temperature of the house, that is to say, below the point at which plants will prosper and flowers continue to expand, for the cultivator will of course wish to have flowers in winter of such things as flower at that season, and the temperature necessary for this should be obtained as much as possible from the sun, and can be done consistently with proper airing, if the house is opened early and closed early; this should be his motto throughout the season, excepting from July to September, when it will not be necessary to close the house at all, excepting in boisterous weather; but in frosty and foggy weather, fires must be used to secure a temperature between  $32^{\circ}$  and  $35^{\circ}$  by night, and a degree of two more by day, and when it can be done by the agency of the sun-heat, from  $10^{\circ}$  to  $15^{\circ}$  more may be indulged in, as the season advances, and with warmth we can likewise get a corresponding amount of light, the temperature may advance to  $40^{\circ}$  or  $45^{\circ}$  by night, and from  $50^{\circ}$  to  $65^{\circ}$  on bright days, or I should rather say the afternoon of bright days; for I would always reduce the air in time, so that the sun would raise the temperature  $5^{\circ}$  or  $10^{\circ}$  after the house is closed. In September and October, when plants that have been placed out of doors will be brought in, lest they should be overtaken by autumnal frosts, and others that have not been so exposed, will need hardening, in order that they may bear the vicissitudes of winter; consequently, all the air possible may be given, only guarding against frost. In the autumn season, mildew may probably show itself in white spots upon the stems and foliage of some plants; these should have an airy situation, and have a little sulphur dusted over them.

*Cuttings.*—Those who have the convenience of a Waltonian case, or hot-bed, may strike cuttings at various seasons; but those who have not such conveniences, may strike most common greenhouse plants under bell-glasses placed upon the floor of

the greenhouse at a distance from the light, during the months of July and August, and may raise seeds upon such a shelf as will be hereafter described, by placing a piece of window-glass over the mouth of the seed-pot, and shading with paper until the seedlings are fairly above ground. after which time both the paper and glass must be removed, in the evenings, and be replaced during the hottest part of the day, until they have gained sufficient strength to dispense with them entirely. In July and August the shoots of most plants will be found in the most favourable state for cuttings, that is about half ripened, the air also sufficiently warm without artificial means to cause them to strike root, and by placing them under bell-glasses or hand-lights, at a distance from the glass, the light is so modified that they do not shrivel and dry up. Having filled the cutting-pots very firmly with sifted soil, in which an extra portion of silver-sand should be mixed, water thoroughly, and whilst the pots are draining prepare the cuttings, prick them round the sides of the pots with a small pointed stick, and close the soil about them by giving another slight watering, place upon the floor of the greenhouse with the bell-glasses over them, but remove the latter during mild nights, which will tend to prevent leaves rotting, and the cuttings damping off; but if the nights are windy, only remove the glasses for a short time; water may not be required for several days, but this must be watched for, and when required, sufficient given to thoroughly moisten the soil. As they are found to have struck root, they may be brought near the light, and the bell-glasses gradually withdrawn entirely from them, and those that are well struck previous to the end of September, potted singly; but it will generally be best to leave those that are not struck by that time until the turn of the winter, otherwise they would not get sufficiently established before winter. Those who have no other convenience, should provide a shelf very near the glass;



the front of the house, if a lean-to, is best; but if a span-roofed house, of course either side will do equally well. This shelf should have a spline nailed on to both edges, so as to form a kind of trough; this should be filled with moss or sand, into which the small pots containing fresh potted seedlings or cuttings should be plunged; for if not plunged in some such manner, there would be danger of their roots becoming too dry.

*Placing Plants out of Doors.*—This is necessary in order to properly ripen the wood and flower-buds of many greenhouse plants. They should in all cases be placed upon some hard floor, through which worms cannot penetrate, and it is also good practice to surround the pots with coal-ashes or moss, to arrest in some measure evaporation, and render watering less necessary.

*Shading the House.*—The most graceful way of effecting this is by training a moderate screen of climbing plants beneath the roof, upon wires fixed for that purpose, but care must be taken that they do not run wild, or they will speedily become too dense for the well-being of the plants beneath them. They must likewise be freely cut back and thinned in autumn after flowering, that they may not obstruct light during winter. If, however, no climbers are used, "Shaw's Tiffany" is an admirable article for the purpose, and requires no rollers, but may be tacked over the outside of the house, there to remain as long as it is wanted.

In the following directions for the treatment of plants, the kind of soil required has, in many cases, been left unnoticed, for sake of brevity; where such is the case, the mixture recommended under the head Soil is to be used, but where peat and loam are recommended, it is to be understood that the plants do best in a mixture of peat, or the substitute for peat already described, and the common mixture of loam and dung. A mixture of the two in about equal proportions, passed through a fine sieve, may likewise form the standing compost for the first potting of seedlings or cuttings. We shall begin

our list of amateur's plants with that glory of the greenhouse in summer, the

*Fuchsia.*—Strike short-jointed cuttings in July; remove to the front shelf, and pot off in September, replacing them near the glass during the autumn; keep rather dry in winter, and repot in spring into larger pots until June, pinching back ill-placed shoots, and picking off flowers until that time; the pyramidal form of training is best, therefore encourage the growth of the main stem, and regulate the growth of the side shoots by pinching back the strongest, that the weaker may compete with them successfully to form a uniform plant. By the end of August they will probably have done flowering, when they may be set out of doors for a month, but must not be left to get frozen; they may then be stored away at the back of the greenhouse, or even in an attic, if secure from frost, and affording them a moderate amount of light. The following February they may have their side-shoots pruned back to within a joint or two of the main stem, and be taken out of their pots in March. Some of the old soil to be shaken from their roots, the latter slightly pruned, and then be repotted in clean pots, taking care to work the new soil amongst their roots with a pointed stick. They may then be encouraged to grow, and will flower earlier than the young plants. Soil, peat and loam.

*Chrysanthemums.*—These are fine things for the autumn months, and are grown on single stems to great perfection by professors of the art, but those who cannot aim at such perfection, may still enjoy them. And so long as they have roomy pots and are never allowed to get dry at the root, they will flourish, but some little training will be necessary, and liquid manure will improve them towards the flowering period. The very simple plan of dividing the old plants in March, and potting a very small morsel in each pot, to be nursed for a month in the greenhouse, then to be grown out of doors throughout the summer, with occasional potting into larger pots, and pinching back

the shoots two or three times previous to the end of July, and then tying them out nicely, will produce very respectable plants, which will only require protection while in flower.

*Primula sinensis*.—Sow seeds in May, covering with a quarter of an inch of fine soil, and a piece of glass over the pot. As soon as large enough to handle, select the strongest, and transplant five into a four-inch pot, which must be again separated and potted singly into four-inch pots when they have attained to the height of two inches. As they flower best in rather small pots, they will need no other shift but to be placed out of doors from June to September, having all blossoms that show themselves during that period removed; as they are liable to damp off; water cautiously in winter. Soil, peat and loam.

*Cineraria*.—Sow seeds, and treat as the primula, until September, when they must be shifted into seven-inch pots, and taken to a light, airy shelf, in the greenhouse. They are extremely impatient of frost, and subject to green-fly, which, if not destroyed, will speedily ruin them. After flowering, offsets may be taken off, and treated as seedlings, and the old plant thrown away as useless.

*Calceolarias*.—The seeds of these are extremely small; therefore prepare the pot for sowing them, by ramming the soil very hard. Water the soil before sowing the seeds, and cover only with the piece of glass; for if covered with soil, they would not get through. When they have fairly vegetated, and the plants can be removed in small clusters upon the point of a knife, prepare other pots to transplant the small patches into: this will accelerate their growth, and when large enough to handle, pot single plants in the smallest pots, keeping them up near the glass. All through the winter, repot as they require it, until in spring they are put into seven-inch pots, in which they may flower. Stake out their flower-stems before they get broken down. Soil, peat and loam.

*Calceolarias*, shrubby. — These

strike best in autumn, out of doors, in a shaded spot. When struck, pot into three or four-inch pots, in which they will stand until spring, when they may have a good shift into the pots they are to flower in. Give liquid manure, and stop straggling shoots by pinching, to regulate the form of the plant; but as they produce their flowers upon the points of the young shoots, this must not be carried to excess.

*Pelargoniums*, or florists' geraniums.—Strike cuttings from the old flowering shoots as soon as the plants are out of flower; put them round the side of a pot; give no water for a few days, and place them on a shelf in the sun; for these cuttings are impatient of moisture until they have formed a callosity. If sufficiently rooted in September, they may be potted singly into three-inch pots, kept in the warmest part of the house, and encouraged to grow. If nicely established in March, they may be put into five-inch pots, and have their shoots pinched; they will then make nice little flowering plants. After flowering, place out of doors to harden, and in August cut well back, so as to insure a dwarf, compact specimen. As soon as their new growth begins, shake them out of their pots, trim their roots, and repot in pots the same size as those they came out of, or smaller, if the plants are weak; place in a shaded spot, and water overhead with a rose. In September, remove to an airy shelf in the greenhouse for the winter, taking care to water cautiously, and not to wet the foliage, as water upon the leaves in winter causes them to spot and turn yellow. In February, shift from five-inch to seven or eight-inch pots, according to the strength of the plant, and place in the warmest and lightest situation at command; pinch their shoots till the end of April, after which they must be allowed to run up for flowering. When approaching the flowering period, use liquid manure. Soil, peat and loam.

*Horse-shoe Geraniums*.—Put in cuttings in August; place in front of a wall exposed to the sun; give no water for a fortnight, after which

water with caution: keep just free from frost during winter; in spring, pot nice bushy plants in six-inch pots; place out of doors in summer; pinch back long shoots, and pick off blossoms; towards autumn, withhold water, so as to ripen the wood; when housed, give them the warmest end; water with liquid manure, and allow them to flower.

*Cyclamens*, of which there are now several distinct varieties, are good things for winter flowering. If bulbs of the named variety are bought, procure them in August or September, put at once in peat and loam, and set out of doors, they will break into growth at their natural season, and may then be placed in an airy part of the greenhouse to flower. Seeds should be sown as soon as ripe, and must be left two years in their seed-pot before they are fit to pot singly.

*Hydrangea*.—These are showy summer-flowering plants, and a few may be grown to assist in dressing vases, steps, or balconies. As they may, if kept rather dry, be put away under the greenhouse stage in winter, in spring they must be brought forward, and have good-sized pots, and plenty of liquid manure. The weak shoots must be thinned out, so that the principal shoots on which the next year's flower is to appear may be as strong as possible. The variegated variety is worth growing for its foliage; their flowers may be changed to blue by mixing iron filings and scales from the smith's forge in the soil. And very neat flowering specimens, only six inches high, may be had by taking off the points of the strongest shoots in September, inserting them in three-inch pots. Tie up their heavy leaves to a small stick; water freely, so as never to allow them to flag; place under bell-glasses till struck. The following season they will each produce a large truss of flower.

*Campanula pyramidalis*, chimney campanula, may be increased by offsets taken from the side of the flowering plant, or may be raised from seed sown in spring, and, like other small seeds, should be sown on firm

soil and very slightly covered. Place over the pot a piece of glass to preserve the surface from the drying effect of the air, yet care must be taken (and it holds good in all cases where seed-pots are covered in this way), that the glass is taken off at some period when the air is still, to dry the foliage of the seedlings, or they would damp off. Pot a few only of the strongest plants, the rest may be nursed on an outside border, as they are almost hardy. As they progress in size, shift into larger pots, and pick away all side-shoots, so as to concentrate the strength of the plant in the main stem.

*Tree Violets*.—To form these, take runners of the double purple and white violets; pot them, and, as they grow, carefully pick off all side-shoots or runners, until the stem has attained the desired height. Turn them out of doors the moment they have done flowering in a shaded place until November; frequently water overhead, as they are much subjected to red spider; and when taken into the greenhouse give them an airy situation, they cannot bear confinement.

*Mignonnette*.—This must be sown in the pots it is intended to flower in; and when the plants are large enough to handle, they may be thinned to one or three in each pot, according to the time of year it is sown; if sown in May, for tree or pyramidal specimens, then one plant in a pot will be sufficient, and may be trained in the form desired by pinching off all flowers as they appear, and such shoots as are not wanted for the form desired. These will flower in autumn and winter. Those sown in August may have three plants left in each pot, the blossoms to be pinched off during autumn to form dwarf flowering masses in spring. *Mignonnette* may be grown throughout in a light situation in the greenhouse. In giving water, avoid as much as possible wetting the stems and leaves, as this plant is impatient of moisture about its stem and leaves, although its roots must not be stinted, and liquid manure may be given when once it has attained to a flowering state.

*Daphne Indica*.—A favourite with everybody—is best grafted on the wood laurel. Place established plants in the warmest end of the greenhouse to make their new growth after flowering in the spring, to be repotted, if requiring it, at the same time; soil, peat and loam. To be placed out of doors in August for four or five weeks.

*Heliotrope*, or “cherry pie.”—Strike cuttings in August; the following spring select the strongest plants and pot into five-inch pots, and as they grow pinch back the shoots most determinedly to lay the foundation for well-shaped plants. In June pot into nine-inch pots; place out of doors and frequently water overhead. By beginning of September they will be good specimens to take in for flowering all the autumn and spring. Old plants, if cut back and watered with liquid manure, will produce several crops of flowers during the season.

*Aloysia citriodora*, or sweet verben.—Treat as heliotrope. Too much water cannot be used upon this with the syringe in summer, as it is much subject to the red spider.

*Linum flavum* and *L. triginum*.—Treat exactly as above, with the exception of the stopping the shoots; these being more compact in their habit, will not require it.

*Petunias*.—The double and other choice varieties make fine objects in spring when well grown. Strike in June, pot out as soon as struck, pinch back, and tie the shoots out, continuing to shift until they are, in September, placed in nine-inch pots, in which they will flower. They must be grown in the greenhouse with plenty of light, and air, and liquid manure.

*Nerium splendens*, or oleander, may be stuck in a phial of water, suspended in a sunny window, and when so struck, may be potted in soil. These are thirsty plants, and require to stand in a pan of water through the summer; and as they flower at the points of the strongest shoots, pruning should be used only to thin out weak shoots, and occasionally cut back any ill-placed branches.

Many other greenhouse plants may be classed under one head, and amongst these are some of the finest ornaments of the greenhouse, such as acacias, cytisuses, veronicas, abutilons, coronillas, myrtles, etc. Cuttings of all these may be put in in July and August. Take pieces of the young, unripened wood, cut to a joint, as roots are emitted more readily from a joint than from any other part of the stem. In spring they may be potted off into pots no larger than their roots really require, for until the roots of a young plant touch the sides of the pots they are placed in, their progress is often slow, and there is also danger of a large mass of soil becoming sour before the plant can appropriate it; it is better, therefore, to put into small pots at first, and to shift into larger as they require it. Once in a year is generally sufficient to shift this class of plants, and when once they have attained to the size which it is desirable they should not exceed, their branches may be cut back, immediately after the flowering period, and the plant taken out of its pot, the exhausted soil partly shaken out, and its roots pruned back; the plant may then be placed again in the same size pot to that it came out of, observing in repotting to fill up all interstices, and press the soil very firm. Syringe the plants to encourage a fresh growth, and in July or August place out of doors to ripen wood.

*Hyacinths*, and other Dutch bulbs, should be potted in September, and should be covered six inches deep with cinder-ashes, until they have filled the pots with roots; if grown in glasses, they should be placed in a dark closet until they have filled the glass with roots, it being of importance to get the roots in advance of the flower-stem; they may then be brought forward in the warmest end of the greenhouse.

*Richardia Æthiopica*, a plant much grown by amateur gardeners, is a half aquatic, and therefore delights to stand in a pan of water, which, however, should be withdrawn when the plant has done flowering, and shows symptoms of shedding its

foliage. In August the bulbs may be separated, and planted three in a nine-inch pot.

*Climbers.*—The following are a few of the most useful:—*Abutilon striatum*, *Acacia dealbata*, *A. vestita*, *Akebia quinata*, *Bignonia capensis*, *B. capreolata*, *B. jasminoides*, *Brachysema hybrida*, *Cissus antarctica*, *Clematis indivisa lobata*, *Cobæa scandens*, *C. scandens variegata*, *Convolvulus canariense*, *Dolichos lignosus*, *Fagelia*

*bituminosa*, *Gelsemium sempervirens*, *Hibbertia dentata*, *H. grossulariaefolia*, *H. volubilis*, *Jasminum azoricum*, *J. grandiflorum*, *Kennedyia coccinea*, *K. inophylla floribunda* (and several others), *Lapageria rosea*, *Passiflora cærulea*, *P. edulis*, *Plumbago capensis*, *Pylogine suavis*, *Rhyncospermum jasminoides*, *Sollya heterophylla*, *Tacsonia ignea*, etc.

H. HOWLETT.

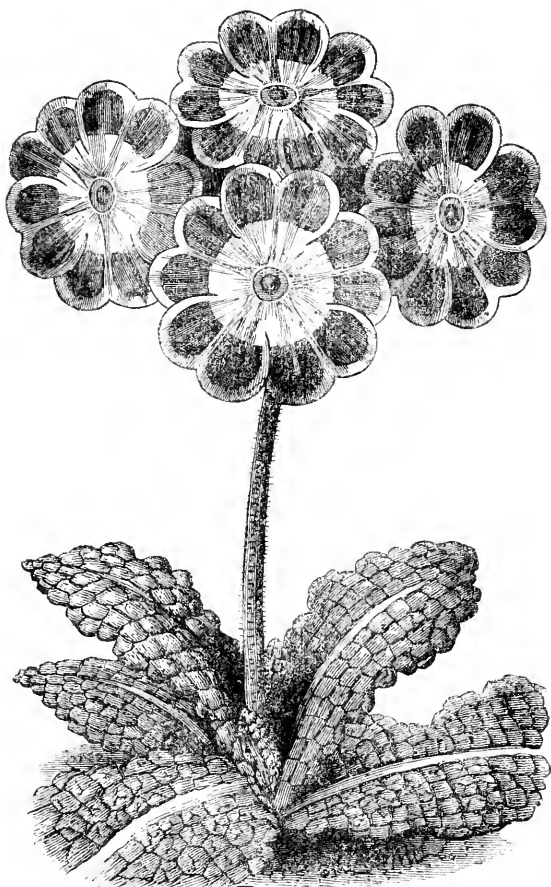
## THE POLYANTHUS.

**RAISING SEEDLINGS.**—The polyanthus grower may be supposed to have in his possession now a few pods of ripe seed. What shall he do with it? I say sow it directly, say within an hour of having read this. The best mode of procedure is to fill large pans or boxes with a mixture of two parts maiden loam, one part rotten cow or horse-dung, one part leaf-mould, and one part silver-sand. The prudent cultivator will either bake or boil the compost before sowing the seeds. To bake it, place it in a hot oven for a few hours. The easiest way, however, is to boil it, as that is accomplished by first filling the pans with the mixture, and then watering it freely with boiling water, and when the soil is cool sow the seeds. It is very easy to say "sow the seeds." The proper way to do it is to sprinkle them thinly on the soil, and then very lightly cover them with very fine earth of any kind, enough to hide them and no more. These seed-pans ought not to require any more water till the seedling plants are up, and the proper place for them is a cold frame facing the north, a sheet of paper, or a tile or slate, or empty pan laid over each, to prevent evaporation, and after ten days from the date of sowing to be looked at daily, and the moment the seedlings appear remove the covering. But suppose they *do* want water before the seeds germinate, there's the rub! Well, if you fill a water-pot and put on the rose, and give the pans a good

drenching, you will wash every seed away, and make an end of your troubles completely, for you will probably not see a single plant in any pan which has been so operated on. But there are more ways of killing a dog, etc. The neat way to water these seed-pans, and all other seed-pans, is to quietly lower them into a tub of water, and leave them there till the soil is wetted through. Don't drop them in carelessly, so that they will be instantly submerged, or the seeds will be floated up with the rush of bubbles; but gently rest them on empty pots, bricks, etc., so that they are plunged *to the rim*, and no deeper; so that, in fact, the water does not spread over the surface at all. Now for a last word on this subject. It is the one great secret of raising seedling polyanthuses, auriculars, and a hundred other good things. I am afraid to state it in a few words in a book which is sold for fourpence, because in value it is above rubies; but there is no alternative, and here goes. *The soil in the seed-pans should never be dry.* If it ever gets dry, you may expect that some of the best seeds will perish. You may, indeed, have plenty of plants even if the seed-pans are very carelessly treated, and are many times dry before the plants appear. But I repeat that dryness at any time is sure to kill the *best* seeds, so those who are most watchful are likely to have the best seedlings out of a batch.

It is a good plan to divide a parcel of seed into two parts, to sow one part as soon as ripe, and the other part to be kept till spring. If you have plenty, adopt this plan; if not, then sow all at once, and pot

at once and see if there is green-fly or red-spider on any of them, and the only way to ascertain is to search the under side of the leaves. If you find fly or spider, be brisk with remedies. Tobacco-water applied



separately all the seedlings as soon as they are large enough to handle.

**TAKE CARE OF OLD PLANTS.**—If they are in the full sun now, they will be nicely roasted and half killed. If you want to keep them, let them be shaded from eleven to three, and let them have plenty of water. Go

with a brush is a good and cheap remedy. Better still the "Aphis wash," sent out by the City Soap Company. Pour out a tablespoonful of the treacle-like fluid, add half a pint of water, mix well, and wash the under sides of the leaves with the mixture. If the use of a brush is too

tedious a process, lay the plants on their sides in a row, and syringe the under sides of the leaves with the mixture. To prevent waste it would be well to have made a "drenehing-board," as figured at page 121 of the third volume of the **FLORAL WORLD**.

**PROPERTIES.**—An immense number of the seedling plants will promise to be *almost* good, and the grower must have the courage to destroy them. The defect which is most likely to meet with foolish indulgence is irregularity in the "bars," some flowers in a truss having the bars good and complete, others being without them altogether. The most im-

portant points are a circular outline, a round eye, all the divisions of the same size, and the edges smooth, without notches or frilling; the ground colour deep and rich—it may be crimson, maroon, or black—it must be velvety; the "bars" should divide the flower into five principal or ten secondary divisions, and they ought to be geometrically precise in arrangement, and sharp and bright, nowhere blending with the body colour. The truss should carry not less than five blooms; seven, if well expanded, are to be preferred. The flower-stalk should be stiff and strong, the leaves large and of a fine bright green.

**FIDO FIDES.**

### ADVERSARIA.

I HOPE to be able, under this head, to convey a few useful hints and advices without consuming much space, or taxing myself to write a long essay, which, when written, might exhaust your patience to read it. If "brevity is the soul of wit," this will be a very witty paper.

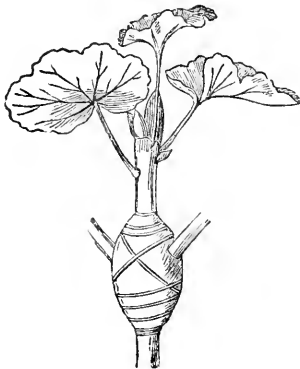
**BLUE HYDRANGEAS** may be seen in thousands at the Crystal Palace this season. Those who wish to see them must search for them; and they will be found chiefly in that part of the grounds which is denominated "the park," and which lies on the side most remote from the railway station, beyond the wing which is appropriated to the orange trees. These blue hydrangeas put me to shame, and I confess myself a booby to have said a word against them in these respectable pages. They are truly beautiful; I have never seen the like of them; the plants of great size, covered with many large heads of flowers, the colour of which very nearly approximates to what, in describing hyacinths, is called "porcelain blue." There is no mystery attaching to these hydrangeas. Last year some blue flowers were produced by Mr. Williams, who has charge of the gardening in the interior of the palace. I saw those, and thought them poor.

Indeed, I had those very examples in my mind when I ventured to sneer at blue hydrangeas, and was properly rebuked by Mrs. Watney. Mr. Gordon, who superintends the whole of the gardening and arboriculture outside the walls of the building, struck a vast number of cuttings of the blue hydrangeas, and this season planted them out in pure loam of that hazel colour and silky texture in which the common brake grows so luxuriantly. The result is a grand display, which is now in perfection, and will continue so for a few weeks to come. When I first caught sight of them at some little distance, I exclaimed, "What! have you been bedding out *Statice olfordi*?" Mr. Gordon replied, "Wait a bit, you'll soon know what they are." And I did soon know. I hope you will also know for yourself, and not rest satisfied with my account of the matter.

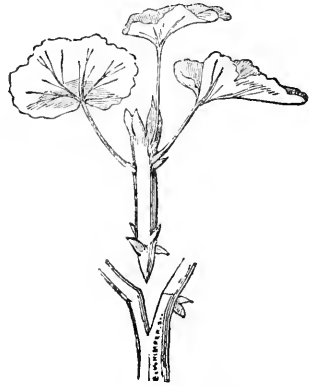
**STANDARD GERANIUMS** are often grown for decoration, and they are valuable both because of their beauty and their uncommon appearance. Countess of Warwick, Alma, Flower of Spring, Mrs. Pollock, Sunset, Luna, Cloth of Gold, and Golden Chain, as the most distinct in their several classes, are the best seven kinds to begin with for the formation

of a collection of standards for grouping. But as to the sorts, there need be no restriction; select according to your own taste and judgment, bearing in mind that you will not only produce standards, but the heads of your standards will grow much faster than plants of the same kinds grow in the ordinary way. You want for the purpose a number of stout, straight-stemmed geraniums of any kind; generally inferior kinds are chosen because they are to be used only for their stems. The best of all for the purpose are seedlings that have grown straight up to a height of one to three feet, as the sacrifice of their heads is a matter of very little consequence. On these stems graft the sorts required in the way shown

course, have been cut back. Cut the graft to a clean wedge, so as to fit in the slit, so that the bark of graft and stock will meet on both sides, if possible; if that is not possible, *they must meet on one side*. Tie up moderately firm with worsted thread, and paint over with grafting mastic or with clay paint. The work is now done. Place the grafted plants in a shaded pit or frame or greenhouse; give only as much water as will just keep them from flagging. On fine mornings sprinkle the tops slightly. Beware of strong sunshine or cold draughts. Three weeks after putting on the grafts loosen the bandage slightly; but do not remove it till six weeks from the date of grafting. If grafts are put on now, there will



THE GRAFT TIED UP.



THE SCION AND STOCK MADE READY TO FIT.

in the cut. This is the easiest of all grafting operations, and really requires but little practice to make the operator perfect. Cut back the stock to a place where the wood is half-ripe; it must be sound and hard, but neither green nor brown. Let the scion be in the same half-ripe state. Split the stock down an inch or an inch and a half, and if possible chose a place for the top of the stock where it breaks into two branches. The fork will be just the place for inserting the graft. Such a place has been chosen in the case represented, the projecting arms being the remains of two shoots at that point, which, of

be time to get the junction well ripened before winter, and if the grafted plants are put in the stove in January they will make a fine growth for next summer's use. The leaves and shoots of the stock must be removed by degrees until the head alone takes all the sap.

**CLAY PAINT FOR HERBACEOUS GRAFTING.**—Take some soft clay and knead it with a little water till it is of a pasty consistency; then put it into a clean vessel with a little more water and work it about with an old brush till it is of the thickness of cream, free from grit, and semi-liquid. Paint the graft with this, and



shake over the paint a little dry sand. Then paint again and again, each time shaking over a little dry sand, but always allowing the sand to dry before applying another coat.

**THE BEST BEDDERS.**—The best bedders for amateurs are those which are used in greatest quantities at great places. Amateur cultivators generally suppose that in great places the means and appliances are so perfect that the planters there have ten chances to an amateur's one. This is a great mistake. I have seen the propagating and keeping places at all the great gardens, and I can say that in nearly every case the millions of bedding plants produced are the result not of first-rate appliances but of appliances wretchedly imperfect, and so far inferior to what most amateurs possess that the managers of the great places are really those who deserve commiseration. I shall not go into details upon this subject; suffice it that at Kew, Crystal Palace, Victoria Park, in fact everywhere at places of note, the bedding stock is got up in ramshackle pits and frames, and houses of the most makeshift character, and it is not by first-class glass that successes are insured. But the fact is important, because it teaches that the plants found most serviceable at great places are those that are most to be relied on for display of colour, and which also have constitutions that adapt them to a certain degree of hard treatment.

Among geraniums there are a few that surpass all the rest in absolute usefulness. *Stella*, crimson scarlet, is certainly the finest bedding geranium known. *Attraction*, scarlet, is better than either *Tom Thumb* or *Crystal Palace*, but it is not much grown, and, in place of it, *Crystal Palace Scarlet* may be used with safety. The last named differs from *Tom Thumb* in being of more upright growth, and producing a richer and more continuous display of flowers. The fourth of this series is *Christina*, which in its colour and style is not yet surpassed as a bedder.

Among verbenas, the most useful is *Purple King*; the next most useful, *Mrs. Holford*, *Lord Raglan*, *Fox-*

*hunter*, and *Ocean Pearl*, which are all true bedders, and never fail to produce the effect desired of them when properly treated.

*Tropeolums* (*Lobbianum* section) of varied kinds abound; but the best are *Elegans*, *Eclipse*, and *Conqueror*. The last is a seedling raised by Mr. Gordon, of the *Crystal Palace*, and it is this season planted on the rose mount, where visitors curious in these matters may recognize it by its fine scarlet flowers and exceedingly glaucous leaves.

*Lobelias* (of the *speciosa* breed) abound, and several of them are of eminent service in bedding. The best are the true *speciosa*, which is a fine deep blue; *Blue King*, which is a clear sky-blue; *Paxtoniana*, creamy white and pale blue; and *Compacta*, which is of very dwarfy compact habit.

Among silvery-leaved plants, *Centaurea ragusina* is the grandest of all. There are few who know how to manage this, and hence many inquiries come to hand. I have by a regular course of experimental culture mastered it completely, and I can tell you in a word how to do it. Plant a few strong specimens in a rather dry sheltered position in sandy soil. Take during the summer as many side-shoots as you can obtain from those and from all others in beds, ribbons, etc.; strike these side-shoots and house them in the usual way, and keep them rather dry all winter. The plants put out in the selected position are to remain there all the winter. If a mild winter, they will all survive. If a severe winter, they will not all perish. Those that survive will next season flower, and seed abundantly. Sow all the seeds, and go on again in the same way. This routine is soon told. It is worth a ten-pound note in cash to any one who for either trade or artistic reasons wishes to grow a stock of this grandest of bedding plants. It may be well to add that *C. ragusina* and *C. candidissima* are one and the same thing, but the first is the proper name for it.

Next to *Centaurea candidissima*, the best silvery-leaved plant is *Cineraria maritima*, which may be struck

from cuttings at any time without heat, and which, if allowed to flower, produces seed abundantly. The next best, or we may say the equal of the best, but of quite different habit, is *Cerastium tomentosum*. Plant where it can remain, and it will be found quite hardy, and in spring will bloom beautifully. After blooming, it should be cut close back, and will soon grow again and be as beautiful as ever.

The best crimson and purple-leaved bedders are *Coleus Verschaffelti*, *Amaranthus melancholicus*, and *Perilla Nankinensis*. The first must be increased by cuttings on a hot-bed in spring; the other two can be raised freely from seed sown in pans, very thinly covered, and placed in a very mild heat in February or March. The more hardy and less attractive purple orach (*Atriplex hortensis rubra*) is not to be despised. This plant will always propagate itself if allowed to do so, and its own way is the best way, because then they come at the season which suits them best. Allow a few plants to grow as they please in the shrubbery, rockery, or border. They will flower and seed freely. Do not disturb the soil till some time in the next April; there will be hundreds of plants where the seed was shed. On a showery day lift them with a trowel, and plant where required, and they will grow ten times more freely and more handsome than by any artificial treatment. Self-sown plants growing in the full sun have leaves, three or more inches broad, and of the richest shade of bronzy purple.

#### ANNUALS FOR NEXT SEASON.—

The finest show of annuals early in the summer is to be had only by autumn sowing. During the latter half of August and the first half of September is the best season to get them strong enough to stand the winter; if sown earlier they get too forward, and are apt to suffer from frost. An open quarter sheltered from the north is to be preferred, and

the ground should be as hard as flint. On this hard surface lay down a shallow bed of poor sandy soil, and on that sow the seeds in rows pretty close together, each marked with a good sized tally. In gardens that are very dry or insufficiently drained, the plants will have a better chance if the bed is made to slope southwards; this will carry off excess of water, and the plants will start better in spring. They are to be transplanted singly into beds, borders, ribbons, etc., as desired, as early in March as the weather will permit. The soil in which they are to bloom should be rich and well worked, and as every one of the plants will grow to twice the size ordinarily attained by the same sorts when sown in spring, they must be planted at double the ordinary distance apart. To make more sure, it would be as well to sow at least one pan of each of the same sorts as those sown on the border; these to be kept in a pit or frame and dealt with in the same manner for blooming. Some of the improved forms of hardy annuals are equal to anything we possess for brilliancy of colour and effect in masses; for instance, *Iberis Kermesina*, a new crimson candytuft, makes as grand a bed as the finest verbena or geranium in our collections, though it does not last in its prime more than four or five weeks. The old *Campanula speculum* is a charming thing for masses; the rich bluish purple of the flowers being enhanced by the white eye. Indeed, all the established annuals are worthy of more attention than they commonly receive, and will repay for all the extra care bestowed upon them, besides which they are particularly interesting as botanical studies. The following are among the best annuals to be sown at once:—*Calliopsis*, *Clarkia*, *Collinsia*, *Convolvulus minor*, *Escholtzia*, *Godetia*, *Hibiscus*, *Dwarf Larkspur*, *Lupinus*, *Nemophila*, *Nolana*, *French Poppy*, *Schizanthus*, *Saponaria*, *Virginian Stock*. S. H.

## EXHIBITIONS OF JUNE AND JULY.

ROYAL BOTANIC SOCIETY, SECOND GREAT SHOW, Wednesday, June 14.—This was in every sense a "great show," though scarcely so rich in colour as the last, a circumstance resulting from the fact that azaleas will not last for ever in quite so bright a state as they are to be found once a year at a certain happy moment of their blooming season. But there was no lack of colour, for there were two great banks of pelargoniums, and some of the specimens were marvellous for size and style of getting up; there was a great bank of orchids, a bank of azaleas, several large collections of pot roses and cut roses innumerable, hard-wooded plants out of number, grandly grouped and gay everywhere, though here and there breaking out in sheets of colour. As a full report would occupy too much space, a few particulars are selected with a view to inform our readers of a few of the best subjects in various classes. *Pinks*:—Mr. C. Turner, first for twenty-four; the varieties were: Rev. J. Jeans, Victory, Cristabel, Helen, Pride of Colchester, Attraction, Bertie, Elcho, Constance, Exquisite, James Hogg, Picturata, Ernest, Captivation, Princess of Wales, Mrs. Stevens, Devic, Mr. Hobbs, Madame Teitjens, Mrs. Maclean, Nina, Excellent, Mary Ann, Marginata. Mr. Hooper, of Widcombe Hill, Bath, a spirited grower of florists' flowers, and the champion for the West of England, second with Blondin, Stonewall Jackson, Defiance, Black Prince, Mrs. Smith, Old England, Devic, Attraction, Discolor, Mrs. More, Mrs. Maclean, British Queen, Constance, Dr. Maclean, Colonel Hogg, Purple Perfection, Dr. Smith, Clara, Rose of Sherborne, Emily, Victory, George Trigwell, Mrs. Chater, Lucy. Mr. C. F. Kingston, of Bath, sent a nice twelve; they were Blondin, Devic, Mrs. Chater, Mrs. Smith, Lovelv, Purple Perfection, Beauty of Bath, Elizabeth, Fair Maid, Julia, Black Prince, Excellent. *Pansies*:—Messrs. Downie and Co.'s flowers were skilfully put

up, and not less skilfully selected so as to include the *creme de la creme* of the pansies of the present day; the varieties were: Tennyson, Mr. Hope, Attraction, William Austin, Cupid, Telegram, Rev. H. Dombraun, Chancellor, Sir L. Stewart, George Wilson, Mary Lamb, Queen of Whites, Eclat, Lady L. Dundas, Yellow Queen, John Elston, Princess of Wales, Miss Hill, Mr. Hopkins, Francis Low, Countess of Rosslyn, Perfection, A. Tait, Lavinia, Vesta (D. L. and L.), bottom petals clear straw, sharp and small purple-rayed blotch, orange eye, side petals small rayed purple blotch, superb in form, smooth, and exact in colouring; J. Graham, Alice Downie, Peeress, J. White, John Downie, Ladyburn Beauty, Miss Williamson, Kinlieth, Invincible, Jessie Laird, Masterpiece. Mr. Hooper, of Bath, second, with Mrs. Carr, Narcissus, Stonewall Jackson, Miss Williamson, large, smooth, purple, yellow eye; Lord Clyde, Great Eastern, Perfection, Sultana, Lord Chancellor, Madame Vestris, Curlew, Colonel Wyndham, Queen of the Seas, Lady L. Dundas, Beautiful Star, Richard Headly, Charles Kean, Dr. Fleming, Emblem, Prince Consort, Golden Jewel, Excellent, Cherub, Countess of Rosslyn, White Lady, Gem of Yellows, and a lot of seedlings of average merit. Mr. C. F. Kingston, of Bath, sent a very uneven twenty-four; the best of them were Dr. Smith, W. Merricks, Snowball, Mrs. Kingston, Challenge, Lady Palmerston, Prince of Darkness, a fine bluish-purple self; William Penn, Beautiful Star, Stonewall Jackson, Beauty, Harry, Defiance, John Bull, Madame Vestris, Prince of Wales, Excellent, Pride of Bath. *Roses* in pots were superbly shown by Mr. Turner and Messrs. Lane. Cut roses were shown by Mr. Turner, Messrs. Paul and Son, Mr. Mitchell, Mr. William Paul; and among amateurs by Messrs. May, Ingle, Exell, Wright, and Evans. Miss Crayshaw exhibited a very pretty lot, and was awarded an extra prize. Though among these many

collections fine flowered abounded, one particular group of twenty-five outshone them all, and this was from Mr. May, gardener to C. M. Worthington, Esq., Caversham Priory, Reading. These surpassed in size, quality, and freshness every similar group shown this season; such roses are, in fact, but rarely seen, even in these days of spirited competition. The usually flat and offensive, though richly-coloured Eugene Appert, becomes almost a first-class rose in Mr. May's hands; at all events, it made a splendid figure in this fine group. Triomphe de Rennes, in beautiful colour; La Boule d'Or, Souvenir d'Elise, Devoniensis, Souvenir d'un Ami, and Niphotos, all in exquisite condition, and the last-named three of immense size. Madame Victor Verdier was wonderfully done; Comtesse Cecile Chabillant, John Hopper, Charles Lefebvre, Madame Hector Jacquin, Souvenir de Comte Cavour, Madame Bravv, General Jacqueminot, Lord Clyde, all in the most charming condition. There was one bad rose in the lot, however, and that was Charles Lawson, which was stale.

*Pelargoniums*:—In the nurserymen's class, Mr. C. Turner was first with twelve; Mr. Fraser second; Messrs. Dobson third. In these collections, the most noticeable varieties were: Fairest of the Fair, Lord Clyde, Viola, Desdemona, Pericles, Ariel, Glowworm, Fair Rosamond, Guillaume Severyns, Mer Polaire, Couleur de Rose, Matilda, Rose Celestial, Prince of Prussia. Mr. Bailey, gardener to T. T. Drake, Esq., Amersham, Bucks, again occupied the position of champion among amateurs with a group of ten plants remarkable for size, style, and freshness. In the centre of the group was a plant of Sanspareil nearly five feet over, trained out to a perfect convex outline, and evenly and superbly bloomed; with it Lord Clyde, Spotted Gem, Lady Canning, Glowworm, Lady Taunton, Guillaume Severyns, etc. Mr. Wiggins was second in this class with a fine lot. Fancies were quite up to the mark, and made a very fresh muslin-like band of colour. Mr. Turner first, Mr. Fraser second,

in the trade class; Mr. Bailey first, Mr. Donald second, in the class for amateurs. Mr. Bailey had Roi des Fantaises, Delicatum, Arabella Goddard, Princess Royal, Clemanthe, Madame Rougiere. In the trade collections were: Delicatum, Evening Star, Arabella Goddard, Zoë, Madame Sainton Dolby, Miss in her Teens.

