THE

# FLORAL WORLD

AND

# GARDEN GUIDE.

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# INDEX.

## INDEX OF ENGRAVINGS.

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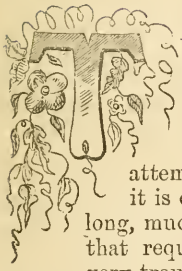
JANUARY, 1864.

## CULTURE OF HOYA.



TWO of the species of Hoya, namely bella and carnosa, have acquired such celebrity, that, with but few exceptions, it is only in gardens where the means for their culture really do not exist that there is no attempt made to bring them to perfection, and indeed the attempt is often made where there are no means, and where it is consequently a sheer impossibility for the plants to live long, much less acquire perfection. Like many other subjects that require peculiar treatment, the Hoya may either prove very troublesome or "grow like a weed," just as the treatment is adapted to its wants, or the reverse; but it is imperious in its demands, as it is imperial in its beauty, and with Stephanotis and Mandevillea it takes its proper rank, as one of the most lovely of climbers for the conservatory and the stove.

The genus Hoya is named in honour of Mr. Hoy, once gardener at Sion House. It belongs to the natural order of *Asclepiads*, in which it has for associates the beautiful (and odorous!) Stapelia, Asclepias, Periploca, Caralluma, and other stove, greenhouse, and hardy plants. In the Linnæan system it belongs to Pentandria digynia. The species of Hoya are mostly natives of Java, Borneo, China, and the East Indies. One, *H. australis*, is a native of the country from which it takes its name. The general characteristics of the Hoyas are—climbing evergreens, with dark green, smooth, entire, leathery leaves, the flowers, produced in umbels, having a delicate appearance as if made of wax, the colours of the flowers usually white, yellow, brown, or purple, and largely productive of honey, for which reason it is sometimes called the honey-plant. To grow the species of this charming genus to perfection is by no means difficult, provided the cultivator has command of the necessary conditions for success.

*Culture of Hoya.*—The native climate of the Hoya indicates the necessity of warmth, and it is only in the stove or warm greenhouse that it can ever be bloomed satisfactorily. But it is important to state at the outset that what is known among gardeners as a "roasting" temperature, is not only not needful, but is positively injurious. In a house with caladiums, begonias, marantas, and crotons, the Hoya will be at home, and there it may have the coolest end, and should certainly be so placed as to enjoy plenty of sun. A rich soil is hurtful, nevertheless it is necessary to allow plenty of root room. The soil for Hoyas should consist of a rough mixture of poor peat, silky loam, and small pieces of broken brick or tile, and siftings of the size of walnuts from old mortar or plaster. Exact proportions in composts are of far less consequence than usually represented; but to prevent mistakes by beginners it will be a good rule to use the ingredients in these proportions:—loam, 2; peat, 2; broken bricks, 1; lime rubbish, 1. This mixture ought when used to be sufficiently moist to render watering unnecessary for at least a week after potting. As peat is often dust dry in the potting shed, it will be well to moisten sufficient for the purpose at least a day before using it. But it must be borne in mind that this advice is not to be carried so far as the use of a *wet* compost, the object being really to guard against excess of moisture, by using the soil in such a state that water may be withheld for some time after potting. The season for potting is early spring, and the plants should be repotted every season. In performing this operation, take care not to distress the plant, but proceed in the same manner as in repotting camellias, cytisuses, and other plants that make firm balls of roots; that is, turn the plant out carefully, and pick away as much of the old soil as can be removed without damaging the roots. If the same pot is used, let it be well scrubbed inside and outside, and prepare it for the plant with fresh drainage carefully arranged; over which lay some moss or fibre torn from peat. In filling in, make the new soil firm about the roots, and place a few rough supports about the plant to prevent any strain upon the roots in moving it away from the potting-bench, as it is well not to train in regularly until the plant has made a start.

To encourage this start, place the plant on a bottom-heat of 70°, give it no water for a week if the soil was reasonably moist when the plant was potted. At the end of a week, give a little water, and thenceforward increase the supplies, but cautiously, and when the plant has made a fair start, remove it from the bark bed or other source of bottom-heat, and train it for flowering.

The best plan to train a pot specimen is on a wire balloon, which is a very simple operation, the shoots being taken round and round regularly. A neat trellis may be extemporized, by inserting green sticks round the pot, over them draw a wire ring, and tie that to the sticks all round, and mid-way between the rim of the pot and the top of the sticks, and finally draw the sticks together at the top, and tie them securely. The plant will soon cover the trellis, and then its blossoms are fully displayed. *Hoya bella, coriacea*, and *lacunosa*, being of small growth, are best grown in pots, but the stronger-growing species such as *carnosa, cinnamonifolia*, and *imperialis*, may be grown in a brick bed raised to the height of the stage, and their growth trained

along the rafters, or on chains or wires, in which position they make a magnificent screen to shade caladiums and begonias, and show their flowers to great advantage. In adopting any other method of training, it must be remembered that the blossoms come below the leaves, and hence may really be hidden by the means taken to display them. We have seen beautiful specimens of H. bella so trained that the plant had to be lifted up above the eye, or absolutely inverted, in order to render its blossoms visible, which is to some extent a waste of labour.

During summer the Hoyas require an average temperature of 65° to 70°. This may be allowed to rise to 80°, or even 90°, in bright weather, but an extreme temperature is to be avoided. As a rule shading should not be employed; the Hoya delights in sunshine, but if it is needful for the sake of other subjects to shade during mid-day hours in hot weather, it may be done without injury, but constant shading is decidedly objectionable. During winter Hoyas require great care; damp is very injurious, and they cannot bear any great degree of cold. We know of many fine plants of H. carnosa, bella, and crassifolia, that are successfully managed in greenhouses, where the temperature never falls below 40° in winter, and that must be considered the minimum to keep the plant alive. A safer minimum is 50°, and at that temperature they may be wintered with safety, if kept tolerably dry. The roots perish if kept for any length of time in a wet condition, as is generally the case with thick-leaved plants. Hoyas require very little water except when growing, and then they may have plenty.

*Propagation.*—This is so easy a matter that it may be disposed of in a few words. Take off a few perfect leaves, and cut away the leaf stalks close to the base of the leaves. Lay these to dry two or three days, then fix them like cuttings round the sides of five-inch pots, in half sand and half peat dust, and place the pots on bottom-heat, with very little water. They will soon root, and when the roots have grown sufficiently, pot them singly, and keep them in heat till they form plants, which they will do the first season. A quicker way is to take short cuttings of growing wood, and treat in the same manner. The cuttings need not be covered with bell glasses.

*Species and varieties.*—Those already named are the most desirable for ordinary purposes. *H. bella*, introduced in 1847, is the most delicate and beautiful of all. *H. carnosa*, with pinkish-white flowers, introduced in 1802, is a great favourite, and deservedly so. Of this species there is an exquisitely beautiful variety, with variegated leaves, called *Hoya carnosa foliis variegata*, introduced from Ghent in 1850, and admirably figured in Lowe's "Beautiful-leaved Plants." *H. imperialis*, scarlet flowers, introduced in 1847, has a fine character, and is truly magnificent, being of vigorous habit, and for covering a wall or roof, a rival of the lovely Lapageria rosea. The other species are *atropurpurea*, introduced in 1848, flowers brownish purple; *australis*, 1820, white; *cinnamonifolia*, 1847, straw; *coriacea*, 1838, of diminutive growth, white flowers; *crassifolia*, 1817, white; *fusca*, 1837, brown; *lacunosa*, 1854, of diminutive growth, yellow flowers; *ovalifolia*, 1840, pale pink; *pallida*, 1815, white.

## SEDUM SIEBOLDI.

This plant has been so frequently recommended in these pages, that we should need to apologize for introducing it again, had we not been fully persuaded by statements in letters that reach us that many of our readers are either unacquainted with its beauty or with the proper method of its cultivation. Sedum Sieboldi was introduced by Siebold from Japan in 1830, and was for a long time cultivated in cool greenhouses, but being ultimately found to be quite hardy, it has gradually passed from the greenhouse to the rockery, and, consequently, there are very few cultivators who now know anything of its real beauty. The habit of this sedum is remarkably distinct and elegant. From a central crown or "stool" a number of slender branches are thrown out, these branches are beset, at regular intervals, with fleshy leaves in groups of three each, and they continue to lengthen until some time in the month of August, when umbels of flower-buds appear at the termination of each. Well-grown specimens produce shoots averaging fifteen to eighteen inches in length, and the heads of flowers have a diameter of four or five inches. In every stage of growth the plant is a beautiful object, the leaves being slightly concave on the upper surface, and covered with a delicate glaucous bloom. The flower-buds appear a long time in advance of the flowers, but when at last these open in the month of September, their lively rosy pink hue and symmetrical disposition are remarkably beautiful, and contrast chastely and cheerfully with the peculiar tint of the leafage. After the blooms have faded the stems die down, and are immediately succeeded by a new growth from the root, and thus, if encouraged by good culture, a specimen will become larger and larger every year, and may be grown ultimately to colossal dimensions.

This is one of the easiest plants to grow to perfection, or to render unsightly; it is not an easy plant to kill, but the killing may be accomplished if persevered in. As directions for the culture seem to be desired, we will give, in a few words, the result of twenty years' experience and observation. It requires a rich, light soil, and perhaps the best compost for a specimen would be formed as follows:—Turfy loam, two parts; rotten dung, one part; bricks broken to the size of hazel-nuts, one part; sharp sand, one part. In this mixture it should be potted firmly, and in spring, when the new growth is beginning to advance, the plant should be shaken out, a considerable portion of the soil removed from the roots, and be repotted in a pot one size larger than the last. It requires to be always under glass, exposed to the full daylight without shading at any season, to have abundance of water from April to August, and at other times to be kept merely moist enough to prevent flagging.

Many growers destroy the beauty of this plant by training it upright. It is really a trailer, and should be put in a pot suspended from a rafter of a cool greenhouse. It then acquires most graceful outlines, and blooms most profusely and perfectly because of the heat of the sun acting on the pot, and the perfect drainage it has in consequence of the impossibility of water lodging under the pot or worms getting in to disarrange the crocks. In watering, not a drop should ever fall on the leaves, it should always be placed where there is no probability of injury by drip, and at all seasons it should have as much air as can be given it without exposing it to cold currents or frost.

To propagate this plant, take little cuttings of the new growth in February, March, April, and May. Prepare them as cuttings by removing the leaves from the lowest joint, and dibbling them firmly into sand. If made early, a gentle bottom-heat will be required, but after March the cuttings will strike without heat. The first season of growth from the cutting pans keep the plants in 60-sized

pots, and allow them to grow as they please. They may be put out of doors till the end of September, and must then be housed. The next spring shift them to 48 size, and as in this size they will flower nicely, they must never again lack the protection of glass, as, when left out, the leaves acquire a dingy brown hue, the delicate glaucous bloom is destroyed, and snails and slugs are sure to find them, and add to the disfigurement. In an 8-inch pot a specimen may be grown to cover, when in bloom, a space of a yard square, if trained out by means of wires attached on the outside of the pot on which the trailing branches may rest in a pendant position. When the stools get too large for convenience of culture and exhibition, they may be divided with the knife, and every scrap that has a bit of root attached will make a plant.

A beautifully variegated variety of Sedum Sieboldi has been recently exhibited on the Continent. In this variety the leaves have a broad central patch of creamy buff in the centre, the edges of the leaves being of the same delicate glaucous green as the parent.

SEDUM SIEBOLDI.

## ON THE PREPARATION AND PLANTING OF ORCHARDS.

Orchards are portions of ground appropriated to the growth of fruit-trees only. When made on an extensive scale, they generally contain apple, pear, plum, and cherry-trees; but a complete orchard should contain besides, quinces, medlars, mulberries, services, filberts, Spanish nuts, and

barberries, also walnuts and chestnuts; the two latter are well adapted to afford shelter to the rest, and for that purpose should be planted around the boundary at the most exposed places.

The situation which is selected for an orchard should be rather elevated than otherwise, on a gentle declivity, and open to the south and south-east, to give free admission to the sun, and to promote a circulation of air, which will dry up damps and disperse fogs, and by this means induce healthiness in the trees, and a high flavour in the fruit. It should, however, be well sheltered from the north and westerly winds, and if not naturally so by the surface of the ground, it must be rendered so by plantations, for which purpose the chestnut and walnut-trees already referred to will be well adapted. In very exposed situations, and where there is plenty of room, a few forest trees may be added, at a little distance.