ROYAL BOTANIC. July 5.—*Carnations, Picotees, and Pinks* were shown in good style by Mr. Turner, of Slough, and Mr. Hooper, Widcombe Hill, Bath. Mr. Turner had a silver medal for each of his collections of picotees and carnations; and Mr. Hooper a bronze medal for each of his collections of carnations, picotees, and pinks. It was impossible to compare them thoroughly, for Mr. Turner's were set back, with Mr. Hooper's flowers in front of them. So far as I could see, there was but a shade of difference between them as to quality, and Mr. Hooper's were the least fresh of the two, through having travelled further. They were all fine, very fine; the petals stout, clean, the colours pure, and the texture good; there were, in all, about three hundred blooms shown, and this part of the affair was a complete little exhibition in itself. I secured the names as far as possible, but I could not get the names of some that were set back. Mr. Turner's twenty-four picotees: Mr. Varley, Lady Phillips, Countess of Wilton, Flower of the Day, Miss Sewell, Mr. Ingalton, National, Colonel Clerk, Mrs. May, Mrs. Kelk, Scarlet Queen, Unexpected, Miss Wood, Countess, Rev. H. Matthews, Garibaldi, Mrs. Brown, Lucy, Theodore, Finis, Miss Williams, Fellowes' No. 1, Mrs. Norman. Mr. Turner's carnations: King John, Favourite, Dreadnought, Young Milton, Colonel Thompson, Sarah Payne, Mayor of Nottingham, Christopher Sly, Mr. Hobbs, Prince Albert (Hall), Merrimac, Premier, Lorenzo, Juno, Lord Clifton, Nancy, Falconbridge, Flora's Garland, Howard, Florence Nightingale, John Reet, William IV., Count Pauline, Cradley Pet. Mr. Hooper's twenty-four carnations: Duke of Cambridge, Paul Pry, Garland (Brooks), Prince Albert,

Mayor of Nottingham, Excellent, Florence Nightingale, Miss Eaton, Africana, Royal Scarlet, Mr. Martin, Colonel Smith, Admiral Curzen, Beauty of Woodhouse, Captivation, Alice, Beautiful, Prince of Wales, Mr. Hobbs, Sarah Payne, Poor Tom, Lord Clifton, Colonel Hogge, Miss Napier. Mr. Hooper's twenty-four picotees: Amazon, Lady Peel, Queen Victoria, Prince of Wales, Sarah Ann, Miss Taylor, Lucy, Mr. Hoyle, Mr. Holbach, Rosalind, Scarlet Queen, Elizabeth, Chancellor, Miss Wood, Rev. H. Matthews, Lady Eleho, Princess Alice, Elise, Jessie, Advance, Rosy Circle, Favourite, Eliza, Zamia. Mr. Hooper's twenty-four pinks: Attraction, Old England, Dr. Maclean, Discolor, Mrs. Smith, Stonewall Jackson, Mrs. Chater, Blondin, Black Prince, Beauty of Bath, Defiance, Dr. Smith, Excellent, Helen, Lucy, Purple Perfection, Emily, Constance, Fair Maid, Miss Chater, Clara, George Trigwell, Mary Ann, Clara. There was a nice lot of flowers put up by Mr. F. Curtis, of Staines, but they were set back out of sight with Mr. Turner's, and it was impossible to criticise them or make sure of the names. *Annuals* were shown by Messrs. Hooper and Co., of Covent Garden, who, in a large collection, had examples of the following useful kinds:—Dwarf French Marigold: this is a fine variety, the flowers the size of half-a-crown, flat, and with very broad florets; colour crimson-chestnut, with the edges sharply marked with gold lines; they put me in mind of a well-marked polyanthus of monstrous size. Phlox Drummondii, an old friend, shown in every variety of colour. Amberboa moschatus, A. odorata: the first of these is the purple, and the second the yellow Sweet Sultan of gardens; they are useful and beautiful composites, much valued for their fragrance. Whitlavia grandiflora, a superb subject for the mixed border; the flowers are bell-shaped, the limb turning over boldly, colour rich deep blue. Clarkia pulchella, C. pulchella integrepetala, C. elegans rosea plena, C. pulchella flore pleno, C. elegans pulchella alba plena: all these are

good, blooming freely, and making a brave show while they last; the most striking is C. pulchella flore pleno. Salpiglossis grandiflora, Iberis Kermesina, a beautiful dark candytuft, and one of the finest annuals known for grand masses; Brachycoma iberidifolia, B. iberidifolia alba, almost equal to cinerarias; Leptosiphon luteum, Nasturtium (Tropæolum) King of Tom Thumbs, Erysimum arkansianum, Lupinus subcarinosus, one of the finest of the lupins; Calendula pluvialis, Helichrysum nanum, Calliopsis Drummondii, C. bicolor atropurpurea, Chrysanthemum tricolor, C. tricolor aureum, C. tricolor Burridgeanum; the last-named is one of the most beautiful annuals known. Dianthus sinensis, Rodanthe maculata, R. atrosanguinea, Oxyura Chrysanthemoides, Iberis umbellata alba, Lium grandiflorum, a grand subject, which had a little fame for a moment, and has been since almost forgotten. Schizanthus grandiflora oculata, S. venustus, Leptosiphon densiflora alba, Kaulussia amelloides, Rhodanthe maculata alba, Zinnia elegans flore pleno, Zinnia elegans coccinea, Lupinus Menziesii, Spraguea umbellata, Leptosiphon androsacea, Calendula officinalis flore pleno, Senecio elegans alba, Viscaria Burridgeanum, Chrysanthemum tricolor venustum. *Pansies* were shown in charming condition by Messrs. Downie, Laird, and Laing. The varieties were: Mrs. Moffatt, Kinlieth, Eclat, Princess of Wales, F. Lord, Masterpiece, Great Northern, Blink Bonny, Countess of Rosslyn, John Ingles, Vesta, Mary Lamb, Attraction, Miss Hill, Rev. H. Dombrain, Village Maid, Duke of Wellington, Prince of Prussia, Seedling (this is a fine deep purple self, very smooth, the form excellent, a first-class flower), Invincible, Mr. Austin, Peeres, Ladyburn Beauty, Lavinia, Miss Williamson, Perfection, Lady L. Dundas, J. B. Downie, Cupid, Chancellor, Telegram, Miss Ramsay, Miss Carnegie, Alice Downie, John Downie, Alexandra. *Verbenas* were well shown by C. J. Perry, of Castle Bromwich. The varieties were: Lilac King, Magnificans, Charles Turner, Lord Craven, Rose

Imperial, Seedling (large, rosy purple, crimson eye), Startler, Seedling (rich rosy crimson, deepening at the base of the petals, greenish-white eye), Mauve Queen, Nemesis, Seedling (colour mulberry, with pale eye), Pink Perfection, Madame H. Stenger, Lord Leigh, Sylph, Mrs. Moore (this is a fine bluish purple, with very distinct greenish-white eye; it is in the way of Ocean Pearl, a most elegant and telling flower), Glowworm, Black Prince (this is a fine verbenæ, colour maroon, shading to purple and black, very distinct white eye), Blue Queen. *Roses* were more numerous and in far better condition than could have been expected after such a trying season. The collections of fifty each from Messrs. Paul and Son, Mr. Turner, and Mr. John Fraser, were truly magnificent. Among the varieties shown, Marechal Niel was still in fine condition; this is truly a superb yellow Tea Rose. Once more, too, Isabella Gray appeared in proper costume, the flower fairly expanded and the colour good. The following were also noticeable for their fine quality: Charles Lefebvre, Francois Lacharme, Maurice Bernardin, Francois Louvat, Madame Charles Wood, Madame Victor Verdier, Baron Gonnell, Madame C. Crapelet, Beauty of Waltham, Gloire de Santenay, Marechal Vaillant, Duc de Rohan, Leopold I., Victor Verdier, General Jacqueminot, John Hopper, Jules Margottin, Senateur Vaisse, Mrs. Rivers, Reynolds Hole, etc. I took the names all through, and it is only because reports must be limited that I give only a selection of those which were most remarkable for fine quality. Splendid groups of twenty-five each were put up by Mr. Exell, gardener to J. Hollingsworth, Esq.; Mr. Ingle, gardener to G. Round, Esq.; and Mr. Wright, gardener to Mrs. Ramsden, Twickenham. *Fine Foliage Plants*:—Mr. Baines, gardener to H. Micholls, Esq., of Bowden, Cheshire, brought up a group of ten plants from the same batch as gave the Yorkshire folks so much delight a few weeks since, and with them took the first place. In this group

macrorhiza variegata, A. metallica, A. Lowii, Theophrasta imperialis, etc. Mr. Taylor, gardener to J. Yates, Esq., second, with some noble specimens of *Cycas revoluta*, *Dion edule*, *Littæa juncea*, *Zamia*, *Encephalartos*, etc. Mr. Veitch took first place in the class for nurserymen, and had in his group *Croton variegatum* and *C. pictum* in such a state of colouring as was never seen before—the result, probably, of the intense solar light we have been favoured with this season, though, in thus indicating a primary cause, the secondary question of skilful cultivation must not be forgotten. These were gorgeous examples, and won for Messrs. Veitch golden opinions, of which, by the way, they enjoy a pretty good harvest one way or another. From the same a grand specimen of *Alocasia zebrina*, in a better state as to condition and colouring than it has been shown in hitherto. A few palms and ferns made up the remainder of the group. Messrs. A. Henderson and Co., of Pine Apple Place, put up a grand collection of caladiums, which occupied the open space in the centre of the tent. Here were huge examples of *Belleymei*, *Wightii*, *Chantinii*, *Bicolor splendens*, *Houletti*, *Veitchii*, *Cupreum*, and others scarcely less attractive in colouring. *Ferns*:—Mr. Bull led the way with a noble dozen exotic ferns; Mr. B. S. Williams second; Messrs. A. Henderson and Co. third. In the class for amateurs, Mr. Barnard first; Mr. Young, of Havant, second. In the class for British, Messrs. Ivery first; Mr. Holland second. Among the exotics, tree ferns were liberally shown. Messrs. Ivery's Britishers were fresh and good; Mr. Holland's were, in several instances, used up and stale. Besides their great bank of ferns, Messrs. Ivery had a grand dozen in the most perfect condition. The following are the names: *Osmunda regalis cristata*, a fine crested form of Royal fern; *Athyrium f. f. plumosa*, superbly tasselled at the points; *Polystichum angulare Wakeleyanum*, *Scolopendrium vulgare crispum*, the most useful of all the varieties of hart's-tongue; *Pseudo-*

athyrium flexile, the narrow-froned and sparse-habited fern, which is better known as *Polypodium alpestre*, and ought not to be exhibited under any other name. *Polystichum angulare proliferum* Footii, a fine subject for the hardy fernery; *Adiantum capillus veneris*, a fine specimen; *Lastrea montana Norvelliana*, *Blechnum spicant heterophylla*, *Woodia ilvensis*, *Asplenium trichomanes incisum*, *Asplenium marinum ramosum*. Mr. Holland's twelve consisted of *Asplenium trichomanes*, *Blechnum spicant imbricatum*, *Scolopendrium vulgare ramosum*, *Lastrea f. m., cristata angustata*, a modified form of one of the most useful of tasselled ferns, and having very much the aspect of *Athyrium f. f. Frizellæ*, *Asplenium trichomanes Harrovi*, *Asplenium adiantum nigrum*, *Lastrea thelypteris*, *Polystichum proliferum Woollastonii*, *Scolopendrium vulgare crispum*. *Pelargoniums* were in good condition for the season: Mr. Fraser first in show varieties with *Pericles*, Lord Clyde, Royal Albert, Bacchus, Bessie, Marabout, *Desdemona*, *Festus*, *Perdita*, Landseer, Prince of Prussia, *Regina formosa*. Mr. Bailey first in

the class for amateurs with *Mdlle. Patti*, *Etna*, *Pericles*, *Guillaume Severyns*, *Desdemona*, *Beacon*, *Royalty*, *Conflagration*, *Regina formosa*, *Scarlet Floribunda*. There was a class for six *pelargoniums* of 1862 and 1863, in which Mr. Fraser took first place with *Oriana*, *Royalty*, *Maiden Fair*, *Colossus*, *Feu de Joie*, *Favourite*. Mr. Fraser was again first in the class for six *fancies*, with *Hebe*, *Bridesmaid*, *Roi des Fantaisies*, *Miss in her Teens*, *Madame S. Dolby*, and *Cloth of Silver*. *Geraniums*: The so-called *zonale pelargoniums* were attractive, but far less so than might have been the case; they only need encouragement, and a show in July might be made as gay with them as a show in May is with *azaleas*. Mr. Catlin sent the best six: they were *Rubens*, *Eugenie Mezard* (syn. *Madame Rundersdorf*), *Monsieur Martin*, this was grand; *Scarlet Globe*, *Tom Thumb*. Second, Mr. Pettit, with *Rubens*, *James Campbell*, *Evening Star*, *Tintoret*, *Brilliant*, *Princess of Prussia*. Third, Mr. Hawes, with *Princess of Prussia*, *Henri de Blecourt* (?), *Aurora*, *Monsieur Martin*, *Tom Thumb*, *Una*.

### BLUE HYDRANGEAS.

THE April number of the FLORAL WORLD—the first I have seen—having just fallen in my way, allow me, when expressing my pleasure in reading so charming a little work on gardening, to say a few words with respect to “Blue Hydrangeas.” I see that a correspondent of the FLORAL WORLD has noticed them, and regret to find the Editor deems them “hydrangeas spoiled.” I have seen magnificent plants—I scarcely think I should be wrong were I to write *trees*, for they grow to such a size in the open air in this country—bearing flowers of a beautiful tint—a blue nearly approaching in shade the colour known to ladies as “the Empress blue,” and full as large in circumference as a big cauliflower head. I lived in Wales at the time, at a place called Brynmar, in Carmarthenshire, and our flower-

garden was made upon a piece of ground that had formerly been a cinder-tip. We always attributed the blue colour of the hydrangeas growing on that particular bank to the quantity of iron in the soil; and, consequently, if your correspondent's suggestion has anything to do with giving the plants water impregnated with this mineral, I have little doubt but what he will succeed. I had no idea that our hydrangeas were either rare in colour or size, until on my first visit to town, when a grown-up young lady, I was shown what seemed to me a miserable specimen of a blue hydrangea, at the Botanical Gardens.

HELEN WATNEY.

[The Editor is greatly obliged for the reproof conveyed in the above. The fact is, no doubt, that all the blue ones the Editor has seen have been “hydrangeas spoiled,” and he will now be on the look-out for blue ones worth seeing and worth proving.]

## AUGUST, 1865.—31 DAYS.

PHASES OF THE MOON.—Full, 7th, 5h. 29m. morn. ; Last Quarter, 13th, 9h. 43m. after. ; New, 21st, 7h. 17m. morn. ; First Quarter, 29th, 11h. 46m. morn.

AVERAGES FOR THE MONTH.—Bar. 29·973. Therm. max. 72°, min. 53°, mean 61°. Rain, 2·5 inches. Prevailing winds S., S.E., and S.W. Frosts of rare occurrence. Rain usually comes with a change of wind to S.W.

D M	Sun		Weather near London, 1861.				Rain.	Hardy Herbaceous Plants in flower.	
	rises.	sets.	Barom.		Therm.				
1	4 25	7 46	30·04	30·01	77	40	58·5	·00	<i>Eurotia fruticosa</i> .
2	4 27	7 44	30·09	30·08	80	31	55·5	·00	<i>Rumex sanguinea</i> .
3	4 28	7 43	30·11	30·02	79	45	62·0	·01	<i>Pentstemon Jaffrayanus</i> .
4	4 30	7 41	30·05	30·01	84	47	65·5	·00	<i>Sabbatia campestris</i> .
5	4 31	7 39	30·11	30·05	89	55	72·0	·00	<i>Agathysus Sibericus</i> .
6	4 33	7 38	30·06	29·99	89	40	61·5	·00	<i>Asterocephalus rutifolius</i> .
7	4 34	7 36	30·01	29·86	82	59	70·5	·00	<i>Berteroa mutabilis</i> .
8	4 36	7 34	29·87	29·81	81	47	61·0	·00	<i>Agrostemma Succica</i> .
9	4 37	7 32	29·88	29·77	68	42	55·0	·56	<i>Eurotia macrocarpa</i> .
10	4 39	7 30	30·10	29·98	67	37	52·0	·00	<i>Inula glandulosa</i> .
11	4 40	7 28	30·32	30·25	71	33	52·0	·00	<i>Pentstemon augustifolium</i> .
12	4 42	7 26	30·28	30·26	79	36	57·5	·00	<i>Silene maritima</i> .
13	4 44	7 24	30·34	30·29	80	40	60·0	·00	<i>Delphinium intermedium</i> .
14	4 45	7 23	30·40	30·36	76	45	60·5	·00	<i>Pentstemon glabrum</i> .
15	4 47	7 21	30·40	30·32	79	43	61·0	·00	<i>Aconitum versicolor</i> .
16	4 48	7 19	30·28	30·05	76	45	60·5	·00	<i>Plumbago Europæa</i> .
17	4 50	7 17	30·10	30·03	71	37	54·0	·00	<i>Glaucium flavum</i> .
18	4 52	7 15	30·01	29·83	74	32	53·0	·00	<i>Teucrium Hyrcanicum</i> .
19	4 53	7 13	29·74	29·62	74	38	56·0	·00	<i>Pentstemon criantherum</i> .
20	4 55	7 11	29·82	29·68	74	36	55·0	·02	<i>Glaucium fulvum</i> .
21	4 56	7 8	29·90	29·78	68	35	51·5	·18	<i>Globularia cordifolia</i> .
22	4 58	7 6	29·95	29·81	68	44	56·0	·22	<i>Dianthus squarrosus</i> .
23	5 0	7 4	29·78	29·69	68	37	52·5	·16	<i>Agathysus Tartaricus</i> .
24	5 1	7 2	30·09	29·99	62	30	46·0	·00	<i>Delphinium moschatum</i> .
25	5 3	7 0	30·15	30·15	77	34	55·5	·00	<i>Eryngium aquaticum</i> .
26	5 4	6 58	30·30	30·24	69	31	50·0	·00	<i>Dianthus fragrans</i> .
27	5 6	6 56	30·32	30·21	71	47	59·0	·00	<i>Eryngium Baldwinii</i> .
28	5 7	6 54	30·30	30·05	70	52	61·0	·00	<i>Aster macrophyllus</i> .
29	5 9	6 51	30·03	30·00	75	38	56·5	·00	<i>Aster abbreviatus</i> .
30	5 10	6 49	29·84	29·82	79	57	68·0	·01	<i>Eryngium aquifolium</i> .
31	5 12	6 47	29·93	29·76	71	42	56·5	·14	<i>Dianthus ærotinus</i> .

PROBABLE WEATHER FOR AUGUST, 1865.—The forecast for July was fulfilled in every particular, from first to last. Next month fine and hot in continuation of the weather of July, then changing to cool, rainy weather. From the 1st to the 7th clear and bright, with great heat; wind S. to S.W. From the 8th to the 15th cooler, but fine, though sometimes much cloud; wind N. to N.E., and squally in all eastern districts. From the 16th to the 25th changeable, with showers and sunshine; on the whole agreeable, but much rain; wind S.W. to N.W. From 26th to end changeable, but generally fine; wind varying daily, and in some days the phenomena of all seasons in succession.



## THE GARDEN GUIDE FOR AUGUST.

**KITCHEN GARDEN.**—Take stock of all winter greens, and occupy every spare plot of ground with kale, Brussels sprouts, cabbage, broccoli, and collards. If any of the breadths are crowded, make a fresh plantation by taking up every other plant, so as to give the hardy kinds plenty of room. Thin parsley, to get rid of every plant not well curled. Earth up celery and leeks, hoe between potatoes.

Sow canflower the third week, to keep over winter in frames. The main crop of cabbage for spring use should be sown between the 12th and 20th. Sow also succession lettuce, saladings, and turnips, and the main crop of winter spinach. Take cuttings, or sow seed, for cucumbers to fruit during winter.

**FRUIT GARDEN.**—Nail in all good shoots on wall trees, that they may have the heat of the wall to ripen them. Thin the shoots of gooseberries and currants. Put loose nets along fruit walls, with a hitch here and there to form bags to catch

any fruit that falls. Play the garden-engine against peach and nectarine trees, to keep them clean and healthy. Make beds of strawberries, if not yet done.

**FLOWER GARDEN.**—Strike verbenas, petunias, geraniums and fuchsias; calceolarias should not be struck till next month. Blue lobelias need not be struck, nor need old plants be saved, as *speciosa*, the best for edgings, comes quite true from seed. Sow hardy perennials and biennials for next season's blooming. Those fit for planting out, plant where they are to remain. Put stakes to chrysanthemums before their heads get heavy. Pompones may be struck for blooming in 60-sized pots. Plant out pinks and carnations in well-manured loam. Bud roses in dull weather, water chrysanthemums, with occasional doses of strong liquid manure. Repot auriculas if necessary. Almost every kind of herbaceous plants and evergreen shrubs may now be propagated.

## TO CORRESPONDENTS.

**COMMEMORATIVE FLOWERS.**—*A. D.* (Ireland) wishes to know what are the best subjects wherewith to decorate a vase with white flowers, in memory of one who was taken at the age of fifteen, and who was especially fond of her garden and white flowers. *A. D.* has always kept the vase well filled herself, but fears (as she is likely to go abroad) it may be neglected, unless distinct instructions are left; and it is requested that the Editor of the **FLORAL WORLD** will suggest a few white flowers for each month of the year, so that drawings can be made of them for future reference. The vase is large enough to hold a good-sized pot in the centre, and small ones around it; and there is a large bell glass that fits on the rim (with compartments to open), so as to enable camellias, azaleas, forced tulips, etc., to be protected from the weather. [The Editor would gladly have complied with the desire expressed for a private communication in reply to the above, but his many engagements press him too closely to leave time for gratifying the wish of *A. D.* Possibly, however, the few remarks which follow

may be of more real service in a printed than a written form. Let us begin, then, with January. For this season, Laurestinus, Snowdrop, Snowberry tree, with berries, *Leucojum vernum*, and single and double white Primulas, will be available; but it will demand some skill and care both to produce them and keep them, because of the severe weather to which they may sometimes be exposed, though sheltered with a glass vase. For February the following crocuses will be available; namely, Mont Blanc, Diana, Elfrida, Queen Victoria, and Caroline Chisholm. The first and last are the best. Hyacinths, Bridal Bouquet, Grand Vainqueur, La Candeur, and Reine Blanche. In this month also Snowdrops, the common single, the common double, and the Crimean, will be useful; but it would be rash to put out camellias and azaleas, except under peculiar circumstances. Others from the January list might also be used, if the cultivation provided a succession of such things as white primulas, etc. In March, hyacinths and crocuses would again be useful. To

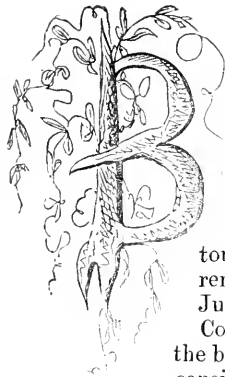
these might be added, *Cyclamen Persicum album*, a superb, snow-white variety, shown with others in great perfection by Messrs. E. G. Henderson and Son, of St. John's Wood, at several of the great shows in the spring of the present year. During mild weather, a change might be made by introducing white camellias, azaleas, and cinerarias, small forced plants of white lilac, double flowering plum, *Weigelia rosea alba*, and *Deutzia gracilis*, would be invaluable, though the lilacs, plums, and *Weigelias* might too often be larger than would be convenient. The finer kinds of deciduous *Viburnum* can be flowered in a small state, and if carefully prepared for placing out of doors, would not suffer, unless exposed to severe frost. Among camellias, the best for the purpose would be *Montironi* and the old double white; among azaleas, *Gledstanesi*, *Barilayana*, and *Iveryana*. In April, *Deutzia gracilis* and *Deutzia scabra* would be invaluable. With these could be used *Andromeda floribunda*, white *Alyssum*, *Lily of the Valley*, and early *Tulips*. The best tulips for the purpose would be *White Pottbakker*, *Jagt van Delft*, and *Queen Victoria*. A pretty group of small pot plants could be obtained for this season by growing *Scilla campanulata alba* in a pit; *Scilla bifolia alba* would be equally useful. For May, *Iberis Garreuxiana*; neat plants in pots should now be a mass of snow-white flowers. Once more, *Lilies of the Valley*, from plants in pots plunged in the open ground, would come in usefully. *Andromeda phylliriæfolia* would be useful, and some plants of *A. floribunda* might be found to succeed those already used. Small plants of *Olea fragrans* could be obtained from the greenhouse, and would be very effective. *Cytisus onosperma*, *Daphne Indica alba*, would bear the open air in this month, and might be had in flower for the purpose with a little management. Late-flowering azaleas would also be useful. In the month of June, many greenhouse plants could be turned to account, such as *Eriostemon luxifolia*, *Pelargonium Blancheffeur*, *Madame Vaucher*, *White Perfection*, *Madame M. Vincent*, and *Galanthiflora*, *Hydrangea Japonica alba*, *Diosma ericoides*. The plunge-bed in the open ground would furnish small potted rhododendrons, of which there are several good whites. In July, the best of all plants for the purpose would be *Campanula rotundifolia alba*, a most delicate gem, and well

adapted for growing in pots for the purpose. Even *Prunella alba* might be useful for a change: we have it at the time of writing this, forming beautiful sheets of snow-white on a rookery. Groups could be occasionally made of silvery-leaved plants in pots, such as *Centaurea ragusina*, *Artemisia argentea*, *Cerastium Biebersteini*, *Cineraria maritima*, *Gnaphalium lanatum*; with, now and then, a plant of variegated *Hydrangea*, or variegated *Gardenia florida*, to give character to less striking subjects. *Verbenas Mrs. Holford* and *Snowflake* would be useful, as would also the pretty *Lobelia speciosa compacta alba*. Perhaps a clump of common white lily in a pot might serve as a noble centre-piece to a group of some of these smaller subjects. August should be a continuation of the flowers of July. The white-flowered zonal *pelargoniums* would, of themselves, keep up a charming series of embellishments. To these may be added, for the sake of change, *Gladiolus Bertha Rabourdin*, *Lilium speciosum album*, and the pretty variegated *Alyssum*, which makes an elegant pot plant, and continues for a long season to produce its white flowers. September would furnish pot plants of *Bouquet Dahlias*, of which the best for the purpose would be *Snowrose* and *Gaiety*. With careful cultivation, very presentable plants might be produced of *Dahlias Alba floribunda nana*, which is a very fine white, and less lumpy in outline than the majority of the tribe. During October, dahlias would again be useful. The white variety of *Colchicum autumnale* would make a change, but it is a rather poor subject for grouping. Chinese *Primulas*, both single and double, could be had in bloom, if started early in spring for the purpose. So also could cinerarias, if sown early and planted out in a border facing north, about the end of May or early in June. The whitest could be selected, and potted up for the purpose. During November, pomponé *chrysanthemums* would answer admirably. The best for the purpose are *White Cedro Nulli*, *Beule de Neige*, and *Mrs. Turner*. December would be the most difficult month of all. Probably, a few pomponés would still be in bloom, and, in fact, a few ought to be kept back for the purpose. Probably, also, *Laurestinus* would be in bloom; and white *Primulas* might be compelled to risk the weather, and when destroyed by it, some of the subjects named for January might take their place.

THE  
FLORAL WORLD  
AND  
GARDEN GUIDE.

SEPTEMBER, 1865.

MONOTONY, AND ITS REMEDY.



Y this time we may hope that the FLORAL WORLD has done something to improve the taste, and enlarge the practice, and multiply the horticultural pleasures of its numerous amateur readers. If it has not done so, it will not have been through lack of intention and endeavour. During its career of eight years, it has in various ways protested against the monotony which too often prevails in private gardens, and it once more touches on this old theme in hope that a few practical remarks may be of value to some of its readers. In the June number was published a paper entitled "Less Colour and more Beauty," in which it was advised that the best of our hardy spring-flowering plants should be used in considerable breadths in the beds which are usually allotted solely to summer-flowering bedding plants. What is to be said now will be in continuation of the remarks that were made in the June number. It will be observed that nine-tenths of the private gardens in the suburbs of all our great towns are at this season of the year repetitions of each other. This is a lamentable monotony. To be sure the ovals vary in size, and the corkscrews in shape, and the circles in the several relations they bear to squares, crescents, and other devices, as we go from garden to garden; and in some places yellow governs red, and in others red governs yellow, and in some few again nothing governs. Yet the variety is all on the same plan, and for the greater part is accomplished with the same materials—so much scarlet geranium, so much blue lobelia, etc., etc., etc., etc., etc. Suppose that the combinations are in all cases good—which they are not—still it is the duty of a public writer, at this juncture, to implore his readers

to get out of this old and well-worn groove, and do something different from the monotonous fashion.

The question will be asked by some, "What shall we do?" Perhaps the best general reply to that query will be, "As you have hitherto chiefly sought after *colour*, now seek after *form*. Break through the monotony of level that prevails, and break through the monotony of colour." If we were asked to point to an example of what is meant, we would point alone to Battersea Park, where some wondrous effects are produced this season, by bold and judicious grouping of palms, tree ferns, dracenas, caladiums, cannas, india-rubber trees, papyrus, bamboos, and other tropical and sub-tropical plants, with some of the choicest of the established bedders. We see huge compartments filled with hundreds of gigantic "fine-foliage" plants; and as we turn from these, we encounter grand masses of Mrs. Pollock geranium. We are astonished at the magnificence of groups of ornamental grasses, clumps of *Erythrina*, and whole collections of *Solanums*; but that astonishment is swallowed up in another, as we turn aside to behold circles of *Coleus Verschaffelti* edged with *Centaurea ragusina*, on a larger scale than such a thing has ever been attempted before, and the impression is pretty deeply made on our minds that we have lived to see something new in decorative gardening.

Battersea Park is mentioned here only as an example of what we mean by the expression "less colour and more beauty," and the theme is one that has engaged our pen from time to time during fifteen years past; with what result, we will not stay to inquire. But we must say this much, that the example cited applies to gardens of every description. Amongst our readers are many of the wealthiest in the land. To them the bedding-out of caladiums, cannas, and india-rubber trees by scores, fifties, hundreds, is a thing not impossible. We have other readers who find a display of geraniums and verbenas a sufficient tax upon their means, and to whom we must present attractions of a most economical description, if we would win their attention at all. Our well-to-do friends will perhaps pardon us if we address ourselves, on the present occasion, to those of our readers who are not blessed with fortunes, and who are compelled to beware of wasting their substance in riotous gardening.

Be it known, then, to you thousand of devotees of the goddess Flora, who, like the writer of this, are neither plethoric with wealth nor depressed by necessities, that the materials for redeeming our parterres from their monotonous aspects are within reach of all, and in many instances so near at hand that their familiarity breeds contempt. The first question will be as to the subjects, the second as to how to use them.

Ornamental grasses claim our attention pre-eminently, and there is not one amongst them better fitted for the grandest promenade effects than *Elymus glaucescens*, which is as hardy as chickweed, as beautiful as if it consisted of silver ribbons, and will grow in any soil or situation. When allowed to spread as it pleases, it forms huge tufts of bold but graceful outline, the colour a strong bluish glaucous tint, and the average height two and a-half feet. The pampas grass, *Gynerium argenteum*, is well known to be admirably adapted for groups in the

flower garden; unfortunately a severe winter kills or injures it, though for beauty it is unique and unsurpassed. Another of this series is *Arundo conspicua*, which is not thoroughly hardy, except in the south of England; and the same may be said of *Arundo donax*, which, in a warm climate and a deep rich soil, will throw up its noble plumes to a height of ten feet—a plant of such majesty and so rarely grown, that it is a most strange thing that it is never seen forming a gigantic tuft on the lawn of some one amongst our many amateur cultivators. Of *Brizas*, *Stipas*, *Eragrostis elegans*, and *Agrostis nebulosa*, which are amongst the loveliest of the smaller grasses, we say nothing; it is sufficient to have named four giants of the family that are the very models of the things we need to redeem our gardens from their monotonous appearance.

Among flowering plants of remarkable aspect, one of the grandest is *Tritoma ucaria*, the “red-hot poker plant.” What decisiveness of form and depth of colour are there in its huge grass-like leaves, what uniqueness of character in its splendid spikes of red and orange flowers! And yet how seldom we see it, except in public parks and great gardens, though to plant a group in the first instance would cost no more than to plant a group of geraniums of the same extent, and once planted, the stock will increase continually without the help of glass and fuel. Then there are the cannas, with their ample leafage veined with bronze or purple, and their gaudy spikes of crimson, scarlet, and orange flowers, massive and characteristic, yet rarely seen. At Battersea Park, Mr. Gibson deals with cannas as some cottagers deal with fuchsias—that is to say, he leaves them in the ground all winter, and heaps two feet of straw over the beds to keep the frost out. The consequence is that with this care they flourish like indigenous plants, and instead of making three or four feet of growth in a season, and even then presenting a remarkably fine appearance, they tower up to a height of eight, nine, or ten feet, and flower in June instead of in August. What is there to prevent the humblest of our amateurs doing the same? Yet there does not seem to be anywhere the spirit to deviate from beaten tracks. In this category we must place the gladiolus, which but few amateurs have yet done justice to, though *G. Breckleyensis* might be supposed to have colour enough to satisfy the most sensation-loving of gardeners. In the gladiolus we have exquisite grace, nobility, delicacy of colour, and points of interest, all combined, and for first-class promenade and parterre planting there are few finer subjects. The best of the old-established kinds are cheap, and they rarely fail to give satisfaction if *planted early*. It is late planting that causes them to fail; therefore we advise that they be planted in February or March, and be covered with cones of coal-ashes or cocoa-nut dust to keep them safe from frost, till the season is sufficiently advanced to allow of the removal of the covering.

Lastly, in this series we must name an almost unknown but quite hardy and exquisitely beautiful plant, called *Eryngium amethystinum*, which grows like a thistle, to a height of four or five feet, and produces thistle-like heads of flowers, which, with the stems on which they are placed, are of a most peculiar metallic blue, just the colour, in fact, of blue steel—a most unusual though beautiful hue among plants.

Of less importance to our friends who have short purses, though good

unimportant to any, and of the greatest value as outdoor decorative subjects, are the following:—*Bambusa gracilis*, *B. metake*, *B. nigra*, all of which may be kept in greenhouse during winter, and be plunged or planted during summer. *Chamæpuce diacantha*, a thistle-like plant, the leaves of which are most elegantly formed, and beset all over with long spines, the colours of the leafage being pale green and creamy white. A clump of this presents a picture which it is well worth travelling a few miles to see. *Ferdinandia emimens* is a fast-growing, large-leaved plant, well adapted for planting out in June to produce a “tropical” effect. *Phormium tenax*, the New Zealand flax, is a noble flag-like plant, which is quite hardy in the south of England, and elsewhere only needs the shelter of a pit or greenhouse. *Sonchus laciniatus* has most elegant foliage, and produces myriads of its yellow composite blossoms.

Then have we not an almost exhaustless list of plants with variegated leaves that have not been worked into bedding displays to anything like the extent they might be. The writer of this is almost daily amongst bedding plants all the summer long, and one of his greatest pleasures is to sit at home in a little garden-house, in front of which is an irregular bank clothed with plants that would be invaluable to amateurs who love their gardens, and all of which literally take care of themselves. There are fine clumps of *Elymus glaucescens*, just referred to; there the variegated *Epilobium angustifolium*, one of Mr. Salter’s choicest gems, shines out against the background of the privet fence with a delicacy and beauty which there is scarcely any plant to equal, though this is, after all, but a British weed; there again is the great-leaved *Salvia patula argentea*, the lurid *Sedum telephium purpureum*, the delicately-painted, variegated coltsfoot, the very silvery *Antennaria margaritacea*, the almost gorgeous *Achillea Eegyptiaca* and *Clavennæ*, the very graceful *Veronica pinnata*, the still more graceful fern-leaved *Thalictrum minus*, which is a very close imitation of *Adiantum cuneatum*, and may be grown in the open border in the commonest soil, and actually needs no attention at all! If one more be added to the category, it must be *Tanacetum crispum*, which rivals *Todea superba* in the richness of its colour and the exquisitely crisped character of its leaves.

In case any of this should seem far-fetched, we have in our minds a recipe for monotony, by proposing that the most important of the large, isolated beds on the lawn shall be planted this present autumn with a collection of lilies, and that places be left in the arrangement for plunging some plants of *L. auratum* in May next. The sorts to plant now are *croceum*, *candidum*, *chalcedonicum*, *excelsum*, *tenuifolium*, *bulbiferum*, *lanceifolium*, *tigrinum*, and *eximium*. Others less hardy in constitution could be planted in spring, being kept in pots under glass all winter for that purpose. If the whole bed were covered with *Dactylis glomerata variegata* for a surfacing, it would look charming, and it might be edged with *Campanula carpatica*, *Tanacetum crispum*—nay, there are a thousand subjects suitable, to say nothing of snowdrops, crocuses, squills, hyacinths, tulips, and *Saponaria calabrica*.

## BEDDING EFFECTS AT THE CRYSTAL PALACE.

ACCORDING to custom, we offer a few remarks on the most beautiful bedding effects produced this season at the Crystal Palace. Next month we shall give a few examples from other great places. The promenade planting at the Crystal Palace is fully equal to any previous triumphs at the same place. The principal display is on the chord line of the great bow in the centre of the second terrace, where the rose acacias are. The beds are alternately circles and oblongs, and the planting makes a ribbon series of the oblong beds, the continuity of which is interrupted at regular intervals by the colours in the circles. The planting is exceedingly simple, but rich beyond description—finer colour has indeed never been accomplished. The oblongs have two rows of *Stella* in the centre, next a band of *Christine* on each side (but not carried round the ends), and edging of *Verbena Purple King*. The circular beds consist of *Trentham Rose Geranium*, with band *Calceolaria floribunda* all round, and edging of *Alma geranium*.

Another grand piece of colouring may be seen in the series of beds which accompany the principal walk down from the entrance to the Palace. The first series of beds extends from the flight of steps next the principal entrance to the great basin, and from thence commences the second series, which sweeps round with the walk in two semicircles. In the first series the beds are oblongs and circles alternately, their width nine feet, and the length of the oblongs about seventeen feet. The oblongs contain three rows *Crystal Palace Geranium* in the centre, next two rows *Christine* all round, next two rows *Calceolaria Prince of Orange*, and for margin one row of *Purple King Verbena*. The circles consist of a central blotch of *Perilla*, next a circle of *Trentham Rose Geranium*, then one row of *Gaines's Yellow Calceolaria*, and margin of *Geranium Manglesii*. In the sweep round the basin the planting is on the

same plan, but with different colours, thus:—Three rows *Trentham Rose*, two rows *Calceolaria amplexicaulis*, two rows *Crystal Palace Scarlet Geranium*, edging of *Purple King Verbena*; the circles are *Perilla*, *Christine*, *Brilliant*, and *Manglesii*.

On the Rose Mount there are several interesting examples, of which the following are a selection; the beds are all circles:—*Lady Plymouth Geranium* and blue *Lobelia*, plant and plant all through, edged with *Mrs. Pollock*; all the flowers of the geraniums removed. This is very chaste. *Tropæolum Lobbianum Conqueror*, a seedling of Mr. Gordon's, and which is in the hands of Messrs. F. and A. Smith, of Dulwich, may be recognized by its profusion of fine-formed, deep scarlet flowers, the finest of all the bedding tropæolums known. *Geranium St. Clair* and *Purple King Verbena*, single circles of each alternately all through. *Geranium Lady Alice* edged with *Geranium Gipsy Queen*. *Lady Alice* surpasses *Trentham Rose*, and is therefore a most desirable variety. We know not who has the stock of it. *Gazania splendens*, edged with *Aretotis repens*, a fine bed in the morning, if the sun shines. *Silver Queen Geranium* and *Verbena Melindres*, plant and plant all through, edged with golden ivy-leaf.

The great triangular beds on the Rose Mount are planted thus:—No. 1 (nearly opposite the entrance from the railway station), *Stella* centre, broad band all round of *Christine*, edging of *Flower of the Day*. No. 2 (going toward the Palace), *Cybister* centre, surrounded by *Lord Palmerston*, edging of *Cloth of Gold*. No. 3, *Trentham Rose*, band of *Lobelia*, edging *Flower of the Day*. No. 4, *Geranium Fothergillii*, band of *Crystal Palace Scarlet*, edge of *Purple King Verbena*. No. 5, *Cottage Maid*, *Christine*, edging *Gnaphalium lanatum*. No. 6, *Geranium Cerise Unique*, band of *Calceolaria aurea floribunda*, edging of *Lobelia Prince Arthur*,

flowers blue and white, very compact and good. No. 7, Centre of Cybister, band all round of Trentham Rose, edging Cloth of Gold. These are all perfect except the last, and that is so far perfect that no one can detect a flaw in it without careful inspection, when it will be found that Trentham Rose has grown up above Cybister, and smothered it, and at a little distance we see Trentham Rose only, with its golden edging.

The Araucaria beds on the second terrace are planted in the usual manner with *Lobelia speciosa* and *Lobelia Blue King*. The pedestals have circles of Trentham Rose and Crystal Palace. On the other side of the semi-circular walk on which the Araucarias are situated, are some oblong beds, which are most beautifully planted. They constitute a group of seven beds, all angular, and the measurement (by guess-work) six feet wide by thirteen feet long. These beds are all edged alike with *Lobelia Paxtoniana*. No. 1 (next the main cross walk) is Sparkler *Calceolaria*, one row Golden Chain. No. 2 is a mosaic, consisting of five rows of Cloth of Gold and five rows of *Blue King* alternately. No. 3, Smith's Excellent, a fine light scarlet gera-

nium. No. 4, Lord Palmerston. No. 5, *Geranium Fatannizzi*, one of the Blackheath Beauty class, but better. No. 6, five rows of Alma, with five rows of dark blue *Lobelia* alternating. No. 7, *Tropaeolum elegans*.

In the chain patterns at either end of the second terrace, the principal colourings are Crystal Palace, Christine, Yellow *Calceolaria* and variegated *Alyssum* foredging and links. In the two great panels at each extreme ends of the second terrace the corner blocks are Cottage Maid, Christine, Gaines's Yellow, and Flower of the Day.

Some small circular beds on the principal cross walk merit the attention of all connoisseurs in bedding effects. Amongst them the best are Madame Vaucher for centre, two rows of *Amaranthus melancholicus*, edging Cloth of Gold. Centre of *Amaranthus*, broad band of *Centaurea ragusina*, margin of blue *Lobelia*. Centre of *Geranium Diana*, three rows of *Amaranthus*, edging Cloth of Gold.

From these few examples it will be understood that Mr. Gordon keeps pace with the times, and will not allow any other candidate for public approbation to outdo the Crystal Palace in the splendour of its bedding effects.

## BULBS FOR THE BORDERS.

ESSAYS on Crocuses, Tulips, and Hyacinths have appeared in these pages so often that no attempt will be made to give prominence to rules for their cultivation this season. Not that they will be passed over as non-existent, because lists of the best are given in the present number, but repetition will be avoided, and the space gained thereby will just serve for something more seasonable. First, then, I shall respectfully inform you that, among the many lovely spring flowers that every year gladden my eyes and make it peculiarly pleasant to stroll down the garden on sunny days in the months of March and April, are some that are produced by bulbous plants of species and va-

rieties not very much known, yet not difficult to procure, not expensive when procured, and fitted to thrive in the commonest soil in any part of the three kingdoms. The following are particularly worthy the attention of persons who wish to make beds and borders gay next spring:—

*Narcissus maximus*, large flowers of the purest gold yellow, superb.

*Narcissus bulbocodium*, the pretty "hooped petticoat," a lovely little gem for the front of a bed or border.

*Narcissus poeticus*, well known for its exquisite beauty.

*Narcissus odoratus*, a fine yellow, delightfully fragrant.

*Tulipa Gesneriana*, the original of our show tulips, and a very distinct



and fine species for the border or bed.

*Tulipa scabriscapa*, the original of the early bedding tulips, and a fine subject.

*Galanthus plicatus*, the Crimean snowdrop; flowers very large and pure white.

*Scilla siberica*, beautiful dwarf species.

*Scilla campanulata*, larger than the last and later. All the scillas are worth growing.

*Iris Germanica*.—Any one who chooses to visit Mr. Salter's nursery at Hammersmith at the proper season may see a collection of *Iris Germanica* in bloom, which, for variety and richness of colouring, and for fantastic markings and curious effects, can only be likened to a collection of the grandest exotic orchids. Yet, strange to say, very few amateurs plant such things, perhaps because they do not last long; but then geraniums may be planted between them, or, better still, pentstemons, phloxes, and other proper inmates of the mixed border.

*Iris Florentina*, white, with blue shadings.

*Iris pallida*, very large and delicate.

*Iris pumila*, very dwarf, flowers blue, does well in front of a peat bed.

*Iris Anglica*, the "flag" of cottage gardeners. There are some fine varieties to be had in various colours.

*Erythronium dens-canis*, the dog's-tooth violet, will grow finely in a sandy soil, and makes a charming bed.

*Eranthis hyemalis*, the winter aconite. Planted now in a bed, or as a marginal line, or in clumps in the border, it will produce in January a delightful display of greenish-yellow flowers when no other flowers are to be seen.

*Lilies* of several kinds may be grown without prepared soil in any good border, and are sure to repay the little care they need. Now (that is to say, Sept. 1st) is the best time to plant, and they ought to be all planted before the month is out.

*Fritillaria Imperialis*, the Crown

Imperial, a favourite of the cottage garden, has been much improved of late, and the following varieties are well worth growing:—Crown upon Crown, King of Holland, Double-flowering Red, Double-flowering Yellow, Maximum, and the varieties with gold and silver leaves.

*The Roman Hyacinth*.—Some time ago, perhaps in the autumn of 1862, a correspondent of the FLORAL WORLD sent me a parcel of small hyacinth bulbs, asking if I could give an account of the variety, as it was somewhat peculiar, and remarkably useful for out-door purposes. I did not recognize the variety by the shape and size of the bulbs, and indeed there are very few bulbs that can be named to a certainty until we see the leaves and the flowers also. But they were planted, and in due time they flowered, and then I saw at once that I had the Roman hyacinth, and I was glad, for I had not seen it for more than twenty years previous, my last interview with it taking place at Covent Garden market one spring morning at 5 A.M., when I saw a lot unpacked at the house of a trader in bouquets. Should this meet the eye of the kind correspondent who sent me the bulbs, I wish to make an apology for not publicly acknowledging the gift sooner than this; and the reason of the delay is that I lost the name and address of the donor, and always hoped that some day I should meet with it among the FLORAL WORLD papers. I now bring forward the Roman hyacinth in order to recommend it for beds and borders. It is of dwarf growth, and hence, if used in beds, it will be most serviceable as an edging, or in clumps along the front line. It has no pretensions to be considered a florists' flower; the spikes are small, the flowers are small; but it flowers very freely, is never hurt by severe weather, and increases fast underground. I recommended it last year in quite an accidental way in another place, and there was immediately so much demand for it that the trade parted with them almost instantaneously. I hope this notice of it will induce such of the readers of the FLORAL

WORLD as do not already possess it to obtain a stock, for there is not a more useful hardy spring flower in our gardens. And I hope that the kind friend who sent me the bulbs—of which now I have a good stock—will believe that I never ceased to be

grateful for the gift and the remainder, though in the hurry of attempting to accomplish twice as much as I am able to do, I put his letter somewhere so safely that I have never been able to find it again.

SHIRLEY HIBBERD.