That soil which produces good crops of corn, grass, or garden vegetables, will also do well for an orchard. A loamy soil should, however, be preferred, and a shingly or gravelly soil avoided, unless there is loam intermixed: a medium soil, between light and dry, and wet, and stubborn, will be suitable. If the subsoil is clay, the roots will require to be cut in every four or five years, to prevent them from penetrating too deeply. Before planting, the soil should be trenched two spades deep, and ten feet broad, where the trees are to be planted, and the subsoil should also be loosened, if it is not clay, which is best kept trodden down. If it is pasture land, it ought to be ploughed and summer fallowed, to kill the grass, as well as pulverize the soil. I consider ploughing to be more effective than trenching, as the latter operation turns the sod below, where it is a long time decaying, and harbours the grub, which frequently does mischief to the roots.

The best time for planting on a dry soil is October; if wet, the end of February, or even March, is preferable. It will be necessary to support the trees against the wind until they become well rooted. In planting, endeavour to suit the trees as well as possible to the soil and situation, and to plant them at proper distances from each other; this may be from forty to eighty feet, according to the size attained by the trees when full-grown. Fruit-trees, when planted too thickly, are liable to become blighted, and covered with moss, which is highly detrimental. Procure the trees, if possible, from a similar soil to that in which they are about to be planted, or rather more sterile, for trees when transplanted from a rich soil to a poor one, seldom thrive; but if from a poor soil they are removed to a more fertile one, they will seldom fail.

In the choice of trees, too much care can scarcely be bestowed: none should be admitted which have not good roots, fair clean stems, and properly formed heads. It is necessary, too, to secure a proper assortment of varieties, especially of apples and pears, for much will depend on this: very few of the summer kinds will suffice; a greater number of autumn kinds should be chosen, and still more of the late kinds, as upon these latter will depend the supply, from the month of January to July. In general, a greater quantity of apples should be planted than of any other fruit.

If the trees are planted in the quincunx order, and at a distance of eighty feet apart, the ground between them may be cropped, if thought proper. Ploughing, or digging the ground, provided it be not done so deep as to injure the roots, will serve to keep the trees in a healthy flourishing state, by admitting the sun and rain.

If the spring, after planting, should prove a dry one, it will be desirable to mulch the surface, as far as the roots are likely to extend, with half-rotten dung, or leaves; or it would be better to procure some turf, and lay it the grassy side downwards; either of these plans will keep the ground moist, and save a great deal of watering, and when decayed they may be dug in, and will thus become beneficial.

Trees that are of different sizes,

when full-grown, should never be planted promiscuously; but if the soil is favourable, plant the large growing ones towards the back, and the others in succession according to their size. In this way, when viewed from the front, they will have a very agreeable appearance, which will not be the case if they are planted without order; and, at the same time, the more delicate kinds will not be liable to be injured by those which are more robust in their growth.

When cattle are intended to feed beneath, the stems of the trees should be high enough to prevent them from injuring the lower branches; and they should be fenced in such a way as to prevent their bark from being injured by the rubbing of the cattle, especially whilst the trees are young.

If the surface of the soil is liable to become wet, it may be drained in this way:—Let deep furrows be made, from one to two feet in depth, and from one end to the other of the ground, between every two rows of trees, and then let the ground be sloped to the bottom of the furrow: if it is in pasture, the turf may be taken up and relaid when the furrows are formed. If the ground is naturally wet, underground drains will be required.

Burning weeds, rotten wood, or any rubbish when the trees are in flower, might be found a great preservative against blights and caterpillars. I would recommend annually washing the trees with one of the many mixtures which are used. The following is a simple and effectual one:—Mix fresh cow-dung with urine and soap-suds, and after scraping off all the moss and cankered bark, wash over the trees with this mixture; this will prevent the growth of moss, and lessen the number of insects, by destroying their eggs.

E. Brag.

## THE IVY.

(An Abridgment of a Paper read before the *Central Society of Horticulture.*)

BY SHIRLEY HIBBERD, ESQ., F.R.H.S.

The genus *Hedera* is in the natural system grouped with Aralia, Panax, Cassonia, Adoxa, Gastonia, and other allied genera, in an order named from Aralia, as the type, *Araliaceæ*. Of the genus *Hedera* there are about fifty species enumerated; it is pretty certain, however, as will be shown presently, that several of the so-called species are but varieties. The characters of Hedera are—calyx with an elevated or toothed edge; petals five or ten, not calyptrate, and cohering: stamens five to ten, converging or consolidated; the berry five or ten celled. For general purposes we may classify the species as *tender* and *hardy*. The tender species are mostly shrubs, the hardy species are mostly climbers; and with the hardy kinds alone are we concerned on the present occasion.

Uses in the Arts.—None of the ivies occupy an important position in medicine or the arts. Hedera helix, the common ivy, was esteemed more highly in ancient than in modern times. It was in high repute as a sudorific, and was supposed to have the property of preventing intoxication, as also of restoring to sobriety those who had imbibed an excess of wine. Modern experiment has not confirmed the opinion of the ancients, and it appears that the juice of ivy has no power whatever either to prevent or modify the effects of intoxication. The leaves when bruised emit an agreeable balsamic odour, and are of a very unpleasant bitterish taste. The juice pressed out of the leaves is slightly stimulating and purgative, and a decoction of the leaves is now used in many country places

for dressing ulcers, and the leaves themselves are applied to corns. The berries have an acidulous, resinous, slightly pungent taste, and were once much used both as an emetic and a purgative. But though comparatively unimportant in respect of its usefulness in the economy of art, ivy has no inconsiderable place in the economy of nature. The blossoms, which expand in October, are rich in honey, and are resorted to by bees and many species of flies. Occasionally during the mid hours of a sunny day in October, places covered with large breadths of flowering ivy are as vocal with the music of bees as lime trees in the month of July. The berries are the favourite food of many of the winter song-birds; wood-pigeons, thrushes, and blackbirds are particularly fond of them. Lastly, the leaves are tolerably good cattle food, if given in moderation; and when cattle and sheep stray from their pastures, it is a common occurrence to find them browsing ivy on some ruin or waste. The fondness of cattle for ivy did not escape the quick perception of Shakspere. In the "Winter's Tale," act iii. s. 3, he makes the old shepherd, who is presently to discover the "pretty barne," bewail the scattering of his sheep by "those boiled brains of nineteen and two-and-twenty." "They have scared away two of my best sheep, which I fear the wolf will sooner find than the master; if anywhere I have them, 'tis by the seaside, browsing of ivy."

Horticultural Uses of Ivy.—Among the uses to which ivy may be put, those of the greatest importance are the following:—To cover walls, palings, ruins, rustic buildings, to form dividing screens, and to clothe dead or living trees with festoons of evergreen foliage. For these purposes there is nothing more grand than ivy; it is always beautiful, and it grows with such rapidity and luxuriance that it soon hides the surface over which it spreads with glossy sheets of deep green verdure. If allowed to trail on the ground, it answers admirably to surface plantations and the sides of wilderness walks; to cover mounds and knolls, and in fact to beautify the most unsightly places, or add a fresh charm to spots which nature and art have already combined to embellish. It may also be grown to form standard evergreen shrubs for the decoration of the terrace, lawn, and shrubbery; and grown in the form of an umbrella, the ivy may be made immensely valuable for the adornment of entrance-halls, and to intersperse among the seats and retiring places at festive gatherings. The arborescent and variegated varieties make superb conservatory plants when grown with care in suitable forms; and, lastly, ivies may be grown in quantities in pots, and by regular pinching-in be made to assume the form of compact bushes, and these, plunged in the parterre with hollies and other evergreens, serve to enliven the scene at a time when it is impossible to make an out-door display of flowers.

Culture of Ivy.—All the species and varieties are, without a single exception, most easily cultivated. The stove and greenhouse kinds will thrive in a soil consisting of equal parts loam, peat, and decayed manure. The hardy kinds will grow in any soil, and in almost any situation, even if so shaded and barren that even periwinkle will not live upon it. But it should be known that whenever a quick and luxuriant growth of ivy is desired, the soil cannot be too rich. In the culture of specimen ivies in pots, a light rich soil is essential to insure free growth; but those with variegated leaves are apt to become gross in habit, and suffer deterioration of the beautiful colours of their leaves, if grown in a compost containing any considerable proportion of animal manure. When grown under glass, the hardy kinds become long-jointed and tender, so that if exposed to frost their young shoots are killed back; and all the variegated kinds require to be pretty freely exposed, except during winter, both to keep them short-jointed in habit, and produce their variegated tints in perfection.

Ivy on Walls.—The best ivies for walls are the Irish, *H. canariensis*, which is the most rapid grower, and,

generally speaking, the most beautiful; the English, *H. helix*, in its ordinary form is very beautiful when it has extended itself over a large surface, as it bites close, and never fails to train itself. *H. cordifolia* and *H. Regneriana*, both with huge entire leathery leaves, make fine coverings to walls. All the variegated ivies not of arborescent character make beautiful screens for dwarf walls. At Messrs. E. G. Henderson and Sons, St. John's Wood, may be seen specimens of nearly all the known kinds trained on dwarf walls, and most of them are so effective that it is a matter of surprise they are so seldom used in this way, their cheerful aspect during winter being one of their greatest recommendations. If it be desired to cover a large extent of wall quickly with fast-growing green-leaved ivies, plants of two or three years old should be procured in pots. The soil of the border should be deeply stirred and liberally manured with rotten dung. The plants should be turned out of their pots in the middle of April, be planted firm, nailed in regularly, and be freely watered from the time of planting till the end of July, an engine or syringe being used to sprinkle the whole of the leafage frequently. This treatment will assist it in "taking hold" of the new soil and situation, and the next season it will grow vigorously without any other aid than occasionally nailing or tying in a shoot that refuses to attach itself. Generally speaking, a little care the first season is all that is needful; but if the cultivator wishes to make a display of his skill in cultivating ivy, let him vary the process slightly as follows:—Plant in rich soil in April, train in all the growth you can get, not with any particular regard to appearances, but simply to keep all the shoots upright, even if several of them cross

HEDERA CANARIENSIS ARBOREA.

each other. In the following April cut all the growth clean away to the ground line, and the plants will immediately throw up stout shoots. Select of these four or five to train out in the form of a fan: rub away all the remaining shoots. Never allow any of the shoots to hang away from the wall, as this checks their growth, and tends to throw them into a fruiting condition. The next season cut back all the trained shoots about a third of their length, and in the following season they will quite fill up the spaces between them with their side-growths, and make five or six feet more growth from the top buds left at the former pruning. From this time forward cut back all the growth to a regular line with the help of a straight-edge, and remove all superfluous surface growth, so as to retain on the wall *only one layer* of stems. Our common English ivy is unsurpassed for beauty when treated in this way, and one plant is enough for a breadth of twenty feet of wall, which may thus be kept covered with a felt of vegetation consisting of close embracing stems and elegantly veined leaves. I must call your attention to a very important fact in the growth of this grandest of evergreens. We take a plant of, say, the Irish ivy, and train it up a wall; it forms huge leaves very distinctly lobed, and it never produces flowers, so long as it can climb higher and higher; but as soon as it ceases to derive support, and is thus prevented ascending higher, it throws out short side-shoots instead of long, whip-like branches, and on these short growths the leaves are smaller, and without lobes. Thus, whenever we see ivy in bloom, we find that it has attained the highest point possible as a climber, and has acquired a new habit, forming huge bosses of luxuriant vegetation, with leaves differently formed to those below, and producing myriads of flowers and fruits. It is this peculiarity of its habit that renders it essential to keep ivy closely trained so long as it is required to run, as if the growth of this year is allowed to fall away from its support, or is torn from the wall by wind, the next season it will begin to form flowering shoots and a bushy head. Sometimes the growth of years is torn from walls by the immense weight of the flowering bosses at the summit; but this destruction of a noble object is easily prevented by means of a rough frame of woodwork fixed under the projecting growth parallel to the top of the wall, to lessen the strain and the rocking of the mass during high winds.

Standard Ivies.—The Algerian and Irish ivies make noble standards, but they require peculiar management. Cuttings should be struck in pots in July or August, and kept in a frame or pit all the winter. In April, select only those that have plump, straight leaders, and plant them out in soil consisting of at least one-half rotten dung, and the other half good loam, well broken up to a depth of two feet. Keep them carefully trained to upright stakes all the season, and give them abundance of water till the end of July, and pinch in all side-shoots to two or three leaves from the base. The next April cut them back to the height of the intended standards; allow all side-growths to push, but continually pinch the side-shoots in, to prevent any of them acquiring a preponderance. At the same time, train out the shoots of the head their full length, to keep the vigour of the tree in the head. Cut back again the next April to within two or three buds of the base all the side-shoots and shoots of the head. At the end of five years these will be handsome trees. After that time the side-shoots may be removed from the stem a few at a time, beginning at the bottom, so as to form clean stems, and the heads may be trained to any shape, or left to form flowering branches.