### SEEDLING GERANIUMS SOWN, FLOWERED, AND DESTROYED IN ONE SEASON.

It is not generally known that zonal geraniums may be flowered the same season as the seeds are sown; in fact, there are some practical men who will deny that it can be done. Let them deny; who cares? On the 20th of February last, I sowed four pans of seed, and placed them in warm greenhouse temperature. They were sown in rather rough pure loam. They came up well, and in due time were potted into thumbs and 60's, according to their size, as they were taken out of the seed-pans. The first potting off commenced in the last week of April, and thence to the last week in July; but they were potted in succession, as room could be made for them to grow. The only house appropriated to them was the "lean-to" described in a former issue of this work, which measures thirty feet by ten feet. As a few hundreds of geraniums were wintered in this house, the seedlings did not have much of a chance till the first week in May, when a great many of the old plants were taken out to make room for them. On the 21th of June, the first bloom appeared on one of the batch which were first potted. From thence to the end of August, about two hundred have flowered, and more than three hundred have good trusses advancing. As they number in all about fifteen hundred plants, it was, of course, impossible to flower them in the house. As fast, therefore, as they demanded more room, they were taken out of doors, and placed on a bed of coal-ashes. At the time of writing this, the out-door plants are sufficiently numerous to

cover a bed sixty feet long by five feet wide, and the lean-to is "chokefull." Of the two hundred that have flowered, all have been destroyed but one dozen, because in no respect better than varieties already in cultivation. How many more besides this dozen may be kept out of what have yet to show their first blooms it is impossible to say. In case any reader should think the plants were starved into bloom, it may be well to add, that none are bloomed in less than 48-sized pots; and plants promising well in their style of growth are got into 32's before showing their first blooms, so that, in every instance throughout the whole collection, the plants are very vigorous, with stems as thick as a man's forefinger, and ample leafage—in fact, no small proportion of them are a trifle too strong. This little story is told simply to show what can be done; the experiment was made solely to settle the point that zonal geraniums may be sown, grown, flowered, and proved in one season. And perhaps the point may be considered settled, especially as the seedlings have been seen by many well-known cultivators; and some of them, as *Henrietta*, *Magna Charta*, *Chibiabos*, *Emily Ellen*, and *Newington Beauty*, etc., have been publicly exhibited, criticised, and described. May I take the liberty to add that *Magna Charta* surpasses all known varieties in its perfection of form. The top petals are almost as broad as the lower ones, and overlap, so as to leave the thirty-second part of an inch to spare.

S. H.

## UNITED HORTICULTURAL SOCIETY.

THE second exhibition of this society in the beautiful gardens of Finsbury Circus, on Wednesday, July 12, was a great success. The exhibition was on the same model as the last—a great tent filled with specimen plants and cut flowers, approached by way of a smaller tent, filled with ferns, orchids, and other exceedingly choice productions; then other tents, filled with odds and ends, Barr and Sugden's fern-cases, Read's and Warner's engines, Holliday's wire-work, etc. *Orchids and Ferns.*—In the first of the tents, Mr. Wilson, gardener to W. Marshall, Esq., of Enfield; Mr. Baker, gardener to H. Bassett, Esq., Stamford Hill; Mr. Holland, gardener to R. W. Peake, Esq., Isleworth; Messrs. James Carter and Co., and other of the most noted exhibitors, staged their best plants, and won thereby the plaudits of a "discerning public." Here were orchids, ferns, and other choice subjects in great profusion and delightful freshness of condition. Among the orchids were *Cypripedium barbatum*, *Ærides affine*, *Vanda suavis*, *Lælia elegans* var. *Dayanum*, *L. purpurata*, the charming and at this season particularly valuable *Disa grandiflora*, *Phalenopsis amabilis*, *Odontoglossum hastatum*, *Cattleya Leopoldi*, *Cattleya superbiens*, nine flowers (from Mr. Baker); *Ærides Lobbi*, *Angula Clowesi*, six flowers; *Saccolabium Blumei*, *Ærides Fieldingii*, and a host besides, perfuming the tent with the breath of the Hesperides, and bewildering the eye with their magical forms and colours. The good plan of mixing was followed as before; that is, instead of each exhibitor's collection standing alone and unconnected with all the rest, the collections were broken up and mixed together without regard to ownership, but with regard to effect. With the orchids there were many other subjects, and conspicuous among them a grand group of *Lilium auratum*, from Messrs. Carter and Co.; these were in the centre, and attracted all eyes, insuring appreciation for the noblest

of all known lilies. A fine specimen of the variegated *Lonicera brachypoda* exemplified the fitness of this plant for specimen cultivation. Among the specimen ferns were *Elaphoglossum viscosum*, *Pseudathyrium flexile*, *Adiantum cuneatum*, *Pteris cretica albo lineata*, *Lastrea thelypteris*, *Platynerium alaicorne*, etc., etc. There was a fine specimen of the variegated *Sedum fabarium*, a good companion to the variegated *Sedum Sieboldii*, a good example of *Funkia Sieboldii*, and a host of other good subjects. *Roses.*—One whole side of the great tent was occupied with cut roses. No such roses have been shown before this season, and they literally made of it a "rose show," the profusion and the quality of the flowers making an end instanter of all possible question as to the excellence of the exhibition. There was no less than twelve boxes from Messrs. Paul and Son, of the Old Nurseries, Cheshunt, and six boxes from Mr. C. Turner, of Slough. This was a grand sight; the flowers were so fresh, so perfect in character, so various in selection. Amongst the varieties were fine examples of *Maréchal Niel*, the best of all yellow roses, *Anna Alexieff*, *Anna de Diesbach*, *Beauty of Waltham*, *Charles Lefebvre*, *Comtesse de Chabillant*, *Duc de Rohan*, *General Jacqueminot*, *John Hopper*, *Jules Margottin*, *La Ville de St. Denis*, *Lord Macaulay*, *Louise Odier*, *Madame Clemence Joigneaux*, *Madame W. Paul*, *Madame de Cambaceres*, *Madame Julie Daran*, *Madame Vidot*, *Maréchal Vaillant*, *Maurice Bernardin*, *Mrs. C. Wood*, *Olivier Delhomme*, *Prince Camille de Rohan*, *Senateur Vaisse*, *Vainqueur de Goliath*, *Alphonse Belin*, *Amiral La Peyrouse*, *Baronne de Kinkel*, *Centifolia rosea*, *Eugene Verdier*, *Kate Hansberg*, *La Duchesse de Morny*, *Louise Damaizin*, *Madame Victor Verdier*, *Pavillon de Pregny*, *Paul de la Meillerez*, *Triomphe de Villeceresues*, etc. Among the smaller exhibitions of cut roses was a collection from Mr. Holland, gardener to R. W. Peake, Esq., Isleworth, which

were equally remarkable for size and freshness, and for the remarkably fine quality of a few peculiar varieties which are rarely well shown. In this collection were examples of Auguste Mie, Paul de la Meillerez, Maréchal Forey, Alpaide de Rotalier, Victor Verdier, Duchesse d'Orleans, Louise Odier, General Washington, Narcisse, Admiral Gravina, Souvenir de Leveson Gower, Gloire de Dijon, La Reine, Madame Victor Verdier, La Ville de St. Denis, Madame Charles Wood, Lamarque, George Prince, Deuil de Prince Albert—this flat, curious, ugly, and yet (if the anachronism may be allowed) beautiful rose was better shown in this collection than in any previous case this season; John Hopper, Madame Vidot, Francois Arago, Jules Margottin, Lord Raglan—here was another bad but beautiful rose wonderfully well done, and looking like a gem of the first water, the colour unique and exquisite; Acidalie, Madame C. Crapelle, Mrs. Rivers, Senateur Vaisse, Comtesse de Chabillant, Prairie de Terre Noir, Anna Alexieff, General Jacqueminot, Empereur de Maroc, another of the quasi-good roses in charming condition, the form being in this case very nearly that of a perfect rose, and there need be nothing said of its matchless colour; Beauty of Waltham, Triomphe de Rennes, very pure and golden; Eugene Appert—here again Mr. Holland distinguished himself, this bad but charming rose had such a character as proves it to be capable of better things than rosarians usually make of it. Good collections were also shown by Mr. Vockins, of Lewisham, and other exhibitors. *Hollyhocks* were certainly second to roses in importance among the cut flowers; and the collections put up by Messrs. Paul and Sons, and Messrs. Downie, Laird, and Laing, were among the most attractive subjects in the exhibition. In form and substance these were glorious, and they were admirably chosen as to colours. Messrs. Downie, Laird, and Laing had Golden Noble, a fine high-centered flower, closely made, and of perfect outline, colour pure primrose,

deepening to buff at the base; Charles Eyre, scarlet-crimson; Seedling (16), very large, perfect form, colour soft flesh, deepening to rose-pink, quite first-rate. Seedling (56), medium size, pinky-blush, with light stain of buff at the edges; Alex. Shearer, huge, and of good form, colour deep crimson; Magnet, medium, deep crimson; Charming, glittering cerise; David Foulis, very large cerise-rose; In Memoriam, Mulberry, Illuminator, vivid carmine; Cygnet, primrose white; R. B. Ullet, Mrs. Downie, Lady Palmerston, Princess, a fine rosy purple; Prince Charlie, Lady de Veau, delicate soft carmine; Lady Dacres, fine salmon-buff; Purple Prince, Prince of Hesse, a curious shade of buff, like the Noisette Rose Desprez à fleur Jaune. Messrs. Paul and Son put up a larger collection, in which there was a splendid assortment. The varieties were Joshua Clarke, Queen of Yellows, Miss Barrett, Celestial, Harriet, Illuminator, Hesperus, curious red edges and purple shades, a curiously-painted flower; Glory of Walden, Lucretia, Hope, Lady de Veaux, Ella, Garibaldi, Morning Star, Mrs. Chater, Flora Maedonald, Hercules, Rev. J. Dix, Lady Dacre, Queen Victoria, Narcisse, Shrubland Gem, Ne Plus Ultra, Lady Paxton, Stanstead Rival, Negro, a fine blackish-maroon, which every grower of these flowers should have; Volunteer, Lady Middleton, Primrose Perfection, William Dean, Excelsior, Yellow Defiance, Morning Star, Reine Blanche, Diamond. Mr. Mortimore, gardener to Alfred Smea, Esq., F.R.S., sent a fine collection, as did also Mr. Porter, of Copt Hall, Essex, and J. Crute, Esq., of Tufiel Park. The last-named exhibitor appended to his flowers a notice, stating that they were all the product of one packet of seed grown in common garden soil, and with no particular care as to treatment. Yet amongst them were many really beautiful flowers, showing that amateurs may very cheaply enjoy a glorious display of this princely autumnal subject. Of course, with named kinds there is no risk at all, and the cultivator, having selected wisely, knows before-

hand precisely what he will have, and can with the more confidence and comfort bestow upon his plants all that are needful to bring them to perfection. In the foregoing list we have the selections of the two best growers of hollyhocks in the county, and amateur cultivators may safely refer to it for forming or improving a collection. *Geraniums*:—A July show, without abundance of zonales, would be a strange affair. On this occasion, they contributed largely to the colouring, and lighted up the tent in a welcome manner. Mr. John Fraser, of Lea Bridge Nurseries, sent some fine specimen plants of Herald of Spring, Souvenir de Nancy, The Clipper (this is one of the grandest scarlets known), Flower of Spring, Glowworm, Mountain of Snow, and others. Messrs. F. and A. Smith, of Dulwich, sent an immense collection of seedlings, many of which have been already described in the report of the Royal Botanic Society's exhibition. The following were, however, worth special notice:—Gauntlet and Glow had the best trusses of any, and every good quality besides; Royal Nosegay, vivid light scarlet, leaf dull green, and dull zone; Rising Sun, a nice light scarlet; Lucy, growth and leaf of Cerise Unique, with fine scarlet flowers. Mr. West, of Walnut Tree Nursery, Stoke Newington, had a collection of seedlings which were not named; amongst them a fine trusser in the style of Rose Rendatler, but with larger and better formed flowers; others in the batch were good scarlets, and might with advantage be shown again. Mr. George Smith, of Tollington Park Nursery, Hornsey Road, sent a large collection, amongst them Le Grande, a tremendously telling nosegay, with huge trusses of crimson-scarlet flowers; Chieftain, an exhibition variety, flowers large, light scarlet; Beauté de Suresne, a superb shade of rose-pink, and the character noble; it is one of the finest of all the zonales. From Mr. Aldred, of Kilburn, a remarkably interesting collection of seedlings of Mrs. Pollock, Sunset, Mrs. Benyon, etc., etc. One of these called Coquette is in the style of

Italia Unita, but is said to be a better grower; the plant shown was of neat dwarf habit, with fine leafage, and a most beautiful object. Eastern Beauty was shown amongst these; it is not the richest in colour of its leafage, but one of the best in style and habit, and ought to be better known.—*Fuchsias*: Mr. John Fraser sent a collection of about fifty neat, compact, half specimens, of exactly the kind required for ordinary conservatory and decorative purposes. The following were the most conspicuous amongst them:—Lord Elcho, Prince Imperial, Medora, Perseverance, Sunshine, Mdle. Trebelli, Oberon, Merry Maid, Sir R. Peel, England's Glory, Troubadour, Northern Light, Marginata, True Blue, Conspicua, Sir Colin Campbell, Reine Blanche, Great Eastern, Grand Admiral, Schiller, Prince of Wales, Fairest of the Fair, Ketelerii; this is a distinct and beautiful variety, the sepals rufous-flesh, or salmon colour, the corolla crimson, the form good; Prince Alfred, Seignora; this is another peculiar and beautiful flower, sepals greenish-white, corolla dark plum, in the way of Rose of Castile, but very different; La Traviata, superb; Earl of Devon, Queen of Beauties, Hermione, very free and showy; Conqueror Bacchus, Reine Cornelissen, Mdle. Tietjens, Souvenir de Cuiswick, L'Elisir d'Amour, Comet, Universal, Emblematic, Dr. Livingstone, Elegantissima, Paritan, Finsbury Volunteer, Bridesmaid. *New Fuchsias*: Messrs. F. and A. Smith, of Dulwich, sent Harlequin, neat habit, and free to bloom; sepals coral-red, corolla purple, with red stripe and double. This is one of the neatest of the double class, the flowering being below average size. Enoch Arden: the corolla of this fine fuchsia expands too much. Achilles, long barrel-shaped corolla. Eva, double white corolla, very free and attractive. *Fruit*.—Messrs. Lane and Son, of Berkhamstead, Herts, contributed a fine group of fruit trees in pots. These were all admirable examples of skilful cultivation, and they made a most artistic finish to one end of the tent, where they were arranged in a semicircle. Amongst them were pretty

trees of Brown Turkey and Bourjassotte figs, Mank's Codling, Cellini, and Early May apples, May Duke cherry, Victoria and Roblet plums, the last-named is a small preserving plum, not much known. The tree is a beautiful object when in bloom, and perhaps still more beautiful when in fruit. This example was loaded with fruit, which literally studded the tree throughout. In the centre of the group was a fine pot vine, with twenty bunches on it, the variety of Bidwell's Seedling. There were several nice collections of fruits and vegetables. Mr. Vockins sent Trentham Hybrid and Scarlet Gem melons; Mr. Young, of Havant, Royal George peaches and Elruge nectarines, Queen and Providence pines; Mr. Lewis, horticultural builder of Stamford Hill, two fine baskets of Black Hamburgh grapes; Mr. Tillery, gardener to the Duke of Portland at Welbeck, sent a collection, comprising fine British Queen, Frogmore Late Pine, Sir Charles

Napier, and Empress Eugenie strawberries, Royal George peaches, etc. Mr. Mortimore, gardener to Alfred Smee, Esq., F.R.S., sent a collection comprising Golden Perfection and Scarlet Flesh melons, white and red Dutch currants, a Queen pine, etc. Mr. John Newton, gardener to J. G. Graham, Esq., Enfield, sent a collection of gooseberries, including Roaring Lion, Whitesmith, Warrington, Crown Bob, White Rose, etc.; also Morello cherries, Black Naples and other currants. There were several seedling cucumbers shown. Mr. Fry, of Manor Nursery, Lee, Kent, sent Standard of Perfection, evidently a useful kind, the fruit being of medium size, handsome, and abundantly produced. Mr. Vockins sent a cucumber called Eclipse, which is of huge growth, but too coarse for exhibition purposes. Mr. Porter sent one called Essex Rival, a nearly smooth, symmetrical, handsome fruit.

### PLANTING A PANEL GARDEN.

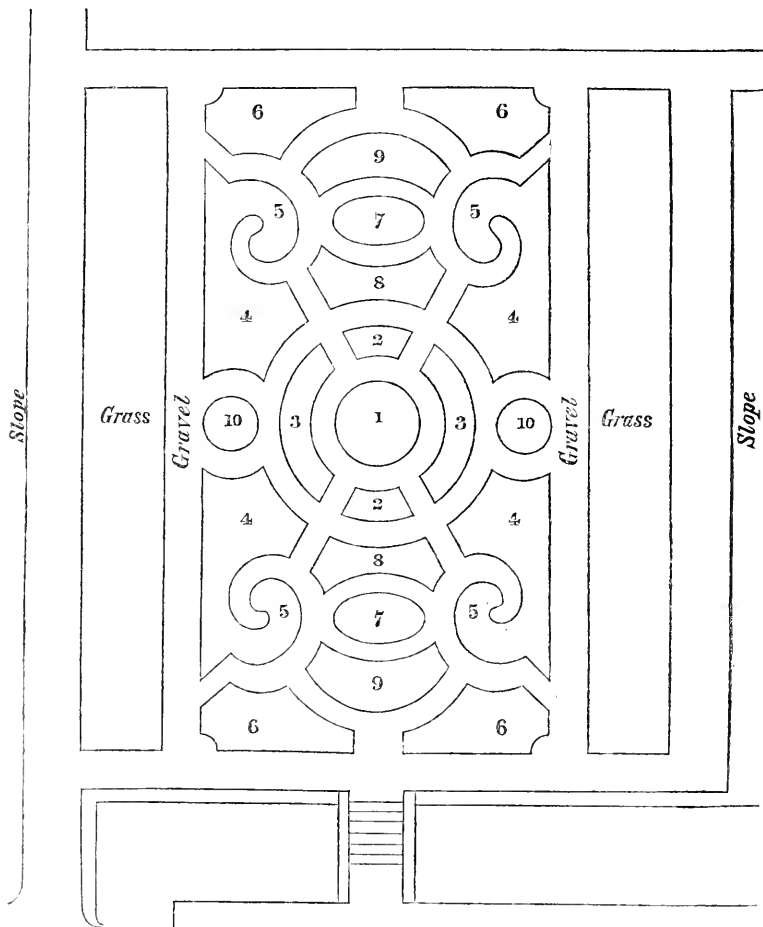
G. W. M. V. sends a sketch of her geometric garden, in order to consult the Editor upon the planting for next season, this being the time for propagating by cuttings whatever may be needed for next summer. The plan sent shows the present planting, with which she is not satisfied. The bedding-out was done by her gardener when she was in London, and she thinks a great improvement can be made. The colour of the gravel is very peculiar, and gives the place the name of *Redhills*; it forms an admirable neutral ground. Perhaps the Editor would be good enough to suggest combinations of colours for the large beds and neutral tints. G. W. M. V. has a good stock of the following geraniums:—Stella, Cybister, Tom Thumb, Little David, Mrs. Pollock, Sunset, Golden Chain, Golden Fleece, Cloth of Gold, Alma, Countess of Warwick, Flower of Spring, Bijou, Flower of the Day, Christine, Helen Lindsay, Emperor of the French, Spitfire, Crystal

Palace Scarlet, Jean Valjean, Admiral Protet. G. W. M. V. encloses a stamp for reply, or some communication in the September number of the FLORAL WORLD.

*Betherbed, Ireland.*

It has never been the rule of the FLORAL WORLD to arrange for its readers the planting of geometric gardens, for the good reason, that individual tastes differ, and the colouring proposed might not please those who adopted it. To describe plants, to discuss modes of cultivation, and generally to treat of the laws of colour are within the province of the work, but to arrange any one particular garden is not. There is no horticultural journal which undertakes to do so, in plain truth the thing is impossible. Equally impossible is it to arrange the colours for a geometric garden, a matter demanding time and thought, and then send it quietly away to the subscriber under cover of a penny stamp. Journalism could not last a single day on such

terms. If a fee had been remitted in a way separate from, and independent of, the interests of its readers. If I do not allow it to advertise other people, so I cannot allow it to advertise myself.



Scale \_\_\_\_\_ 50 feet.



answered till you forward a fee to pay for trouble, for that would be making the FLORAL WORLD the means of advancing my own interests

tise myself. There is, therefore, a choice of replying that "we never arrange the planting of geometric gardens;" or dealing with the case

submitted in such a way as will be likely to interest many of our readers. I select the latter alternative, and the first business is to say that this is a very well designed geometric garden, and the planting should of necessity be according to strict rules of art. As it is cut off from other highly coloured scenes by grass ramps, and is seen in its whole plan and detail at once from the steps by which access is obtained to it, as well as from the grass slopes on either side, the colouring should present a complete and harmonious picture, and the details thereof must be governed by the colour of the gravel, which is described on the plan as "a slate colour with a tinge of red in it." The present planting is as follows:—

1, *Centre bed*. Centre dot of Alma. circle of *Stachys lanata*, circle of dwarf marigold (*Tagetes pumila*), circle of Crystal Palace scarlet geranium, edge all round of *Cerastium tomentosum*.

2, 2, Blue Lobelia.

3, 3, *Gazania splendens*.

4, 4, Tom Thumb.

5, 5, Stella.

6, 6, 6, *Calceolaria aurea floribunda*, edged with *Cerastium tomentosum*.

7, 7. The upper bed Golden Chain, edged Blue Lobelia, the lower bed Golden Fleece, edged Blue Lobelia.

8, 8, The upper bed Christine, edged Flower of Spring, the lower bed Helen Lindsay, edged Bijou.

9, 9, Crystal Palace geranium, band of *Tropæolum Lobbianum elegans*, edged *Cerastium tomentosum*.

10, 10, On the left, Sunset, on the right, Mrs. Pollock.

In this planting there is a considerable amount of muddle. To make a neutral bed it is not needful to make a confusion; but the planters of this appear to have thought that neutrality and confusion are one and the same thing. The centre bed must be a sad affair with its white, scarlet, grey, orange, scarlet, and silver. The crescents of *Gazania splendens* are not bad, but they are not good, because in fine weather they are too yellow for so central a position, and in dull weather very much too green.

Looking down the centre, it will be observable that there is a want of decision, which is not so in the large outer compartments. This want of decision is the more to be lamented because the colour of the gravel does not tend to bring out indecisive colouring, but otherwise it tends to make it more indecisive, which would not be the case were it very white or very yellow.

Let us now suppose that the owner of this garden would like a general balance of colours, such as we might call a chromatic harmony, the scheme to have in it as many colours as possible, all in suitable proportions and arrangements, to produce a pleasing effect. Having such an object in view, the following would no doubt be satisfactory:—

1, Circles of Mrs. Pollock and blue Lobelia all through, the outside circle to be blue Lobelia.

2, 2, Christine, edged blue Lobelia.

3, 3, Crystal Palace, edged blue Lobelia.

4, 4, Christine in solid block.

5, 5, Attraction in solid block, broad band of Lobelia Paxtoniana all round, edged *Cerastium tomentosum*.

6, 6, 6, Flower of the Day in solid block, band of blue Lobelia, edged with two rows *Calceolaria Aurea floribunda*, or better still *Calceolaria canariensis*.

7, 7, Cloth of Gold, edged blue Lobelia.

8, 8, Cybister, edged variegated Alyssum, or *Stachys lanata*, or *Cerastium*, or variegated mint (if it will keep true).

9, 9, Stella, edged Purple King.

10, 10, Sunset in circles, with circles of blue Lobelia, the outside circle to be blue Lobelia.

Probably the peculiar hue of the gravel might render it necessary to edge all the beds alike with *Cerastium* or *Gnaphalium*. I can scarcely determine this point by dealing with the case on paper. Only those who know the ground can say whether it would be well to use the whitest possible edgings, and to have them alike all through. If compelled



to vote one way or the other, I should vote for *Cerastium* edgings all through.

Another very artistic mode of dealing with this garden would be to adopt a strong predominating colour, and use other colours only as relief agents. Agreeably to this idea I here offer a harmony in blue:—

1, Blue *Lobelia*, edged with *Cerastium*.

2, 2, Tom Thumb, edged blue *Lobelia*.

3, 3, Sunset, edged blue *Lobelia*; or Sunset one side, Mrs. Pollock the other.

4, 4, 4, 4, Circular dot of *Cybister*.

5, 5, 5, 5, circular dot of *Stella*.

4, 4, 4, 4, and 5, 5, 5, 5, filled in with blue *Lobelia*, enclosing the dots of *Cybister* and *Stella*, and extending throughout the compartment, with broad margin of *Cerastium*.

6, 6, 6, 6, *Alma* and blue *Lobelia* mixed, plant and plant all through, edged with *Flower of Spring*.

7, 7, Little David, edged blue *Lobelia*.

8, 8, *Lobelia Paxtoniana*, edged *Flower of the Day*.

9, 9, *Christine*, edged Purple King *Verbena*.

10, 10, *Crystal Palace*, edged *Cloth of Gold*.

On the same plan, but in another series of colours, is the following harmony in red:—

1, *Stella*.

2, 2, Blue *Lobelia* and *Cloth of Gold*, plant and plant.

3, 3, *Attraction*, or Tom Thumb.

4, 4, 4, 4, Solid planting of *Stella*.

5, 5, 5, 5, Solid planting of *Christine*.

These blocks to be planted half way with each of the two geraniums.

6, 6, 6, 6, *Amaranthus melancholicus*, edged with *Centaurea ragusina*.

7, 7, *Perilla*, with band of *Calceolaria canariensis*.

8, 8, *Attraction*, Tom Thumb, or *Crystal Palace*, with band of blue *Lobelia*.

9, 9, *Rose Queen*, with band of blue *Lobelia*.

10, 10, *Variegated Alyssum* and *Alma*, plant and plant.

All the beds, except 6, 6, 6, 6, to be edged alike, the best edging *Cerastium*, but *Alyssum* or a selection of geraniums allowable.

Let us now see what can be done with the plants enumerated in the list of those of which G. M. W. V. has plenty. This we may call planting for convenience.

1, *Cybister*, edged with *Bijou*.

2, 2, *Jean Valjean*, a nice rose-coloured geranium, with flesh coloured centre, edged with blue *Lobelia*.

3, 3, *Christine*, edged blue *Lobelia*.

4, 4, 5, 5, Two rows of *Stella* in centre, rounding to dot at 4, 4, filled in with Tom Thumb, and edged *Flower of the Day*.

6, 6, 6, 6, *Crystal Palace*, band of *Spitfire*, edge of *Flower of Spring*.

7, 7, *Helen Lindsay*, edged *Cloth of Gold*.

8, 8, Mrs. Pollock, edged *Alma*; and *Sunset*, edged *Alma* or *Bijou*.

9, 9, *Admiral Protet*, edged blue *Lobelia*.

10, 10, *Golden Fleece*, edged *Countess of Warwick*; and *Cloth of Gold*, edged variegated *Attraction*.

As the last scheme is adapted to the plants, and not the plants to the scheme, some remarks on G. M. W. V.'s stock may be allowable. Tom Thumb and Little David are good, but *Attraction* and Little *Treasure* are better. These it would be well to exchange as the time and circumstances allow. *Golden Chain* is superb when it grows well, but usually *Cloth of Gold* is better, and *Golden Fleece* is comparatively valueless. The variegated kinds in the list are all good; they are the best known. *Daybreak*, *Oriana*, and *Silver Chain* might be added to the stock for use in time to come when sufficiently plentiful. *Helen Lindsay* might be very well exchanged for *Rose Queen*, and there ought to be a stock of *Trentham Rose*. The Emperor of the French we do not know. *Jean Valjean* is a pretty geranium, but rather uncertain when used as a bedder.

S. H.

## A NEW WAY TO KEEP APPLES.

MR. M. R. THOMPSON, of Mifflin County, Pennsylvania, in a letter to the "American Agriculturalist," describes his method of keeping choice apples over winter, and until apples come again. The method is so simple, and the process so easy, that we hope many of our readers will be induced to make a trial of it at least, so that in future years of abundance like the present the crop may be made a source of greater profit. Mr. Thompson packs his apples in barrels or large boxes, surrounding each apple with a common dry ground gypsum (plaster of Paris). This is readily done thus:—Put into the bottom of the barrel or box an inch of the plaster, and then a layer of apples, keeping them from contact with each other, and an inch from the side all round. Sift in more plaster to fill up the space, and cover the whole nearly an inch. Then add another layer of apples, and more plaster, and so on to the top. The plaster employed is, we suppose, the common ground plaster for fertilizing—not the calcined, used for making casts, models, etc. The plan is worthy of trial at least, for it would appear reasonable that the fruit surrounded with a compact mass of dry

powder should keep almost as dry as if hermetically sealed. Mr. T. says he keeps pippins thus packed in good order until the following June. We judge from a remark in his letter that he does not store them in a cellar, but in any cool room of the dwelling-house.

In the "Chronicle" of Jan. 31, Dr. Lindley reports the receipt of some apples from Nova Scotia in the most perfect condition possible. He thus describes the manner in which the fruit was packed:—A wooden box was filled with trays, each 2 feet long, 18 inches wide, and 5 inches deep, divided by partitions into spaces 4 inches wide. These trays had a layer of dry ground plaster of Paris strewed over the bottom; on this layer the apples were placed in a single row; more plaster was carefully filled in between the apples, and the whole was covered with about an inch of plaster well shaken down, so that the fruit became immovable. Packed in Halifax on the 9th January, the box arrived on the 25th. Upon being opened the fruit was found to be in the most beautiful preservation, both as to appearance and quality. The plaster having been perfectly dry, no decay from moisture or fermentation was possible, and a soft brush removed it easily.

## SPENT HOPS.

HAVING a few moments of leisure, I think I may usefully employ them in the interests of floriculture by jotting down a few remarks that may serve to redeem hops from the aspersions that have been cast upon them, both as fermenting material for assisting numerous plants in their growth with bottom-heat, striking cuttings, etc., and as a fertilizer that may be employed to advantage for potting, etc., after it has become unfit for the purpose of furnishing bottom-heat.

As it regards the first particular, the heat they generate is not nearly so durable as that furnished by "bark" or "stable-dung;" but, on the other hand, a very thin layer of

them will supply a considerable amount of warmth, so that if the cultivator has a batch of any plants or newly-struck cuttings that only require the assistance of two or three weeks' gentle warmth to set them going for the season, a layer of six or nine inches of closely-packed hops would be ample for the purpose; besides, they are much pleasanter to finger in the process of plunging than either tan or dung; and whether the quantity employed is large or small, an admixture of new hops to the amount of one-third of the quantity, well forked up and incorporated with the old, will revive the heat when it begins to decline. It has frequently

been urged to their disparagement that they generate fungus in the process of fermentation to an extent that causes the destruction of large quantities of the plants that are grown in them. As far as my experience has gone, they are not at all apt to surpass in this troublesome propensity either of the other subjects usually employed for the production of bottom-heat. Indeed, I do not recollect to have seen this fungus more than once or twice. It spreads very rapidly after making its appearance; but it is instantly destroyed by taking the pots out of the place affected, and either mixing up with it a handful of common salt, or taking the hatch entirely out, and introducing a forkful or two of fresh hops.

Besides being one of the most successful subjects for the production of bottom-heat, there is scarcely any

soft-wooded plant that will not root freely into them, even when in a comparatively fresh state, and when they have rotted into mould. At the end of a year from the time they are taken from the brewhouse, a first-rate material is produced for mixing with loam, or any other soil that may be used for striking or potting on soft-wooded plants. Some of the best fuchsias I ever saw, either for vigorous growth or size, and richness of blossom, were some grown by myself in the summer of 1861, in equal parts two-year-old rotted hops and two-year-old road-sand from a macadamized road. They are also very useful as a mulching material in the summer season for beds of asters, or similar things that delight in moisture, and in a medium into which they can produce abundance of roots.

*Stanford Hill.* W. CHITTY.

## CULTIVATION OF YUCCAS.

Yuccas are of easy culture, and very important plants for the decoration of the lawn. A chief item in their cultivation is to exercise the necessary patience while they are progressing to perfection, as from the time the suckers or offshoots are separated from the mother plant, some four, five, six, or seven years are necessary for their development to perfect plants. There are no plants that serve to add richness and grace to a nicely arranged lawn and pleasure-ground more worthy of attention than the *Yucca superba*, and its varieties, *gloriosa*, *incurva*, *recurva*, and others. *Y. filamentosa* is a beautiful and useful plant, but more suitable as a back plant in the herbaceous border. *Y. angustifolia* is a beautiful thing for a small lawn or flower-garden, while its variegated form is one of the most useful and stately plants that can be introduced into a cool greenhouse. There are many other kinds, both hardy and frame or cool greenhouse plants, but those we have mentioned are the most useful for general purposes. Perhaps the handsomest plant for effect is the

incurved variety of *gloriosa*; this is really a noble plant, and when it has obtained from 24 to 30 inches of stem, surrounded by its noble crown of broad, deep green, incurved leaves, it forms quite a feature in the parterre or on the lawn, and if growing in groups of from five to nine or ten plants, nothing can surpass the idea of wealth and repose they contribute—ideas which are invariably suggested by a well-arranged and highly-kept garden or pleasure-ground.

Now we will say this is the beginning of September, which is the best time to take off the offshoots. Separate them from the main stem by a clean cut with a sharp knife; place three or four of them round the side of a 32-pot, in a mixture of very sandy peat and loam; set them in a cool frame, or in a greenhouse; water as they require it, and by the end of June or beginning of July they will have rooted sufficiently to pot off into separate pots. Give them such sized pots as they seem to require, potting in the above mentioned soil, this time with the addition of a sixth of very rotten manure or leaf-mould;

set again in the greenhouse or cool frame, water when necessary, and encourage by a shift of two sizes whenever they require it; that is, say a plant has well filled a 32-pot with roots, let the next move be into a 16-sized pot; let the drainage be thorough, and at every shift use the richest soil.

If room can be spared, it is better to encourage the growth of the hardy ones in the cool frame or greenhouse for three or four years, as they will sooner be capable of producing effect when planted out. When they are to be planted out, prepare the soil by trenching and manuring, making the soil as rich as for a crop of onions in the kitchen garden, and let it be in a position in which water cannot stagnate about their roots. If the situation should be naturally wet, let the ground be well drained by the inser-

tion of a drain twenty-four or thirty inches in depth. One other thing to be attended to in their culture is to allow them to remain in the natural position through the winter months. It is common to tie the leaves together; this practice is decidedly injurious two ways: in the first place, it prevents any moisture which may find its way into the heart of the plant from drying out, and is thus very likely to accelerate rot in the crown, and cause destruction; and in the second place, the leaves left in their natural position afford very considerable protection to the stem and roots of the plant from frosts and drying winds, a provision as necessary as that in the *Rhododendron Catawbiense*, which droops its leaves so as to embrace the stem, and thus protect it from the severity of winter.

W. CHITTY.

### POTATO DISEASE.

THE crop of potatoes is this season generally good, but in many places the disease has actually appeared, and is doing much mischief. Whenever it is suspected that the disease has got into the field, it will be advisable to take up the crop instantly. The tubers will all ripen if kept in store

some time before they are used, and if they are sorted over ten days after taken up, the diseased may all be picked out, as by that time it is more easily detected. If left in the ground, the disease will make great havoc, and perhaps spoil the whole crop.

### CONSTRUCTION OF FLUES.

Flues should never be disturbed after they are built for the necessary operation of cleaning them. Bricks should be left out at intervals, and fitted in after the rest is finished. Those constructed of pipes should have junction lengths placed at intervals; the holes in them may be stopped with a piece of slate and cement, to be taken out when cleaning is necessary; they should be carefully cemented together. If each length of flue is perfectly straight, openings can be left at each end, and brushes with long handles can be thrust through the entire length, so that they may be

cleaned without the possibility of disturbing the joints—a most fertile cause of smoky flues. Pipes should never be placed within twenty-five feet of the fire, but beyond that they may be used with safety, and it would surprise any one unaccustomed to them what heat is secured by them. The draught of fire is proportioned to the height of chimney. The kind of fuel to give a most lasting heat, and one suitable for heating by flues, is breeze, or ashes, from a common domestic fire-place, mixed with one-third coal. Flues should always be furnished with vapour troughs.

## SEPTEMBER, 1865.—30 DAYS.

PHASES OF THE MOON.—Full, 5th, 1h. 52m. after.; Last Quarter, 12th, 4h. 58m. morn.; New, 19th, 10h. 46m. after.; First Quarter, 28th, 2h. 47m. morn.

AVERAGES FOR THE MONTH.—Bar. 30·019. Therm. max. 67°, min. 49°, mean 56½°. Rain, 2·1 inches. Prevailing winds S.S.W., and S.E. Weather very settled, often with great sun-heat; towards the end cold nights are common, and occasionally slight frosts.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.
	rises.	sets.	Barom.		Therm.			
	h. m.	h. m.						
1	5 14	6 45	30 04	29 95	70	49	59·5	Pentstemon breviflorus.
2	5 15	6 43	29 85	29 75	72	45	58·5	Aster multiflorus.
3	5 17	6 40	29 68	29 65	73	49	61·0	Lysimachia ephemerum.
4	5 19	6 38	29 83	29 73	73	51	62·0	Aconitum Clinense.
5	5 20	6 36	30 03	29 91	68	42	55·0	Androsacea lanuginosa.
6	5 22	6 34	30 03	29 91	72	60	66·0	Aster floribundus.
7	5 23	6 31	29 95	29 92	75	61	68·0	Linaria purpurea.
8	5 25	6 29	29 97	29 94	74	62	68·0	Verbena venosa.
9	5 27	6 27	29 95	29 89	69	48	58·5	Anemone Japonica.
10	5 28	6 24	30 01	29 88	64	45	54·5	Veronica angustifolia.
11	5 30	6 22	29 89	29 77	66	32	49·0	Pentstemon diffusum.
12	5 31	6 20	29 98	29 85	68	34	51·0	Aster luxurians.
13	5 33	6 17	29 85	29 82	66	48	57·0	Linaria vulgaris peloria.
14	5 35	6 15	29 69	29 53	63	42	55·0	Veronica oligophylla.
15	5 36	6 13	29 61	29 48	66	37	51·5	Rudbeckia fulgida.
16	5 38	6 11	29 32	29 30	65	40	52·5	Helianthus trilobatus.
17	5 39	6 8	29 52	29 42	64	41	52·5	Rudbeckia colum. pul.
18	5 41	6 6	29 63	29 60	64	37	50·5	Veronica serratuloides.
19	5 43	6 4	29 78	29 60	66	32	49·0	Aster inuloides.
20	5 44	6 1	29 87	29 77	67	50	58·5	Helianthus linearis.
21	5 45	5 59	29 76	29 72	67	48	57·5	Solidago procera.
22	5 47	5 57	29 78	29 71	69	44	56·5	Palafoxia Texana.
23	5 49	5 54	30 01	29 95	68	50	59·0	Veronica complicata.
24	5 51	5 52	30 22	30 05	70	36	53·0	Aster artemisiflorus.
25	5 52	5 50	30 30	30 23	70	40	55·0	Rudbeckia asperima.
26	5 54	5 48	30 33	30 22	72	33	53·0	Anemone vitifolia.
27	5 56	5 45	30 26	30 21	68	32	50·0	Helianthus giganteus.
28	5 57	5 43	30 23	30 16	70	33	51·5	Solidago gigantea.
29	5 59	5 41	30 16	30 06	70	38	51·0	Pyrethrum uliginosum.
30	6 0	5 38	30 11	30 08	64	37	50·5	Heimerocallis Sieboldii.

PROBABLE WEATHER FOR SEPTEMBER, 1865.—How completely has the forecast for August been fulfilled in general and in detail, and especially in the changes indicated for the latter part of the month! There is a prospect of a brilliant and enjoyable autumn, and of weather suited to all crops and all labours. Roots will be fine, and grain will be safely harvested. From 1st to 15th fine, without any interruption; wind easterly in southern and eastern districts; average temperature. From 16th to 24th, showery in western districts, and in the north rather stormy, but agreeable weather prevailing; in eastern districts some rain, with wind N.W. to S.W. From 25th to end, fine, with wind N.W. to N.E.; in all districts situated north of Norwich occasional frosts likely, and these will occur with heavy fogs; temperature low everywhere; but upon the whole the month will close as pleasantly as it began.

## THE GARDEN GUIDE FOR SEPTEMBER.

**KITCHEN GARDEN.**—Fetch up all arrears while the ground is warm and moist, and especially see that winter greens are fairly dealt with. Many of the small plants left in seed-beds will now pay for good places, and the clearing away of peas, potatoes, etc., will make room for them. Good stumps of summer cabbage should be planted close together to furnish sprouts. Earth up celery. Prick out cauliflowers into patches four inches apart, to be covered with hand-lights. Take up potatoes, carrots, and beet-root as wanted. Parsnips may be taken up and stored, if the plot is wanted for winter greens. Draw onions, and lay in the sun to harden.

Sow lettuce—the hardy green is best now; sow also corn-salad for winter use.

**FRUIT GARDEN.**—In gathering fruit, put the damaged aside for immediate use, and store only those that are without bruises or damage of vermin. Protect the fruit with nets. Get the wood of vines ripened.

**FLOWER GARDEN.**—All border plants of questionable hardiness, or that are of high value, should be taken up and potted, to keep over winter in frames. Pot off rooted layers of carnations and picotees, and rooted offsets of auriculas. Propagate bedding-plants, and get struck cuttings into small pots. Calceolarias should be struck in shallow pans, to be kept in the pans till early spring. House tender plants, and give plenty of air. Sow hardy annuals on firm ground, to stand the

winter, for early bloom next season. Gather seeds of all kinds as soon as ripe. Plant hyacinths, tulips, narcissi, crocuses, snowdrops, and daffodils, as soon as the bulbs are obtained. Look over roses lately budded, and loosen the ties. Buds may still be entered on stocks that were not fit in July.

**GREENHOUSE AND STOVE.**—Whatever painting or repairing is required should be attended to forthwith, and the smell of paint got rid of before any plants are housed. Pelargoniums that have broken freely should be repotted in as small pots as their roots, after trimming, can be got into. Young stock should be well hardened as soon as possible. Keep cinerarias and primulas growing freely, and make a last sowing of the latter. Sow now, for decorating the house early in the spring, Clarkia, nemophila, erysimum, cœnothra, collinsia, veronica syriaca, mignonette. Give plenty of air to stove plants, and get a good stock of young pines forward. Vines that have ripened their fruit should be well cleaned. Hard-wooded plants require to be well ripened before housing. Give plenty of light and air to cinerarias and primulas. Pines want a humid atmosphere, full sunlight, and plenty of manure-water. Shade grapes intended to hang any length of time. Vines disposed to break, encourage with a temperature of 55° to 60°; for pines in growth, 84°.

## A CULTURAL LIST OF FIFTY BRITISH FERNS.

*Adiantum Capillus-veneris* (Common Maiden-hair).— $\frac{1}{4}$  to  $\frac{1}{2}$  ft. high. Will not bear exposure, but flourishes in a damp confined atmosphere; loves shade.

*Allosorus crispus* (Mountain parsley fern).— $\frac{1}{4}$  to  $\frac{1}{2}$  ft. Free-growing and elegant; stone-loving; hence does well for artificial rockwork; must be well drained, and in watering take care not to break the fronds.

*Asplenium Adiantum nigrum*.— $\frac{1}{2}$  to 1 ft. Ornamental both for pot-culture and rock-work. In the latter its neat habit and glossy fronds are desirable.

*A. A. variegatum*.— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. Very inconstant. Will grow either in exposed or shady situations, but prefers the latter.

*A. A. oxyphyllum*.— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. Can be

readily propagated by separating the crowns.

*A. fontanum*.— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. Should be potted in very porous soil, and is best elevated a little above the soil by a few pieces of soft sandstone.

*A. marinum*.—1 ft. Easily cultivated in a frame or greenhouse, but does not succeed if exposed; is constitutionally tender.

*A. m. trapeziforme*.—1 ft. May be increased by division; soil, light turfy peat, with liberal quantity of silver-sand.

*A. ruta muraria* (Wall rue).— $\frac{1}{2}$  to  $\frac{1}{4}$  ft. Grows best in fragments of old brick and mortar; requires less moisture than these generally like.

*A. septentrionale*.— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. Requires moderate constant (not stagnant) moisture; grows well in pots, but does not bear exposure.

*A. Trichomanes*.— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. May be grown on rockwork or in pots, and grows freely in a pure atmosphere when established.

*A. T. cristatum*.— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. Propagated by dividing the crowns. Drain well; do not allow stagnant water to remain about the roots.

*Athyrium filix-femina* (Lady fern).—2 to 4 ft. Prefers a light, free, loamy soil, both sandy and turfy, and should be planted in moist sheltered places.

*A. f. f. crispum*.— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. May be placed on rockwork, or in the mouth of a cavernous recess, with fine effect.

*A. f. f. corymbiferum*.—2 to 3 ft. Must be well supplied with water; when grown in a pot, it requires one of a large size.

*Blechnum* (*Lomaria*) *spicant* (Common hard fern).—1 to  $1\frac{1}{2}$  ft. Of easy culture, and very hardy, luxuriating in swampy, boggy places.

*B. s. multifidum*.—1 to  $1\frac{1}{2}$  ft. Readily propagated by dividing the crowns; must be kept moist.