## JANUARY, 1864.—31 Days.

Phases of the Moon.—Last Quarter, 2nd, 7h. 39m. morn.; New, 9th, 7h. 46m. morn.; First Quarter, 15th, 11h. 6m. after.; Full, 23rd, 10h. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1862. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | Morn. | | |
| 1 | 8 3 | 59 | ... | 10 52 | Cloudy and warm | Circumcision |
| 2 | 8 4 | 0 | 0 12 | 11 52 | Fine but boisterous | Dr. Royle, Sec. R.H.S. died 1858 |
| 3 | 8 4 | 1 | 1 21 | 11 35 | Fine; rain at night | *2nd Sunday after Christmas* |
| 4 | 8 4 | 2 | 2 32 | After. | Showery | Sir Joseph Banks born 1743 |
| 5 | 8 4 | 3 | 3 44 | 0 41 | Cloudy; storm and rain | Radetzky died 1858 |
| 6 | 8 4 | 5 | 4 54 | 1 27 | Cloudy; heavy rain | Samuel Curtis, F.L.S. died 1860 |
| 7 | 8 4 | 6 | 6 0 | 2 24 | Fine | French Army in Mexico 1862 |
| 8 | 8 4 | 7 | 6 58 | 3 34 | Clear; fine | *Lucian* |
| 9 | 8 4 | 9 | 7 45 | 4 54 | Foggy; cloudy | Nelson's Funeral 1860 |
| 10 | 8 4 | 10 | 8 25 | 6 17 | Slight haze; cold | *1st Sunday after Epiphany* |
| 11 | 8 4 | 11 | 8 56 | 7 41 | Cloudy; rain at night | Hilary Term begins |
| 12 | 8 4 | 13 | 9 23 | 9 4 | Frosty; cloudy | L. Spallanzani born 1729 |
| 13 | 8 4 | 14 | 9 48 | 10 24 | Fine but cloudy | Cambridge Lent Term begins |
| 14 | 8 3 | 16 | 10 12 | 11 42 | Overcast and cold | Oxford Lent Term begins |
| 15 | 8 2 | 17 | 10 37 | Morn. | Cloudy; brisk wind | Mr. Beck, florist, died 1861 |
| 16 | 8 1 | 19 | 11 4 | 0 58 | Cloudy and cold | Hartley Colliery accident 1861 |
| 17 | 8 0 | 20 | 11 35 | 2 9 | Fine; rain at night | *2nd Sunday after Epiphany* |
| 18 | 8 0 | 22 | After. | 3 14 | Clouds; mild | *Prisca* |
| 19 | 7 59 | 24 | 0 52 | 4 15 | Dry; storm at night | Length of day 8h. 25m. |
| 20 | 7 58 | 25 | 1 42 | 5 9 | Stormy; low clouds | *Fabian* |
| 21 | 7 56 | 27 | 2 36 | 5 55 | Fine; cloudy | Junius's first letter appeared 1769 |
| 22 | 7 55 | 29 | 3 35 | 6 34 | Cloudy; boisterous | Lord Bacon born 1561 [1862 |
| 23 | 7 54 | 30 | 4 40 | 7 7 | Cloudy; boisterous | Professor de Vriese, botanist, died |
| 24 | 7 53 | 32 | 5 43 | 7 33 | Boisterous; dry air | *Septuagesima* |
| 25 | 7 52 | 34 | 6 46 | 7 57 | Clear; baro. unsteady | Conversion of St. Paul |
| 26 | 7 50 | 36 | 7 51 | 8 17 | Fine but cloudy | Day breaks 5h. 52m. |
| 27 | 7 49 | 37 | 8 56 | 8 38 | Partly overcast | Peter the Great died 1725 |
| 28 | 7 48 | 39 | 10 1 | 8 58 | Frosty; fine and bright | Twilight ends 6h. 40m. |
| 29 | 7 46 | 41 | 11 8 | 9 19 | Overcast; fine | Victoria Cross instituted 1856 |
| 30 | 7 45 | 43 | Morn. | 9 40 | Cloudy; rain at night | Charles I. beheaded |
| 31 | 7 43 | 44 | 0 15 | 10 6 | Fine; rain; frost | Dr. Bevan, apiarian, died 1860 |

Probable Weather in January, 1864.—Likely to be a stormy period; from the 1st to the 10th much rain, wind, and some frost; from the 10th to the 18th much snow, wind, and severe frost; wind generally N., N.W., to N. N.E. From the 18th to 31st almost daily changes, but generally mild, and sometimes fine; wind S.E. to S.W.S. In the north great storms between 10th and 18th.

## THE GARDEN GUIDE FOR JANUARY.

Kitchen Garden.—Take advantage of open weather to push on planting and ridge up vacant ground to the frost During frost is a good time to empty muck-pits and wheel out manures. When earth-work of all kinds is at a standstill through severe weather, some good jobs may be found in repairing fences, clearing up litter in the rubbish-yard, collecting rough materials for paths and drains, and burning weeds and refuse. The beds for parsnips, carrots, onions, peas, etc., which have not

been trenched up in November, as they ought to have been, should be done at once if the weather will permit; afterwards, on dry frosty mornings, fork them over lightly with a steel fork, the constant stirring being very beneficial to the soil, and speedily rendering it in a fit state to receive seeds and plants. Towards the end of the month take advantage of favourable weather to sow.

*Peas.*—Dillistone's Early is eight days earlier than Sangster's No. 1, and therefore the best to sow. Sow also the same sort in boxes or on a bed in a frame, in case the open ground sowings are all eaten up; when the reserve will be useful to transplant. The best plan for a few rows of very early peas is to sow the seeds on turf-sods, laid grass side downwards; the turf should be cut about four inches wide, and the seeds sown along the centre, and the whole regularly laid out to form a bed in a cool frame. The process of transplanting consists in removing the sods with the plants into the prepared trenches. As the plants are apt to push through the turf, it is best to lay the sods on a hard surface, so that when lifted there will be no damage to the roots. Advancer is the earliest marrow pea, and will answer well to succeed Dillistone's and Early Champions. Woodford's Green Marrow, and Veitch's Perfection will do well to sow at the same time to succeed Advancer.

*Beans* to be sown in small breadths: Mazagans for the earliest, and Long Pods for a main crop. Those growing freely to be earthed up, and have a sprinkling of wood ashes to keep away vermin.

*Cabbage* of all kinds may be sown on a warm border; the most useful to sow now are Shilling's Queen, Early York, and Rosette Colewort.

*Parsnips* to be sown for the main crop. Choose a quarter well manured last summer, and that has been laid up all winter. The Hollow Crown is the most useful variety, but in deep, sandy, rich soils, the Guernsey parsnip grows to an immense size.

*Saladings.*—Warm sloping borders under walls facing south may be turned to good account now for early saladings, as, if the weather should be severe, they can be covered with litter, or kept permanently protected by hurdles of reeds or straw placed on edge diagonally, about five feet apart. On borders so protected sow early short-top radish, Hammersmith and Paris Cos lettuce, two-bladed onion, Golden cress, mustard, Normandy cress. Sow but small breadths at first, as some of the sowings may be lost; and at the same time sow a few boxes of lettuce, to be placed in a gentle heat for planting out hereafter. The crowns of horse-radish, forced and blanched in the same way as we have recommended for chicory afford a very agreeable salad at this time of year, and in gardens where horse-radish has run wild and become a pest, it would pay to dig them now expressly to furnish blanched saladings, the flavour being sweet and only gently pungent.

*Potatoes* may be planted under warm walls as well as in frames, where they can be covered with mats or calico lights. Choose hard tubers, and let them sprout in full daylight first; the sprouts should be dark-coloured, firm, and plump; if weak and blanched, they are of no use for an early crop.

*Tree Onion, Potato Onion, Shallots, and Garlic* plant at once. In damp soils shallots are apt to rot if buried, therefore lay them on the surface of the soil, and let them root into the ground in their own way. The tree onion and potato onion require a rich soil, and must be planted at from three to six inches deep, according to size.

Fruit Garden.—Trees not yet pruned will suffer, unless speedily attended to. Save any scions wanted for grafting by heeling them in at the foot of the tree they are taken from. They will take all the better for being cut some time before grafting. Fruit quarters that have been neglected hitherto, must be dressed, cleaned, trained, and put in order at once, for the buds are swelling, and every hardy tree is on the move. Make ready protecting material for wall trees, for we may expect sharp weather just as the blooms expand, when the wind usually sets in from the east.

*Apple and Pear Trees* infested with moss or vermin may be much benefited by being painted all over with a mixture of Gishurst and clay; or a mixture of lime, soot, and clay. If the painting is entrusted to a boy, take care that he applies the brush by an upward movement; if allowed to brush downwards, many spurs will probably be destroyed.

Flower Garden.—Roses to be planted as soon as possible. In light soils, standards will thrive better if some clay is dug in with the manure. Roses on their own roots need a lighter soil than briars, and will never thrive unless the ground is effectually drained, deeply stirred, and liberally manured. They should now be heavily mulched with half-rotten dung. If the dung is quite green and rank it will do as well, but thoroughly rotten dung is almost useless as a mulch for roses.

*Tulips* breaking ground now are likely to suffer by frost. Heap cones of sand around them before the crowns open, and cover with mats on hoops while the weather continues severe.

*Evergreen shrubs* had best not be transplanted or in any way disturbed for a few weeks hence. After December we prefer not to move them till between March and May, as the ground is now so cold that they cannot make new roots in it.

*Lawns* that require renovation, to be taken in hand at once. There is no plan so effectual as a liberal sowing of good seed, which should be obtained from a house which devotes its attention especially to the growth of grasses and the selection of sorts for various kinds of soil. New lawns sown down now will have a good turf by midsummer.

*Wall Trees* may now be pruned and nailed in. Use shreds as small as possible, and prepare the nails by making them red hot, and throwing them into oil.

Conservatory.—Let nothing suffer now for want of fire-heat. Forced bulbs will require warm positions, but heaths, epacrises, and other hard-wooded plants may be at the cool end. For succession now mignonette, primulas, violets, lily of the valley, Luculia gratissima, Poinsettias, Euphorbias, and Justitias, are particularly valuable. Keep the atmosphere pretty dry to prolong the bloom of camellias, azaleas, etc. Average temperature 45° by night, and 55° to 65° by day.

Orchid-house.—Slightly increase the temperature and humidity of the atmosphere, as many will now be starting into growth; but many will still be dormant, and therefore care is required, as these must not be hastily excited. As soon as any plants have made a good start, see to the necessary shifting and surfacing, using the compost in a rough state, mixed with small lumps of charcoal and sandstone.

Greenhouse.—May have a rise in temperature, and growth may be encouraged. Beware of damp, give liberal ventilation, and remove all dead leaves and whatever may be likely to encourage vermin and mildew.

*Pelargoniums.*—Shift specimens into their blooming pots, give a slight rise in the temperature, and keep near the glass.

*Ericas* to be kept cool and airy, and fire-heat used only when necessary to keep out frost.

*Bedding Plants* must now be thought of, quantities of the several kinds determined, and hot-beds made up for starting old plants for cuttings, and for the first batch of plants required early. Old verbenas, petunias, Cupheas, Œnotheras, Tropæolums, etc., may be put into a steady heat at once to furnish young shoots for propagating, and seeds may be sown of Lobelia erinus speciosa if to be raised from seed, by which means it comes pretty true.

*Fuchsias* to be looked over, and those wanted to bloom early to be repotted into small pots, and placed in a moist and gentle heat.

*Cinerarias* throwing up their flower stems to be put in an intermediate house for early flowers. The most backward to be repotted at once, so as to make fine specimens for a very late bloom. Keep the stock clean, use sulphur where mildew occurs, and fumigate for green-fly. Give particular care now to specimens for exhibition; remove small shoots, and peg down those that are best placed to produce a round and solid head of bloom.

*Azaleas* coming into bloom must be kept at a regular temperature, and have plenty of water. Beware of urging them too rapidly, and place none in the stove until they have been first gently stimulated by the warmth of an intermediate house. Plants in flower will require a night temperature of 50°, to rise to 60° and 65° by day. Those for late blooming should have a temperature not lower than 40° by night, and as much ventilation as the weather permits.