*Ceterach* (*Grammitis*) *officinatum* (Scale fern).— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. Likes a porous soil in which a good proportion of old mortar and broken freestone is mixed; dislikes damp.

*Cystopteris* (*Aspidium*) *fragilis* Dickiana.— $\frac{2}{3}$  to  $\frac{1}{2}$  ft. Must be well drained. Fronds subject to damage from a yellow fungus.

*C. montana* (Mountain bladder fern).— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. It is generally believed that this cannot be grown in the hardy fernery, but it can with care.

*Lastrea cristata*.—1 to 2 ft.—Free-growing and easily cultivated: of erect habit, and bears exposure well; suitable for damp rockwork.

*L. c. major*.—2 to 3 ft. Well adapted for growing on the margins of artificial bogs. Of a distinct character.

*L. c. spinulosa*.—2 to 3 ft. Erect in habit, and will grow in any situation suitable for ferns.

*L. dilatata dumetorum*.— $\frac{3}{4}$  to 1 ft. Suitable for rockwork, shady borders, or wilderness scenery: one of the most compound and elegant of our British ferns.

*L. d. cristata*.—2 to 3 ft. May be grown in an exposed position, but succeeds much better in the shade.

*L. filix-mas*.—3 to 4 ft. Very common, but ornamental when in vigorous health; suitable for shady walks and shady side of rock-work.

*L. f. m. cristata*.—2 to 3 ft. As a pot plant it requires plenty of space for its roots, a sandy, loamy soil, and must be watered in summer.

*L. f. m. c. angustata*.—2 to 3 ft. Will flourish in the shade. The pots may be plunged in a sheltered place out of doors in the winter.

*L. æmula* (*fœnisecii*, *recurva*).—1 ft. One of the most beautiful British ferns—growing freely in light, porous, loamy soil; must be well drained.

*L. montana* (*oreopteris*) (Mountain Buckler fern).—1 to  $1\frac{1}{2}$  ft. One of the few fragrant ferns; its odour is balsamic and agreeable. Plant in pure loam; keep quite wet at all times.

*L. rigida* (Rigid Buckler fern).— $\frac{3}{4}$  to 1 ft. Flourishes in well-drained porous loam, or a shady peat border; do not keep it too moist.

*Ophioglossum lusitanicum* (Dwarf Adder's-tongue).— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. Easily cultivated, but often destroyed by snails; soil, loam, or sandy (not fibrous) peat.

*O. vulgatum* (Common Adder's-tongue).— $\frac{1}{2}$  to  $\frac{1}{3}$  ft. Mature in mid-winter, and dies down about Midsummer; soil, sandy loam.

*Osmunda Regalis* (Royal fern).—3 to 6 ft. Prefers moist situations and a peaty soil. Propagated by detaching and planting any lateral offshoot from the caudex.

*Polypodium alpestre* (Alpine polypody).— $\frac{3}{4}$  to 1 ft. Perfectly hardy. In the hardy fernery or in pots it will grow readily in well-drained, porous, loamy soil.

*P. dryopteris* (Oak fern).— $\frac{1}{2}$  to  $\frac{3}{4}$  ft. Loves moisture, shade, and shelter: an excellent dwarf rock fern, and very hardy.

*P. robertianum* (*calcareum*) (Limestone polypody).— $\frac{1}{2}$  to 1 ft. Hardy, free-growing, and will bear exposure to sun; prefers loamy soil, and must be well drained.

*P. phegopteris* (Beech fern).— $\frac{1}{2}$  to 1 ft. Requires an abundant supply of moisture about its roots and fronds: must have shade and a moist atmosphere.

*P. vulgare cambricum* (Welsh polypody).— $\frac{3}{4}$  to 1 ft. Remarkable for great breadth of frond. This well-known and handsome variety is always barren.

*P. semilacernum* (*Hibernicum*) (Irish polypody).—1 to  $1\frac{1}{2}$  ft. A handsome variety, but not characteristic till of considerable size and strength.

*Polystichum angulare*.—2 to 3 ft. No fern easier cultivated; grows in any light loamy soil, especially where there is leaf-mould.

*P. a. proliferum* (*angustatum*).—2 to 3 ft. It should be planted in well-drained loamy soil and a shady situation; one

of the most ornamental of our hardy species.

*P. aculeatum*.—1 to 2 ft. Should be planted in well-drained sandy loam, and partly shaded.

*P. a. lobatum*.—1 to 2 ft. Very easily grown, and fit either for ornamental rock-work or pot collections.

*P. a. proliferum*.—1 to 2 ft. Prefers to be kept in a moderately shady situation.

*P. lonchitis*.— $\frac{1}{2}$  to  $1\frac{1}{4}$  ft. Of shy growth and tardy increase; may be kept in good health if potted firmly in well-drained soil, and kept in a cool moist frame.

*Scopolopodium vulgare crispum*.—1 to

$1\frac{1}{2}$  ft. Barren; cultivated in the hardy fernery or pots; should be planted where the sun's rays do not reach them.

*S. v. multifidum*.—1 to 3 ft. Really elegant, but not characteristic while small. Must not be exposed to the sun, as it spoils its beauty.

*S. v. polychides (angustifolium)*.— $\frac{3}{4}$  to 1 ft. Few ferns surpass this if cultivated in the shade. In greenhouses, watering is necessary in warm weather.

*Woodsia ilvensis*.— $\frac{1}{4}$  to  $\frac{1}{2}$  ft. Will thrive in the open fernery in a sheltered spot, but in winter must not be surrounded by stagnant soil.

## TO CORRESPONDENTS.

DIRECTIONS FOR PREPARING SKELETON LEAVES, etc.—*R. A. R. and others*.—

Select the finest and most perfect specimens, and soak them in a large deep vessel of rain-water; place it in a sunny spot or other warm situation, and shake it occasionally, but not sufficient to stir up the contents, as that might injure the fibres of the leaves. As the water evaporates, fill up with fresh water again, without changing that which remains. Be careful of using any chemical in order to assist decomposition, as you will thereby run great risk of injuring the delicate skeleton, which of course you are anxious to keep quite perfect. But if you are impatient of waiting, a few drops of muriatic acid would hasten the destruction of the soft parts. The most usual plan, however, is to soak the leaves in rain-water only, until the skin which envelopes the fibre is quite soft and loose, so that it can be easily removed. The best plan for accomplishing this is to lay each one separately in a plate full of water, and carefully remove the soft parts with a needle, or gentle rubbing with the finger and thumb. Of course, great care must be taken not to break the skeleton; but with a little practice you will be able to do it easily. As soon as the water thickens, so that you cannot well see what you are about, change it, or you will spoil your work. In some cases a piece of soft flannel may be used with advantage; but the final clearing of pulp from the fibres must be performed with a camel-hair brush. The time required for steeping them depends upon

a variety of circumstances, such as the kind of leaf, its age, the time of year, the temperature of the weather, etc. The leaves of the ivy and lolly require soaking for three or four months, while those of the pear, apple, and poplar will be ready in as many weeks; so that it will be necessary for you to use your own judgment, and discover the time each kind of leaf requires for yourself, by examining them occasionally. Of course it will require some patience and perseverance before "first-rate" skeletons can be obtained; but the task is not so difficult but that any one gifted with ordinary patience and medium talent may be able to produce very creditable specimens. The vessel containing the water may be pretty well filled with specimens, as they will not injure each other unless shaken too rudely, but perhaps rather assist in the process of decomposition. It is not advisable to use any but full-grown leaves, as the delicate fibres of young ones are likely to decompose with the pulp. The best time for selecting them is therefore about July or August, when they are quite mature, but still vigorous. Great care must be taken to choose only the most perfect, for it is obvious that if any portion of the fibres are injured before you macerate them, it will be impossible to obtain a perfect specimen. Hold your leaf, then, up to the light, and if you can see a crack, or any small spots of decay, throw it away, or your time and trouble will be wasted; for when once the skeleton is broken, or otherwise injured, all attempts to repair it prove



unavailing. Those leaves which have the toughest fibres are, of course, the best adapted for the purpose, and consequently the soft leaves of rapid-growing plants are useless. Those best adapted for the purpose, and which can be obtained by everybody, are the leaves of ivy, holly, magnolia, rose, pear, sycamore, willow, oak, hawthorn, poplar, orange, and lemon, the petals of hydrangea, and fruit of the apple, thorn, and winter cherry. Each kind of leaf has a peculiarity of structure and a beauty entirely its own; so that the differences in the fibrous network, and the variety and elegance of outline observable in the different subjects, give to the pursuit a great charm. The appearance of the skeleton is greatly improved by bleaching, which is accomplished by plunging in spring water in which has been dissolved some chloride of lime. Two table-spoonfuls of liquid chloride to a pint of water will suffice. In some cases the skeletons will become white in a few minutes, but leaves of stronger fibre will take a much longer time. When well bleached, dry them carefully on blotting-paper, and then arrange them tastefully in a vase, and cover the whole with a glass shade, when you will possess a very elegant ornament for your drawing-room or boudoir. A shorter method has been devised for preparing skeleton leaves, which occupies but a few minutes, but is perhaps applicable only to those of the toughest fibre, as the process is somewhat rough. It consists in drying the leaves between sheets of blotting-paper, in a botanical press or under a weight; when quite dry, place the leaf to be operated upon on a soft pad, and beat it with a brush until the pulp is entirely separated from the fibre. Some very good skeletons have been obtained in this manner. A cushion and a clothes-brush will be sufficient for the first experiment, when, if the plan is approved, you can easily devise means for carrying it out properly.

**TOWN GARDEN.**—I have two places in my garden at Holloway I can do nothing with, viz., the two ends. The back of my house faces the south-east. Even with the ground, and looking into the garden is a little breakfast-room; above it is the drawing-room, with a projecting balcony. In front of this room and under the balcony is a strip of border three or four feet wide; it is so hot and dry I can do nothing with it. At the

other end of the garden are several tall poplars and some shorter Canada poplars, between and around them I have heaped burrs, and grow many hardy ferns and rock plants. They answer pretty well, though I fancy ferns would prefer some other kind of tree. Eight or ten feet behind the tree is the garden wall, against which, to raise it, is a trellis on which I am growing ivy. This is to hide the backs of houses. There is a walk round the trees and rock-work, and against the wall a narrow border. What can I do with it? The two questions are simply, What to grow in a dry, hot place, and what in a dark, dry place? An answer will oblige *Fanny Fern*. [*Fanny Fern* may make these two positions very interesting by means of a little care. In the hot, dry border under the window of the breakfast-room, all kinds of zonale geraniums would do well, if planted on the 10th of April. When planted early such things get well established before hot weather sets in, and then they flower superbly. But the time has come for something else. If the writer of this had to deal with the case for himself, he would introduce some soil of a rich, sandy nature to raise the border, and then face it with large burrs. He would then plant it with all the hardy sedums and sempervivums, of which there are some dozens to be had. *Calandrinia umbellata* should be added to make lovely patches of colour next summer. In the spring *Portulaccas* to be sown in patches, and a dozen or more species of *Mesembryanthemum* planted out. Nearly every kind of ornamental grass would grow finely in the border. The following would be especially suitable:—*Eragrostis elegans*, *Briza maxima*, *Agrostis nebulosa*, *Elymus glaucescens*, *Hordeum jubatum*, *Aira cespitosa*, the variegated *Dactylis glomerata*. The following hardy perennials would also do well there:—*Achillea Egyptiaca*, *Alyssum saxatile*, *Iberis sempervirens*, *Campanula carpatica*, *Cineraria maritima*, *Diotis maritima*, *Stachys lanata*, and wallflowers. These last should be planted *now*. In the shady border under the poplar-trees, ferns of several kinds would do well if planted in peat. A common reason of ferns failing is, that people will plant them in the common soil of the place, which is often unsuitable. Here *Lastrea filix-mas*, common Hart's tongue, Lady fern, *Blachnum spicant*, *Lastrea dilatata*, and *Osmunda regalis* will do

well if planted in two feet depth of turfy peat, and supplied with plenty of water from the 1st of May to the 24th of June, after which they need not have another drop. A grand sheet anchor for such a spot is Solomon's Seal; when it has stood in the same spot some years, it becomes quite grand in its growth, and blooms most freely. It would greatly improve such a spot to plant patches of Solomon's Seal here and there all over it, and take care not to disturb it for some years. The common blue squill, the Roman hyacinth, Narcissus of sorts, Cyclamen europeum, primulas of sorts, hardy lilies, border Polyanthus, and varieties of *Iris germanica* might be planted in clumps now, and would well repay for the little trouble and expense occasioned by their beautiful appearance next season. No doubt *Dielytra spectabilis* would grow and flower finely in this shady spot, but it is certain all the others named would answer admirably. If the soil were taken out and replaced with peat and loam from Wanstead, and the rock-work made up again, it would be a grand thing towards rendering the spot beautiful. Of course you would take care not to injure the trees in so doing, for you want all the trees you can get in Holloway.

*Miss B. M.*—It is our rule never to recommend dealers. Apply to some of those who advertise in these pages.

**CALCEOLARIAS DYING.**—*T. H. W.*—One way to prevent Calceolarias dying off is to plant them deep, which causes them to throw out roots from above where the original roots commence. Another help is to strike the cuttings in a bed in a frame, and from this frame to transplant them carefully in spring to the places where they are to bloom, never allowing them to go into pots at all.

**LILACS NOT BLOOMING.**—*O. M. H.* would be obliged to the Editor of the **FLORAL WORLD** if he would suggest anything likely to prevent the flowering of the common lilac. They have been tried in all soils, and all situations, in *O. M. H.*'s garden; young trees have been planted, older trees transplanted, but none ever flower. One young tree put up a spike of blossom, but it fell off without opening, and none have since appeared. The trees come into good leaf, seem perfectly healthy, and grow well. The lilac flowers profusely in all gardens near. Do they like a rich soil or poor; a sunny or shady situa-

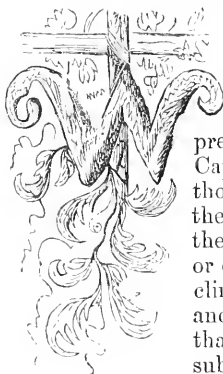
tion? It seems a very rare case, unexplained at present by any person, gardeners included, *O. M. H.* has consulted. The flowers of so beautiful a shrub are a great loss in the spring. The Persian lilac blooms well, and flowering shrubs in general. [It is a pity *O. M. H.* did not say in what district she resides, what sort of aspect the lilac trees are in, and what is the sort of soil to be dealt with. Nine tenths of the inquiries that come to hand are put in such a form that to give definite replies is impossible. As the common lilac blooms in all the gardens near, it must be concluded that the management in this particular case is wrong. In regard to soil, the common lilac is not at all particular, and generally it scarcely matters what situation it is in. But a deep, loamy soil, with dry warm subsoil, a warm climate, and a sunny position, are the conditions most likely to favour the production of an abundant bloom. Everywhere, and in all seasons, the common lilac is much less free to bloom than the Persian; but wherever it has plenty of sun, and is sheltered from the north, it usually blooms well. Now, perhaps if *O. M. H.* will have a little patience, hers may bloom as well as other people's. Perhaps they are not yet so well established in their stations as to ripen their wood well. But supposing that they have had a good chance in that respect, we should, as a last resort, recommend the adoption of the following plan. Prepare, some time in September or October, stations for planting lilacs. At every station take out the soil a yard square and a yard deep. Fill the hole with a mixture of three parts good loam, one part rotten manure, one part sandy road scrapings or road drift, and one part bricks and old mortar broken to the size of potatoes. When finished, let these stations be somewhat above the level. Early in November obtain from a good nursery (if any difficulty, send to Mr. Rivers) as many as needful of the following varieties of Lilac:—*Charles X.*, *Dark Red*, *Dark Blue*, *Red Siberian*, *Vaiteana*, and *White French*. Plant these firm, and next May send us word how they look.

**ROSES.**—*W. B.*—The best twelve are—*Jules Margottin*, *General Jacqueminot*, *Mrs. Rivers*, *Emotion*, *Gloire de Dijon*, *John Hopper*, *Charles LeFebvre*, *Souvenir de la Malmaison*, *Victor Verdier*, *Anna Alexieff*, *Senateur Vaisse*, *Madame Damage*.

THE  
FLORAL WORLD  
AND  
GARDEN GUIDE.

OCTOBER, 1865.

POSSIBILITIES OF OUR CLIMATE.



WE were about to make some remarks based on observations made in various districts during the present season, and head them with the title, "The Capabilities of the English Climate." But the thought occurred that the word "capability" conveys the idea of a permanent fitness for something, and the matters to be mentioned do not so much illustrate or exemplify the capabilities as the possibilities of our climate. A thing may be possible on rare occasions, and under peculiar circumstances; and it may happen that some of the possibilities which are now to be the subject of remark are of such an exceptional kind as to afford no warrant for the ordinary and legitimate use of the word "capability."

First, then, of growing Peaches, Nectarines, and Apricots as orchard trees in England. The possibility of doing this has often been referred to, but the writer of this has tasted fruit so grown in the years 1863, 1864, and 1865. In the "Garden Oracle" for 1864 public attention was called to the successful cultivation of these fruits in open quarters by Mr. Josiah Illman, nurseryman, of Strood in Kent. A short time since (Aug. 26), the writer of this went down to Strood to investigate the case, and he found on a green hillside, on a good loamy soil of no great depth, resting on chalk, a very pretty orchard, including all the hardy fruits usually grown in this county, and, besides, a considerable number of peach, nectarine, and apricot trees. On the 26th of August last, the condition of these trees was such as might reasonably excite

the envy of hundreds of cultivators, whose peach walls are neither very green nor very fruitful. The trees are all in the form of open bushes, six to eight feet high and as much through. Having been planted originally six feet apart every way, they now form quite a thicket, and probably it will be necessary this season to remove every other tree. The growth of this season consists for the most part of stout rods a yard in length, and the leafage is luxuriant and healthy. The trees were all planted in February 1859.

The grand test of this possibility is the fruit. Of this there had been a large crop. Nearly all the apricots had been gathered, some kinds of peaches and nectarines were not quite ripe, and others were in full perfection; and they only differed from wall-fruit in being generally speaking rather smaller. In colour and flavour they could not be surpassed; and the plentifulness with which (with few exceptions) they are produced ought to encourage amateurs who have the advantage of a good climate to make a fair trial of this mode of culture. From 200 to 500 fruit is the ordinary production of each tree. A tree of Royal George produced in 1863 100 fruit; this year it produced 700. Trees of Early Ann peach produced over 400 fruit apiece in 1864 and 1865. Last year a tree of Red Magdalen produced 600, and this year 500 fruit. So much for Mr. Illman's peach orchard.

At the great International Exhibition, held at Edinburgh on the 6th of last month, Messrs. J. and C. Lee, of the Vineyard Nurseries, Hammersmith, exhibited samples of a fine seedling peach, called *Royal Vineyard*, which were as large and nearly as good colour as the best samples of Barrington in the room, and they were the production of a tree that had grown from seed in one of the open quarters, and upon which there had been bestowed absolutely no care whatever. Truthfully speaking, it was one of the weeds of the nursery, for it was self-sown, and had grown to a fruiting state without even the knowledge of the proprietors, and the ripe fruit which was exhibited was discovered on the tree by a mere accident.

It would, perhaps, be rash to aver, that in all the southern counties these fruits can be grown as well without walls as with them. But it is very certain, that there are many gardens so sheltered from the east, and so open to the south and west, say, below the latitude of Nottingham, wherein peaches, nectarines, and apricots might be grown on bush trees with as much certainty as plums and pears. The expensiveness of walls deters many an amateur from the cultivation of these delicious fruits. It is, surely, worth while to give bushes a fair trial; especially as, if they intend to fruit at all, they are sure to begin in the third season from planting, and some may even show fruit in the second.

Another suggestion of the possibilities of the climate has been obtained in the garden of Mr. Roach Smith, the eminent antiquary; and again we must take the reader to Strood for an agreeable lesson. Mr. Smith's garden is certainly happily situated, facing south in a warm dry spot on the chalk. Mr. Smith is an enthusiastic pomologist, and has a good collection of all kinds of hardy fruits, but his speciality is an open-air vineyard, wherein Muscadine, Chasselas Musqué, and Black Hamburgh, with other fine grapes, are gloriously prolific and ripen perfectly. Some of the vines are planted against a terrace wall,

at the head of a small ante-garden, and are very happily situated both for shelter and sunshine. Others are trained to stakes in an open quarter; and others, again, are trained to walls which have various aspects. Mr. Smith has for several years past had large crops of very fine grapes; and a light wine which he brews from Muscadine is at two years old considerably better than the average of champagne sold in London at forty-five shillings. The system followed is the long rod, with occasional modifications as suggested by circumstances. The growth of this season consists of rods two to four feet in length, as thick as a man's second finger, and beautifully brown and hard. Grapevines on walls are nearly as common in this country as chickweed in hedgerows, yet how few have ever got beyond Sweetwater and Esperione for such a purpose; and fewer still have given a fair trial to the culture of vines in open quarters trained to stakes.

While upon this subject, it may be well to mention that grape-growing has been greatly promoted of late by Mr. Wells, whose patent ground vineries have had an enormous sale. By the aid of one of these, good grapes may be had in any part of Britain without a wall and without a glass house. A lady could move the vinery from place to place; and when out of use during winter, they are easily adapted to the protection of endive, lettuces, and other useful subjects, which are usually too tender to endure the severities of the winter. S. H.

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#### NOTES ON THE RASPBERRY.

LORD BACON circulates the doctrine that it is best to speak from our own experiences; very well, let me speak from mine. If you have the least idea next season of eating raspberries in the garden, be sure to plant a row of two or three, or more, different sorts beside some by-walk, or in some cool and rather shady retreat. You may have your dessert kinds in the open quarters with other fruit, or with cabbages and winter spinach if you please, but for eating on the spot there ought to be a few stools so planted that those who walk may eat, and that without having to stir one step from the proper and ordinary pathway. Of course this is easy enough, and yet in making arrangements for this season's planting you might not think of it, unless put in mind of it in this way.

Another matter for peripatetic rubiophagists is to have the right sorts. When I hand fruits to folks, and stand by while they eat them, I watch all the movements of the eyes and the muscles of the face, and by

the degrees of pain or pleasure indicated in the changing expression, I conclude in what precise degree that particular fruit is acceptable, or the reverse, to that particular palate. I've tried all kinds of raspberries on friends when strolling about the garden, and I have invariably found that the Sweet Yellow Antwerp gave the most evident satisfaction, was always the most readily and unhesitatingly pronounced "delicious," and invariably provoked an appetite for more. Common Yellow Antwerp comes next, and differs from it only in being less sweet; the first is, in fact, an improved variety of the second. Both are elegant fruits, and unfortunately both, and in fact all yellow raspberries, are liable to be filled with maggots. There is some fly that has a keen scent and an epicure's palate. It selects the blossom of the yellow raspberry for the deposit of its eggs. There the grubs are produced, and take up their abode in the berries, and by the time those are ripe the grubs are ripe also, and

ready to assume the pupa condition in the earth, unless they find their way with the fruit to some other destination less suited to their idiosyncrasies. There is no cure for this; you can only throw away all infected berries; but try and remember next summer that at planting time you were warned of the liability to which rubiophagists are exposed when indulging in white raspberries. There is no red raspberry to equal for the dessert the old Red Antwerp, which has about fifty synonymes, the principal being Knevelt's Antwerp, Late-bearing Antwerp, Howland's Red, and a Gros Fruits Rouges. Whenever you find that a fruit or vegetable has many synonymes, your next anxiety should be to obtain it, for it is sure to be first-rate; it is its excellence which tempts people to pin their names to it. As respects *aliases*, then, fruits and vegetables differ from men and women, for, with the latter, the more aliases they have the less we care to trust them.

When the cultivator of raspberries desires only to have a fair supply of fruits adapted for culinary purposes, such as making currant and raspberry pies, raspberry-jam, and so forth, a few of the best red varieties only should be planted, and the best of these are Red Antwerp (just recommended for dessert), Fastolf, Prince of Wales, and Vice-President French. If I had a family of fifty, or say a school consisting of hundreds of young appetites to provide for, I should not care for any besides these four, but I would have no less, long experience having taught me never to be dependent on individuals, whether vegetable or human. Fill-basket is certainly the best market strawberry, but, as being deficient of flavour, not good enough for private families, except when no others are to be had.

The true old Red Antwerp is not so easily obtainable as some other sorts. The true sort has nearly smooth canes, which are tall and stout. There is a variety of it called Round Red Antwerp, the fruit of which is rounder and better flavoured, but it does not bear so freely, and the slight advantage of superior flavour is over-

balanced by the disadvantage of its comparative unproductiveness. Fastolf may be more easily and truly obtained than any known raspberry; it probably does duty for a great many sorts in places where they are more accommodating in spirit than in capability, for it suckers freely, and is so good in habit and quality that to have it under some other name is more a vexation than a wrong. Prince of Wales, raised by Messrs. Cutbush and Son, of Highgate, is as good as any raspberry known; it produces strong whitish canes, very few suckers, and the fruit—of which there is plenty—is large, handsome, and has a fine lively piquant flavour. Vice-President French has brownish canes, a plentiful leafage; the fruit is large, the colour deep dull red, the flesh very juicy and rich. The jam made from this variety has a delightful bouquet, and in all cooking operations where raspberries are employed this douce ally will be found to place himself happily *en rapport* with any of the fruits that usually go with raspberries.

I could tell you of other good varieties, but there would be no advantage in doing so. Carter's Prolific is excellent in every respect, but no better than Fastolf. It is very prolific of suckers, but that is, as a rule, no advantage to a private grower, to whom generally the suckers are a vexation when they rise like forests, for the thinning is pretty sure to be neglected till winter; and so, instead of a few stout strong canes, there are myriads of thin weak ones. If you want to exhibit, grow Barnet, which produces a very large and handsome but flavourless berry; grow also Cushing for its brilliant colour; Franconia, which is extra handsome, and also has a lively acid flavour quite distinct from the tame sweetness common to red raspberries; Large Monthly for size and late bearing. This comes in well for the autumn shows.

The mention of the Large Monthly reminds me that the race of late raspberries has been greatly improved by the accession to the lists of October Red and October Yellow. These are

also known by the names *Merveille des Quatre Saisons Rouge* and *Merveille des Quatre Saisons Jaune*. They are the best of the late-bearing varieties, and of great value in gardens where fresh raspberries are in demand so long as they are obtainable. Indeed, the pity is that so few persons will take the trouble to secure a succession of the best fruits, but, instead, have during the height of the summer a glut of a few kinds, and after that no more. How much better it would be to have the table supplied with fresh bush fruits till the middle or end of November. Both raspberries and currants might so be had if but a few changes were made in the ordinary routine of selecting and planting. To grow these late kinds of raspberries, you must not trust to canes of the preceding year; they bear their best fruit on canes of the season. Therefore, the way to manage them is to cut down to the ground in March. In the month of May the young suckers must be thinned to a foot apart, and as the season advances they will produce fine large berries in plenty, and if the season is mild will be in bearing till the end of November.

There are a few varieties of raspberries that merit the special attention of those who take more than an ordinary interest in their fruit gardens. The *Summer Black* was raised half a century ago at Netherfield, in Essex. It is a hybrid between a blackberry and a raspberry, the fruit being purple, and the flavour partaking both of the raspberry and the blackberry. This is a fruitful and beautiful variety, producing canes of immense strength, dark in colour, and a leafage that, like the fruit, combines the peculiarities of both its parents. Mr. Rivers has cultivated this largely, and from it raised numerous seedlings, some of which are of great value. The *Autumn Black* is one of these. Mr. Rivers describes it as the fifth generation from the *Summer Black*. The fruit of the *Autumn Black* is of excellent quality, dark purple in colour, and it is in good bearing till quite November. It has this peculiarity, that it produces scarcely any

suckers, and hence has to be propagated from seed. By pegging down the shoots it might, no doubt, be increased in a more certain, though less rapid manner; but the seedlings are, I believe, generally true, so that there is no reason why this fine hybrid should not be more generally known and appreciated than it is.

The Americans have presented us with several species and varieties of *Rubus*, but they do not appear as yet to have succeeded in this country. The best of them is the *Lawton Blackberry*, also known as *New Rochelle* and *Seacor's Mammoth*. It is of immensely strong growth, and produces an abundance of large, oval, jet-black fruit, the flavour of which is very agreeable. Had we not in our hedges a species of *Rubus* which is so fruitful and so good that every family in the kingdom might have a share of its produce, we should be glad of these American importations; but having our own blackberry (*Rubus fruticosus*), we scarcely need occupy our limited and highly-rented garden grounds by cultivating blackberries in competition with the hedgerows.

The habit of the raspberry is to throw up from the root a certain number of shoots, or as they are called "canes." These grow one year, the next year produce fruit, and after the fruit has all been ripened they die, and are succeeded by another lot of canes that were growing while those fruited. To prune the raspberry is therefore a simple affair enough. In winter or early spring cut away the dead canes, and thin those that are to bear to four or five to each plant or "stool." It is well, also, to shorten these canes according to their strength and the nature of the variety; five feet may be considered a sufficient length for the strongest canes, and under the most favourable circumstances. Whenever raspberries are taken up, it will be found that their roots run freely in all directions very near the surface; in fact, after a few years, the soil of a plantation of raspberries becomes a complete felt of fibres. From this we learn that to dig amongst them must be very injurious, and in practice the spade

should never enter the ground among raspberries, except it be for the express purpose of rendering them barren the ensuing season. The soil in which they thrive best is a deep, fat, retentive, and damp loam. In the first instance, the soil should be well manured, and in the month of February in every succeeding year a thick coat of half-rotten dung should

be spread over the ground, but it must not be forked in. Strong-growing kinds are usually planted in groups of three canes, each four feet apart. I prefer to put in single canes, and allow them to form good stools, each complete in itself. A crop of cauliflower may be taken off the first season, and after that there should be no more super-cropping of the ground.

## A SELECTION OF BULBS FOR THE PRESENT SEASON.

### HYACINTHS.

(s, single; d, double.)

*Fifty of the Finest for Pot Culture* (costing 6d. to 2s. 6d. each, the majority averaging 1s.)—White: Bridal Bouquet, s; Grand Vainqueur, s; La Candeur, s; Madame Van der Hoop, s; Prince of Waterloo, d; Reine Blanche, s. Blush and Shaded White: Bouquet Royal, d; Elfrida, s; Grandeur à Merveille, s; Lord Wellington, d; Norma, s; Tubiflora, s; Voltaire, s. Dark Red and Crimson: Fireball, s; Herstel de Vrede (Paix d'Amiens) s; L'Ami du Cour, s; Mademoiselle Rachel, s; Milton, d; Mrs. Beecher Stowe, s; Robert Steiger, s; Sir Joseph Paxton, d; Von Schiller, s. Pink and Rose: Alida Catherina, d; Belle Quirinée, s; Chapeau de Cardinal, s; Frederick the Great, d; Il Pastor Fido, d; La Dame du Lac, s; Lord Wellington, s; Monsieur de Feasch, s; Queen Victoria, s. Yellow: Anna Carolina, s; Alida Jacobea, s. Porcelain and Light Blue: Blocksberg, d; Couronne de Celle, s; Grand Lilas, s; Porcelain Sceptre, s; Van Speyk, d. Blue Shades: Madame Marmont, d; Argus, s; Baron Von Tuyl, s; Charles Dickens, s; Keizer Ferdinand, s; Orondates, s. Purple and Black: Keizer Alexander, d; Mimosa, s; Othello, s; Prince Albert, s.

*Twelve Finest New and Scarce Varieties* (costing 3s. to 7s. 6d. each).—Florence Nightingale, s; Cavaignac, s; Howard, s; Le Prophète, s; Macaulay, s; Princess Clothilde, s; Paix de l'Europe, s; Bleu Aimable, s; Marie, s; General Havelock, s; Ida, s; Rembrandt, d.

*Twelve Best Cheap Varieties, for Pots, Glasses, or Beds* (costing 6d. to 9d. each).—White: La Tour d'Auvergne, Victoria Regina. Red: Waterloo, Amy, Mons. Feasch, Robert Steiger. Blue: Blocksberg, Prins Van Saxe Weimar, Bleu Mourant, Nimrod. Black: Prince Albert. Yellow: Koning Van Holland.

Hyacinths should be potted early; the soil for pot culture should be one-half thoroughly decayed hot-bed manure, a quarter part leaf-mould, and a quarter part sandy loam. Pot them with about a third of the bulb above the soil, which increases the amount of root room. The best of all methods is to put fine bulbs singly in 48-sized pots, and allow only one spike to rise. Market growers put three small bulbs in a 48, in order to have a good bunch of bloom. In 32-sized pots, two or three good bulbs may be placed. One good crock or oyster-shell is enough for drainage. Bury them all under four inches of cocoa-nut dust or coal ashes as soon as potted, and there let them remain till wanted for forcing, or if not to be forced, take them all out on the 1st of February, and place in pit, frame, or greenhouse. Any potted bulbs kept in the plunge-bed after the 1st of February will be likely to become weakened through making free growth in the dark.

### EARLY TULIPS.

Red: Cramoisie, Vermilion Brilliant, Couleur Cardinal, Monument, Feu d'Anvers, Zongloed, Van Thol. Yellow: Marquis de Nesselrode, Yellow Prince, Yellow Turnesol, Yellow Rose, Grenadier. White:



Alida, Pottebakker, La Candeur, Couronne des Roses. Various: Roi Pepin, white and crimson; Duc d'Arenberg, crimson and gold; Florida, deep mauve; Keizerkroon, crimson and gold; Thomas Moore, yellow and buff; Van der Neer, puce; Proserpine, crimson; Bonaparte, chocolate.

In potting tulips, use the same compost as recommended for hyacinths. Three bulbs in a 32-sized pot will be the best, but you may put three in a 48 without spoiling them. Last year we flowered all the varieties that could be obtained—a very large collection—the single bulbs in 60-sized pots. They flowered finely, and we made notes of their characters. The above selection is a safe one for all purposes, whether for pot or border culture. Perhaps we may be able next month to find room for some notes on the grouping of tulips in the flower-garden. When potted, the bulbs must be quite covered by the soil.

#### CROCUSES.

White: Bride of Abydos, Calypso,

Queen Victoria, Mont Blanc. Yellow: Cloth of Gold, New Giant, Common Yellow, Sulphureus. Blue: Brunel, David Rizzio, Ne Plus Ultra, Prince Albert, Grand Vedette. Striped: Albion, Bride of Lammermoor, La Majesteuse, Liliaceus Superbus, Sir Walter Scott, Versicolor.

In potting crocuses, equal parts rotted manure, leaf-mould, and sandy loam will answer admirably. The bulbs may be placed three, four, or five in a 48 pot, according to their size. If really fine bulbs, three in a pot will be enough; usually five will be required; and in a 32 size, not less than ten. They must be quite covered by the soil, because the new bulbs are formed above the old ones when they go out of flower. A collection of potted crocuses will afford an immense amount of pleasure, as greenhouse and window decorations. For borders and clumps, Common Yellow, Common White, and Common Lilac are the best for general use.

## ROSE GOSSIP.—NO. XII.

### RESUMÉ OF THE SEASON 1865.

SUCH an abnormal season as that we have passed through renders criticism upon new roses undecisive, and subjects even the older of established repute to an ordeal some are not able to endure. Indeed, did the reputation of some of these depend upon what they have done this year, they would be doomed to floral perdition, and expunged from the catalogues forthwith. It may, therefore, be that some of last year's novelties have not yet appeared in their real characters, and further trial will be necessary to ascertain their value. One advantage of exceptional seasons is, that they eliminate a few sterling varieties that may be depended upon under the most adverse conditions of atmospheric irregularities and extremes, and which consequently ought to

form the rosarian's sheet-anchors. It is the object of this paper to chronicle some of these admirable kinds, particularly from a suburban grower's stand-point.

Much rain in early spring, followed by a warm temperature, is favourable to the growth of roses. This we had; and the promise of a glorious crop was great. Then came a long spell of hot, glaring, sunny days, succeeded by chill nights, forcing the blooms into precocious, and, of consequence, thin and loose development; burning the edges and bleaching the colours in the daytime, and rendering the foliage of the plants leprous with mildew by the nocturnal checks, and, further, encouraging blight and every description of creeping and winged enemy that rosarians abhor. Thus

the Crystal Palace Show, usually the chief of the season, was an absolute failure, both in the quality and quantity of the blooms displayed. Fortunately, a short but favourable change took place, in the shape of welcome rains; and rose lovers, at the later exhibitions, were enabled to behold their special favourites in something like their natural lineaments.

The few varieties which showed especially well are here enumerated, and deserve the highest consideration in future arrangement of our roseries. It may be safely said, that no rose was more universally good than Madame Charles Wood. Either the season suited it, or, although always a rose of superior pretensions, it has improved with time. Charles Lefevre also maintained its position as the finest of its colour. Naturally a robust growing kind, I have found it on the Manetti a rampant grower, throwing up shoots of six or seven feet long, and as thick as one's finger at the base. John Hopper is a match for it in good qualities. Madame Victor Verdier, another vigorous rose, may be described as an improved Duchess of Norfolk, but a larger flower. Prince Henri de Pays Bas (a crimson) was frequently and well exhibited; as I have not seen it growing, I will not venture to pronounce upon its habit. Maurice Bernardin and Olivier Delhomme were also fine, but are not for townsmen, I think. Others that I noted were, Adolphe de Rothschild, Alfred de Rougemont, Claude Million (dark), Prince Camille de Rohan. Duchesse de Morny (of good size and habit, and a true perpetual). Francois Lacharme, Beauty of Waltham, Le Rhone (another free bloomer of brilliant colour), Jules Margottin, Madame Clem. Joigneaux (a most robust grower, equal to Madame Domage in that respect), Madame Furtado, Souvenir de Comte Cavour (scarcely double enough), Vicomte Vigier, Victor Verdier, and Lælia or Louise Peyronny. Among the Bourbons, Baron Gonella must be considered the finest; Catherine Guillot, Henry Dombain, Souvenir de la Malmaison, still unsurpassed in beauty among the tinted

whites, only seen to perfection in the autumn; and Victor Emmanuel were also fine. Several tea-roses were good, particularly Alba Rosea, after Madame Bravy. In this class many blooms exhibited were evidently cut from plants cultivated under tiffany or glass. Gloire de Dijon, taken altogether the most useful rose there is, is seldom well shown at the earlier exhibitions. The first to come into flower, it is frequently off by mid-summer, and is, moreover, seen in greater perfection as to colour in the autumn. The new yellow tea, Mareschal Niel—is it not really a noisette?—created a great impression, but it remains to be seen whether it is hardy and vigorous enough out of doors to suit the purposes of general cultivators.

It may be desirable to take this opportunity of selecting some varieties to be relied upon for autumnal bloom. They are Alfred de Rougemont, Monsieur Montigny, Jules Margottin, Jacqueminot, Senateur Vaisse, Emotion, Jean Bart, Madame V. Verdier (I think), Domage, Cambaceres (a variety of splendid habit, truly cupped in form, always double and of fair size). It is a discouraging sign when roses of this type appear going out of fashion. Perhaps one reason for its decline is the absence of that loose petalled monstrosity which appears to delight the taste of some of the judges of the day. La Duchesse de Morny, Lælia, Pierre de St. Cyr, Le Rhone, Madame Knorr (another of the "cabbage" style), Gloire de Dijon, Mrs. Bosanquet, Beauty of Waltham, Victor Emmanuel, Lord Palmerston, Therese Appert, Louise Darzins, Beaux Arts, Victor Verdier, Narcisse, Catherine Guillot, and the peculiar but pretty Pavillon de Pregny, which ought to be placed in the section of hybrid noisettes. With these, and doubtless some few more, which the experience of other rosarians might suggest, the luxury of cutting roses late in the season may be enjoyed till the blooms are destroyed by the cruel grasp of the tyrant Frost.

The effect of the weather during autumn upon the blooming power of roses in the succeeding year appears

to be too often lost sight of. Early ripening of the wood exercises such an important influence in that respect, as well as upon the manner in which the plants themselves withstand the winter's rigour, that every effort should be made to promote it. Late growth, as far as possible, should be checked; manures should not be applied after the end of August, at least, till the winter's mulch is laid on, and water, where watering is used, should be gradually discontinued. These precautions apply more particularly to moist, mild, forcing autumns. In such as that we are passing through, they are of less consequence, because the great sun heat will harden wood sufficiently under any circumstances. This is already apparent. The leaves are turning yellow and falling fast, particularly in

suburban gardens, which are always denuded of foliage earlier than those more fortunately situated as to purer atmosphere. Rosarians should now, therefore, be prompt in deciding upon their future operations, and early in obtaining what plants they require from the nurseries. It is one of the sublime truisms which we learn from the copy-lines of boyhood, "that delays are always dangerous in matters of importance;" so are they also in matters of lighter weight, if we wish to succeed in what we undertake, as many a dilatory wight is compelled to acknowledge, as he wanders through the rose quarters at the fag end of the season with dissatisfied mind and discontented mien, compelled to accept small or unsatisfactory plants or go without. W. D. PRIOR.

*Homerton, Sept. 19.*

#### THE BEST KNOWN SHOW RANUNCULUSES.

Apollo (Costar's), dark red.  
 Apollo, crimson.  
 Auriga, dark.  
 Ann Athaway, white, pink edge.  
 Alexis, yellow spot.  
 Balcot.  
 Beritola, white, pink edge.  
 Com. Napier, sulphur, red edge.  
 Coronation, straw mottled.  
 Cedo Nulli, orange.  
 Camperdown, white, purple edge.  
 Chevalier, white, purple edge.  
 Delectus, yellow, red edge.  
 Delight, yellow, red edge.  
 Dr. Darwin, yellow, red mottle.  
 Dr. Horner, white, purple edge.  
 Edgar, yellow, brown edge.  
 Eliza, sulphur.  
 Eva, gold, red edge.  
 Exhibitor.  
 Eupatoria, white, purple edged.  
 Fairy, white, purple spot.  
 Festus, yellow, brown spot.  
 Grand Prior.  
 Gomer, yellow edge.  
 Goldfinder, yellow, red edge.  
 Herald, white, crimson edge.  
 Henning, white, purple edge.  
 Horatio, yellow, brown edge.  
 Humboldt, white, purple edge.

Indicator, yellow, red spot.  
 Jenny Meldrum, white, purp. edge.  
 Kilgour's Princess, white mottled.  
 Liffey, white, purple edge.  
 Lord Gough, yellow, red edge.  
 La Temeraire, striped.  
 Lord Berners, white, dark edge.  
 Marquis of Hereford, crimson.  
 Melanethon, crimson, purple edge.  
 Miss Forbes, white, red spot.  
 Meekness, white, purple edge.  
 Mirium, yellow, red spotted.  
 Mustapha.  
 Maekenzie, white, black edge.  
 Mary Howitt, white, pink mottle.  
 Mrs. Guir, white, purple edge.  
 Model of Perfection.  
 Melange, striped.  
 Melpomene, scarlet.  
 Miranda, white, rose edge.  
 Mrs. Trahar, white, rose edge.  
 Naxara, nearly black.  
 Oceano, white, dark mottle.  
 Orange Brabançon, orange.  
 Œil Noir, dark.  
 Oriassa, striped.  
 Playfair, orange mottled.  
 Petrel, yellow, red edge.  
 Preceptor.  
 Pertinax, yellow spotted.

Pelopidas, white, purple edge.

Plato, white.

Princess Louisa, white, rose edge.

Prince Albert, dark edge.

Procilla, yellow, red edge.

Quilla Filla, rose mottled.

Rose Incomparable, wh. ro. edge.

Reine de Sheba.

Rubro magnificans, scarlet.

Sir W. Hoste, yellow, red edge.

Sir R. Sale, white, shaded.

Sophia, white, rose edge.

Sabina, pale yellow.

Sir Philip Broke, etc., pur. edge

Talisman, cream, purple edge.

Venus, white spotted.

Viola la vrai Noir, dark brown.

Zebrina, white, crimson edge.

## PLANT COLLECTING.

I HAVE long been persuaded that, in pursuing the practice of horticulture for the sake of the pleasure to be derived from it, the best course for the amateur is to make collections in a systematic way, and according to the circumstances that govern his or her range of operations. As it is quite possible to give way to a mania for collecting, and so make a bugbear of what should be full of delight, I will here say that, if a garden is to be regarded as an extension of the house, and therefore needing to be suitably embellished, the passion for collecting should never be allowed to mar the beauty of the garden itself, which it might do if the collector chose for his hobby some very unattractive classes of plants. In every garden there should be so much green turf, so much shrub and tree, so much floral colouring, for it is a place of resort for families and friends; it is in some measure public property, especially if overlooked; and the possessor is morally bound to make it reasonably pleasing, not only to himself, but to his kindred, connections, and, in a certain limited sense of the phrase, to all mankind. This doctrine will no doubt bear thinking over, but the mere mention of it must suffice on the present occasion. However, there may be no harm perhaps in saying that gardens are to some extent subject to the laws which regulate the interiors of houses. If a man chooses to be eccentric, peculiar, may we say also ridiculous, may we even add obnoxious, he will perhaps have his rooms and staircases without

carpets, his furniture may be of plain deal or pasteboard, his diet may be black bread and crab apples, he may compel his wife to cut her hair, and forbid his children the use of toys, and require them to talk like sages. We have met with such, especially in our days of vegetarian experience years ago, and the thought has always forced itself upon us that, though there was no law to determine the fashion of a household and the dietary of a family, yet those who treat the established usages of society with contempt commit a great wrong, and if they incur contempt themselves, they heartily deserve it. Of course we should expect to find in the garden of such a one—if a head so awry and a heart so sour could combine in efforts at gardening of any kind—all the obnoxious or ungainly plants that could be found: docks for fine foliage and nettles for flowers. Such would be the extreme case on the one hand; now let us look for the extreme on the other. Here, then, we find in the household every elegance, and every detail fits into a general plan. Grace and comfort go hand in hand; the useful and the beautiful are both fairly vindicated. In the garden there is, of course, much to entertain and give delight, but it may happen that fashion displaces science there, and that very much of possible interest is sacrificed for the sake of mere colour and temporary effect. It does not follow, of course, that the elegant and well-governed household should be associated with a garden, wherein tinsel is the predominating element,

but the opposite extreme to the case just put is a profusion of flowers at certain seasons and few or none at other times, the recognition of the garden as almost an accident rather than a place for recreation at all seasons, and a perpetual school for knowledge and delight. Too many of our thriving and intelligent citizens make their gardens magnificent solely through taking a low view of the case, a statement which may sound strange, but which is none the less true. It is not extravagant outlay, it is not mere display and the outshining of all the neighbours, that renders a garden an additional item in making up the sum of domestic happiness; it may feed the pride of a man; it may give him some grounds for boasting; it may delight for a season, as fireworks do; but the surface system, the flash in the pan, gives only passing pleasure—the eyes are dazzled, but the mind gains nothing from the labour and the outlay.

Now, collecting is a sovereign remedy for all the ordinary evils under which, aesthetically considered, amateur gardeners labour. In everything the mind needs a pivot round which to revolve and about which to associate in proper order its several ideas. The reader of poetry finds his highest pleasure in comparing and criticism, and such a great work as the "Iliad," or what else, becomes a pivot about which his thoughts on poetical subjects continually revolve. He will perhaps indulge in such a train of thought as comparing Homer's, Virgil's, and Job's descriptions of the war-horse, and the comparison will be pleasurable and profitable as a mental exercise, because it is founded on a system. In like manner the artist considers pictures according to the schools they represent, colours according to the fundamental laws by which their tones and relationships are governed, and the cultivator of flowers, the very private and unassuming decorator of a garden, which serves as open-air drawing-room, dancing saloon, playground, and ever-changing picture, needs some sort of system to make the best of his pleasure, and give to

it the zest which ever accompanies a truly intellectual pursuit. Systematic collection is the best pivot that can be found for governing the revolutions of a gardener's thoughts about gardening; he may grow all the various kinds of plants needful for use and ornament, and be a collector, besides, of the members of certain families and tribes, and he will not go far without discovering that collecting is a genuine concentration of garden pleasure, and one which makes of it a feast of reason and a flow of soul. Perhaps, after all this elaborate exordium, the reader is unmoved. Hard-hearted reader, to be unmoved at such a juncture! Well, the next thing to establishing a case is to beg the question. At a risk we do this; and suppose it to be agreed upon that amateurs should be collectors, and that some remarks on the practical part of the subject are now desirable.

We are not only unable to determine the tastes of our readers, but happy in our impotence to influence them to the breadth of a hair. Our rule has always been to say, "Grow what you please, but say what you wish to grow, and we are ready to help you if we can!" So we say now, let every practitioner choose his own course. There are collectors of orchids, there are collectors of ferns, camellias, of roses and of hardy fruits; there are collectors of potatoes and there are collectors of gooseberries. The act of collecting intensifies every pleasure derivable from the art of cultivating, and the collector is the best able to appreciate differences and distinctions that exist among the members of families, and hence it is that the enjoyments of a collector are always fresh and new, they never tend to *ennui*, to staleness, or to sameness. Now there are several subjects on which collectors have as yet bestowed very little attention. There are several large classes and families of hardy plants that merit the most earnest attention of the real lover of horticultural refinements. There are the saxifrages for instance, what exquisite forms of vegetation do we find amongst these

gems of the mountain, these coy inhabitants of sylvan wildernesses. A raised bed consisting of sandy loam or peat, and made to resemble a low, rocky hill, would be the sort of place on which to establish all the hardy saxifrages, and see them in their real beauty. Some form mossy cushions of the most delicious shades of green, sprinkled in the spring time with myriads of white stars. Some have their thick leaves beaded as if by the most cunning work of the jeweller, others grow in lusty vigour, and produce leaves of great size from amidst which arise the flowers in club-like masses. The saxifrages are an example of many families that offer immense temptations to amateurs to begin collecting. There are nearly two hundred hardy species and varieties, and a very large proportion of the whole are obtainable by those who are not easily daunted when they set their minds upon a task. We have seen a hundred species, all correctly named and prepared for distribution at Messrs. E. G. Henderson and Sons' nursery, St. John's Wood, where also many other families of herbaceous plants are grown extensively and with the utmost care to keep them true to name and character. Take another example; there are the sempervivums, what an interesting group they are; how curious in habit, how beautiful at all seasons, especially when in bloom. All the hardy sempervivums would associate with the saxifrages admirably; a raised bed of sandy soil would suit any of them, but the drier positions on the facings of the bank would suit them equally well. Probably about thirty species and varieties may be found quite hardy, and about fifty more for the greenhouse. A great patch of *S. hirtum*, or *S. arachnoides*, in bloom is a sight to be remembered, though as regards mere brilliancy of colours a Tom Thumb geranium would of course eclipse a square yard of either instantly. Echeverias would of course claim association with them. Here we have but few hardy kinds, but the greenhouse species are exquisitely beautiful, *E. secunda* being one of the most useful decorative plants we

possess for the spring and summer, and *E. retusa* for the autumn.

To get away from these by a tangent, there are the Irises, the various beauties of which are at present almost unknown. They differ from orchids in this particular, that they do not last long in flower, and they differ also in costing pence instead of pounds, and of thriving in almost any soil or situation, whereas orchids need expensive houses, good furnaces, and skilful gardeners. But why compare things which are in many respects so very distinct from each other? Simply because in the Irises we find beauties which remind us of the orchids, and which in many instances are not surpassed by the grandest orchids known, so those who cannot climb to the top of the horticultural ladder through lack of golden-tipped boots, may find pleasures nearly akin to those of orchid growing on one of the lowest rounds of the ladder; and we recommend the collecting of Irises therefore. For a collection of Irises a border of good loam, moderately enriched with manure, is desirable. The herbaceous kinds readily adapt themselves to almost every situation, but a deep rich loam and partial shade are the conditions most favourable to a luxuriant growth, and the prolongation of the bloom. The bulbous kinds require a rather sandy loam, and they do exceedingly well in a mixture of loam and peat. To describe some of them would baffle the most experienced of word painters; to appreciate their beauties, however, will be no hard task to any lover of a garden. If a greedy collector were to bring together all the species and varieties he could lay hands on, he might probably have as many as five hundred kinds in one border. Such a border would be a rare sight to see; it would have an historical as well as a botanical importance. In such tame times as these, perhaps, a nice fifty would do very well to begin with, and the bed appropriated to them ought not to be within sight of the drawing-room windows; it should be removed from the parterre, and accessible only to those who actually sought it.

Florists' flowers are for collectors only, and all true florists pursue their hobby in a systematic manner. Pansies, phloxes, hollyhocks, dahlias, pinks, carnations, auriculas, polyanthuses, have their several admirers and devotees. Of late years the zonal pelargoniums, or as we usually call them zonal geraniums, have risen in public estimation, and have, perhaps, made more collectors than any class of plants has done since the days of the Tulipomania. And this is not surprising, for the skilful hybridizing to which they have been subjected has rendered them almost infinitely various in colours, forms, and habits; they have been brought to conform to the ideal type of perfection, the petals broad and overlapping, the flower large, smooth, and circular, and the colours ranging, not only through all possible shades of scarlet, but white, blush, salmon, purple, lilac, crimson, and varying in one direction to the very borders of the yellow band of the spectrum, and in another direction almost touching the blue. The ease with which they may be kept and multiplied, and the generally brilliant effect of their freely-produced flowers, are qualities that give them a just claim to the increased and increasing attention which amateurs are bestowing upon them.

Of course we might continue to point out tribes, and classes, and families suitable for the gratification of collectors, and well worthy the bestowing upon them of some scientific energy, but the object of these remarks is rather to give, if possible, a

new turn to the thoughts of our readers than to prescribe any actual courses. We might say a word for the new race of double pyrethrums, which combine the best qualities of asters and chrysanthemums, and bloom profusely twice in the season. There are the sedums, too, a very different class indeed, but needing no expensive appliances to gather or keep them. Grasses, Equisetums, the families of bulbous flowers, as for instance, Ixias, Babianas, Amaryllises, etc., several families of Alpine plants, of which we have named only one above, the Saxifrages, and, though last not least, hardy herbaceous border flowers, including many widely-separated families representing many geographical areas, yet agreeing in submitting to the peculiarities of our climate, and for the most part needing only the ordinary soil common to English gardens. If there be amongst our thousands of readers a few who are not quite furnished with employment for heads and hands, we respectfully recommend them to consider if they might not find some pleasant occupation in plant collecting. It is a pursuit without limitations, or rather, it is limited only by the boundaries of the great globe itself; because when nurseries, gardens, mountains, valleys, plains, and waters at home have all been ransacked, the collector, still hungering after new objects of horticultural solicitude, may go forth into any land, and into all lands, and continue to find "something to amuse, something to instruct" as long as life shall last. S. H.

## HEATING SMALL PLANT HOUSES.

SMALL houses are more difficult to manage than large ones, not only in winter, but in summer also. A small body of air is quickly heated and quickly cooled, hence plants may be burnt or frozen in a small house, when in a large one they would remain uninjured. But the great difficulty with all small houses is how to heat them, and the diffi-

culty increases as the houses decrease in size. In former issues of the FLORAL WORLD various modes of heating have been described, and the most anxious endeavours made to lessen the difficulties of heating small houses, and those of our readers who are concerned upon this subject now will do well to refer back, and make acquaintance with the particulars that

have been published. An hour's consultation of the papers by Mr. Howlett, and other contributors, may result in saving many pounds to some of our friends, and perhaps make all the difference between success and failure in some instances.

Small pits and mere keeping places, from which it is desired to exclude frost and nothing more, can have no better heating apparatus than a common furnace and flue, such as any bricklayer can construct. By the aid of this, the atmosphere of the pit may be quickly warmed, and by banking up the fire it may be made to last a long time without further attention. The custom of placing the flue against the back wall of the pit is a bad one. It is preferable to carry it as low down as possible along the front and ends, or one end at least, because the back wall is the part of the pit best able to resist the cold, being a larger bulk of material, and as heat always rises, the flue in the front will communicate much of its warmth to the back wall, and the whole contents of the pit will be more equably heated than if the flue were at the back. A flue should always rise towards the extreme end, or the draught at first will be sluggish, and mischief may occur to the plants during the delay in getting up a fire. The bottom of the furnace should always be at least two feet below the level of the bottom of the flue. If there is any objection to a well-made brick flue, glazed drain tiles of six inches diameter answer perfectly, the junctions to be stopped with Portland cement, but there should always be a short length of brick flue next the fire, as if the pipes are subjected to too fierce a heat they crack. Four inch glazed pipes make an excellent chimney outside, and it is easy to stay them with a couple of iron rods. Defects in the draught may generally be cured by increasing the height of the outside chimney. Always try that plan before attempting any alteration of the furnace, etc.

Houses required to be neat in appearance, and in which it is desirable to have a few flowering plants in

winter, should be heated with hot water. There are almost numberless ways of accomplishing this, but they differ but little in principle and they are all simple in the extreme; indeed, they must be simple, or they will not succeed. Usually, the best plan is to have a boiler in an adjoining shed, to cover this shed with some sort of glass roof, and make it available for keeping a few plants (many cultivators preserve their whole stock of geraniums in the boiler shed), and by means of a course of pipes carried round the house to keep the temperature at the requisite standard. Upright and saddle boilers are the best for small houses. The boiler must always be placed at a lower level than the lowest part of the house to be heated, to insure a quick circulation of water in the pipes. So many curious cases occur, that no general remarks can be made to apply universally. But it may be worth naming, that we have recently got through a difficulty in heating which may be instructive to some of our readers. A range of houses were to be heated from one point; that point was, of course, the lowest level of the range. But the house situated at that lowest level stood beside a well, which all winter long is full and sometimes overflowing. The boiler could not be sunk low enough to heat this house by a flow in the ordinary way: and we hit upon the following plan, which answered admirably. A small pipe was taken from the top of the boiler, along the front of the house near the glass, and a large return pipe was brought back on the level of the border on which the plants stood. It was therefore heated by the return pipe; and some of our friends pronounce it an ingenious affair. A very useful modification of the pipe system is to have a tank placed at the end of the house most remote from the boiler, to carry the hot water by a small pipe to this tank, and then by a return round the house back to the boiler again. Upright boilers, that require no brick setting, may be had for these purposes of Messrs. Jones, Lynch White, and other makers. It must be remembered, however, that a

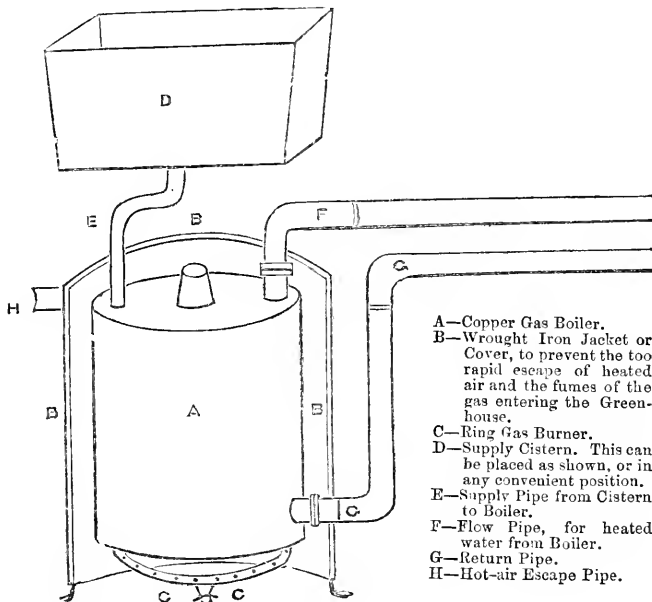


brick setting pays for its cost in the saving of fuel; when there is no brick setting, much heat is lost by radiation.

Gas heating has been very successfully adopted in the suburbs of towns, and when well done, it is the cleanest and most improved and reliable of all methods. The principle is precisely the same as heating with a furnace, the only difference of detail being the supply of heat by gas flame instead of coke fire. Mr. Lynch White, of Upper Ground Street, Blackfriars, has lately

£2 3s., and the four-inch pipe is supplied at 10d. per foot run.

Musgrave's slow-combustion stove (made by Messrs. Musgrave Brothers, Belfast) is still in use in our old lean-to, as described in *FLORAL WORLD*, 1863, p. 118. It has done wonders for a damp, low house, which cannot be heated by any other method. We can recommend this stove in the same terms as we have done before. If a stove of any kind must be used *in the house*, this is certainly the best. It is



Boiler 10 inches high, 9 inches diameter.

constructed an apparatus for gas heating, which appears to be the best ever yet made public. The apparatus consists of a boiler, A, capable of heating fifty feet of four-inch pipe; it is encased in a wrought iron jacket, which serves the purpose of a brick setting; the iron jacket, with escape pipe H, renders it perfectly safe to use this boiler *inside the house*, as it is impossible for any of the fumes to affect the plants, etc. The price of this boiler, including jacket, ring burner, cistern, and supply pipe, is

proper to add to former accounts that last winter it was put into the hands of a smith to be thoroughly cleaned, and it was then furnished with a new chimney of wrought-iron pipe, six feet in length, and it burnt better than ever it did. For the very smallest houses of all there is nothing so good as Joyce's stoves, and the best form of them is that made by Swan Nash of Newgate Street. Mr. Nash sells prepared fuel for these stoves; it is rather dear, though it is very good; but common charcoal is much cheaper

and answers exceedingly well. We have heard a few failures with these stoves, and found that the cause was opening the draught to the full, and causing the stoves to get red hot. The proper way to manage them is, throw in some red-hot charcoal, and then nearly fill up to the top, and fix the door of the ash box so as to allow only the sixteenth of an inch of space

for draught. By this method the fire will continue to burn slowly for eight to nine hours. All these things require some amount of skill and experience, and those who are not used to them should get a little practice before frosty weather sets in, for it is no joke to be trying in vain to light a fire while the wind is in the east, and the thermometer at 20°.

## HOME-GROWN HYACINTHS.

ESPECIALLY ADDRESSED TO THOSE WHO THROW BULES AWAY.

IF you ask at the nurseries what to do with hyacinths when they have done flowering, they will tell you they are of no use at all, and it is best to destroy them than attempt to cultivate them another year. If any dealer in bulbs tells you a similar tale, take refuge in the ejaculation of Mr. Burchell; don't dispute the question, but make up your mind to buy hyacinths in order to keep and increase them, and on no account to throw them away when their first bloom is over. I think my practice will suit all amateurs, from the richest to the poorest; and I can give you an outline of it in a few words. In the month of September every year I purchase a collection expressly for pot culture, and make it a rule to have at least two of a sort, and of some sorts sixes, twelves, and so on. I pot them in batches, and never pot any till the last week in September; that I find early enough for those to bloom soon after the turn of the year; and to have them earlier than some time towards the middle of January, is to have them out of season. No spring flower should ever be seen till after the beginning of the year, according to old style; and with the many fine subjects now in cultivation for winter flowers, they really are not wanted earlier. The stuff I use is cucumber-bed and gritty leaf-mould; that is to say, *the* bed with its top stratum of turfy-loam and rotted manure, well chopped over, and leaf-mould added, the compost consisting

of at least half manure in a perfectly mellow condition. I never use silver-sand, never lay the compost up, never make a fuss of any kind, and in twenty years of the same practice never yet saw a bulb injured by any sort of vermin. I label all the varieties, and when they bloom I have full value for my money and my labour.

To bloom these bulbs in a satisfactory manner, but very few precautions are needful. Six-inch pots of the ordinary make answer admirably for all ordinary purposes. I don't believe in those chimney-pots, or in any of the other queer pots that have been made for hyacinths. I see as fine spikes produced in what we Londoners call 48's as in those lengths of drain-pipes which are used in many places for the same purpose; and what is of some importance too, the bulbs in these pots ripen well, produce good offsets, and if allowed, will bloom tolerably well the next year.

In potting bulbs I never ram the soil hard, as I should for fruit-trees, camellias, and strawberries. Let no amateur cultivator suppose that because ramming is needful in one case, it will answer in all. No; if the soil in a hyacinth pot is too hard, the first roots emitted from the bulb, having to encounter a sort of pavement, will immediately thrust the bulb up into the air, or at least throw it on one side like the leaning tower of Pisa, only rather less sublime. Put in only one crock—nothing better than an

oyster-shell—but mind it is the shell the fishmonger keeps for luck, not the one that comes to table in the style of a dais for the enthroned native. At this time of the year I bargain for all the oyster-shells from the fishmonger, and have them spread out in the yard to sweeten. They cost nothing and are worth ten times as much as all the patent pot-drainers and other niggling, fid-fadding contrivances that people who never grow plants are always making useless experiments with. Fill the pot brimful of stuff, and press it with the fingers gently; add a little more stuff if needful, so as to leave only half an inch of space from the top of the pot. Place a bulb in the centre, and press it down so as to imbed it rather firmly one-half of its depth. The catalogues say one-third; but when they have so small a grip of the soil they are very likely to lose balance. If you have operated skilfully, there will be a large amount of soil in the pot, and the bulb will be so firm that you might roll the pot on its side without displacing either bulb or soil, and yet when the roots begin to make their way, they will easily penetrate the soil beneath them without lifting the bulb.

The best place I have on which to stand the pots is a hard pathway consisting of about two feet of well-trodden coal-ashes, and a strip of stone pavement. Those placed on the coal-ashes are covered with coal-ashes heaped up in a ridge six inches over them; those put on the pavement are covered with leaf-mould or cocoa-nut dust. When I take them out, I put them on the floor of the house, or somewhere quite out of sunshine, but in moderate daylight, for a week, and then place them where they are to remain for flowering. If put in the full light at first, a few hours' sunshine will sometimes injure the growth that has been blanched by the covering; but when they have fairly begun to change to a healthy green, full light does them good, and they ought to have all that can be had till the blooms begin to open, and then they should be shaded to prolong the display. But I must

tell you that I always place a batch in a cool house as soon as they are potted, without covering them at all, and let them take their chance of weather, except that they are kept safe from frost. These always bloom superbly, and prove that in a mere shed, with good daylight overhead, hyacinths may be bloomed as well as in the best house in the kingdom.

There are two points of great importance in flowering potted hyacinths—namely, plenty of air and plenty of water. Keep them rather dry, and cool and quiet, till they have made good roots, and then treat them liberally. Instead of telling you how to make dumpy stems of a proper length, it seems much more needful to caution the cultivator against attaining to the opposite extreme of imperfection, for hyacinths are more often seen unreasonably long than unreasonably short. To get up the hunchbacks, shut them up rather close over gentle bottom-heat; and to prevent those that start well becoming too long, give air at every suitable opportunity, and let them be as near the glass as possible. A close spike without a break is charming, but when the bells are half an inch or more apart the spectacle is piteous.

As soon as the potted bulbs have done blooming, I take out the tallies and call them all *innominata*. It is a very easy matter now to convert them all into good stock for beds and borders, and that is the best way too to obtain stock, because as you begin with first-rate sorts, so you have only to classify them afterwards in colours, and you may have fine breadths of spring flowers out of doors. First of all, do not allow any to make seeds, but nip out the spike a few inches above the bulb before the last of the flowers is exhausted. If you want seeds, you have but to leave them alone, and they will soon be smothered with huge pods; but as the seeds are of no use, why exhaust the bulb to produce them? Now prepare a bed of rich sandy soil. My plot for this purpose consists of the sandy and peaty stuff thrown out of pots in "shifting;" this is chopped over with

turfy loam and plenty of good manure. Into this bed all the bulbs are planted out from the pots, without breaking the balls or injuring a fibre, and they are put as close as possible, so that when planted it looks like a bed of leeks. One good soaking of water, and there is an end of that business.

When you get into "full swing" in this sort of practice, you will want three beds, and the best way is to have them side by side, four feet wide, and twelve-inch alleys between. No. 1 bed is used, as just described, to receive hyacinths just done flowering. There they remain till some time in July or beginning of August; they are then taken up and cleaned, and the offsets removed; the large bulbs are then put away for a month in a dry cool place, and all the offsets are planted at once in bed No. 2, and they need be only two or three inches apart, in rows just sufficiently separated as to allow room to work a small hoe between them. Have the bed in a fine, sweet, rich condition, and dibble them in three inches deep; there let them remain to grow as they please, but keep them free from weeds, and give water in plenty all May and June if the season happens to be dry. About the middle of October, and *not earlier*, plant all the bulbs that were set aside at the planting of the offsets. It is for these that No. 3 is prepared. The bed must be rich, and deep, and sandy, and in a mellow condition. Plant the bulbs in rows six inches apart, and four inches apart in the row; they must be five or six inches deep. I find that the hard frosts that come occasionally after bright weather in March do much mischief to the rising foliage unless there is some protection. A sprinkling of light dry hay or straw generally answers the purpose, and when the weather changes this is easily removed.

You will soon see that all the good, hard, ripe bulbs that were in pots the year before are throwing up spikes of bloom. You must pinch out every spike as soon as you can get hold of it, and not allow one of them to flower. But here we may

alter the tactics if desirable. It may happen that you prefer to keep them all tallied from first to last, and if so, I commend you for it. If you keep them tallied, let the spikes rise so high that you can nip out all but one or two buds; let these remain, and as they open see by the colours of the flowers that your names are right. At the end of the season these bulbs will be large and sound—that is, if they have had enough water while growing, and enough sun when going to rest. You may in the October following plant them in beds and borders, going through the same routine with the offsets as before. It makes an immense difference to hyacinth bulbs to let them grow freely for one season without allowing them to flower; and it makes an immense difference also to get them well ripened by sun-heat without exposing the bulbs to sunshine. Therefore, if bulbs are planted out of pots into beds to finish their season, always plant them three or four inches deep, so as to cover the bulb with soil. The sole object of only half imbedding them in pots is to afford the roots as much depth as possible. It is certainly not good for the bulbs at *any* time to be exposed to the atmosphere.

One word about hyacinths flowered in glasses, rustic robins, and other such receptacles. I can make as good bulbs of these for after-use as those grown in pots, but by another method. I never allow them to open their last few buds, but as soon as they cease to be really beautiful I nip out the spike, leaving a few inches of the stem, so as not to bleed it near the crown, and then carefully spread out the roots on a bed of quite rotten dung in a frame. I cover them with any light gritty soil, water freely, and keep them rather close and frequently sprinkled till the leaves begin to get yellow, and then take off the light and leave them to their fate. They always ripen well, and are afterwards dealt with in precisely the same way as those flowered in pots.

For a last word, remember that bulbs should never be bruised or left about in odd places; and above all

things, never injure the plate at the base from which the roots proceed. *That* is a vital part: take care of the plate, and it will not much matter if a few scales of the bulb are destroyed; nay, if there is any sign of mildew you may carefully cut the part out, if the plate is preserved in its integrity, and at once dusting the plant with dry silver-sand, and putting the bulb aside for a week that the wound may cicatrize before planting. But never harm a bulb if it can be helped. For another last word, make your own selection, and always have the best and most distinct kinds in the several

classes; and if you have no experience of the varieties, take more singles than doubles, and give the preference to singles only for growing in moss and water. When you fill a basket or pan, have one or two kinds only—better one kind, so as to have all in bloom at once. Many a mixture on a small scale becomes a mere mess before it is done with—a spike of blue, perhaps, on one side, full out, and a spike of pink the other, only just showing colour, and all the spikes of different heights and characters—a discord, not a harmony.

### THE DOG, THE DONKEY, AND THE AURIFEROUS GOOSE.

THERE are two capital fables intended to impress upon men's minds the necessity of preferring real to imaginary benefits. In one we read of a dog crossing a stream with a piece of meat in his mouth. Looking into the water from the plank that carried him across, he espied his own shadow in the water, and taking it for another dog with a good dinner, he thought he would snatch the meat from his mouth and have a double feast. He made a clutch, made his nose wet, got his mouth full of water, and the stream carried away the meat, of which previously he was as sure as any dog in the parish.

In another, we are told of two men who possessed an ass. They sat down in the desert and began to quarrel which of them should have the benefit of the donkey's shadow, when their loud words and menaces frightened Neddy out of his wits, and he bolted off and was lost for ever, leaving his former masters to conclude that they had made fools of themselves.

Ah, and there's that capital story of the goose and the golden eggs, which tells much the same lesson. You must sometimes think of these fables in looking over gardens where people endeavour to make the soil produce two blades of grass where there's only room for one. What

folly it is, and how little entitled to sympathy are the people who fail in such enterprises. Yet it is quite common to see a plantation of (say) currant trees, very thick, and the trees weak for want of air, and yet amongst them there are the remains of a crop of cabbage or a few green potato tubers, which tell that the cultivator would have a crop of something else besides currants, where the currant-trees were already too thick to do much good. I really did pity a poor fellow not long since, who told me he could do nothing with raspberries, for I saw that his stools were planted very close, and that he cropped between the rows and between the roots, so that all the season long there was either hoeing or digging going on within a foot or so of the raspberry stools, destroying their roots, causing the escape of the moisture they love so much, and rendering it quite impossible they should throw up strong canes for the next year's crop. I told him that to dig among raspberries was to render them a nuisance, because if they produce no fruit it would be better to put them on the fire than to go on hoping against hope, and expect them to live, as the chameleon is said to do, upon the air. But he said he must have as many cabbages and cauliflowers as possible, and as he also wanted rasp-

berries he would try another season, and still hope for the best. In small gardens this crowding and overdoing of the soil is frequently the cause of a general failure; nothing thrives, because the roots of the plants are all scratching and tearing each other to pieces, and above ground the exclusion of the atmosphere causes mildew, and the growth, such as it is, is drawn and weak, and the cultivator has only vexation for his pains. It is particularly important to give trees and bushes room enough; they send their roots far and wide, and they for the most part require a considerable amount of nourishment. They want also a reasonable share of sunshine, and a circulation of air amongst their branches; the system of overcrowding is as fatal to them as to human beings pent up in courts and alleys. Now that people are planting, this brief word on the subject may be of

some service, especially to beginners, who are too apt to under-estimate the needs of vegetation, and expect from the soil more than it is capable of affording. The most instructive, perhaps, of all the instances of losing the substance for the sake of a shadow is the way in which people erop their fruit borders, so that when ten feet of space has been left for the roots of peach, pear, and plum trees, they must rob the roots of their proper nourishment for ten feet of vegetables—a sort of having the cake and eating it too. It never answers in the long run; there is a present small gain of vegetables, and a certain loss of the fruit for which the walls were built in the first instance. When next you think of planting cabbages, cauliflowers, etc., etc., between the strawberries and the bush fruits, think of the dog, the two men, the donkey, the shadow, and the auriferous goose.

### WALL TREES IN SUBURBAN GARDENS.

NEGLECT of trees tends in a great measure to destroy the pleasure and profit of the walls of a garden, however small; while, on the other hand, well-trained and fruitful trees are a source of pleasure at all seasons, and more especially in the season when their fruits come to perfection. It appears to me that, after all that has been written in various works on gardening respecting the making of fruit-tree borders and the general management of the trees, very little progress has been made of late by men calling themselves gardeners. They get their employers to purchase them trained trees at some considerable expense; and in a great many instances I have found they dig a hole and plant the tree, and nail the branches up to the wall—fancying, I suppose, the first object to attain is to get the tree to the top, not studying the distribution of sap into the lower as well as the upper branches; and supposing that by so doing they will get a well-trained fruitful tree. Now I wish to state my method,

which I have practised for many years, as to the management of fruit trees in general. Although not new, the few hints which I shall offer may, very likely, prove useful to our amateur friends. In planting wall-trees, I dig out a trench, say four feet wide and two feet deep, taking care to concrete the bottom to the depth of nine inches, and at the same time that it is so formed that water supplied either by rain or artificial means shall readily flow away, so that the soil does not become sour by the accumulation of an excess of moisture. I keep the roots of the trees as near the surface as I possibly can, so that they may have the benefit of the atmosphere; and in speaking of the four-foot trench that I make, my system is that when I find the roots have extended themselves to that distance I dig out another trench in the same way. I find by that process that it gives new vigour to the tree, and the method I believe to be much better than the old one of making all the border at one time. I also find

that vine borders made in the same way produce the same results. The soil best adapted for planting fruit trees, when it can be procured, is the top spit from an upland pasture that has been used for a sheep-walk many years. I like to use it fresh, taking care that it is well chopped up with the turf upon it, so that during the growth of the trees they will derive the full benefits from the decomposition of its organic constituents. Then as to the management of trees, I plant them as near the surface as I possibly can, taking care in the training of them that the branches are brought down as near the bottom of the wall as is requisite, keeping the middle of the tree quite open, never allowing one branch to take the lead at the expense of the rest, but studying to get an equal distribution of sap in all the branches, lower as well as upper. If that is not done, the lower branches do not receive a full supply of sap; they then invariably dwindle and die, and the beauty of the tree is destroyed. You will find that by attending to the method I pursue, you will get well-filled walls and healthy fruitful trees. I also wish to say a few words on the dis-

budding of fruit trees, more particularly wall-fruit trees. I have not spoken of orchard-house trees, for they seldom come within the range of amateur practice in suburban gardens.

The disbudding I perform as follows. As soon as I can, when the bud begins to grow, I go over the trees carefully with my penknife, cutting off all the foreright buds, and leaving only those that I require for fruit shoots, so that when the summer nailing comes, I have only to lay in the shoots, thus doing away with what is called summer pruning. I find by pursuing this method that I get much stronger and more fruitful wood. I am not an advocate for protecting fruit trees with netting in the spring from frosts, as my opinion is that the reason why the spring frosts are so injurious to fruit trees is this: we have a few days' fine weather; the sap begins to move; then cold nights intervene, and the result is a check in the flow of the sap, and the blossom inevitably falls off. Now if the roots as well as the branches were protected, then I agree that the crop will be preserved, but not otherwise. —*J. Herod, Pine Apple Nurseries.*

### COLLINSIA VERNA.

COLLINSIA VERNA, introduced by Mr. W. Thompson, of Ipswich, is one of the most beautiful of spring flowers, and deserves to be extensively cultivated, not only in mixed borders and in pots for the conservatory, but is well adapted for ribbon and marginal lines in geometric gardens, where its effect when planted *en masse* is equal to *Lobelia Paxtoniana*, to which, in its colours and habits of growth, it bears some resemblance. It is no longer needful to vindicate the distinctness of this species, that has been satisfactorily established; but it may be remarked that it is the only *Collinsia* that can be had in bloom in the month of April, a pecu-

liarity which renders it invaluable for grouping with other spring flowers.

The seed of this charming annual must be sown in the autumn; it will not vegetate if kept till spring. The best time is from the end of August to the end of September. Mr. Thompson recommends sowing in pans of light soil, and keeping those in a frame till the seedlings have developed their first pair of leaves, and then transplant them to the places where they are to bloom. It would be well also to keep a few pans of it in a pit, in case of severe weather killing these that were planted out.

## OCTOBER, 1865.—31 DAYS.

PHASES OF THE MOON.—Full, 4th, 10h. 31m. after. ; Last Quarter, 11th, 3h. 22m. after. ; New, 19th, 4h. 28m. after. ; First Quarter, 27th, 3h. 50m. after.

AVERAGES FOR THE MONTH.—Bar. 29.859. Therm. max. 58°, min. 43°, mean 50°. Rain, 3.3 inches. Prevailing winds S.S.E., and S.W. ; sometimes N.E. winds prevail, with night frosts. The wettest month in the year, and generally unsettled.

D M	Sun rises.		Sun sets.		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in flower.	
	h.	m.	h.	m.	Barom.		Therm.				
1	6	2	5	36	30.08	30.06	61	47	55.5	.00	<i>Aster fulvis.</i>
2	6	4	5	34	30.24	30.14	61	40	59.5	.00	<i>Vernonia altissima.</i>
3	6	5	5	32	30.28	30.19	56	39	47.5	.00	<i>Teucrium lucidum.</i>
4	6	7	5	29	30.15	30.06	59	36	47.5	.00	<i>Salvia virgata.</i>
5	6	9	5	27	30.02	29.85	59	25	42.0	.00	<i>Vernonia pandurata</i>
6	6	10	5	25	30.18	30.10	61	30	45.5	.00	<i>Salvia verbenaca.</i>
7	6	12	5	23	30.20	30.17	63	27	45.0	.00	<i>Aster amplexicaulis.</i>
8	6	14	5	20	30.18	30.14	61	44	52.5	.00	<i>Pyrethrum Chinense.</i>
9	6	15	5	18	30.14	30.13	57	42	49.5	.03	<i>Teucrium Hyrcanicum.</i>
10	6	17	5	16	30.26	30.17	58	42	50.0	.00	<i>Astragalus chlorostachys.</i>
11	6	19	5	14	30.30	30.14	60	45	52.5	.00	<i>Vernonia prealta.</i>
12	6	21	5	12	30.23	30.06	62	41	51.5	.00	<i>Aster foliolosus.</i>
13	6	22	5	9	30.08	30.04	63	32	47.5	.00	<i>Aster Novæ Angliæ.</i>
14	6	24	5	7	30.00	29.99	60	28	44.0	.00	<i>Aster pulcherrimus.</i>
15	6	26	5	5	30.09	30.02	61	36	48.5	.06	<i>Campanula stricta.</i>
16	6	27	5	3	29.87	29.67	59	44	51.5	.02	<i>Aster kevis</i>
17	6	29	5	1	29.65	29.61	61	45	53.0	.06	<i>Aconitum Chinense.</i>
18	6	31	4	59	29.65	29.61	63	36	49.5	.00	<i>Actinomeris procera.</i>
19	6	33	4	57	29.35	29.02	65	40	52.5	.03	<i>Aster eminens.</i>
20	6	34	4	55	29.30	29.19	68	30	49.0	.00	<i>Vernonia scaberrima.</i>
21	6	36	4	53	29.48	29.29	60	45	52.5	.28	<i>Oxytropis brevisstris.</i>
22	6	38	4	51	29.12	29.00	58	45	51.5	.30	<i>Hieracium maculatum.</i>
23	6	40	4	49	29.21	29.03	57	27	42.0	.01	<i>Funkia undulata.</i>
24	6	41	4	47	29.43	29.29	61	29	45.0	.00	<i>Hieracium heterophyllum.</i>
25	6	43	4	45	29.49	29.34	56	43	49.5	.00	<i>Aster dumosus.</i>
26	6	45	4	43	29.42	29.19	56	49	52.5	.59	<i>Oxybaphus chilensis.</i>
27	6	47	4	41	29.44	29.20	59	48	53.5	.02	<i>Fumaria leucantha.</i>
28	6	48	4	39	29.50	29.40	58	40	49.0	.00	<i>Coreopsis crassifolia.</i>
29	6	50	4	37	29.83	29.60	61	44	52.5	.00	<i>Erodium serotinum.</i>
30	6	52	4	35	30.05	29.89	52	35	43.5	.00	<i>Coreopsis ferulifolia.</i>
31	6	54	4	33	30.15	30.12	50	33	41.5	.00	<i>Coreopsis incisa.</i>

PROBABLE WEATHER FOR OCTOBER, 1865.—The forecast for September has been fulfilled to the letter in every detail, and we had a most delightful season for the ripening of fruits, and the completion of the harvest. Next month very much agreeable weather, but with several distinct changes. From 1st to 10th fine, wind easterly, cold nights, and sometimes frost and fog. From 11th to 15th, much cloud, in western districts much rain, northern and eastern districts showers alternating with sunshine, wind westerly and variable. From 16th to 23rd fine, with night frosts in all places north of Nottingham ; sometimes great heat by day, barometer high, sky clear, wind N.E. to S.E., and round to S.W. From 24th to end, warm and damp, occasional heavy rains, wind S.W. and round to N.W. In south-western counties rain and gales.



## THE GARDEN GUIDE FOR OCTOBER.

**KITCHEN GARDEN.**—Cleanliness will do wonders now for the present and the next season. The more weeds, the more seeds, and the less air; so stir the ground between all standing crops, and ridge up the plots that are to be vacant all winter. This is the best season for planting rhubarb. Heap up manures and composts. Empty the muck-pit, where the whole can be turned two or three times before spring. Plant August-sown cabbage and lettuce in warm situations. Take up potatoes, carrots, beets, and parsnips. Earth up celery. Lay cabbages and broccolis with their heads to the north; fork over asparagus beds, and mulch the crowns with rotten dung. Get cauliflower plants under hand-glasses. Tomatoes in pots not ripe should be put under glass, and kept rather dry.

**FRUIT GARDEN.**—New plantations of gooseberries, currants, and raspberry bushes may be made towards the end of the month. Canes may be put in to increase stock, and for this purpose two-year-old wood is better than the shoots of the season, if disbudded a foot or eighteen inches from the base. Drain and

trench the ground where fruit trees are to be planted next month. Moss on apple trees generally disappears when the ground is drained. Root pruning and planting may be commenced the last week, but root pruning should only be resorted to in the case of over-luxuriant, unfruitful trees.

**FLOWER GARDEN.**—Train out chrysanthemums in pots, give plenty of water and liquid manure. Plant hyacinths, tulips, crocuses, scillas, crown imperials, lilliums, gladioli, narcissus, jonquils, daffodils, and snowdrops. Part perennials in the borders; get auriculas and carnations under glass for the winter, but give plenty of air. Remove decaying leaves; keep walks and lawns tidy.

**GREENHOUSE AND STOVE.**—Use fire heat in the greenhouse only to dissipate damp. Remove shading, give plenty of air, and fumigate at once if any sign of vermin. Plants to bloom during the winter should have the best places. Reduce the heat among pines. Keep the air very dry where grapes are hanging. Bottom heat for pines 85°.

## TO CORRESPONDENTS.

**THE EARWIG PEST.**—*Sulbrook's* apricots have been destroyed by earwigs this season, not one of which has not been more or less eaten, and some altogether destroyed. Neither peaches, nectarines, nor plums of various sorts, although on the same walls, have been touched by them. Will it be necessary to take any precautions against them for another year? —[There is but one way to deal with earwigs, and that is to hunt and trap them in detail. Suppose we begin this season, with a view to save next year's crop. The first thing will be to unnaill the trees as soon as the leaves are down, and well brush the wall. If it wants repointing, the doing it this season would be very beneficial. The cleansing of the wall will sweep away myriads of eggs, and that is one step towards saving next year's crop. The next business will be to begin trapping at the end of April, and trapping is the only reliable mode of getting rid of earwigs. Bean-stalks may now be found in the kitchen-garden, and a few might be saved for traps. The pea-shooters which boys

use as playthings make admirable traps. So do little tufts of dry paper, crumpled up and thrust in next the wall. Anything dry and dark will entice earwigs, especially if they have to ascend to it. Plenty of syringe, or engine on the trees all next summer will do some good, but *Sulbrook* must trust chiefly to traps and vigilance.]

**VALLOTA, AGAPANTHUS, ANOMATHECA.**—I should be glad if you would inform me of the proper culture of *Vallota purpurea*, and also of *Agapanthus umbellatus*. The *Vallota* I purchased last summer did not flower. It has grown on this year, being fully exposed to the sun, and well supplied with water; has been repotted once into fresh loam, peat, and rotted dung. *Agapanthus* was bought in flower last year. It burst its pot in the autumn, and was repotted. There are no signs of blossom. Can I grow seeds of *Anomatheca cruenta*? Some I allow to ripen in my window. The plant is the best bulbous flower I have had; never fails to bloom; increases yearly by its offsets, which never die. I

wish there were more like it. *Brodia grandiflora* bloomed well, but the sun scorched all its leaves before the flower came.—*Window Gardener*. [*Vallota purpurea* should never be dried off like most other bulbs, but be kept always growing. After flowering, it should be taken out and repotted in a smallish pot, and the offsets taken off and potted separately. It may be kept out of doors in a shady place or in a very airy greenhouse, from May to October, and should be in ordinary greenhouse temperature at other times. The soil best adapted for it is pure mellow yellow loam, or equal parts loam, peat, and leaf-mould, and extra supplies of water as soon as it begins to throw up its flower scapes. *Agapanthus umbellatus* should now be shaken out and repotted in mellow sandy loam, and be set aside in a warm corner out of doors, and be moderately watered until there is reasonable fear of frost, and it should then be transferred to the cold pit for the winter. After the middle of April it may be set out of doors in a sheltered place, and during May, June, and July should be treated as a half aquatic, and stand always in a pan of water. Many amateurs spoil this plant by giving insufficient water. The more open air it has, without being touched by frost, the better. *Anonatheca cruenta* is one of the best window plants known. The bulbs should be dried off, and be repotted when they begin to grow again. The treatment of an *Ixia* will suit it admirably. You may get up a stock of plants from the seed you have. Sow in February on gentle heat, or wait till May, and sow on the open border.]