*Camellias.*—These to have similar treatment to that advised for azaleas. The whole stock ought to have been disbudded long since; if neglected, do it now. Plants coming into bloom to be assisted by sprinkling the borders, paths, and pipes occasionally to allow a diffusion of vapour. There is no class of plants that more enjoy atmospheric moisture, but as the blooms expand they require a drier and cooler air.

Orchard-house.—The litter may now be removed from amongst the pots which have been so protected. If the trees look at all shrivelled, give each pot a quart of water, choosing a fine morning for the job. After severe weather the trees will be in haste to break if the weather becomes fine and warm. This should be discouraged as much as possible. Prevent, by freely ventilating, any undue rise of temperature on fine bright days, and, if possible, keep all quiet till the end of February.

Forcing.—*Strawberries* in the forcing-house will swell their fruit grandly if the pots are placed in pans filled with fresh dung and kept always wet; the dung to be renewed every ten days. As soon as the

roots find it, the vigour of the plants will be increased wonderfully. If plunged in a dung-bed they will require very little watering at present.

*Asparagus.*—See that the soil of the forcing beds is sufficiently moist. A heat of 55° to 60° will be sufficient, but it must not decline below 55°. Straw hurdles are of great service to prevent a cooling of the bed during severe frost and north-east winds.

*Mushroom beds* for an early supply should now be commenced. Save, for the purpose, fresh horse droppings, spread thinly or in very small heaps, as the more slowly it ferments the better while collecting. Keep it dry, and when the bulk is sufficient, mix with it an equal quantity of road sweepings and dry chippy dung from the stable. Throw the material together to ferment, and if too dry sprinkle with water. Turn it two or three times, and then make up the bed, beating it firm with a fork. In seven or eight days it will be fit for spawning, but if it is then in a violently heated state, turn it, and leave it loose for a day, and then make it up again, when the heat will rise gently and the spawn may be inserted. Small pieces, not larger than walnuts, are more effectual than large cakes, therefore the spawn should be well broken up. Beds in bearing must be kept as dry as possible with coverings of straw, which must be changed occasionally.

Pits and Frames.—*Cucumbers.*—Bearing plants will require occasional watering with liquid manure, and as much light as possible to keep them in health. Remove male blossoms as fast as they appear. Keep the atmosphere moist; temperature 60 by night, 70° to 75° by day, 80° with sun shine. Sow singly in pots for succession plants; we can particularly recommend for present sowing Carter's Champion, Cuthill's Black Spine, Highland Mary, and Ipswich Standard. Choice sorts, may be kept on from cuttings to avoid the risk of deterioration. Plants that have been in fruit during the winter will furnish cuttings for succession, if the sorts are approved of for the purpose. Give air as often as the weather will permit. During mild weather, a little air may be left on all night, with a mat over the opening to prevent too cold a draught.

*Cauliflowers* are apt to die off now unless kept dry: a little peat dust will be useful to sprinkle amongst them where they are suffering from damp. Dry sand and wood ashes may be used for the same object. If the plants are crowded, they will only kill each other, so thin at once if necessary.

*Auriculas.*—Remove the old decayed leaves, but in doing so be careful not to injure the plants. The plants must *never* be dust dry, let the weather be ever so severe. We mention this because during hard weather good collections are occasionally ruined, the growers forgetting how hardy the plant is, and how much its constitution is injured by drought. But beware of damp, and, during frost, avoid watering until a favourable change occurs, if possible.

*Capsicums, Tomatoes, and Egg Plants,* to be sown at once and placed in heat. Use light rich soil, sow thin, and prick the plants out to strengthen as soon as they are large enough.

*Annuals* sown now in pans, and placed in a cucumber pit or in a vinery, will make a good start for early bloom. They should be sown thinly, the pans should have plenty of drainage, and a fibry soil should be used, so that in pricking them out they may be lifted with bundles of fibres with little injury. Mignonette is one of the most useful to sow now, as it will come into bloom by the time the weather is sufficiently genial to allow of the pots being placed in windows. The Californian sorts offer the gayest flowers for early display in the conservatory and drawing-room.

*Melons* for a first crop to be sown at once. Sow them singly; it is no gain in the end to have to divide them when several seeds are sown in one pot; it is too great a check.

Greenhouse Plants in Flower.—*Abutilon insigne,* Malvaceæ.—Greenhouse evergreen shrub from New Granada; soil, rich loam and peat; propagates by cuttings in summer. Winter temperature, 40° to 55°. The whole family is a favourite one. A. striatum very nearly hardy, and capable of enduring winter under a warm wall in the southern counties. The handsome foliage and fine bell-shaped flowers are very attractive.

*Andersonia Sprengelioides.* Natural Order, Epacridaceæ.—Beautiful greenhouse New Holland shrub of small growth, requiring sandy peat and plenty of drainage. Cuttings strike readily in a hot-bed. Produces pink flowers in June in a cool house; to bloom in January, should be well ripened and put into an intermediate house in October.

*Correa speciosa and pulchella,* Rutaceæ or Rue-worts.—Showy, scarlet flowered New Holland shrubs, requiring sandy peat and fibry loam. Grandiflora, a rich crimson may also be had in bloom now. They are very hardy, and bloom abundantly all the winter months with proper attention;

cuttings may be struck if half-ripe shoots are taken in spring and put in sand over a gentle bottom-heat, but they are usually grafted on C. alba, which is the safest and surest method of increase. Winter temperature, 38° to 48°; summer temperature, 55° to 75°. These are much neglected, but deserve to be grown wherever winter flowers are a desideratum.

*Cyclamen albiflorum* is one of the best of the Persicum section to grow in quantity; they require very little care, and the chief matter is to give sufficient pot room and plenty of water. Slugs will always find them out, if they are in neglected houses; and at this time, as they are coming into flower, they are often beset with green-fly. Any that want shifting now, through having been potted late, must have a mixture of turfy loam and leaf-mould equal parts, and one-half part very rotten cow-dung.

*Cytisus Atleeana* is the best of the class to make fine specimens, but every variety of Cytisus is worthy of culture. Fortunately these do not demand the best places in the house; so that they get sufficient air and water, they are sure to bloom well if in the worst positions as regards light. We strongly recommend the raising of stock from seed as preferable to cuttings, and more easily trained as bushes, standards, or pyramids.