**SMALL GREENHOUSE.**—*L. F. D.*—It may be as well to state first, that small greenhouses require more skilful management than large ones. They get too hot when the sun shines, too cold during frost; if well ventilated are draughty, and if not well ventilated close and suffocating. Amateurs sometimes build small houses, under the impression that they are easier to manage than large ones, and this when expense is not a serious object. Houses of less than thirty feet in length and twelve feet wide are to be considered troublesome, and hence they demand more than ordinary care. Your little house of nine feet by seven feet is in a somewhat damp corner of the garden, and with no sun on it after the middle of the day, is really not fit for pelargoniums, fuchsias, and other first-class greenhouse plants, but it would answer ad-

miration for a small collection of ferns. If flowering plants are an object, we certainly advise you to move the house to the position marked A in the sketch; but before you do so, bear in mind that on frosty nights you will have a long way to go to attend to the fire, and however perfect your arrangements, you (or somebody else) must have a peep at the fire before midnight. We have no doubt Riddell's slow combustion stove will suit your purpose; but we cannot recommend it from actual knowledge, never having had one in use. As your greenhouse stands at present, it would make a pretty fernery by throwing up within it some banks of good peat, and facing them with burrs, and then planting ferns in it. If you think anything of this suggestion, we will gladly furnish a list of ferns suitable for the purpose. In our own garden is a house which was built solely to fill in an ugly recess in the wall of the dwelling. It was very useful as a show-house for some time, but some building operations on the adjoining property robbed it of sunshine. The back dead walls were then faced with burrs, arranged to make the house look like a cave, and it was planted with ferns, and has ever since afforded immense delight to all who have seen it. This is a use for a dark house which is not generally thought of.

**MACHINE-MADE HOUSES. BUDDING ROSES.**—*P. B.*—Some of the best plant-houses in the country are constructed of machine-made rafters and sash-bars. The work of setting out is the same, whether the wood-work is made by machinery or by hand; and generally the machine-work has the advantage, because of its exact uniformity. The wood-work of the Paxtonian houses is all prepared by machinery, and they are the best built houses known. We do not know what you mean by the root of the bud in budding roses; but if the shield does not peel clean from the wood, it is a matter of no consequence. The bud may, indeed, be put on without removing the wood, in which case a slight excision should be made in the stock to receive it.

**THE GARDEN ORACLE** for 1866 will contain a comprehensive review of the progress of horticulture during the past year; descriptions of all the new flowers and fruits; lists of the best varieties for flower, fruit, and kitchen garden; and many original hints and advices of the utmost value to amateur gardeners. It will be ready Nov. 1st.

THE  
FLORAL WORLD

AND

GARDEN GUIDE.

NOVEMBER, 1865.

GOOD SEASONS AND GOOD FRUITS.



If the reader will kindly reflect for a few moments and make an impartial demand on memory, we have no doubt he or she will agree with us when we say that every season is extraordinary. In our own experience we can scarcely remember a season which was not pronounced extraordinary by some one, for some more or less generally accepted reason. The eight years' accumulations of the FLORAL WORLD will testify that we have had at least eight extraordinary seasons. At page 3 of the first volume you will find these words, "We call to mind the glories of the season that has passed." That refers to 1857, when we had two summers rolled into one. Those who like to explore for particulars may do so if it pleases them; we will only here remark that during the career of the FLORAL WORLD we have had two seasons at least that all will agree to call extraordinary—1860, with its incessant rain, and Arctic temperature, and ruined harvest; and 1865, with its long drought, its almost tropical heat, and its cattle plague, potato plague, and wonderful grapes. Some of our friends may be disposed to agree with us that 1864 was a fine year—it gave us abundance of sunshine and far better crops upon the whole than the present season. The good fruit crop of this year was the result not only of fine weather for its growth and ripening, but also of the fine weather last year, which secured a good growth of wood and ripened it perfectly.

The question arises, can we deduce from such considerations any-

thing practical? We are inclined, with a view to being practical, to suggest that the climate of this country is improving. We make this remark with the horrors of 1860 fresh in our recollection. The few observations made last month on the "possibilities" of the climate, must have reminded some of our friends that there is really nothing new in the perfect ripening of Chasselas Musqué and Black Hamburg grapes out of doors, and of large crops of fine peaches, nectarines, and apricots from bush trees. In plain truth, there is nothing new in these things, but they are rather unusual. Now, if observations of weather phenomena are to be of any use, the end should be more fruit in the store, more wheat in the rick; more health on the cheek, and more peace in the heart of man. Knowledge always tends in some way or other to some such results. To take a prosy view of a matter which is full of highest poetry, the penny loaf ought to grow larger with every fresh observation on stars, and comets, and thermometers, and weathercocks; we who till the soil ought to contribute in some way to make it larger after all our elaboration of inquiries, and observations, and experiments.

It is very certain that in English gardens there might be much more fruit grown than is produced at present. It is almost a disgrace that there should be a single purchase of fruit, except oranges and mere curiosities, imported into this country in any of our average seasons. When the elements buffet us as they did in 1860 the case is different, but even then we might have done better than we did, for the whole case of fruit growing in this country is wrong to this extent—that we place our trees too much at the mercy of the elements. The superb varieties of pears that have been of late years introduced to cultivation in this country teach us an important lesson as to fruit growing generally. These pears may be grown to perfection in gardens in all the southern and midland counties, if grown as pyramids and bushes; but they cannot be grown anywhere as standard trees. So again if we visit an exhibition, and having selected the finest samples of fruits, inquire as to the mode in which they were produced, we shall almost invariably find that they were grown on bushes, pyramids, or espaliers; that, moreover, they were actually *cultivated*, or, in other words, watched and tended through all their stages of growth, for if they had been left wholly to the care of Dame Nature, they would not have been fit for the exhibition table at all, much less to have a distinguished place there. The doctrine is gaining ground daily amongst practical men that fruit must be cultivated. There is nothing new in the doctrine, no one pretends that it has ever been utterly lost sight of; yet everybody knows that hitherto the greater part of our home-grown fruits have grown wild. To be sure, the trees are in gardens and orchards, and so forth, but for all the attention they get they would be as well off in the forest or on the common, for all that art has done for them has been to graft them and to plant them, and then leave them to prosper or perish, as circumstances might determine. Therefore we repeat that it is time the possessors of English gardens began to cultivate fruit; they have been content with wild fruit heretofore, and have taken their risk of little or none; the next phase of the subject will be fruits of finer quality, in vastly greater abundance, and with less interruption of the periodical supplies through the vagaries of the elements.

It is scarcely possible to carry out a scientific cultural system with standard trees of any kind. They approximate to the characters of forest trees, and need nearly the same treatment; in fact, the best general rule for pruning them is admitted to be—"leave them alone!" Wherever good fruits and large supplies are in request, the bush and pyramid forms must be adopted for this simple reason, that they are completely under our control. To plant them and leave them to grow wild will be an absurd proceeding. The ground must be enriched; they must be periodically lifted; the young growth must be pinched in May and June; the crops must be thinned; and sometimes there must be strips of netting or canvas hung between the rows to mitigate the effects of freezing winds. Fruit trees under such a system of management suffer less from frosts than neglected trees; because the lifting, the pinching, the pruning, and the forking of the ground between them, combine to delay slightly their period of blooming, and they oftentimes escape injury when the bloom of large old trees is completely destroyed by east winds in March and April. Moreover, trees of moderate dimensions can be actually covered for protective purposes at a small expense, but no one ever yet attempted to cover standard apple and pear trees forty feet high, and thirty feet or more across; it would need the dome of St. Paul's as a nightcap for each one of them. It is very certain that nearness to the ground is favourable to the productiveness of dwarf trees in many ways. During winter the frost is more severe near the ground than at ten, fifteen, or twenty feet removed from it. The consequence is that bush trees are more frequently and more severely frozen than trees of considerable altitude, and they therefore rest more perfectly and are in less haste to start into growth in spring. Then the tree that lifts its head high towards the heavens catches the earliest rays of the sun in early spring, when bushes close by are still in shadow. The growth of the tree corresponds in precocity, and we see the great old apple and pear trees in bloom long before the bushes begin to show colour. Such at all events is the experience of the writer of this, and no doubt he will be confirmed by the observations of others. Lastly, the tree has a lower mean temperature during the summer months than the bush. There is oftentimes a playful breeze moving in the topmost branches when there is none near the ground, and high up in mid air there will always be an active radiation of heat away from the tree, but near the ground there will be radiation and reflection of heat to the bush. It is not surprising, therefore, that small trees and bushes and low espaliers should give a better average of production than large trees, and that if we want really fine fruit we must not trust to standards for it.

The foregoing remarks apply directly to the case of peaches, nectarines, and apricots when grown in open quarters. Those who intend to succeed will plant bushes; that is to say, they will secure plants grafted close to the collar, or with only one to two feet of stem; but those who intend to fail will make sure of standards. Since the publication of the remarks on this subject in our last, we have heard much about the production of these fruits in open quarters during the past season, and it is beginning to be evident that many enterprising men are looking forward to some very substantial results from this depart-

ment of fruit culture. It may, however, be worth considering if there is no intermediate course for amateur cultivators (perhaps for market growers also) between the extreme risk of open quarters on the one hand, and the extreme expense of fourteen feet walls and Paxtonian houses on the other. There is the GROUND VINERY for instance, which is doing wonders for grapes; why should it not do something also for peaches? Mr. Wells has improved this useful apparatus by hooking the lights together by means of hinges, so that a complete vinery may be folded up and carried under the arm like a portfolio; the weight being so trifling that a lady can carry one with ease. When placed on the ground it forms a miniature span-roofed house, a few loose bricks and slates are all the furniture needed besides the glass frame, and it is capable of producing as good grapes as can be grown with the most expensive appliances of houses, boilers, furnaces, and the rest of the details of elaborate grape culture.\* Wherever Black Hamburg grape will ripen perfectly, peaches and nectarines will do the same. Those who have neither walls nor houses therefore, and who yet wish for home grown supplies of these delicious and everywhere valued fruits, and who are afraid to put their trust in bushes, may very safely speculate in these simple but efficient structures, the objects of which are to protect the vines or trees from frost, and economize for their use the whole of the sun-heat the ground is capable of absorbing. Of course a single rod and cordon treatment would be the course to pursue with peaches and nectarines in these structures; they are only about twenty inches wide, but they can be extended to any length that may be desirable.

It may not be unseasonable to remark also that the ordinary kinds of small fruits grown in English gardens are very inferior to kinds that are equally prolific. How seldom do we meet with gooseberries and currants and raspberries worth eating at the dessert. To be sure they are placed on the table, but usually to be despised *and* removed. With strawberries the case is different, good kinds are generally appreciated and generally grown. Why should it not be the same with the other fruits of this minor class? A huge coarse, red-faced gooseberry, called "Crown Bob," has reigned almost supreme in private gardens during many generations past, and it is about the worst variety known in this country except to fill a basket and command a market sale. We shall hope during the next few months to place in the hands of our readers some useful information on the several subjects we have touched upon here; perhaps we have said enough for the present to indicate that there is some room for reform in the English system of fruit growing.

S. H.

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## FERNS AND FERN CASES.

(Continued from page 143.)

FERN cases are constructions intended for the growth of ferns, and there is perhaps not a fern case in existence thoroughly well adapted

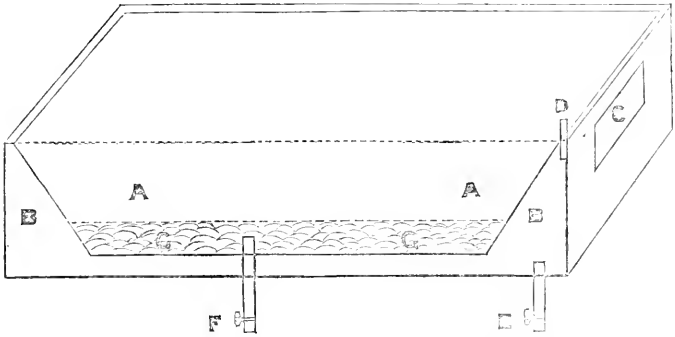
\* Inquirers may address to Mr. Godward, Florist, High Street, Southend, Essex, where Wells's Vineries may be seen.

for so laudable a purpose. We see them at exhibitions looking magnificent, and no doubt they sell. I have seen perhaps thousands, certainly many hundreds, but I never saw one yet that was so prepared and furnished as to be in the least likely to last as a home decoration; the ferns put in would either soon outgrow the spaces afforded them or perish through lack of heat, or light, or greater depth of soil, or some other circumstance fatal to their well-doing. The way in which the dealers in fern cases crowd one of their pretty receptacles with specimens is one of the marvels of the nineteenth century; let those who like them buy—let those keep them who can.

There may be no harm in repeating that Miss Maling's cases are still the best at present offered to the public. I have already said that they are far from perfect, and their greatest imperfection is the absolute impossibility of removing from them any excess of moisture which may accumulate in the soil. It is admitted that excessive moisture ought never to be there, and it must be insisted upon that in spite of every care excessive moisture will get there sometimes, and then—yes, and *then* IT MUST REMAIN THERE. A pretty conclusion to a year or two of patient work, to see a collection fading away, and know that the only remedy is take the whole affair to pieces and plant again. On the day I write this I have sat beside Mrs. H. while she manipulated one of her cases, in which of late the ferns were not doing so well as they ought, and what was my horror to observe that the soil had become wet and pasty through the frequent use of the syringe during the recent hot weather, and that unless the case had been unstocked there must have been losses in the coming winter. This was the more vexatious because that case has furnished me with some of the most interesting notes I have yet made on fern cases, and on this occasion of unstocking a few special favourites have had to be disturbed, and I was particularly anxious to see them go through another winter without the help of heat. When I tell you that amongst these special favourites were nice plants of *Pleopeltis membranacea*, *Adiantum reniforme*, and *Rhipidopteris peltata*, which so much delighted Mr. Crocker when he was here (he told me it was a finer plant than they have at Kew), you will perhaps bestow a little sympathy on the two connubially-united pteridologists who bewailed together on the occasion referred to, that it is so easy to get water in and so hard to get it out of a Malian plant case. If I could only gain one day for a quiet holiday at home I would produce a better fern case than has been made yet. But I have no hope of that at all, any more than I have of carrying into effect many more ideas of things and processes that would be useful. But I put my suggestion in black and white here, and perhaps amongst our readers there may be many sufficiently spirited to carry it out. There is not much in it, yet perhaps enough for the purpose, and I print it *pro bono publico*.

In the cases against which I complain, the chief bulk of the hot water is kept at one end. This causes a partial instead of a general heating. The water is poured in through a ridiculous key-hole sort of orifice, into which you may insert a funnel if you can persuade it to stop there. To draw off the water there is a paltry tap capable of passing about half a pint per hour, and you cannot remove the pan of

soil in order to change the whole furniture at one lift, on the plan I proposed in "Rustic Adornments for Homes of Taste," for the simple reason that it is a fixture.



A, trough containing soil for ferns; B, reservoir for hot water; C, opening for filling reservoir; D, air pipe; E, tap to draw off water from reservoir; F, tap to draw off drainage water from soil; G, stratum of crocks for drainage.

Now, how do I propose to remedy these defects? If I were to carry out the schemes figured above, I would go to the expense of having all the metal work in copper well tinned; it would be expensive, but would last for ever. A should be a trough for soil, resting on a ledge all round the outside wooden casing, and admitting of being lifted out at any time. For the lifting there should be a ring attached on each of the four sides. In the centre of this I would insert a pipe, F, for escape of drainage, and this very simple process makes an end of the principal difficulty. The bottom of the trough might slope down every way to the pipe, F, which would render its action more effectual. For the communication of heat I would have a space, B, allowing a depth of two inches at least under the bottom of the trough, and additional spaces under the sloping ends of the trough. By increasing the quantity of water so as to fill the ends as well as the bottom, a maximum of heat would be obtained. Now to fill this reservoir need not be so ridiculous an affair as it is at present; my idea of the matter is to have a whole side of the wooden frame removable at a touch, so that we could get to the reservoir and fill it with as much ease as one might fill a washing-tub. I have shown a removable portion only of the end C. I must leave it to the imagination of the inventive reader to work out this point. I think I should have no difficulty in opening the side of the case so as to pour water into the reservoir with some speed from a large can, instead of dribbling it in as now in a way that suggests that fern-growers ought to live for ever if only for the sake of keeping their cases warm.



## NOTES ON FERNS IN CASES.

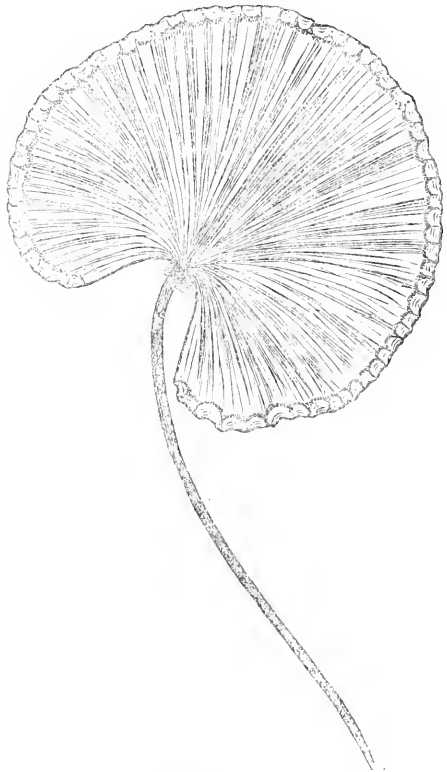
THERE are some few ferns of special importance in our cases which I hope to remark upon next month, in continuation of the list commenced at page 189 of the volume for 1861. I hope none of our fern-loving readers will blame me for taking my time about these notes; should any be disposed to do so, I must remind them that I write the results of experience and observation, and *time* is an important element in horticultural practice. Here is an example. In the spring of 1862 I received from Mr. Sim a rhizome of newly imported *Adiantum reniforme*, and upon this I reported at page 192 of last year's volume. A portion of it was kept in an average temperature of 70°, and another portion in a case which has no heat either winter or summer. I am enabled now to remark upon the subject, that *in an unheated case Adiantum reniforme grows tolerably well, keeps in perfect health, and suffers but little during winter.* The plant in the cool case has just been potted, and it is a very creditable specimen; the fronds are as large as a shilling, very clean and glossy, and there are about five and twenty of them. The plant in the warm case makes fronds of the size here figured, the figure being an exact portrait of one of them.

46. *Doodia aspera*.—A very beautiful small tufted fern with dark green fronds, which when young are of a rosy crimson hue. Good for greenhouse or case.

47. *Doodia blechnoides*.—A fine fern, which, when old, has an elevated stem; the young fronds are rosy. In a case needs plenty of air, and in fact

ought to be potted for the greenhouse after being two years in the case from the seed-pan.

48. *Doodia caudata*.—A pretty little tufted fern, which is pretty sure to appear in the soil of the case whether intentionally introduced or not. It seeds freely, and wherever ferns are grown it is as common a weed as *Pteris serrulata*. It is, however, very



ADIANIUM RENIFORME.

pretty, and every possessor of a fern case should have it.

49. *Doodia lunulata*.—A very pretty and very common fern, with spreading, roughish, deep green

fronds, which have a slight rosy tinge when young. Does admirably well in the case.

All the *Doodias* come up spontaneously from self sown spores wherever they are cultivated; so that if the cultivator once possesses

*Doodias*; they are almost as fond of *Doodias* as of lettuces.

*Pteris scaberula*.—I depart from the alphabetical arrangement in order to name this (a well-known fern) as one of the best for cases, baskets, unheated greenhouses, and every pos-



*PTERIS SCABERULA.*

them he is likely never to lose them, for if the specimens are lost, seedlings of the same kinds will appear some day to replace them. When snails get into a greenhouse or fern case, the very first ferns they attack are the

sible place or purpose for ferns, provided it is not exposed to frost and snow. A fine plant in a basket here passed through the winter of 1864-5 in a house which was wholly without heat, and in which icicles were often

plentiful enough, and in fact the fern was several times frozen, and yet survived. It has few equals even among ferns, its beauty is unique, the delicate pale green hue and the exquisitely fine divisions of the fronds, make a lady's plant of it; but gentlemen may grow it if they please. In a case it prospers and spreads so fast that one year's growing of it is as

much as most people will care about. Then, however, it will be of a fair size to transfer to a basket a foot wide for suspending in the conservatory or elsewhere, in fact anywhere if under glass and shady. *It requires abundance of water when growing, or it acquires a rusty appearance.* Rustiness will always be a proof it has had bad treatment. S. H.

## OMNIUM GATHERUM.

### UNITED HORTICULTURAL SOCIETY.

—The committee of this Society steadily pursue the path originally marked out, and are now preparing for another grand exhibition in the very heart of the City of London. By the generous consent of the Corporation, the use of the Guildhall has been obtained for an exhibition to be held on the 14th and 15th of this month. The exhibition will comprise chrysanthemums, fine foliage plants, fruits, roots, fern cases, horticultural implements, and ornamental pottery. This is likely to prove one of the most attractive November shows ever held in the metropolis. The principal cultivators of chrysanthemums have signified their readiness to exhibit, and to put forth their whole strength; many eminent fruit-growers have done the same. Some fine collections of miscellaneous plants are promised, and as respects the goodwill and hearty co-operation of cultivators of all classes, there need not be entertained a single doubt. Then the hall itself will be an attraction, for the alterations and improvements undertaken by the Corporation will be all completed, including the magnificent open timber roof, the principal monuments lowered and cleaned, a considerable addition to the number of windows, affording abundance of daylight, and the whole of the decorations used on the occasion of the mayoralty festival of the 9th of November will be allowed to remain. Chrysanthemum shows are extremely beautiful when seen by gaslight. The chrysanthemum indeed is almost the only flower which can be exhibited to advantage at night—a fortunate cir-

cumstance with a subject blooming in the dark and foggy season of November—and the Guildhall is now provided with a series of chandeliers capable of a most brilliant, we might even say gorgeous, illumination. If this combination of favourable circumstances does not secure for the exhibition a greater amount of public patronage than has been ever before accorded to any similar undertaking, we may safely conclude that a chrysanthemum show is a mockery, a delusion, and a snare.

NEW VERBENAS.—*Crimson King*, raised by Mr. David Thomson, of Archerfield, has especial claims on the attention of those who still use this valuable, though of late depreciated, bedding plant. Verbenas have of late lost caste, hot and dry seasons have been unfavourable to a continuous bloom, red spider has made large blanks in the masses, and geraniums, which endure heat with patience, and flower the finer for it, have in great measure taken their place. *Crimson King* has fine bold trusses, the colour is rich crimson, heavy rains and long droughts scarcely affect it when it has fairly got hold of the ground, and it blooms as freely and in much the same style as *Purple King*, the merits of which are so widely known and appreciated. This verberna will be sent out in May next by Mr. Methven, Leith Walk, Edinburgh. *Fire Brigade* is the name of an excellent bedding verberna, which produces rather small trusses and small flowers of a vivid scarlet crimson colour. It blooms so profusely and continuously as to be always covered with flowers, and the growth is neat and close, re-

quiring no pegging; the foliage having a rich deep bluish green colour which shows the flowers to advantage. Having seen this many times during the season, we can recommend it as one of the best bedders ever planted. It will be sent out by Mr. Kirtland, Albion Nursery, Stoke Newington, in May next.

**FOLIAGE BEDDERS.**—There are three new plants offered as companions to *Coleus Verschaffelti*, *Amaranthus melancholicus*, etc. They are *Alternanthera amana*, *A. spatulata*, and *Teleianthera versicolor*. These are all natives of Brazil, and all belong to the family of amarantths. They agree in certain characteristics, the foliage being of a rich crimson hue, shading to chocolate, with occasional patches of green and orange. It is impossible to say a word as to their value as bedders, that can only be ascertained by actual trial, and as a matter of course they will be tried next summer in many public and private gardens. Plants for propagating from are now being offered by M. Verschaffelt, of Ghent, at 3s. each. *Iresine Herbstii*, sent out in the spring of the present year, has disappointed many. We have seen much of it; sometimes we were surprised at its beauty, and at other times as much surprised at its apparent worthlessness. At South Kensington, in the great circular frieze it was truly magnificent; at Battersea Park it was obnoxious. It will need another season's trial to determine what conditions suit it best, and how we may secure such brilliant effects as it has produced in some instances. Cultivators appear to be generally in favour of giving it a shady position, but the beautiful clumps at South Kensington were in the full sun, and never looked dingy or weak in colouring.

**STANDEN'S GARDENER'S FRIEND**, an artificial manure, lately offered by Messrs. Barr and Sugden, will be found the best material of the kind

for the use of amateurs, being cleanly, inoffensive, and of uniform strength, so that injury to plants by its use is not to be apprehended, except as the result of actual carelessness. When dissolved in water, at the rate of two table-spoonfuls to three gallons, it increases the vigour of the plants in a most satisfactory manner, causing the production of large foliage of a fine healthy green hue, and considerably increasing the size, numbers, and beauty of all kinds of flowers. It may be used in the kitchen-garden and amongst bush fruits advantageously, merely sprinkling it on the ground being the simplest method. Rains wash it down to the roots, and the crops are finer and more abundant. It is sold in canisters quite dry, and may be conveyed any distance without injury. Many of the leading growers of chrysanthemums have adopted it, and find it admirable for assisting in the production of flowers for exhibition.

**TOBACCO TISSUE** is a preparation of tobacco resembling cardboard, and consists wholly of tobacco pressed into the form of a sheet. The advantage of using it is that there is no need of a fumigator, a piece of the tissue broken up and placed on a few hot cinders in a common flower-pot will continue burning till there is not a particle left. Being subjected to immense pressure, it is much more powerful, comparing weight for weight, than ordinary tobacco; though the price per pound is only a few pence less than that of tobacco, the cost in the end is not more than half as much. The reason why it can be sold at a lower price, though free from moisture and consisting of pure tobacco, is that the process admits of the use of portions of leaves which are usually wasted. We have used it several times, and can recommend it. Samples for trial may be obtained of Messrs. Roberts and Sons, 54, St. John Street, Clerkenwell, London, E.C. The price is 3s. 6d. per lb.

## FRUIT TREES AS ORNAMENTS IN SUBURBAN GARDENS.

THE prevailing idea of suburban gardeners is to secure in their grounds as many pleasing effects as possible; hence, ornamental trees usually take precedence of fruit trees, and the lawn, the parterre, and the shrubbery consume so much space that the orchard and kitchen garden are oftentimes robbed of their due importance, and have less care than they are entitled to as contributory to domestic comfort. It seems that we have yet to learn how to incorporate fruit trees in scenes designed primarily for the gratification of the eye; how to grow apples, pears, plums, cherries, etc., etc. in such a way that the trees will harmonize with flowing lines and verdurous masses, with bold breadths of lawn and with gay groups of flowers. Yet to accomplish this would be no new thing. In the old English gardens, useful trees were grouped in park-like groups on spacious lawns within view from the windows of the dwelling, and we need only to revive certain features of ancient gardening to accomplish the double purpose of rendering the grounds richly ornamental, and at the same time productive of ample supplies of the best fruits. Coming to particulars, what can be more beautiful than the bloom of our hardy fruit trees? and what more beautiful in many instances than trees of graceful outline laden with ripe fruits? To carry the idea into practice needs some knowledge of the habits of the varieties; but with this knowledge any skilful planter will find it an easy matter either to associate fruit trees with highly-decorated grounds, or with the less pretentious scenes that may be classed as rustic in their character.

Now suppose the ornamental to be considered carefully, why should not fruit trees be planted on lawns and on the margins of walks, and be made the staple subjects in retreats and shrubbery masses in place of many subjects that at present occupy space, and consume good soil, without giving any more pleasure to the eye

than some varieties of fruit trees, while they are altogether unproductive of useful results? There are many varieties of dessert pears that make most beautiful lawn trees, and readily conform to any required style of decoration by the facility with which they may be trained as rigid distaffs, close formal pyramids, or free and diffuse bushes.

Standard and half-standard trees will, of course, be requisite in reasonable numbers where any extent of ground is to be planted on the plan of combining orchard and pleasure-ground in one. Large trees are of immense importance in giving dignity to a garden; indeed, without them, the most elaborate and costly furnishing becomes tame and thin, and the otherwise skilfully-drawn curves and well-balanced contrasts only vex the eye by suggesting that other elements are needful in the composition of a picture. Bushes carry the eye up from the ground, and prevent it ranging unreasonably far in quest of "something it knows not what," all the while troubled with the hunger of empty space; and when the eye has been thus raised from the dead level, it loves to range in mid-air in the admiration of larger masses, and at last takes within its scope the tallest trees, the feathery tops of which carry it towards heaven, rejoicing in the vastness and the freedom of the upper air, and the azure of the sky. You have many a time seen in old orchards huge pear and apple trees of such noble outlines, so bold yet so symmetrical, that you could hope for nothing finer in a well-kept park. The oaks, and elms, and beeches have their proper places in park and woodland scenery, and, in the shape of timber, promise to pay the nation for their sustenance; but in gardens, trees of smaller dimension, yet real and picturesque as trees, are more appropriate; and I counsel all who are planting, or about to plant, to consider how far fruit trees have claims upon them in preference to limes, chesnuts, poplars, and other

trees, that never make any return for their keep except in those decorative uses wherein they are equalled, if not quite outdone, by trees that contribute to the fragrant stores of the housekeeper. But with a suitable proportion of trees of large growth for the principal features of the picture, there will be a need for small bushes and pyramids in plenty to fill in the foreground, to group in masses, and to dispose in positions where their individual beauty will be appropriate and appreciated. There need be no trouble in selecting these, and any little mistakes which a severely critical eye might detect in the grouping and contrasting — in the selection, say, of a tree with a strong diffuse habit, where one of close, compact habit would have been more suitable — any such mistakes can be rectified the next season, and while it continues it is not so serious a matter as to occasion disquietude. The increased cultivation of dwarf forms of fruit trees, as pears on quince stocks, apples on paradise stocks, and cherries on the Mahaleb, opens quite a new field of enterprise for the amateur pomologist, who having but a limited space at his command, would gladly plant fruit trees near the drawing-room windows if it could but be shown that there would be in the act no very terrible violation of propriety.

Let us consider for a moment the several kinds of hardy fruits from this point of view. I think the PEAR must take the lead, because in all the stages of growth the pear is beautiful, whereas the apple is often an ungainly object until it acquires age and size, and is then not always a suitable subject for the embellishment of a lawn. For trees of large growth grafted on the pear, there can be no more suitable varieties than Gansel's Late Bergamot, Williams's Bon Chretien, Van Mons' Comte de Flandres, Summer Doyenné, Knight's Eyewood, Dana's Hovey, Gansel's Seckle, Knight's Monarch, Suffolk Thorn, Van Mons, Zepherin Gregoire, and others of like free habit and fruitfulness. For bushes and pyramids, many of them of almost matchless beauty, the name is Legion. In the garden to which

reference was made just now, there is a Jargonelle trained distaff fashion, the straight stem being beset from head to foot with short, twiggy side-shoots, which are beset throughout with fruit spurs. This tree is a remarkable object when laden with its noble crop; it has somewhat the appearance of a may-pole decorated with green leaves and luscious pears in prodigal profusion. Again, there are Louise Bonne, of Jersey, and Jersey Gratioli in the form of large open bushes; and these all the summer season are laden with their fine fruits, and defy competition as decorative objects. But to avoid prolixity, let it suffice here to name a few that are eminently adapted to form bushes and pyramids, which shall be admired by all who see them, not only for their fruitfulness, but their beauty: — Alexander Bivort, Alexandre Lambre, Baronne de Mello, Bergamotte d'Esperen, Beurré Bachelier, Beurré Clairgeau, Beurré d'Anjou, Beurré d'Arenberg, Beurré d'Amanlis, Beurré Diel, Easter Buerré, Buerré Hardy, Beurré Leon le Clerc, Beurré Superfin, Chaumontel, Colmar d'Eté, Dr. Trouseau, Doyenné d'Eté, Forelle, Huyshe's Victoria, Marie Louise, Urbaniste.

The following varieties of APPLES are among the most handsome both in growth and fruit, and at the same time useful varieties, well adapted for supplying the table from an early to a late period of the season: — Red Astrachan, Blenheim Orange, Cellini, Court Pendu Plat, Cox's Orange Pippin, Cox's Pomona, Early Strawberry, Forfar Pippin, Fearn's Pippin, Golden Drop, Golden Pippin, Golden Harvey, Hawthornden, Red Juneating, Mére de Ménage, Melon Apple, Newtown Pippin, White Nonpareil, Quarrenden, Reinette du Canada, Golden Reinette, Reinette Van Mons, Sam Young, Stamford Pippin.

As for CHERRIES, they are beautiful always, but they acquire new importance as ornamental trees now that they are grown in the form of pyramids and bushes on the Mahaleb stock. For standards, select varieties of the Heart and Bigarreau class, all of which, except the beautiful and

delicious Florence, thrive best on the wild cherry stocks; but the Florence does well on the Mahaleb, and makes a beautiful bush. For bushes and pyramids *in extenso*, the Duke and Kentish varieties are admirably adapted if worked on the Mahaleb, and when regularly pinched in become compact and fruitful almost beyond belief. Plant a bush of Archduke on the lawn near the windows, and if you can keep the children from plucking the fruit till you give them permission, you will have a picture that may entitle you to the envy of your neighbours. Belle Magnifique, Coe's Late Carnation, Jeffrey's Duke, Common Kentish, Late Duke, May Duke, Morello, Nouvelle Royale, Royal Duke, and Reine Hortense, are superb varieties for the bush or pyramid form, and whether considered as to leafage, blossom, or fruit, are well worthy of admiration.

There are not many varieties of PLUMS that drop in the category of ornamental trees; nevertheless, as they cannot be shut out, it is well to make the best of them. As standards the damsons are handsome and prolific, and the following may be grouped with them:—Guthrie's Late Green Gage, Huling's Superb, Jefferson's Goliath, Perdrigon Violet Hatif, Transparent Gage, Autumn Compote, Diamond, Gisborne's, Mitchelson's, Orleans, Pershore, and Kirke's. As bushes and pyramids, the following are at once handsome and profitable varieties:—Belgian Purple, Brahy's Green Gage, Coe's Golden Drop, Rivers's Early Favourite, Rivers's Early Prolific, Early Mirabelle, Golden Esperen, Green Gage, Lawrence's Gage, Purple Gage, Reine Claude de Bavay, Mirabelle, Mirabelle Tardive, Pond's Seedling, Prince Englebert, and St. Martin's Quetsche. S. H.

#### NOTES ON GOOSEBERRIES.

I AM thinking just now of a pretty collection of what are called "Lancashire" sorts (very few of which originated in Lancashire) which have a place in my garden, many of which ought to be better known and more generally grown than they are for domestic purposes. I believe I possess every gooseberry worth growing, and among them all my favourite for my own eating is *Pitmaston Green Gage*, a small green berry, which possesses a most *recherché* flavour, about as different from an ordinary market gooseberry as a peach is different from a potato. Another favourite of mine is *Red Champagne*, but its tough hairy skin renders it an inelegant fruit. It grows so well as scarcely to need any pruning, a mere thinning where the shoots are crowded is quite sufficient. It is of erect habit, a most abundant bearer, very early, and the flavour of the fruit seems to be grateful to every palate. A few of the Lancashire prize varieties ought to be in every

garden, yet strange to say there are not many of them that are worth growing, except for the size of their berries, for some of the largest are very deficient of flavour. One of the best of the Lancashire kinds for the dessert is *Bright Venus*, a not very large berry of the white class; the flavour of this is remarkably rich and sugary, and the fruit may be allowed to hang till it shrivels, and it is then like a sweetmeat. This desirable practice can only be followed by the aid of netting to protect the fruit from the birds, and even then it will be strange if they do not get some. *Glenton Green* and *Glory of Ratcliffe* are two excellent varieties of the green class, the berries of medium size, handsome, and chiefly differing in the first being hairy and the second smooth. *Mussey's Heart of Oak* is a superb gooseberry, very large, oblong, and green, the flavour rich and vinous, the habit of the bush pendulous and spreading. Among the whites, I prefer for eating *White*

*Champagne* and *White Eagle*, the last a large obovate berry, quite smooth, very rich and refreshing, the bush an upright grower. *White Fig* is a small, smooth, white berry, not far inferior to Pitmaston Green Gage, and hence one of the finest in cultivation. The bush is of spreading habit, and in exposed aspects often suffers much from spring frosts. Among the reds, the next best for flavour after Red Champagne is *Hopley's Companion*. All points considered, *Companion* is perhaps the finest gooseberry known; it has been grown to 31 dwts. 11 grs., and may be expected to average, when grown for exhibition, 27 dwts. It is a good grower, makes a handsome bush, is quite prolific; the berry is handsome, hairy, colour a bright light red, rather early, and the flavour delicious. After *Companion*, you may take *Irish Plum*, medium size; *Raspberry*, small, and *Small Red Globe*, also small, are the next best after Red Champagne.

Early gooseberries are of great importance, and a few of the best early kinds should have a place in every kitchen garden. The loudest advocates of rhubarb are glad when gooseberries take its place, and among the delicacies of the spring season there are few that surpass a gooseberry tart. *Green Gascoigne* is one of the earliest here, and to give it a good chance, the tree being tender and the place open to northerly winds, I have a few bushes of it, with other early sorts, under the shelter of a warm boarded fence, where they have the full benefit of the rapidly-increasing sun heat at the time when green gooseberries are valuable. This is a very small, round berry; when ripe, dark green, hairy, and very sweet; a good bearer, and a compact, upright habit. The next best early is *Golden Drop* or *Early Sulphur*, which has pubescent leaves, a medium-sized roundish berry, when ripe green and good; the bush rather pendulous, a good grower, and bears well. With these two sorts, and a favourable position, you may have gooseberry tarts as early, perhaps earlier, than anybody in the parish,

unless you happen to have for a neighbour a gooseberry fancier, and then it will be a fair race for either to beat the other by a day or a week.

The following are also good early sorts:—*Early White*, a nice yellow berry; *Red Walnut*, a medium-sized downy red, not very good when ripe, but worth having; *Whitesmith*, one of the largest whites, the berry very long, the flavour when ripe superb; and last, but not least, *Wilmot's Early Red*, a fine, large, roundish, oblong berry, the bush a very pretty grower, rather pendulous.

All these fine dessert kinds, and all these early kinds, will play their part in the kitchen both in a green and ripe condition, according to the demands of the cook and the wants of the family. When you grow first-rate kinds, like Champagne, Green Gage, and others above enumerated, you are under no compulsion to eat them all as dessert fruits; the surplus supply can go to the kitchen, and generally a first-class dessert fruit is far superior to an ordinary kitchen fruit when cooked; in fact, there is so much difference in some cases that it will often become a question with a genuine lover of fruits whether any second-rate variety, however productive, should ever have a place in the garden.

There are two fine gooseberries which will be found of great service when the family requirements render it necessary to have abundance at all seasons. *Rumbullion*, a small, round, pale, yellow, downy fruit, is the best of all gooseberries for bottling, and will take high rank among fruits for cooking during the winter. *Warrington Red* will carry the supply of fresh-gathered gooseberries to a very late period of the season, and is the best late gooseberry for culinary purposes. Another good kitchen variety is *Rough Red*, which is to be found in nearly every garden in the country. The fruit is small and round, hairy, dull dark red, excellent flavour, and for preserving has no equal. Add *Hepburn Beauty*, medium size, roundish, dull green, hairy, good flavour, the tree prodigiously fruitful; also *Independent*,



*Keen's Seedling*, and *Victory*, and you will have the cream of the useful gooseberries. Better plant two, four, six, or a dozen each of all these varieties, than depend upon any one; those who stubbornly cling to one variety, however good, have no choice of flavours; they have a glut of fruit for a short period, instead of regular supplies for a long period, and they make a merely mechanical and droning business of that which should be an art, and the cultivation of it replete with recreative as well as gastronomic pleasures.

In order not to forget the would-be exhibitor, let me recommend the following two dozen for weight only. It is out of all question to talk of quality—some are good in that respect, some are not good; but all are in their way useful fruits; and if the bushes are not thinned to produce immense berries, most of them are tolerably prolific.

RED.—*London*, very large and handsome; has been grown to 37 dwts. *Companion*, described above; weight, 26 to 32 dwts. *Crown Bob*, a favourite market fruit, being bold and showy, but the flavour very poor, and in my opinion not worth a place in a private garden. *Roaring Lion*, a long berry, smooth, colour deep red; weight, 26 dwts. to 31 dwts. *Young Wonderful*, like *London*, but a week or more earlier; weight, 24 dwts. to 32 dwts. *Atlas*, oblong, hairy, the flavour good.

YELLOW.—*Leader*, a very handsome and altogether superb gooseberry; weight, 24 dwts. to 27 dwts.

*Yellow Gunner*, another first-rate berry, very rough; colour, olive-green, with a yellow tinge, the flavour superb; weight 23 dwts. to 27 dwts. *Pilot*, a fine early berry, with good flavour; 23 dwts. *Husbandman*, a fine, large, downy berry; *Bank's Dublin*, and *Broom Girl*.

GREEN.—*Thumper*, very late, large, handsome, and good flavour; weight, 25 dwts. to 32 dwts. *Turn Out*, *Conquering Hero*, *Angler*, *Wistaston Hero*, *Independent*.

WHITE.—*Queen of Trumps*, 25 dwts.; *Sheba's Queen*, like *Whitesmith*, and first-rate; *Ostrich*, a capital early sort, weight 21 dwts. to 24 dwts.; *Eugle*, very long, weight 21 dwts. to 27 dwts.; *White Swan*, 24 dwts.; and *Smiling Beauty*.

To grow gooseberries well, requires a deep, mellow, well-drained, and abundantly-manured loam. If the soil is calcareous, the fruit will generally be better flavoured than if deficient of calcareous matters; hence, an occasional dressing of soils in which there is naturally no chalky ingredients, with old plaster or chalk, is advisable. Generally, the gooseberry requires but little pruning, and the best way to manage the common kinds for the supply of the kitchen is to thin the branches very moderately, leaving all the young shoots nearly their full length. The more severely they are pruned, the more do they suffer from spring frosts. When trained to walls, a system of close spurring back is found advantageous, as is the case also in growing for exhibition. S. H.

## TREES AND SHRUBS FOR TOWN GARDENS.

BY MR. DALE, OF THE TEMPLE GARDENS.

THE finest trees, and those which seem to do best in town, are the following:—The common ash—there are some fine specimens in the neighbourhood of Thames Street; *Alnus glandulosa*—this is a very ornamental tree, and does well in town;

there was a very fine tree in the Temple Gardens; the weeping ash—this is a very beautiful and useful tree in most of the squares; the thorny acacia will do well if not planted in a sharp draught; almonds, both sweet and bitter, particularly

the former—I have seen them flower beautifully in Lincoln's Inn Fields and Tower Garden; the common and weeping birch—these make ornamental trees well planted singly; *Catalpa syringifolia* does well, and I believe the first of the kind in this country is to be seen in the gardens of Gray's Inn, said to have been planted by Lord Bacon; the common and cut-leaved alder; the double-blossomed cherry—this is a handsome dwarf-tree, and will do well in town if not too much confined: some years ago there were some beautiful trees on the north side of Lincoln's Inn Fields; English Elm—this is a hardy tree, of slow growth, and that it does well in London is evident from the fine old trees in Lincoln's Inn, the Temple, and Gray's Inn; the Wych elm—this will do in the most confined situations, and is quicker in growth than the former; the fig-tree—this will do well in towns, either as a low standard, or particularly well to cover walls; it will grow in the most confined situation, and is well adapted to cover the nakedness of walls; the lime—this does well in any of the squares, and being one of the first in leaf, its lively green is very cheerful; the laburnum, an ornamental tree of low growth, looks well among the lilacs in spring; the Scotch seems to do best as a standard, but the common is best for training against a wall; horse chesnut—this makes a pretty tree for a few years in towns, but in spring, when the buds begin to swell, they emit so much resin that the soot sticks to them and stifles them, the consequence is that they do not break freely, and so gradually decline; the maple-leaved plane—this tree seems to be quite at home in London, growing luxuriantly in the most confined spots, fruiting and casting off its bark, and there is not a spot in town where a tree is wanted but this should be planted; trees about five years old move the best, and do the best when planted in towns; there are some splendid trees about the town, one at the corner of Wood Street, Cheapside, Newgate Street, Lincoln's Inn Fields, and many other places; the Oriental

plane does well, but does not make such a handsome tree as the former; the Lombardy poplar will grow anywhere—its stiff, formal appearance makes it a great favourite with many persons; aspen poplar will do in any of the squares, the trembling motion of the leaves, even on the calmest day, makes it very interesting; the gleditschia—this tree resembles the acacia, and most of the varieties will do well in towns; sycamore will do well in most of the squares; a tree of this kind is to be seen in the Inner Temple Gardens, supposed to be between 300 and 400 years old; thorns—most of the varieties do well in town; in Lincoln's Inn Fields there are some very beautiful specimens of double pink and white, and several other sorts; the common mulberry seems to do well in the most confined situation, attaining a great age there, a fine old tree being in the pretty garden of the Temple, and several others about the town, which in some seasons bear fruit; the pear-tree grows well in the Temple, and some seasons carries a little fruit. So I think it very likely when the Gardens in Towns Protection Bill and the Smoke Act are brought into full operation, we shall not only grow trees and flowers, but plenty of fruit.

The foregoing are the standard trees best adapted for towns; now for shrubs and bushes, which may be grown from two to six feet high:—*Aucuba Japonica*, commonly called the spotted laurel—this is the best of all evergreen shrubs for towns, and will do well in almost any situation if kept low and full of young wood; this may be done by cutting down the longest shoots in spring, when they will make beautiful foliage, and if occasionally washed it is unequalled by any other shrub; *Althea frutex* will do well in any open space, the white and red flower well in the Temple Garden; the China Arbor vitæ will do pretty well if planted amongst other shrubs—if exposed, it is apt to run up and lose its bottom foliage, and look unsightly; bladder senna, a free-growing flowering bush, very pretty with its inflated pods; it

should be planted in every shrubbery, as it grows fast; the knife should be used very freely every winter to keep it in bounds, and it will flower the more freely; the Spanish broom grows fast and flowers freely, and would be very useful in most squares planted amongst the shrubs; gum cistus—I have seen this flower very freely, and have no doubt it will do well in most squares, and be very showy while in flower; guelder rose, so common and showy in plantations in the country, will be found to do well in any town garden if planted young; the holly I believe to be one of the best evergreen shrubs for towns, and if the different varieties are planted in clusters, will do well and have a pleasing effect; they should be transplanted about mid-summer; the drier the weather the better, for if they are then well watered they will start freely; the olive-leaved privet—this is very free in growth, has beautiful large bright green foliage, a first-class shrub for towns,

nearly evergreen; white and red mezeron I have had to do well, their sweet flowers come out early in spring, and are much admired; roses—this well-known favourite loves an open, free air, which at present London cannot boast of, and the only sorts my experience allows me to recommend are the old cabbage, York and Lancaster, Russellianum, and Rose de Meux; Ribes sanguinea grows freely, and is well worthy a place in any garden; the Viburnum lantana, or wayfaring tree, is one of the best shrubs for towns, and I am surprised it is not more grown in the parks and squares; it flowers in May, with large heads similar to the hydrangea, followed by beautiful red berries, and only wants to be better known to be more grown in towns; lilacs—these will grow in any town garden; the Persian is the freest to flower, and the common red and white are the most useful to cover, as they grow stronger.

### STRAWBERRIES AT YARM, YORKSHIRE.

THE late Mr. Nicholson took a great interest in the strawberry, and had formed a collection of more than 400 varieties, being in constant communication with the principal growers of France, Belgium, America, and Great Britain; and the collection is still kept up by Mr. Nicholson, and many seedlings left by Mr. Nicholson are now being proved.

One of the best of these seedlings is named Alice Nicholson, a cone-shaped fruit of a luscious rich flavour, and a good bearer. This is a fine-flavoured kind and a handsome fruit. Gloria is another of the Yarm seedlings, and in growth is akin to Black Prince, but the fruit is large, round, and handsome, with a rich Pine and Hautbois flavour combined, and a good cropper. Prince Victor is another seedling, and has not only large, handsome, round fruit of rich flavour, but is a free cropper.

An extremely fine strawberry is grown here, received I believe from Belgium, and is called "Premier on the British Queen," but which will now be called Premier. It is quite unlike the British Queen in growth or shape, but has its flavour. It is a large, handsome, round, dark-coloured strawberry, resembling Keen's Seedling in habit and shape, but distinct from it, and a good cropper; and with its fine flavour and large size is a decided acquisition. Lord Murray has a British Queen style of fruit, with a rich sugary flavour, very large and very free bearer, and a good hardy sort. Lord Clyde (Dean's), planted in April, fruited here as well as the dry summer would admit, and was considered by Mrs. Nicholson and her foreman to be first-rate in flavour. Titiens, sent out, I think, by Messrs. E. G. Henderson and Son, has fine fruit, but is deficient in

flavour. Ingram's Rifleman has very fine fruit of good flavour, and is a free-bearing useful kind. Auguste Van Geert is an Alpine cross with prominent seeds, and poor in flavour, but bears well. *Choix d'un Connoisseur* is rather small, very free cropper, of a good colour, but deficient in flavour. Refresher is a French kind, resembling *Empress Eugenie*, with very large irregularly-shaped fruit, which is very juicy, but not superior in flavour to the *Empress* or *Sir Harry*. *British Sovereign*, one of Messrs. Stewart and Neilson's seedlings, is a very fine sort, with rich sugary flavour. *Blandford* resembles the *British Queen* in habit and fruit, and has a brisk sugary flavour and fine fruit. *Kimberley* is a large, showy, fine-cropping strawberry, but is poor in flavour. *Comte de Zaus* is a very heavy bearer, and has very large fruit of medium flavour. *President* is a good cropper, with large, handsome, sweet, juicy fruit. *Rivers's Eliza* and *La Constante* both keep up their characters as first-class kinds; and *Marguerite* is a large, free-cropping kind, of fine flavour and firm substance. *Crimson Cluster* raised by Mrs. Clements, of Bodmin, is a free-bearing kind, with large fruit of a brisk pleasant flavour. *Sir Joseph*

*Paxton*, one of Mr. Ingram's fine seedlings, is a free bearer, with handsome fruit of a rich sugary flavour. *Crimson Queen* is a large-fruited, good sort for sale, but should be frequently renewed. *Savoureuse*, one of Mr. Gloode's seedlings I think, very much resembles *La Constante*, and has a full Hautbois flavour. This seems a very promising kind. It has not been a productive strawberry at Yarm, probably owing to the very dry summers of 1864 and 1865, the former especially. Many kinds were not in good character, so that I have not alluded to them.

One of the best strawberry growers in Yorkshire, the Rev. Charles Marsden, Vicar of Gargrave, near Skipton, grows *La Constante* and *British Queen* superbly; and this summer, when strawberries generally failed, he had an abundance of fine fruit. He treats these two things as annuals, and plants a new batch of runners every year, and gets fine plants and very fine fruit; but then he gives them liberal growth, and waters copiously during the dry summer weather. Two years terminates the career of the plants with him, but he trusts chiefly to the one-year-old plants for his supply.

WILLIAM DEAN.

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## THE VINERY AT CHISWICK.

THE vinery makes amends for all the nonsense of the Royal Horticultural Society's garden at Chiswick. The structure so denominated was one of the Society's great jobs in times gone by, and the late much-lamented Mr. M'Ewen was as good as a magician when he found a really good purpose for it in planting it with vines. The rods now reach the top, and on the day of inspection they were full of fruit from top to bottom. There are about seventy sorts in the house, but the old and well-known sorts predominate. *Black Hamburg*, *Black Prince*, *Lady Downes*, *Morocco*, *Dutch Hamburg*, *Mill Hill Ham-*

*burgh*, *Burchard's Prince*, *Muscat Hamburg*, and *Frankenthal* are all finely shown as the best of the best grapes, and for beauty, flavour, and productiveness unsurpassed. There were plenty of bunches in the house quite fit for exhibition, and it is rather odd, though nobody asked the reason why, that the society did not send a collection of bunches to Edinburgh. Judging the black grapes by their bunches as they hang in the house, the most handsome is *Muscat Hamburg*, the bunch long and tapering, finely shouldered, the berries oval, large, black, and with a most delicate bloom. *Barbarossa* is here

grown to great size ; it was not ripe on the day of inspection. Langford Incomparable was not ripe ! this was the ugliest in the house. Trentham Black sets badly, but when the setting is over all goes well — fine bunches, fine berries, black as death and sweet as life. This grape hangs well, without shrivelling, as does Lady Downes, and both are fine to keep till March, where there is a little skill in grape-growing. White grapes are but sparingly grown in this house. There are but few that ripen well with the black sorts, if Black Hamburg is regarded as the key variety for the accommodation of which chiefly the temperature, etc., etc., are regulated. Certainly in a mixed house Black Hamburg should be the key, and those not agreeing

with its requirements should not be grown with it. Thus, from the house before us, it would be a decided advantage to remove Bowood Muscat, Muscat of Alexandria, Cannon Hall Muscat, for these all require more heat than they get, and it is an injustice to Black Hamburg to work up the house for these ticklish sorts. Buckland Sweetwater and Royal Vineyard would go well with Black Hamburg, and give a grand variety to the produce of the house, and these are the two best grapes known outside the Muscat series. White Nice bears well here, the bunches large. Syrian bears well, but the heat is not enough to finish it. Those who can do this well may rely upon its hanging long in a fine, plump, fresh, firm state.

### WHAT IS THE CALLUS ?

A WORD here in regard to the nature of the callus, as very erroneous ideas are sometimes entertained by gardeners concerning it. Some are under the impression that it is nothing more or less than a bundle of roots in embryo, which may or may not be developed according to circumstances ; and I have never heard any one speak on the subject who did not seem to take it for granted either that the rootlets issue immediately from the callus, or that, come whence they may, they penetrate directly through it. In a series of articles on the "Science of Gardening," which appeared in the "Journal of Horticulture," the writer takes the same ground, and more than once affirms that roots are emitted from the callus.

Now, unless I am strangely mistaken, such an occurrence rarely if ever happens. After examining hundreds of rooted cuttings, I am clearly convinced that the root fibres are in all cases emitted laterally from near the base, and that in those instances in which they do seem to issue from the callus, it is merely an illusion caused by the swelling of the

latter around the ends of the cuttings. Dr. Lindley remarks, that in "cuttings the callus, which forms at the end placed in the ground, is the cellular, horizontal system, preparing for the reception of the perpendicular system, which is to pass downwards in the form of roots." This is so theoretically, but, as before observed, it is highly improbable that the perpendicular system is ever so received, the roots showing a much greater affinity to their new surrounding than they have to the callus, of which they are entirely independent.

In the work from which the above quotation is taken, "The Theory of Horticulture," the callus is spoken of as "those processes which usually precede the formation of roots," and this is, indeed, the only point that we as gardeners need care much about. Once become fully impressed with the belief that any attempt to excite cuttings prematurely is wrong in principle, and we are then able to account for many of those failures in propagating which otherwise appear to us inexplicable.—*American Gardener's Monthly*.

## HOW TO FORCE ASPARAGUS.

To have this excellent vegetable in winter, recourse must be had to artificial means for accelerating its growth, and by this means we can have it from November, till it naturally comes in the open garden through the sun's influence. To have it thus is nothing new, yet there are better means for effecting this at the present day than those formerly known and practised.

The usual method of forcing has been with dung-beds; but now the system of forcing in pits is beginning to become general, and is in every respect much better than the former. The pits can be erected at a moderate expense; and with a trifling additional outlay we can have asparagus during the whole of the winter: and I may here mention that a few roots of rhubarb may be introduced, which in the winter months is always an acquisition; and for small salading, and other things which occupy but little space, they will be found very useful. It is not necessary that these pits should be formed with more than six or eight of the ordinary-sized garden lights; and where a general succession is required, there should be two such pits in use for that purpose. They should be heated with hot-water pipes or smoke flues: hot water is the best, and by adopting it the two pits may be readily heated from one boiler, with the necessary stop-cocks. The pits should be so constructed that the plants will be near the glass, that they may enjoy the benefit of the sun when in a growing state; this is a particular point to be noticed in forcing asparagus as well as other plants.

The roots to be forced should at least be six years old, and such that have sent up strong stems the preceding summer: the plants thus selected and intended for this purpose should either be covered with rough litter to prevent the frost entering the ground where they are; or otherwise they should be taken up and deposited in sand, where they will not become too dry. In the pits, when prepared for them, there should

be three or four inches of soil placed: the roots of the plants should as much as possible be preserved at the time of lifting, and they should be placed in the pits as level as possible: then, with a sieve sift among the roots some fine soil, decayed tan, leaves, or anything that is light, and will readily fall in among them; this must be done to the depth of four or five inches; then give the whole a good watering to settle the soil; close the pit, and keep it so till vegetation commences, and then air must be admitted freely, and all the light that can possibly be secured: this materially assists in getting the buds of a fine green colour and good flavour. The temperature of the pits may range from 45° to 60° Fahrenheit; but I recommend 50° and 55° as the highest, unless it is required to provide a supply for some particular day. Where pits are heated by hot water, it is an easy matter to steam them, which is highly beneficial when the plants are in a state of vegetation. Thus managed, the plants require but little water, particularly in the winter months; but it must be borne in mind that when it is required and applied, it must be of the same temperature as the pit in which the plants are growing. Where a general succession is wanted, this method will be found to answer: a fresh plantation must, however, be made about every twelve or eighteen days. It is not necessary in forcing asparagus that it should have bottom-heat; but where a small quantity is required, it is often forced on dung-beds, and in such cases I would advise the grower to be cautious against a strong bottom-heat, which, accompanied by the steam from the dung, is injurious to the plants when in a growing state. Where it is wanted, even in small quantities, I strongly recommend the frame to be placed on brickwork, with pigeon-holes in it; and the bottom may be covered with slate or bricks, and thus the steam will entirely be prevented from getting among the plants.

## THE SUMAC TREE OF CEDROS.

I HAVE access to the note-book of a friend who has lately returned from California, and am rather taken by the description of a tree which he calls "Lents' Sumac," or the sumac of the island of Cedros. I know the *FLORAL WORLD* has a wide circulation, and therefore I want to ask its readers if this tree has been brought over to England.

It is described as growing to the height of twelve or fifteen feet, and its wood, which is beautifully grained, is very hard, and nearly as heavy as that of the *lignum vite* tree. It bears a mass of bloom, bright panicles of red flowers peep out in all directions from between its yellowish green leaves, and are succeeded by

lovely berry-like seeds. These seeds look like cherries frosted over, for they are covered with a white frothy foam, which exudes from the red glandular hairs springing out of the seeds.

The foam is intensely acid, and slightly aromatic. It is said to be quite as agreeable to the taste as the lime, and two seeds are sufficient to make a nice glass of lemonade. My friend used it constantly when on the island. The tree is an evergreen, and grows in poor soil, on the dry beds of the mountain ravines, where its roots can only find sand, gravel, and clay to nourish them, yet it looks fresh and healthy in the warmest season.

HELEN WATNEY.

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 THE DESTRUCTION OF GRUBS.

IN all my searchings for them during the last week, when in two days I found a quart mugful (about 400 in number) off forty rods of land, or about 100 on each square rod from various plants, I have not found one feasting by daylight. By the use of a lighted lantern during the night-time, I have discovered them on the tenderest and youngest plants of turnips, cabbages, broccoli, etc., gnawing them right off, or boring a hole through the plants just below the eye or heart, leaving only a short stump; then, when gorged, burying themselves just under the plant, about half an inch, which it last devoured, till the next night, when I have as easily and as surely found and taken them in their haunts, which were indexed by a gnawed-off leaf, or the entire plant appearing withered. The grub does not burrow from plant to plant by day, as I believe most people have hitherto imagined; but from fear of some deadly enemy by day, lies dormant and hidden till night comes. I find the grubs feed upon

various weeds, which accounts for the formidable havoc they are now making more than usual to all cultivated plants in the present season planted on barren ground, since unfortunately, if I may be allowed to use the expression, from the late severe drought there are but few weeds (their natural food) for them to live upon. On a patch of early wheat planted this autumn at my favourite time (September 1st), exactly three grains in each hole, to admit of various casualties it might be subjected to before and after the plants were up, which was in six days, not one missing; two days after, to my dismay and disappointment, I observed considerably more than half had been clipped off by these creatures during the night, and in nineteen cases out of twenty where I found the tender blade prostrated, there, as sure as fate, I found the grubs, sometimes diminutive, and others big and fat, hidden in the ground very close by.

A. H.

*Maldon.*

## NOVEMBER, 1865.—30 DAYS.

PHASES OF THE MOON.—Full, 3rd, 8h. 3m. morn.; Last Quarter, 11th, 5h. 46m. morn.; New, 18th, 11h. Om. morn.; First Quarter, 26th, 2h. 59m. morn.

AVERAGES FOR THE MONTH.—Bar. 29·923. Therm. max. 49°, min. 38°, mean 43½°. Rain, 2·3 inches. Winds chiefly S. and W.; showers frequent; temperature more constant than in any other month in the year, but storms frequent, and much atmospheric moisture.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in Flower.	
	rises.	Sun sets.	Barom.		Therm.				
	h. m.	h. m.							
1	6 55	4 31	30·16	30·11	49	37	43·0	·00	<i>Caltha sagittata.</i>
2	6 57	4 27	30·12	30·10	51	32	41·5	·00	<i>Aster dracunculoides.</i>
3	6 59	4 28	30·29	30·20	54	20	37·0	·00	<i>Sideritis spinosa.</i>
4	7 1	4 26	30·39	30·17	54	22	38·0	·00	<i>Aconitum autumnalis.</i>
5	7 3	4 24	30·37	29·28	55	29	42·0	·01	<i>Cineraria auriculata.</i>
6	7 4	4 22	30·37	30·49	50	22	36·0	·00	<i>Aster salicifolius.</i>
7	7 6	4 21	30·42	30·19	48	20	34·0	·00	<i>Aster grandiflorus.</i>
8	7 8	4 19	30·09	30·06	49	26	37·5	·00	<i>Solidago levigata.</i>
9	7 10	4 18	30·10	29·99	49	17	33·0	·00	<i>Pyrola media.</i>
10	7 12	4 16	30·06	29·94	44	18	31·0	·00	<i>Solidago glomerata.</i>
11	7 13	4 14	29·90	29·84	40	25	32·5	·00	<i>Leuzea australis.</i>
12	7 15	4 13	29·80	29·67	46	30	38·0	·00	<i>Liatris punila.</i>
13	7 17	4 12	29·37	28·81	54	40	47·0	·09	<i>Solidago recurvata.</i>
14	7 19	4 10	28·72	28·71	54	24	39·0	·00	<i>Liatris elegans.</i>
15	7 20	4 9	28·90	28·72	48	39	43·5	·01	<i>Armeria vulgaris alba</i>
16	7 22	4 7	28·44	29·25	50	25	37·5	·00	<i>Solidago speciosa.</i>
17	7 24	4 6	29·37	29·10	55	44	49·5	·22	<i>Lobelia glandulosa.</i>
18	7 25	4 5	29·67	29·11	55	25	40·0	·00	<i>Armeria vulgaris coccinea.</i>
19	7 27	4 4	29·82	29·63	44	41	47·5	·00	<i>Artemisia cærulescens.</i>
20	7 29	4 2	29·66	29·50	54	28	41·0	·09	<i>Solidago tenuifolia.</i>
21	7 30	4 1	29·86	29·74	53	39	46·0	·00	<i>Solidago graminifolia.</i>
22	7 32	4 0	29·60	29·46	56	29	42·5	·03	<i>Artemisia lactiflora</i>
23	7 34	3 59	29·63	29·37	48	37	42·5	·95	<i>Aster concinnus.</i>
24	7 35	3 58	29·20	29·17	48	22	35·0	·00	<i>Artemisia pontica.</i>
25	7 37	3 57	29·01	28·80	48	31	39·5	·10	<i>Aster concolor.</i>
26	7 38	3 56	29·27	28·91	48	29	38·5	·01	<i>Aster Sikkimensis.</i>
27	7 40	3 55	29·94	29·68	52	30	41·0	·02	<i>Aster laxus.</i>
28	7 41	3 55	29·91	29·65	55	38	46·5	·02	<i>Baccharis dioscoroides.</i>
29	7 43	3 54	30·31	30·24	54	25	39·5	·00	<i>Barbarea præcox.</i>
30	7 44	3 53	30·18	30·01	49	24	36·5	·27	<i>Bidens prosera.</i>

PROBABLE WEATHER FOR NOVEMBER, 1865.—The forecast for October was less accurate in details than any published during the year. It was correct in indicating "much agreeable weather, but with several distinct changes," and in giving the characteristics of the several periods named, except from the 16th to 23rd, when, instead of fine weather, we had heavy rains and gales. Next month is likely to be generally agreeable, with very fine weather at intervals. From 1st to 8th, damp, dull, and with rain and fog; wind N.W. From 9th to 18th fine, occasional frosts; wind N.E. to due E. and back. From 19th to 24th variable, but generally good weather for the season; wind N.W. to S.W. and round to N.E. From 25th to end damp and showery, with intervals of sunshine like returning summer; wind S.W. and round to N.E.



## THE GARDEN GUIDE FOR NOVEMBER.

**KITCHEN GARDEN.**—Millew is very prevalent in damp seasons, and is encouraged by a foul state of the ground; therefore keep all clean, and remove dead leaves from among sprouts, kale, etc. Paths should be turned, and protective materials got ready, and kept under cover for use wherever wanted. Peas and beans, for the first crop next season, may be sown on well-drained ground; but where snails abound, they are likely to be entirely eaten up before the new year. To sow now is altogether a speculation.

**FRUIT GARDEN.**—Planting and pruning should be commenced at once. Old apple-trees infested with vermin should be well scrubbed with a hard brush dipped in warm brine, and all the holes stopped up with a paste made of clay, sulphur, soot, and cow-dung. Plant at once all bush and tree fruits. Stake newly-planted trees. Put in cuttings of gooseberry and currant trees. Prune vines and wall-fruit trees.

**FLOWER GARDEN.**—Continue to plant hardy bulbs; a sound loam moderately manured will grow any of the kinds ordinarily used in bed and borders. Large bulbs place with their crowns four inches from the surface, small ones two inches. Take up dahlia and marvel of Peru roots, dry carefully, and store safe from frost. Air hardy plants in pits well, and look out for mildew and vermin. Make all speed to complete improvements and alterations.

**GREENHOUSE AND STOVE.**—Keep the house as cool as possible to be safe from frost. Give plenty of room, or the plants will get spindled and mildewed. Plants to be forced should remain in the greenhouse a fortnight before going to the stove. Roses, Siberian lilacs, deutzias, camellias, azaleas, double flowering peaches, etc., should be brought on in batches to keep up a succession. Keep vines well syringed where they have broken well; let the heat be moderate.

## TO CORRESPONDENTS.

**MUSHROOMS IN PASTURE LAND.**—*A Perplexed Rector* wishes to know whether the experiment has ever been tried of planting mushrooms in pasture land, and with what success. The meadows about him yield them, and they are to his mind much better in flavour than any grown artificially. He would, therefore, be thankful to know how best he can secure a crop in his own field.—*Oct. 5, 1865.* [The experiment has been often tried, very fairly and perseveringly tried, but has always failed, or has been successful on so small a scale as to be equivalent to a failure. And although many cultivators of experience anticipate the day when every rod of meadow land shall yield its annual ton of mushrooms, we think there is not the slightest probability of that anticipation (or even a part of it) being realized. It is observable that mushrooms do not appear in the meadows till a certain period of the year, and then only in certain spots. Now we cannot command the elements so as to secure the meteorological conditions, and the degrees of earth-heat and moisture which favour their spontaneous production; and hence the first conditions of out-door cultivation are wanting. Then the mushroom grows only in a soil prepared for it either by nature in

the droppings of cattle on ground trodden by cattle, or in loam rich in nitrogenous elements, where cattle have been long pastured; or in beds artificially prepared by man, who gathers together the needful materials, and establishes for them the needful conditions of warmth, moisture, etc., etc. It would indeed be a grand thing to command a crop of open ground mushrooms with as much certainty as we command a crop of spinach, but it cannot be done. The surest way for the Rector to secure mushrooms in his own field is to keep it constantly fed by horses and horned cattle. It may be worth reminding our correspondent and others who are interested in this matter, that good stable manure spread out in a mass two feet deep and covered with about four inches of good loam any time in the spring, and left alone in any shady place out of doors, will be sure to produce fine mushrooms from about the end of June to the end of September. We get plenty of mushrooms from cucumber and marrow beds.]

**STRAWBERRIES THIS SEASON AND NEXT.**—A correspondent, dating from Euston, Norfolk, inquires why his strawberries should produce a crop in October, though at the proper season they were almost barren. The question is a very interest-

ing one, though it bears a likeness to a class of questions that we find it impossible to answer. We are in no doubt at all as to the cause of both the phenomena that *H. W. C.* inquires about, though oftentimes, knowing nothing of causes and conditions, we cannot answer our friends when they ask "why" this or that has occurred. The first question is, why did the strawberries fruit in October last, which is an unusual occurrence? Solely because we have had a double summer, and the fruit-buds formed in July and August for the crop of 1866 were forced into growth by the extraordinary earth-heat of the latter part of the autumn. Some very extraordinary things have happened this autumn. A chestnut tree in Regent's Park flowered all over as in the month of May; it did the same foolish thing as our correspondent's strawberries, expended the bloom-buds formed this year, instead of keeping them rolled up for the next season. In Stoke Newington strawberries have been literally abundant lately, ripe berries of Black Prince, British Queen, and Sir Harry have been eaten in plenty, and at a meeting of the United Horticultural Society on the 10th of October, Mr. George, of Stamford Hall, exhibited a fine dish of Black Prince and some large trusses of fruit of Sir Harry. If there had not occurred a frost on the 18th, many trees would have been injured by late growth, but the frost came in time to stop them and other things, and there is an end to such vagaries for the season. In Sandford Lane, Stoke Newington, an old pear tree came out in full bloom, and was the delight and wonder of passers-by. Almost every gardener in the country has seen something of this kind during the present autumn. Now for the second question, which is more important. Why was there no fruit on the strawberries at the proper time? There is a risk of making an incorrect reply to this, but I venture to say it was because in 1864 they were burnt up and did not form their fruit crowns as abundantly as they should. The fruit of a strawberry is formed in embryo the season previous to its being produced, hence during July and August the plants need water and perhaps manure. In any case the ground ought to be lightly pricked over between the rows, and a deluge of water should be given from the time they go out of fruit until about the 1st of September, from which time until they fruit again they rarely require artificial

watering. If *H. W. C.*, or any other of our correspondents, will at once visit the nearest strawberry bed that has not been artificially watered, and take up a few plants, the ground beneath them will be found to be dust dry, in spite of the tremendous rains we have had lately. It will require the rains of the whole winter to thoroughly moisten the soil two feet deep on old strawberry plantations, which have not been watered during the past summer. Of course watering is not alone sufficient. They need manure also, and there is no easier way of supplying it than that adopted by Mr. Cuthill, who spreads four inches of half-rotten dung over his strawberry plantations in the month of February, covering the plants entirely and taking no care at all of crowns or leaves. In a very short time they push through and grow with great vigour, and produce abundantly. We trust these few observations will be useful to all the growers of strawberries who read the *FLORAL WORLD*.

**INDIAN CORN FOR ORNAMENTAL GARDENING.**—Allow me to suggest Indian Corn in addition to the plants you lately recommended for foliage effects. I have had great satisfaction from twelve plants of it this year. The ripe cobs are now bursting out of the sheathing leaves very beautifully. Sixpence spent on a cob has secured a very distinguished and ornamental feature in my garden for four years past.—*M. B.*

**HERBACEOUS PLANTS, ETC.**—Messrs. E. G. Henderson, of Wellington Road, St. John's Wood, London, N.W., have published a catalogue of hardy herbaceous plants. It contains a list of no fewer than 2505 species and varieties of border, bedding, rock, and bog plants, and fairly represents the enormous collection of herbaceous plants now to be found in Messrs. E. G. Henderson's nursery. We have seen somewhat of the progress of forming this collection, and much have we sometimes wondered and admired as we have walked through masses of Saxifrages, Columbines, Primulas, Anemones, Delphiniums, etc., etc., thousands in number, glowing with all the hues of the rainbow; a very large proportion of them being as yet unknown to the majority of amateur cultivators. Let all lovers of these plants obtain this catalogue, taking care to forward stamps to cover the postage, and if they can visit the Wellington Nursery in the spring, they will see for themselves that in praising such things we are not wholly dependent on imagination.

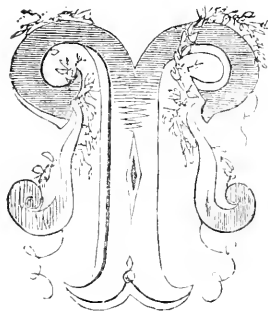
THE  
FLORAL WORLD

AND

GARDEN GUIDE.

DECEMBER, 1865.

THE CHRYSANTHEMUM IN 1865.



THE exhibitions lately held in various parts of London, and in a few provincial towns, indicate that the chrysanthemum has lost none of its popularity, though, upon the whole, both plants and flowers have been less perfect than in former years. The fact that during the whole of the growing season the plants had not the benefit of a single drop of rain, goes far enough to account for some of the deficiencies of the exhibitions, without opening up any further inquiry. But in spite of the difficulties cultivators have had to contend with in the

long, hot, dry season that has now come to a close, chrysanthemums have been exhibited profusely, and there have not been wanting, at all the exhibitions, abundant examples of skilful and painstaking cultivation. It would be strange if a year should pass without a great November show in or near London; and as in former seasons the Horticultural Society's Garden at Kensington, the Crystal Palace, or the Agricultural Hall, Islington, have been the scenes of floral festivity, so this season the ancient Guildhall of the City of London was the favoured spot, and the undertaking was crowned by a more complete success than ever attended a great November show before. As for the Horticultural Society, it has long ceased to command the essentials of success in exhibitions. The last of its chrysanthemum shows afforded entertainment to a few dozen persons who visited it, by the ludicrous spectacle presented by one exhibitor standing alone in his glory, for the only plants shown on the occasion were those sent by Mr. Forsyth, of the

Brunswick Nursery, Stoke Newington. At the Crystal Palace, chrysanthemum shows have never answered commercially, and the directors have wisely given them up. The exhibitions at the Agricultural Hall were nearly successful, but not quite. The place is too large, too cold, too wild and grim in character to be fit for a chrysanthemum exhibition; for at this dull time of year the public have no appetite for entertainments, unless they are presented in bright, light, and comparatively comfortable chambers. It has been the good fortune of the United Horticultural Society to exemplify the possibility of making a November show thoroughly attractive and successful, both in a strictly horticultural and a commercial sense. Surely there has never been a more beautiful spectacle than was presented to the public by the Guildhall, on the evenings of November 14 and 15, when this Society held its splendid exhibition there. That it was appreciated, it is sufficient to say, that during the days of exhibition it was visited by over 5000 persons. That the exhibition comprised tree ferns, orchids, gourds, fruits, and miscellaneous productions, in addition to chrysanthemums, detracts nothing from the importance of the last-named subjects. We have always advocated the adoption of a broad basis for November exhibitions. Let the chrysanthemum have the high place it deserves, and give it such prominence that it will be the principal element in the display, but provide compensation for its want of grace by introducing subjects which add variety and give relief, and by contrast render the chrysanthemums more beautiful than if seen and judged alone. Of all the suburban societies, that at Brixton Hill has carried this idea into effect most completely and satisfactorily, and the shows there have always been models for the rest.

The several "homes" of the chrysanthemum have this year been sufficiently lively with exhibitions. The Stoke Newington Society, which is the oldest of all, had the misfortune to be compelled to hold its exhibition in a dark school-room, where it was impossible to appreciate the many beautiful examples of skill and taste that were presented. This benighted spot appears, indeed, to be singularly deficient of public spirit, for though a wealthy district, and making some pretensions to activity in intellectual, and religious, and scientific matters, it has never had any better place for public assemblies than the filthy barn which bore the name of "Manor Rooms," and which has happily been swept away, or some two or three dark and fusty school-rooms, where children are half poisoned while being taught, and where, if an exhibition or public assembly takes place, all the parties concerned feel that the little candle they have lighted is most ignominiously placed under a bushel. However, the Stoke Newington growers came out in full force at the Guildhall show, and their productions were seen and admired, and they had some compensation for their troubles, while at the same time they were assisting a most praiseworthy undertaking.

The South Essex Society has made the finest show of specimens this year of any. We congratulate the South Essex growers on their success, and trust the example they have set may be profitable to many. At Brixton, too, superb specimens were shown, and with them many first-class subjects from the stoves and greenhouses of the district. Very satisfactory, too, was the exhibition by the North-western amateurs,

who have attained a very perfect mastery of the flower, and were enabled thereby to contribute to the gratification of the public by means of a beautiful exhibition. In only one district has there been any apparent falling off, and that occurred at the Horns, Kennington, where the exhibition by the South London Society was certainly many degrees less meritorious than in former years. The transpontine devotees must wake up and put their house in order. They have around them a great public in need of the recreation that a chrysanthemum show affords, and as a matter of public duty they must bestir themselves.

It remains to say a word upon chrysanthemums out of doors. The exhibitions at the Temple Gardens have been very satisfactory, considering the trying nature of the season. Mr. Broome has improved his display considerably by taking a leaf out of the "plunging system," and the result is that he has had a good bedding display, as well as the usual fine exhibition border under canvas. The following first-class varieties have been exceedingly good this season under border culture, and they were noted in Mr. Broome's lot as the most effective:—Nil Desperandum, Sparkler, Lady Slade, Aurea multiflora, Attraction, Sir G. Bowyer, Little Harry, Golden Aurea, Lady Hardinge, Vesta, White Globe, General Hardinge, Oliver Cromwell, Hercules, Pelagia, Ranuncula, Prince of Wales, Edwin Landseer, King of Denmark, Jardin des Plantes, White Queen (Golden Queen is worthless, but all other varieties of the Queen are good), St. Patrick, Progne, Garibaldi, Venus, Iago, Lord Palmerston, Themis, Mr. Murray, Alma, Prince Albert, Chevalier Domage, Christine. In Mr. Dale's display in the Middle Temple Gardens, the following pompones are the most effective, both because of their fine colours, and because they bloom with certainty:—Adonis, Salamon, Drin Drin, Gen. Canrobert, Miss Talfourd, Lilliputian, Aurora Borealis, Helene, Duruflet, White Trevenna, Gerbe d'Or, Mr. Astie, Andromeda, Cedo Nulli, Shirley Hibberd, Mrs. Dix, Brilliant.

In our travels and visits of late we have taken note of all the good things new and old. In the class of large flowering incurved varieties of chrysanthemums there has been immense progress made of late years. Prince Alfred, Venus, Golden Ball, Jardin des Plantes, Dr. Brock, Lady Hardinge, and some others of the newer kinds, are almost as far in advance of the favourites of ten years ago, as those were in advance of the wild starry flowers which the chrysanthemum produced when first introduced to this country. That these newest kinds take the lead at exhibitions is the best proof possible that they surpass others that held good places until their advent; it is a proof, in fact, that our boast of advancement has a basis of fact. Magnificent indeed are well-bloomed examples of the favourite varieties of the incurved class; there is no florists' flower that can eclipse them in beauty, and there are none that approach nearer to the standard of perfection.

According to custom, we here append a few notes on the new varieties of the present season, as they may be seen at the present time at Mr. Salter's nursery, William Street, Hammersmith.

*Gloria Mundi*, a seedling from Jardin des Plantes, and surpassing it in quality and petal. Probably it will not surpass its parent in

effectiveness, as it is of less size ; it is, however, of the highest quality, and is sure to become a favourite.

*Crimson Velvet*, a remarkable advance in point of colour, as it quite surpasses that glorious variety *Julia Lagravère*. For conservatory and specimen purposes this will be invaluable.

*Titania*, yellow, with rose stripes ; a pretty, but not an exhibition flower.

*Undine*, pearly white, tinted with rose.

*Fulgidum*, a fine incurved flower, brilliant red, turning over bright yellow. If this fulfils its promise, it will assist materially in lighting up stands of cut blooms, and do them no discredit in their present magnificence of form.

*Empress Eugenie*, peach colour, with a delicate silvery shade ; a fine large, bold flower.

*Paradox*, a large pale yellow conservatory flower of average good quality. When in bud it is most curious, having then more the appearance of a large nut than a flower, and for this reason it has its name.

*Golden Beverley*, equal to the parent in form, colour pure rich gold.

*Golden Dr. Brock*, equal to the parent in size and form, colour pale canary yellow. S. H.

## A SELECTION OF ROSES.

### THE BEST HYBRID PERPETUALS IN COLOURS.

*Very dark : maroon, purple, and deep crimson.*—Alfred de Rougemont, Claude Million, Deuil de Prince Albert, Duc de Cazes, Eugene Verdier, Jean Bart, Lord Clyde, Maréchal Suchet (Guillot fils), Pierre Notting, Prince Camille de Rohan, Souvenir de Comte Cavour (Margottin), Vicomte Vigier, Xavier Olibo, Monte Christo.

*Crimson, scarlet, and red.*—Alphonse Damaizin, Baron Adolphe de Rothschild, Baronne Hallez, Charles Lefebvre, Duc de Rohan, Francois Lacharme, Eugene Bourcier, General Jacqueminot, General Washington, Gloire de Santhenay, King's Acre, La Brillante, Le Rhone, Lord Macaulay (sometimes very dark), Madame Charles Wood, Madame Julie Duran, Madame Victor Verdier, Maréchal Vaillant, Maurice Bernardin, Olivier Delhomme, Paul de la Meilleray, Professor Koch, Princess of Wales, Senateur Vaisse, Triomphe de Caen, Vainquer de Goliath, Wm. Paul, Wm. Pfitzer, Sir Rowland Hill

(Wm. Wood and Son, Maresfield), a fine garden variety.

*Light crimson, cerise, and deep rose.*—Beauty of Waltham, Colonel Cambriels, Gabriel de Peyronny, Gloire de Vitry, Jean Goujon, John Hopper, Jules Margottin, La Esmeralda, Lord Palmerston, Madame Boutin, Madame Clemence Joigneaux, Madame Caillat, Madame de Cambacérès, Madame Domage, Madame Furtado, Victor Verdier.

*Light rose and pink.*—Alpaide de Rotalier, Anna Alexieff, Anna de Diesbach, Auguste Mie, Baronne Prevost, Centifolia Rosea, Clement Marot, Comte de Nanteuil, Comtesse Chabriland, Duchesse d'Orleans, La Duchesse de Morny, La Reine (does not open well in all situations), Lælia or Louise Peyronny, Lafontaine, Madame Boll, Madame Eugene Verdier, Madame Knorr, Prince Imperial, Sophie Coquerelle, Wm. Griffiths.

*Flesh, blush, and tinted white.*—Caroline de Sansal, Madame Freeman, Madame Vidot, Mdle. Bonnaire, Mrs. Rivers, Sœur des Anges, Virginal.

## BOURBON PERPETUALS.

Baron Gonella, bronzy rose; Baron de Noirmont, bright rose; Catherine Guillot, lilac rose; Emotion, tinted white; Louise Margottin, pink; Louise Odier, the type of the class, though now somewhat *passé*, bright rose; Mdlle. Emain, white; Modèle de Perfection, rosy pink; Rev. H. Dombrain, bright carmine, a very fine new rose.

## BOURBONS.

*Very dark*.—Dr. Leprestre, La Quintinie (only suitable for pot culture). Reveil, Victor Emmanuel, crimson and red; Aurore du Guide, Omar Pacha, Prince Albert (Paul), Dupetit Thouars.

*Rose and pink*.—Empresse Eugénie, Paxton, Justine, Vicomte de Cussy.

*Tinted white*.—Comtesse de Barbantanné, Madame Angelina, Souvenir de la Malmaison.

## HYBRID NOISSETTES.

Louise Darzins, Madame Alfred de Rougemont, white; Pavillon de Pregny, inside of the petals bright rose, purplish in the autumn, reverse of petals quite white, very pretty and free flowering.

## NOISSETTES.

America, Celine Forestier (or "Lysias" really), Cloth of Gold, Fellenberg (for garden work), Jaune Desprez (tender), Lamarque, Narcisse, Ophirie, Triomphe de Rennes, Marechal Niel, yellow.

## CHINA.

Cramoisie Supérieure and Fabvier, crimson (for beds); Common China, rose; Margottin, dark crimson; Mrs. Bosanquet, flesh.

## TEAS.

Comte de Paris, pale blush; Devoniensis, tinted white; Duc de Magenta, rosy salmon; Gloire de Dijon, salmon and buff, sometimes deep yellow centre; Louise de Savoie, pale yellow; Madame Bravy, French white; Madame Sertot and Alba rosea are very similar to this rose; Melanie Willermoz, tinted white; Moirèt, rosy fawn; Niphotos, white; Souvenir d'Elise, white, tinted cen-

tre; Souvenir d'un Ami, deep rose; President, pale rose and salmon; Vicomtesse de Cazes, orange yellow; Madame Falcot, apricot.

## BEST NEW ROSES OF 1865.

H. P.'s, Aehille Gonod, bright earmine red; Charles Margottin, brilliant carmine; Dr. Andry, deep rich crimson; Duke of Wellington, bright crimson; Duchesse de Caylus, brilliant carmine; Duchesse de Medina Cœli, blood red; Madame Amelie Halphen, bright carmine rose; Madame Moreau, deep shaded crimson; Rushton Radclyffe, deep rose; Marguerite de St. Arnaud, pale rose; Navier Olibo, very dark shaded scarlet; King's Aere (Cranston), crimson. Tea (query noisette?), Maréchal Niel, yellow; B. Rev. H. Dombrain, carmine.

## THE NEW ROSES FOR 1866.

Mr. William Paul, of Waltham Cross, has: H. P.'s, Black Prince, dark crimson, shaded black; Dr. Lindley, crimson, black centre; Globosa, dark bright crimson, petals closing over at top; Lady Suffield, purplish crimson.

Paul and Son, Cheshunt: Princess Mary of Cambridge, pale rose.

## THE BEST YELLOW ROSES.

Gloire de Dijon, often as yellow as Elize Sauvage; Cloth of Gold, Elize Sauvage, La Boule d'Or and Madame William (under glass), Celine Forestier and Triomphe de Rennes (out of doors in good climates only), Maréchal Niel (not yet proved in the open air), Madame Falcot, orange yellow; Vicomtesse Decazes (requires shelter in winter), Smith's yellow noisette (fine under glass only).

A FEW EFFECTIVE NEW CLIMBERS  
OR PILLAR ROSES.

H. P.'s, Mdlle. Betsy Haiman, light crimson; Madame Louise Corique, crimson; Red Rover (William Paul), vivid crimson or scarlet; Glory of Waltham (William Paul), vivid crimson; Teas, climbing Devoniensis, tinted white; Homère, rose.

FIFTY OF THE FINEST ROSES FOR  
SUBURBAN LOCALITIES.

*Hybrid Perpetuals*.—Alfred de Rougemont, Anna Alexieff, Baron

Alfred de Rothschild, Baronne Prevost, Beauty of Waltham, Caroline de Sansal, Centifolia Rosea, Charles Lefebvre, Colonel Cambriels, Comte de Nanteuil, Comtesse Chabriland, Duc de Rohan, Duchesse de Morny, Duchesse d'Orleans, Francois Lacharme, General Jacqueminot, Gloire de Santhenay, Jean Bart, Jean Goujon, John Hopper, Jules Margottin, Lafontaine, Le Rhone, Louise Darzins, Louise Peyronny, Madame Charles Wood, Madame de Cambacères, Madame Domage, Madame Clemence Joigneaux, Mrs. Rivers,

Madame Victor Verdier, Monsieur Montigny, Paul de la Meilleray, Pavillon de Pregny, Prince C. de Rohan, Princess of Wales, Senateur Vaisse, Souvenir de Leveson Gower, Souvenir de Comte Cavour (Margottins), Triomphe de Caen, Vicomte Vigier, Victor Verdier.

*Bourbons.*—Baron Gonella, Catharine Guillot, Rev. H. Dombrain, Souvenir de la Malmaison, Victor Emmanuel.

*Chinas.*—Mrs. Bosanquet, T. Gloire de Dijon, Madame Falcot.

*Homerton.* W. D. PRIOR.

## THE GUILDHALL FRUIT AND FLOWER SHOW.

THE United Horticultural Society has wound up its first year in a brilliant manner by means of a grand exhibition of plants, flowers, and fruits, which took place in the Guildhall of the City of London on the 14th and 15th of November. The Corporation generously granted the use of the hall for the purpose, and the Lord Mayor, accompanied by the Lady Mayoress, and the Sheriffs and their ladies, and attended by the mace-bearer and sword-bearer, opened the show in state. The attendance on both days was so great that the hall was densely crowded during the whole period of the exhibition. As the whole of the surplus moneys in the possession of this society are required by the rules to be handed over at the end of the year to the benevolent fund, the success of the exhibition at Guildhall is especially gratifying.

The exhibition comprised a variety of subjects, and amongst them fine foliaged plants occupied an important place. Messrs. Low and Co. sent a collection of tree ferns, which were placed around the hall at intervals, and produced a grand effect. Mr. B. S. Williams, of Holloway; Mr. Prestoe, of Victoria Park; Mr. Bull, of Chelsea; Messrs. E. G. Henderson, of St. John's Wood; William Marshall, Esq., the President of the Society, and others, contributed magni-

ficent collections of palms, ferns, orchids, and various rare and beautiful plants of a costly description. Conspicuous amongst miscellaneous objects were the following:—Productions in artificial stone by Messrs. Rosher and Co.; ground vinerias by Mr. Wells; mowing-machines and other implements, from Messrs. Green; a beautiful collection of fern cases, filled with ferns, from Messrs. Barr and Sugden; and a similar collection from Messrs. Carter and Co.; a great collection of gourds, and a collection of ornamental grasses from Messrs. Sutton and Sons; a remarkable collection of gourds, one thousand in number, from Mr. Young, gardener to R. Barclay, Esq., Highgate; a collection of thirty varieties of ivies, from Mr. Shirley Hibberd, and from the same a collection of sixty-four varieties of potatoes. Mr. Howard, gardener to J. Brande, Esq., showed some bouquets of such exquisite construction that they were surrounded during the whole time of the show by crowds of admirers.

CHRYSANTHEMUMS were shown in plenty; cut blooms were tolerably numerous, and occupied portions of the central tables. Anemone-flowered sorts were shown by Messrs. James, George, Forsyth, Rowe, Howe, and Cox. Among them were Queen Marguerite, Empress, Gluck, George



Sand, Fleur de Marie, Louis Bonamy, Mrs. Pethers, Princess Marguerite, Madame Godereau, St. Margaret, Prince of Anemones, Marguerite de Wildemar, and Antonius, the last a very handsome yellow variety.

Large-flowered varieties came from Messrs. Forsyth, James, Morgan, Wheldal, Delvalle, Rowe, Howe, Drain, Parker, Slade, Ward, Moxham, and Heale. Among the different kinds were beautiful blooms of Jardin des Plantes, which still stands at the head of bright yellows; White Globe, large and fine; Beverley, Empress of India, Prince, and Princess of Wales, Venus, Sam Weller, Mr. Brunlees, Rev. Joshua Dix, General Slade, Prince Alfred, Pio Nono, Beauty, Novelty, Nil Desperandum, Antonelli, General Bainbrige, Lady Harding, Doctor Brock, Robert James, Nonpareil, Orange Perfection, St. Patrick, Maréchal Duroc, Golden Ball, Lady St. Clair, Queen of England, Pearl, King of Denmark, Themis, Plutus, Mrs. Holborn, Golden Eagle, Abbé Passaglia, Cherub, Oliver Cromwell, Duke of Wellington, Anaxo, Hercules, Madame Lebois, Imogene, Eve, Princess Louis of Hesse, Lucidum, Mrs. Haliburton, Dr. Maclean, Little Harry, Lord Ranelagh, and Donald Beaton.

Plants of Chrysanthemums were contributed by Messrs. Forsyth, Rowe, George, Crute, and Delvalle. These were all highly interesting exhibitions, the plants being both well grown and flowered. Among them were some cleverly-managed standards, both of large and small-flowered varieties, the skilful introduction of which into the different collections served to break up that uniformity of

appearance in them of which some have been heard to complain.

FRUIT was an important feature of the show. Messrs. Page, Howard, Young, and Sparrow exhibited pine-apples of fine quality, the first-named rearing a smooth-leaved Cayenne, weighing ten pounds. Messrs. Lane and Son put up grand bunches of Barbarossa grapes, and fine samples of other grapes were shown by Mr. Tillery and others. There were several long tables filled with apples and pears. Principal among the exhibitors of these were Messrs. Newton, Rhodes, Turner, Parsons, Williams, McIndoe, Richbill, Watson, Keller, Baker, August, Beasley, and Mortimore. Among the table varieties of apples were good fruit of Fearn's Pippin, Cox's Orange Pippin, Golden Reinette, Wadhurst Pippin, Downton, Searlet and Braddick's Nonpareils, Franklin's Golden Pippin, Holland Pippin, Sam Young, Margil, Cornish Gilliflower, Court of Wick, Court Pendu Plat, Adams's Pearmain, and King of Pippins. Kitchen sorts comprised, among others, Blenheim Orange, Reinette du Canada, Alfriston, Gloria Mundi, Emperor Alexander, and Wellington.

Among the dessert pears were highly-coloured fruit of Forelle or Trout Pear, Beurré Diel, Glou Morceau, Easter Beurré, Van Mons Leon le Clerc, Beurré Rance, Swan's Egg, Duchess d'Angoulême, Knight's Monarch, Urbmistre, Beurré Clairgeau, and Chaumontel. Among varieties for culinary purposes were Catillac and Uredale's St. Germain. Other fruit consisted of Quincees, Medlars, and Cox's Late Red and Blue Imperatrice Plums.

## ORNAMENTAL GRASSES.

I HAVE long been waiting an opportunity to say a word about ornamental grasses, in order to bring up the notes on the subject, to the present time, as during the past few years several fine grasses have been introduced to cultivation, and it has

been one of my hobbies to grow and prove all I could lay hands on. In former papers on this subject, various beautiful grasses have been recommended, and some advices have been offered on the best modes of cultivating them. I should like now to super-

side all I have said in favour of the cultivation of these graceful plants by words of more energetic praise than heretofore, for the more I see of grasses the more I love them, and the more I become convinced that if amateur gardeners would take them up in earnest, some very novel and satisfactory effects would be produced in their villa gardening. When talking about tameness and sameness a few months ago, I said nothing about the grasses; but just consider for a moment, dear friends, how such grand subjects as the Pampas grass, *Arundo donax*, *Elymus glauca*, and *Arundo conspicua* would furnish means of breaking through the monotony that has threatened to paralyze art in villa gardening. But I forgot, pardon me, that some of you are not acquainted with these subjects, and that it is my business at this moment to direct your attention to them and to say a few words on the practical part of their cultivation and ornamental uses.

As to the general case of the use of grasses, it is very certain that the place for a collection is the fernery, where, amongst masses of rock, tree stumps, and half-wild scenes, and especially near water, ornamental grasses have almost bewitching beauty; indeed, there are but few that look well on level ground, except it be in a botanical garden, where people will take the pains to examine and compare them, and then indeed their beauties are seen and appreciated under any circumstances. But a private garden should have none of the hard features of a botanic garden; we want only beautiful plants, and we want them in positions to which by their character they are adapted. In botanic gardens they want all the species they can clutch at, irrespective of their beauty, and only botanists care to explore such collections. Many a time have I wandered about in the herbaceous ground at the Royal Botanic Gardens at Regent's Park, in the company of my dear friend, Mr. William Robinson, the head of that department there, and have felt how the peculiar colours and characters of the best grasses are all but lost in the very methodical way

in which they are planted. In my garden *Elymus glauca* is a magnificent object on the top of a bank in the fernery, and in various nooks about the same place where tufts of it are growing vigorously; but at the Botanic Garden it has quite a commonplace character standing with others in a flat bed, and associated with too many other grasses to bring out its beauty fairly. To plant many kinds of grasses together is a mistake. The result is monotony—in other words, tameness and sameness. Mix the grasses with ferns, shrubs, and large-leaved herbaceous plants, and as nearly as possible place them above the general level, as on the shelves of rockeries, or banks, or bastions, and you find in their characters beauties never seen before; they afford delights you never expected, and which you never can describe.

*Pampas grass*.—The queen of the ornamental grasses, the giant pampas, *Gynerium argenteum*, must have first place in the remarks to be made on ornamental species. It is one of the few grasses that may be planted anywhere without impropriety. It is a fine subject for the decoration of a lawn, but is far more glorious when lifted up in the midst of rocks and ferns, with which its graceful outlines harmonize most delightfully. Some two or three papers on this noble grass will be found in past issues of the FLORAL WORLD, and as this work never repeats itself, I must ask our readers to refer back for information on its history and cultivation generally. I want to say here, however, having had about ten years' experience in its cultivation, that a damp position is death to it in winter. Give it a dry position, and it will live through the severest frost, and to make amends give plenty of water and liquid manure while it is growing—say from the middle of May to the middle of August. Also that the female form, which is scarce, is the most beautiful, and when in flower, lasts the longest. Also that a plant may be divided *ad lib.* provided each separate stolon has a few root-fibres attached, and the best time to do it is after it has begun to grow in spring,

and the best way to do it is to pot all the pieces separately in small pots in very sandy soil, and when the pots are full of roots to plant them out in the open ground. I found only one female plant among hundreds at Battersea Park last year, and I begged of Mr. Gibson, the able manager there, to break it up and improve his collection thereby, and he promised he would do it. We shall see.

*Elymus Arenarius glaucescens* is, generally speaking, the most useful of all the ornamental grasses. It is a weed on the east coast of Britain, between Berwick and Newcastle (perhaps elsewhere), and is nevertheless almost unknown in gardens. I have had the pleasure of supplying plants to my friend Mr. Gibson aforesaid, and to Mr. Prestoe of Victoria Park, and the public are likely therefore to see much of it in time to come. It grows two feet high, and is rather stiff in habit, yet not wanting in true grassy grace. It has a bold, robust habit, and one of its chief beauties is its peculiar greyish blue colour—that is to say, it is decidedly glaucous. I had my first plant of it eleven years ago, from Mr. B. S. Williams, of Victoria Nursery, Holloway, who, as the trade term it, first “sent it out,” but when on my way to the Edinburgh Fruit Show, in company with Mr. Williams, Mr. Laing, Mr. Bester, and other “great horticulturists,” we all shouted with joy to see it growing in thickets on the bold coast line after we passed Berwick-on-Tweed. You know, perhaps, that in Iceland and elsewhere in hyperborean regions it is one of the most important cereals, and furnishes an excellent bread. I never saw it fruit until I grew it in pots, and so compelled it to become fertile. Then it produced fine spikes of fruit like barley, and I got good specimens for my herbarium. It spreads fast, is awfully hardy and long lived, prefers a poor, sandy soil, but will grow “anywhere.”

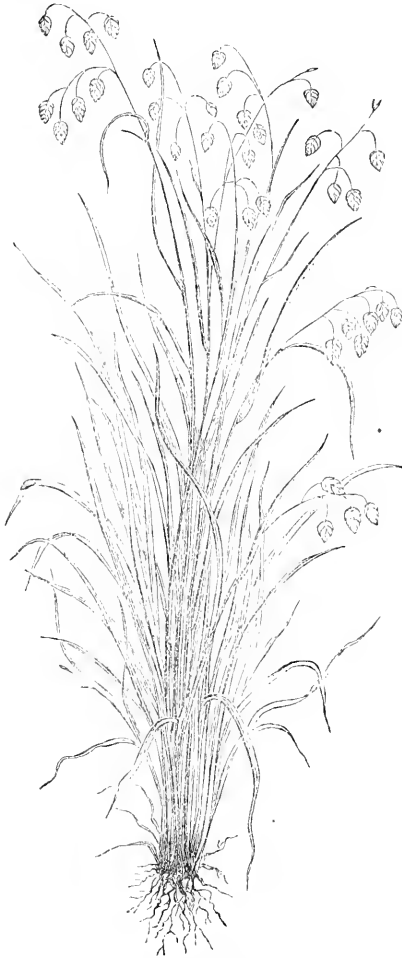
*Arundo conspicua* is a new grass, the history of which I am not acquainted with. I had my first plant of it from Mr. Stafford, nurseryman, of Hyde, near Manchester. In habit

it resembles the pampas grass, but it is coarser—that is to say, the leaves are broader; otherwise the growth in the same rich fountain-like style. It has been described in some of the journals, by those wretched writers who guess at things, as tender, but it cannot be so, as my plants have borne two winters at Stoke Newington in a most exposed position, and if they will stand it there, I think them hardy enough for the northernmost parts of Norway. And here, while I think of it, let me tell you how I have killed a whole series of pampas grasses. I would always have a pampas growing in a great tree root beside my summer-house, and nature always insisted on its dying during winter. Do you know why? I will tell you. Where it stood, there was a drip all winter from the eaves of the house, and the drip killed it. Learn therefore, as I do, the importance of a dry position; I am reminded of the fact because I lost one of my first plant of *Arundo conspicua* the same way. Perhaps I ought here to say that I never begin growing a new plant with one specimen only. I always secure two, either by dividing the original, or by cuttings, etc., etc. I always begin the cultivation by multiplying; having then two, three, or more, I plant them, pot them, etc., etc., as may be desirable, and wait for the result. You do the same, and your horticultural experiments will be tenfold more delightful than by the risky method of dealing with one example of any plant.

*Stipa pennata* grows superbly on a dry, sandy bank in a part of my fernery. What grace, what delicacy, what is there in the vegetable kingdom to equal it for fairy-like elegance? Beware! In the seed catalogues you will see that seed is offered. True, seed is offered. Now I never could get a seed to germinate. I have asked hundreds of the most expert cultivators about it, and all agreed except one, that seed was no use; “nobody could get it up.” That one was of course a madman, and upon my word I forget now who it was. It might have been Mr.

Bester, of the Vineyard Nursery, Hammersmith, but I will not sign an affidavit to that effect. Did you, or anybody you ever knew, grow this genus from seed? I should like to know, and if you say yes, I pledge myself not to call you madman.

What a blessing to be a benefactor, and at so cheap a rate. Ha, ha! I stuck a bit of grass in his mud, and he calls me benefactor. If you want to make a new feature on the terrace next season, get a dozen or more plants of the variegated *Arundo donax*, and plant them in holes



BRIZA MAXIMA.

*Arundo donax* is one of the grandest of grasses known. I planted a bit for a friend a few years ago in a small lake, and its growth was so grand that he never meets me but he tells me what a benefactor I was.

filled with peat; give abundance of water, and the majesty of the tufts will proclaim you to a whole county—even of such an absurdly vast county as Yorkshire—a man of rare taste and judgment. But let not the hope of such a proclamation nerve you to the deed. It will be but vanity after all. Grow it because of its beauty, and sing to yourself, “A thing of beauty is a joy for ever.” You must take up this grass in autumn, and pot it, and keep in rather warm pit or greenhouse all winter, or it will disappear.

*Erianthus Ravenna* is an almost mythical grass, and yet a reality. It is one of those of which seed is offered at per packet to too confiding purchasers, and as no one can persuade the seed to grow, it begins to be doubtful in some quarters if such a grass exists. I hope you will take my word for it, that this is a most beautiful grass of large growth, requiring the same treatment as the pampas, and the best way to obtain it is to buy plants, and leave the seeds to the foolish people who are not readers of the FLORAL WORLD.

*Festuca ovina glauca*. This is usually catalogued as “*Festuca glauca*,” but as it is a variety of *ovina*, I have given its proper name. It should never be grown from seed, as it does not come true. It is of neat, tufty habit, very fine in texture, and a superb glaucous colour. I saw

it used as an edging in Victoria Park in July last, and its appearance was most beautiful. It is, however, not so gay for edging purposes as *Cerastium*, and some other subjects that are in high favour. It will grow any-

where, but the proper place for it is a raised bank consisting of poor, sandy soil. The roots may be parted at any season for increase of stock; perhaps the best time would be during rainy weather in August and September.

All the foregoing should be obtained in plants in preference to seed. Those that follow may be grown from seed if seed can be obtained; I name only such as are of the highest value for their beauty.

*Agrostis nebulosa*, a most elegant grass, having stems as fine as hairs, and fruit panicles so light and "nebulous" that at a little distance a patch of this grass looks like a patch of vapour. Some seedsmen send out *Polygogon Monspeliensis*, under the name of *Agrostis nebulosa*.

*Briza maxima* is the most useful of the quaking grasses, but all the *Brizas* are pretty. This grass is much used for winter bouquets, and is invaluable to persons engaged in taxidermy, on account of its suitability for dressing up cases of stuffed birds, etc.

*Chloris radiata* is a very curious grass, the flowering occurring in a compound spike which consists of five or six separate rays, remotely resembling long fingers.

*Holcus saccharatus* is a fine, bold, handsome grass, which grows rapidly and flowers freely if planted out early. Three years ago I had from Messrs. Carter and Co., of High Holborn, a collection of about thirty species and varieties of *Holcus*, and the result was a truly grand display of these noble grasses.

*Maize* is known as one of the handsomest of ornamental grasses, yet few amateur gardeners have ever studied its history and physiology as they might do. How few, for instance, have observed that the male blossoms are produced in the form of a feathery tuft, as fine as spun-glass

at the summit of the plant, and the female flowers appear subsequently lower down at various points on the sides of the stem. Perhaps it may



PANICUM ITALICUM.

be right to mention that it will always ripen its fruit in this country if *planted out early*. This, and the species of *Holcus* ought to be sown in heat at the end of March, and be planted in the open ground about the middle of May. There are about twenty beautiful varieties of Indian

corn or maize, and they are all worth growing by those who can make room for them.

*Lagurus ovatus*, a favourite with those who grow grasses for bouquets. It is popularly known as hare's-tail grass.



SORGHUM BICOLOR.

*Pennisetum longistylum*, one of the most elegant grasses known.

*Panicum Italicum* is one of the best of a beautiful family. *P. capillare* is also a most graceful species. *P. Miliacum* (common millet) is also well worth a place in any garden. In-

deed all the *Panicums* are worth growing. So also is

*Setaria Germanica* and *Setaria macrocheta*, the last being a thorough "cat's tail" grass.

*Sorghum bicolor* is a stiff, bold, massive grass, which produces abundance of its shiny seeds, and may be tossed in the poultry run when done with in the garden. It will do for the borders. It grows three to four feet high, and has a character quite its own.

*Eragrostis elegans* cannot be surpassed for elegance when in flower, though until the bloom appears it has a rather coarse appearance.

*Milium multiflorum* is the most elegant of this elegant family. It is invaluable for winter bouquets to mix with everlasting flowers.

*Airopsis pulchella*, a little gem for pot culture. When covered with seeds it is quite a curiosity.

*Hordeum jubatum* is the pretty squirrel's-tail grass, a good companion to *Lagurus ovatus*.

*Egilops cylindrica*, a stiff, quaint, and not inelegant grass, which comes in well for bouquets.

*Lepturus subulatus*, a wiry backbone sort of grass that will make any one laugh who see it for the first time.

*Bromus brizaformis*, a minute grass of the most exquisitely graceful construction. It is a genuine candidate for complete seclusion in fairyland; such a sordid world as this does not deserve to behold its beauty.

I could name you fifty more, but these are the *crème de la crème* of my collection, and such as are likely to make lovers of grasses of all who grow them. Take my word for it that you cannot find a better lot if you search gardens and catalogues for the rest of your life.

A word about the growing. All the smaller kinds are suited for pot culture, and are of the highest service for embellishing the conservatory. The best way to grow all that are raised from seed is to sow the seed in pots filled with rich, light, sandy soil

in the month of February or by the middle of March at latest, and place them in a gentle heat. When the plants are up, thin out the tufts and pot a lot of each, setting the little plants about an inch apart all over. Such kinds as sorghums, etc., must be potted singly. Grow them on in frames, giving plenty of air, till the end of April; then begin to plant them out. The more tender kinds, such as Indian corn, ought not to be planted out till the middle of May, and they require a rich deep soil, and must have regular watering till established. If this is too much trouble, sow them on the open border and

about rock work where wanted, the last week in April, and take your chance. Most of them will flower the same season, but not so finely as from plants got forward in pots by early sowing. The seeds of Indian corn should be sown five inches deep when sown in the open ground.

To preserve grasses for winter bouquets it is necessary, first, to cut them when just coming into flower—that is to say, when the pollen is first visible and before any seeds are formed. Dry them by sticking the stems into boxes of sand, and put them away where they will not get smothered with dust.

SHIRLEY HIBBERD.

### CULTIVATION OF THE CURRANT.

I WAS taught to prune currant-trees at twelve years of age, and for eight-and-twenty years have followed the directions then given me by an honest old countryman, who used also to teach me how to coax bees into a hive by first rubbing the inside with pennyroyal, lemon thyme, and sweet marjoram, a process which afterwards proved, without Dr. Cumming's help, to be labour thrown away. But his mode of pruning currant-trees was right for that day, and right for ever. The currant is just the same now as it was then, and no doubt will continue the same until by successive improvements in "the struggle for existence" it changes into something too good "for human nature's daily food." My old friend said to me, "Look here, lad; just take the branch in your left hand, and, mind ye, red and white currants are pruned the same way: well, take the branch in your left hand, and your knife so" (turning the blade upwards), "in the right; and cut the shoot away so as to leave only two or three joints from the old wood. But black; you do another way: you take the branch at the tip, and cut away about a fourth part of it, as you see these bear all the way up; but reds and whites only bear on the old wood, or very close to the old wood." And I went on prun-

ing them as thus directed without much more thought about the matter, till at last it happened that my father took an old garden in which there was a grand plantation of currant-trees that had not been pruned at all for about ten years. What a remarkable sight was that plantation! The currant-trees were like neglected osiers, consisting of an almost impenetrable mass of long rods eight to ten feet high, which all the summer were beautifully wreathed with the suffocating growth of bearbine, with its elegant leaves and lovely snow-white flowers. Yet, in spite of all this neglect, they bore enormously; and when the fruit was ripe, the glow of colour was to me the grandest sight I had then ever seen in the way of a display. My dad often said that to clear the ground and reduce the trees to decent proportions, so that to get amongst them would not be like assailing a tropical jungle for the first time, would require the sacrifice of at least one year's crop, and then it would be a poor job, for the bearbine would grow faster than we could kill it. I got into my head a whim for attempting to reform the plantation; and after quietly persevering for months, I got permission to do as I pleased. Now, I had noticed that if a branch of a currant-tree got partly broken, so as

to hang over and touch the ground, it always threw out roots in plenty, like a prostrate bramble-cane; and I had observed also that if a currant-tree had been planted too deep, it never perished through the removal of its roots from the action of the atmosphere, because it soon made a fresh wig of roots from the old stem near the surface. So in the autumn I made a lot of cuttings, using wood two or three years old for the purpose, and making them into miniature trees at once, with stems a foot long, and three or four main forks cut to three or four inches. These I put in at eighteen inches apart in the kitchen-garden, and the next season they grew with almost the same vigour as if they had been plants instead of cuttings. They actually bore a crop; and dad said, when he saw them, that it was as bad as making a child carry a baby (which he always thought a cruel proceeding on the part of parents), and that I ought to have nipped out every bunch of bloom, and not have allowed a single berry to be formed — advice which experience soon told me was as sound as my old friend's lesson on pruning. All I did with them was to gather the few bunches that ripened, and allow them to grow as they pleased. They made plenty of nice wood, and were pruned in the autumn according to the rule that had been given me before. In the meantime the plantation had been pruned as well as we could prune such a confusion, and the bearbine had been kept in check by the use of the hoe, and so in due time winter came again.

It was now my turn to be important. Says I, "Let's make a bonfire of the old currant-trees, trench the ground, and plant my young trees in place of them." "Yes," says dad, "and go without currants for seven years." "Better be without them for ever," says I, "than have such a mess as that quarter is, and will always be, till you set fire to it. But my trees will do something next year." "Yes," says dad, "if you leave them alone, and give them a mulch of dung, they'll make some nice wood." I saw which way the cat

jumped, and thought if I could not succeed by arguing, I might by boring, and I did bore till I got permission to try my luck. Down, or rather up, came the old trees; they were soon submitted to a fiery ordeal, and succumbed to it. The ground was trenched, manured, and my young trees planted in their stead. But here's the rub: they produced a very fair crop the next season; nothing, of course, like the supply we had been used to, but more than anybody expected; and thus I learnt my second lesson—that currant-trees may be got into fruit quickly from cuttings by taking cuttings of wood two or three years old, whereas by using young wood you make sure of waiting much longer. I have practised this system ever since, using wood of two, three, or four years old, and always obtaining good trees thereby, with the advantage of moderate crops of fruit in the second season of the growth of the trees.

I was not long in discovering that red and white currant-trees pay well for fancy culture; and at the present day I know of nothing more worthy of attention in gardening than the production of handsome standard and pyramid currant-trees. I know several gardens where they cannot get fruit from bushes, but get abundance from standards. To make a standard, you need strong young shoots for cuttings; these are disbudded below to within four buds of the top. You let the top bud go, and train the shoot upright; all the other shoots are pinched in, and kept very short. Five feet is a good height at which to form the head, and the only direction I need give for it is to advise that the three or four shoots which are to be the foundation of the head are to be very slightly pruned in the first season, the object at that stage being to get wood, and not fruit. The next year these will produce abundance of side-shoots, which are to be pinched back, and thenceforward there will be abundance of fruit, for wherever you pinch to two or three leaves, bunches of blossom buds will form, and in due time the heads will be hung with fruit all round, and all who see them will



pronounce them as handsome as they are useful. The after-pruning will consist in cutting back, first to preserve the contour and a rather open centre, and secondly to secure fruit. The closer you prune back to the junction of the wood of the year with the old wood, the finer and the fewer will be the bunches.

To form pyramids, very nearly the same treatment will be necessary. Instead of taking up a straight stem, you must secure plenty of wood right and left, within nine inches of the ground, and trust to the future to carry the tree higher. Train out the first shoots by means of a few stakes, and at the winter pruning cut them back a third or half their length, and then on that foundation keep adding with every season's growth another and another tier of branches, and in due time you may train your tree to a sharp point, from whence the outline will extend in regular oblique lines to the ground. If you do not secure the lower furniture first, you may never get it at all. That is always the matter of first importance in forming a pyramid.

Perhaps it may be well to say that my old friend who taught me how to prune currant-trees was no horticultural prophet, or he would have said, "The day's coming when the knife will be superseded by the thumb nail; where we now cut and get one bunch, posterity will pinch and get two."

To keep your currant-bushes close and trim and fruitful, you will find summer pinching a hundred times better than winter pruning; but if the pinching has not been done, follow the rule to cut close in all the red and white kinds, and moderately shorten the shoots of the black kinds, taking care also to thin out, by cutting to the base all the shoots of any of the kinds that tend to check and crowd the trees, so that they may have fair sunlight all through, and produce short, stout wood, instead of weak watery sprigs.

The selection of varieties is a matter of the first importance—of far more importance, indeed, than the quality of the soil—for the best kinds are as accommodating as the com-

monest, in regard to the staple in which they may be grown, though it need not be said that a good soil is better than a bad one.

Let us then take the three kinds, beginning with the Red. In this class the best variety known is Wilmot's Long Bunched Red, which gives bunches of great length. I once grew a bunch seven inches long—with large handsome berries, coloured a fine deep red. The flavour of this currant is excellent. It is sufficiently sweet to suit most palates, and sufficiently sour to be described as sprightly, yet it is not so acid as to cause the face of the person partaking of it to screw up into ridiculous outlines, as must happen in the eating of some of the more acid kinds. I recommend this for real service as combining beauty with good quality and productiveness. Next in point of quality stands Ruby Castle, which does not produce such large bunches, but the berries are large, the colour is beautiful, the flavour more acid than the Long Bunched, and the fruit ripens later and hangs longer than that of any other variety. The tree is, moreover, highly productive, and may be grown to form very handsome standards. As there are not many sorts to be had, all who care to make a feature of currants, whether for the kitchen or the dessert, or both, should take all the good ones that can be had. Supposing, then, that the two named above are determined on—and the difference between them is not great, the further selection will be for particular purposes. Which, then, is the best variety for that important domestic operation, jam-making? I think La Fertile will bear away the palm for superiority in this respect, but those fine varieties Cherry and Champagne make excellent jam and jelly, because of their agreeable acidity and pulpiness. La Fertile produces a very large berry of a fine red colour, and it is the most fruitful of all known varieties that possess really good qualities. This, too, is a capital market sort, because of the quantity and the beauty of the fruit, and it is thoroughly hardy, and never suffers from spring frosts. Champagne is in

no way remarkable for size of bunch or berry, and to my eye its colour is rather objectionable, being a pale, pinky-red. It is good, however, for its productiveness and flavour, being sprightly acid, and will suit those who consider Red Dutch a tame dessert fruit; but I confess I abhor the acidity of all the sprightly kinds of currants, they make me twist my features into such contortions that I suppose if I were being hanged I could scarcely do better or worse. Another capital sort for all culinary purposes is Houghton Castle, which bears prodigiously, and comes late, like the Long Bunched, but in no respect resembles that noble variety either in size of bunch or berry. All points considered, I think we must come back to La Fertile as the best for every culinary purpose, and also for market.

It is a matter of no small importance to select varieties of fruits so as to secure from each group as long a season of supply as possible. To do this, we want early, mid-season, and late sorts. The earliest currant I know of is La Hative, a very excellent continental variety, which is usually ripe before any of the mid-season kinds begin to colour. It is a most excellent variety, fit for any purpose, but rather tender in constitution, and hence should have a sheltered position. Grow it on a wall or boarded fence; this will secure it shelter, and promote its early production to the utmost. Another good early kind is Cherry, which succeeds La Hative, and is the largest red currant known, but unfortunately the bunches are short. When thoroughly well grown, the berries of this variety are like cherries, and for exhibition purposes are invaluable. It is, moreover, very good in quality, and has an agreeable acidity of a very sprightly kind; it is a refreshing fruit, yet not so sour as to cause one to shudder. For mid-season supply, there is nothing to beat Red Dutch; it can always be depended on for a fair crop; the bunches are small, the berries of fair average size, a fine deep red colour, and the flavour is sweet, rich, and will suit any palate.

La Versailles is more prolific, and comes in at the same time; the berries are large and handsome, but it does not equal Red Dutch in flavour, though it is good, and far surpasses in every quality the common red of cottage gardens. The three varieties of Knight's currants—namely, Knight's Early Red, Knight's Large Red, and Knight's Sweet Red, are in my opinion comparatively worthless. Mr. Rivers describes Knight's Early as "early and very good," and if we had to choose between this and the common, we would take the first in preference to the second. But while such early sorts as La Hative and Cherry are obtainable, we can do without it, for it has no special merit of flavour, or beauty, or productiveness to recommend it. Something similar may be said of the other two, except that Knight's Large is large, but so are others that are of better quality.

You see that it has happened here that the latest sorts were put first, but that was because they happen to be the best, and I was aiming at the best at the first start, before thinking of seasons and successions. But if we come back to late kinds, it is only needful to say that Houghton Castle and Raby Castle will take their proper place to lengthen out the season to the very latest. A few trees of these two kinds should be planted in the coldest position you have, so as to make the most of their procrastinating tendencies. I shall only say, to wind up this paragraph, that all wise gardeners who read this magazine—and all wise gardeners *do* read it—will begin at once to secure a few good varieties of red currants to take the place in due time of all the trees of common red to be found in their gardens. When the better kinds begin to bear, take up all the common, and either give them away or burn them. Do the thing well, and you will never repent; nay, you will often call to mind this word of advice, especially when paid by extra prize-money, and enjoying extra popularity through showing the best red currants at the local exhibition of fruits and flowers.

Of WHITE currants, there are very many according to the names which exist, and there may be many without names. Who knows? To assert a negative is almost as dangerous as attempting to prove one. But for an affirmative I can say that I never saw but one kind, and that is White Dutch. For instance, Jeeves's White is White Dutch; Morgan's White is White Dutch; New White Dutch is White Dutch; White Grape is White Dutch; White Leghorn is White Dutch; Humber's White is White Dutch. Confound those fellows who tack their own names to things that they had no hand in originating. It is worse than if they carved their names on oak-trees and churchyard palings, and is of the same type of trickery as that of the seedsmen who call Emperor Pea Smith's Lightning, Brown's Instantaneous, Jones's Champion, and Robinson's Hasty, in order to make a little local fame, and at the same time get an extra sixpence or a shilling a quart. The large bunches of white currants you see at Covent Garden are White Dutch, and the reason why they are so large is because they come from the rich soils of Fulham and Bermondsey, where the trees are pruned in winter to mere stumps, every young shoot being cut back to about two inches. Do the same, and you will have similar results, and that is the only way to win at exhibitions, and at home to secure the good favour of the ladies, with whom, by the by, white currants are always in good favour.

As for BLACK currants, the same condemnation must be passed on the common kind as the common red deserves and has had. Turn it out, and do better. As a conscientious man, I cannot help remarking that I am like the free and easy parson who said, "Don't do as I do, but do as I tell

you." I have in one part of my garden a dividing fence much overshadowed with trees. It is a spot where ornamental trees would be lost, even if the shade did not prove fatal to them. There I have a grand row of black currants of the common sort—fine old long-legged trees that are tied in to stout galvanized wire, and the produce is so acceptable for jam that it will be a long time I expect ere I sweep them away, and put better kinds in their stead. In fact, the common black is very good, but there are two that beat it, and those two you ought to have. The best of the two is Ogden's Black; it surpasses common black in every way, and is quite as hardy; it produces finer bunches and finer berries, and has a fine rich flavour, most acceptable in that best of invalid's delicacies, black currant jam, which possibly many folks who are not invalids can relish in a tart or on a biscuit with a glass of good brown sherry. Black Naples is finer still every way, but not so hardy; so those who live in very cold places must not depend upon it till they have given it a fair trial. It is a fine large berry, rich and juicy, better flavoured than any other of its class, and if grown in rich moist soil—black currants require a rich moist soil; drainage is almost of no consequence—the berries come of immense size, and resemble the little black cherries (merries) that are so much esteemed by snug people for preparing that estimable liqueur known as cherry gin. It is very odd that with such fine sorts to choose from, people should be so quietly content with sorts that are comparatively worthless; yet so it is, and the day is yet to come when currants will be as properly cared for as peaches, nectarines, and grapes. S. H.

## FORMATION OF A PEACH BORDER

A PEACH border, to be well made, should be constructed on the following plan: let all the earth be taken out two feet deep next the wall, and

two feet six inches at the outside width of the border; this extra six inches along the front is necessary to secure a proper fall for the water, and some

care is requisite to get the gradual fall from back to front. I have no faith in wide borders; ten feet is ample, as it is far better to have a narrow border well done than one twice the desired width imperfectly completed. The earth being taken out, the border is then fit for concreting. It is best to employ bricklayers for the purpose, as they are more fit for the work, and a couple of men will do a good space in a day if the materials are close at hand. If the weather is fine, the part they do one day will be fit for the gardener's use the next. A small drain-pipe should then be laid along the front, with a proper outlet; and if a four-inch wall is run along the front so as to completely confine the roots, so much the better. A covering of five or six inches of stones or brickbats is the next essential to secure a good drainage; upon this place a covering of rough turves, or any other loose material, and the border is then fit for the soil, and the best soil is undoubtedly a good mellow loam from the top spit of a pasture field turned up into moderate sized heaps during summer for a month or two. Divide the spits into two before they are

placed in the border. If the loam should be the least stiff, mix with it old mortar and brick rubbish, or any other coarse material. Rather than omit this, I would use very coarse cinder-ashes, or indeed anything that would help to keep the soil open and porous, for it is surprising after a few years how close and impenetrable to root action soils of this description will sometimes become. But for the peach and nectarine avoid the use of strong manure, as it creates a gross succulent growth. It is better to supply this as a mulching if at any time the trees are found to be weak. A little coarse leaf-mould may be mixed with the soil at the time of making the border, if thought desirable, but it is not necessary. The border should be raised a few inches above the ground level, and should incline gently to the front. Avoid if possible all future cropping of the border with vegetables, or indeed anything, as it robs the wall trees of their rightful sustenance, and no amount of manuring will make up for loss to the trees of the nourishment they should obtain from the unmanured soil. J. C. C.

## OLD GERANIUMS.

A PLANT measuring twenty inches across is of course worth as much more than one that will measure only six inches when put out in May next, as the difference in their respective circumferences, which is not as the difference between six and twenty, but by another measure altogether. But, omitting from the reckoning superficial measurement—that is to say, leafage and trusses to cover the ground—you have in an old geranium a hard, ripe, robust base, capable of throwing out abundance of roots one way, and of shoots the other way, and, in addition, a harder constitution, so that old plants may be put out sooner than young

ones, and go away at once to bloom, because the ripe wood which produces bloom is already formed in plenty, and perfected by the growth of previous seasons. What would the exhibitors of scarlets do without their fine old stumps, that, like good wine, improve by keeping? How should we get up pyramids of geraniums—which may be better seen at Regent's Park Botanic Gardens than anywhere else near London—without ripe stools of seven to twenty years' growth? How should we ever get up grand beds of scarlets without a due proportion of aged giants for the centres, and younger stuff to fill in round them?

## DECEMBER, 1865.—31 DAYS.

PHASES OF THE MOON.—Full, 2nd, 6h. 44m. after.; Last Quarter, 10th, 0h. 13m. morn.; New, 18th, 4h. 45m. morn.; First Quarter, 25th, 0h. 31m. after.; Full, Jan. 1, 1866, 6h. 48m. morn.

AVERAGES FOR THE MONTH.—Bar. 29·944. Therm. max. 45°, min. 36°, mean 43°. Rain, 1·5 inches. Prevailing winds S.S.E. and W.S. Weather changeable, frosts of short duration and not frequent; damps prevail with the wind SW.

D M	Sun		Weather near London, 1864.				Rain.	Hardy Herbaceous Plants in Flower.	
	rises.	sets.	Barom.		Therm.				
	h. m.	h. m.							
1	7 46	3 52	30·19	30·06	52	24	38·0	·00	Aconitum autumnale.
2	7 47	3 52	30·33	30·32	49	25	37·0	·02	Cacalia hastata.
3	7 49	3 51	30·29	30·27	51	42	46·5	·02	Polemonium Richardsoni.
4	7 50	3 51	30·26	30·22	54	43	48·5	·00	Boltonia asteroides.
5	7 51	3 50	30·08	29·91	58	40	49·0	·00	Campanula colorata.
6	7 52	3 50	29·97	29·93	54	39	46·5	·00	Campanula Barrelieri.
7	7 54	3 50	29·87	29·72	54	40	47·0	·02	Boltonia glastifolia.
8	7 55	3 49	29·64	29·56	56	25	40·5	·06	Chrysanthemum tripartitum.
9	7 56	3 49	29·81	29·73	54	32	43·0	·00	Malva lateritia.
10	7 57	3 49	29·81	29·77	48	26	37·0	·00	Pinguicula orchidoides.
11	7 58	3 49	29·71	29·57	55	40	47·5	·00	Bupthalam salicifolium.
12	7 59	3 49	29·50	29·44	50	25	37·5	·02	(E)nothera serotina.
13	8 0	3 49	29·54	29·48	47	36	41·5	·02	Chrysocoma virgata.
14	8 1	3 49	29·75	29·71	42	33	37·5	·00	Lobelia syphilitica.
15	8 2	3 49	29·78	29·65	37	31	34·0	·00	Aster cornifolius.
16	8 3	3 49	29·83	29·68	34	21	27·5	·00	Collinsonia anisata.
17	8 3	3 49	29·79	29·73	30	10	20·0	·00	Aster blandus.
18	8 4	3 50	29·79	29·76	37	18	27·5	·00	Echinacea serotina.
19	8 5	3 50	29·86	29·82	48	28	38·0	·00	Coreopsis ferulacifolia.
20	8 6	3 50	29·88	29·77	43	36	39·5	·10	Aster serotinus.
21	8 6	3 51	29·97	29·92	44	33	38·5	·00	Aster patens.
22	8 7	3 51	30·24	30·12	36	28	32·0	·00	Eupatorium truncatum.
23	8 7	3 52	30·35	30·21	34	24	29·0	·00	Aster radula.
24	8 7	3 53	30·49	30·46	34	29	31·5	·00	Liatris elegans.
25	8 8	3 53	30·41	30·31	35	30	32·0	·00	Inula Vaillantii.
26	8 8	3 54	30·32	30·27	36	22	29·0	·00	Hibiscus incanus.
27	8 8	3 55	30·26	30·23	40	24	32·0	·00	Helenium autumnale.
28	8 8	3 56	30·34	30·24	47	36	41·5	·00	Galium capillipes.
29	8 8	3 57	30·33	30·16	44	36	40·0	·00	Canila coccinea.
30	8 9	3 57	29·96	29·83	42	24	33·0	·00	Canila Mariana.
31	8 9	3 58	29·83	29·70	44	28	36·0	·08	Corydalis pæoniæfolia.

PROBABLE WEATHER FOR DECEMBER, 1865.—The forecast for the last month has been fulfilled in every detail, and we have good average weather with the usual amount of fog, frost, storm, and rain. Next month is likely to be mild throughout, with no frost till after Christmas. From 1st to 10th damp and warm; wind S.W. to N.W.; 11th to 18th changeable, with showers; gales and occasional outbursts of sunshine. 19th to end temperature low; occasional fog; wind N.W. to N.E.; agreeable weather prevailing.

## THE GARDEN GUIDE FOR DECEMBER.

**KITCHEN GARDEN.**—Make plantations of rhubarb, seakale, asparagus, and horse-radish. Roots of dandelion, packed together in leaf-mould, and put into gentle heat, will furnish a delicate salad in five or six weeks. Pascall's seakale pots are best for the purpose. Keep dung and all soluble matters under cover. Turn over manures, and put aside in heaps to be frozen, rotted leaves, and other material suitable for potting, and when well sweetened and pulverized, remove to bins in the potting-shed to keep dry for use. Get sticks and stakes tied up in bundles ready for use; wheel turf and weeds to the muck-pit; get pots washed and sorted over and crocks shifted into sizes for the potting-bench.

**FRUIT GARDEN.**—Let nothing lie in by the heels an hour longer than can be helped. Bush fruits properly taken up and properly planted ought not to miss the move in the slightest degree, but you are sure to lose a whole season if they lie about waiting to be planted. Root-prune any trees that grow too luxuriantly to bear well. Lay boards in a slope over vine borders, to shelter them from excessive cold rains. Unnail from the walls the

younger shoots of tender wall-trees, to prevent premature breaking. Strawberry-beds may be made this month, but there is no certainty of a crop if left so late.

**FLOWER GARDEN.**—Keep everything as tidy as possible. If any bulbs remain out of the ground, get them in without delay. Take up tea-roses, and lay them in by the heels in a shed out of reach of frost. Cut down fuchsias that are to remain out all the winter, and cover their roots with coal-ashes. Pansies, pinks, and other choice things in open beds, should have a little litter sprinkled over them in frosty weather, or be protected with canvas on hoops. Tulips protect in the same way. Keep auriculas and other plants in frames moderately dry, and free of dead leaves.

**GREENHOUSE AND STOVE.**—Vines that are forward will want frequent attention and a very regular heat. Ericas must have air at every opportunity, and if brought in with flowering shrubs to be forced, must be very gently stimulated, as they are impatient of heat. Soft-wooded plants must have fire-heat during foggy weather as well as during frost. Greenhouse 40° to 45°. Vines started, 60° by day.

## TO CORRESPONDENTS.

**HYACINTHS IN FLOWER.**—*H. W. C.*—There is no occasion to change the water in hyacinth glasses unless it become offensive, which is rarely the case. Some people put a small piece of charcoal into each glass to prevent this occurring. But the glasses must be filled up occasionally to make good what is lost by evaporation. As to the "nutritive properties of the waters," they are so trivial as to be unworthy of consideration. The fact is, the bulbs obtain nothing but water for their sustenance when grown in glasses, hence their exhausted condition when the bloom is over, and usually their worthlessness. The reason why peaches and apricots are not usually grown in the same way as gooseberries and currants, is that many of the most esteemed varieties are too tender in constitution and in general other fruit produced is neither so large nor so well flavoured as that grown on walls. See reply to another correspondent on this subject.

**PEACHES AND APRICOTS AS BUSHES.**—

In your warm Surrey climate you may plant a lot of bush trees of peaches and apricots with a fair prospect of a plentiful supply of those fruits in good season; you must not expect much in bad seasons. Your best plan would be to send to a first-class nursery, to make sure of getting the varieties true; say, for example, Messrs. Lane, of Berkhamstead, or Messrs. Paul and Son, of Cheshunt. Order untrained dwarfs or maiden dwarfs, and state for what purpose they are required. The following are the varieties most likely to succeed of *peaches*—Noblesse, Acton Scott, Early Victoria, Early York, Grosse Mignonne, Malta, Golden Rathripe, Royal George, Galande. Of *nectarines*: Hardwicke, Hunt's Tawny, Balgowan, Bowden, Downton, Riders's Orange, Early Newington, Imperatrice.—*Bretingby.*—The only way to deal with the case is to pick off the leaves as soon as the pest appears, and burn them; there is no known preventive and no known cure.







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