*Daphne Japonica and rubra*, are two most useful shrubs for early bloom; they require an intermediate house to bloom early. Japonica is strictly a greenhouse shrub, but Odora rubra is nearly hardy, and may be kept in a pit. The only profitable method of propagating these is to graft them on the common daphne.

*Epacris nivalis, rubra, purpurascens, maxima grandiflora.* — What would our spring shows be in the absence of these exquisitely beautiful shrubs? Grandiflora and miniata are most abundant in their blooming, the whole length of their branches being covered with the hanging blossoms. The plants require considerable skill and care. Like heaths, they must have protection from frost, yet be kept as hardy as possible, and have frequent ventilation. They must be grown slowly, and upon principles of which the grower should have a clear conception from the first. Soil two-thirds peat, one-third loam, no more pot room than necessary, plenty of drainage. After flowering, to be boldly pruned into shape, and a dwarf branching habit encouraged by stopping and training.

*Fuchsia Dominiana* is one of the best to train up a pillar in the conservatory for winter bloom. The fine large crimson blossoms have a grand appearance in a house well furnished with flowering and foliage plants.

*Gastrolobium acutum.* — A beautiful leguminous evergreen greenhouse shrub, from Swan River; flowers yellow and red; average height of plant eighteen inches. May be raised from either seeds or cuttings; soil, peat principally, made very open and porous. Requires a rather warm house.

*Geranium, Gauntlet, and Crimson King.* —These two showy varieties are largely grown for market flowers. For this purpose three-year-old plants are allowed to run up to five or six feet in six or eight-inch pots. After a short rest in autumn, they are set to work to furnish blooms from Christmas. We have seen houses of 200 feet in length occupied with Gauntlet only, the plants braced back to allow room for collecting the flowers, by means of ropes drawn tight the full length in front of them. In a private establishment these and Alba multiflora should be grown into compact bushes, as the best of all geraniums for forcing.

*Hovea Manglesii.* Natural Order, Leguminous Plants, Fabacæ. Natives of New Holland.—All beautiful greenhouse plants, requiring similar treatment to Cape heaths; soil sandy peat, fibry loam, broken charcoal, and pounded bricks; no manure. Require frequent stopping to make good plants, as they make very long shoots, and soon grow out of shape. They are particularly useful as spring flowers, because their blues and purples contrast with the yellow flowers now so plentiful under glass. Winter temperature, 45° to 55°. Hovea crispa, Genista congesta, Heliotropium, Hermannia alnifolia, Jasminium ligustrifolium, J. nudiflorum, tree carnations, Cuphea platycentra, Erica hyemalis, E. Wilmoreana all in bloom now.

## NOTICES OF BOOKS.

*A Popular History of British Mosses.* By R. M. Stark. Second Edition. Routledge, Warne, and Co.—This is one of the best of the elegant series of popular manuals originally published by Mr. Lovell Reeve, and to folks who love rambling will be invaluable. Mr. Stark is a painstaking and experienced collector of botanical curiosities, and quite a master of muscology. The plates and descriptions in this work will enable beginners in moss-collecting to name their specimens, and the introductory chapters furnish an intelligible and faithful key to the scientific study of mosses.

*A Spring and Summer in Lapland.* By an Old Bushman. Groombridge and Sons.—There are few among the new books "of the season" which bear about them such a freshness of life as this record of the "Old Bushman's" Scandinavian wanderings. At last we hear something better of Lapland than that it produces lichens and reindeer, for here are glorious pictures of its forests, fiords, mountains, mosses, and the myriad creatures that inhabit them. For the ornithologist here are some very new and interesting sketches of Lapland birds, and for naturalists and sportsmen of every grade some glorious reminiscences of woodcraft and adventure, and observation in a country unfrequented by rose-water travellers, and still beyond the range of Bradshaw and the electric telegraph.

*The Wars of Wapsburgh.* By the Author of "The Heir of Redclyffe." Groombridge and Sons.—The title of this book is an enigma, and we doubt if it is right to give our readers a solution of it. We took it up, supposing we had a charming story by one of the best storytellers of the day, and we were not disappointed, though the story proved to be very different to what we anticipated. It is, in fact, a book of natural history, and the subject is *wasps*, the story of whose ways and means and instincts is woven into as jaunty and brisk and fanciful a narrative as ever was penned. The printing and embellishing of this book are in such exquisite taste that it must take a leading place among the New Year's gifts, and ought to be first on the list in making a selection for young people.

*Microscope Teachings.* By the Hon. Mrs. Ward. Groombridge.—This is a companion volume to "Telescope Teachings" by the same gifted author, and is in no whit a less meritorious performance, which is perhaps as high praise as we need bestow upon it. There are thousands of good microscopes locked up by their possessors, who in a fit of microscopy have bought the instrument, and then found the using of it too much for them. Let all such buy "Microscope Teachings," and bring out the instrument again, and they may say in the words of Blanco White — "Creation widens on man's view."

*Try and Try again.* By Old Jonathan. W. Macintosh.—Those who have read "Try" by Old Jonathan will like this book, as carrying the record of personal experiences in the taming of men a few steps farther than they know of already. It is a good book for New Year's day, and any other day throughout the year, to tell of the world's needs, and the provisions of Providence for supplying them, through individual efforts which of themselves appear all but contemptible. Jonathan's pages glow with the fervour of true Christian love, though his subjects are for the most part dark and forbidding. One thing we learn from it, that man's vice and ignorance serve oftimes to give distinctness to what is best in man, as the darkness of night is needful to show forth the glory of the stars.

*The Garden Oracle*, 1864. Edited by Shirley Hibberd, F.R.H.S. Groombridge and Sons.—This year's "Oracle" contains the completest selection of plants, flowers, fruits, etc., ever yet published in any almanac, and a complete list of succulents to bloom every day throughout the year. We trust the efforts we have made to render this work worthy of the extensive circulation it enjoys will meet with the approbation of our numerous friends and supporters. Among the articles are a few hints which we believe to be invaluable.

*The City Diary and Almanac*, 1864. Collingridge, City Press.—A capital idea. It is the neatest, cheapest, most compendious, business-like, and complete of all the shilling diaries—neither too large for the desk, nor too small for a full diary of events and occurrences. It contains its money value of writing and blotting paper, and many lists of boards, committees, and other public bodies, not usually found in almanacs.

A Portrait of Mr. Shirley Hibberd, F.R.H.S., has been published by Messrs. Groombridge. Price 1*s.*, free by post 1*s.* 2*d.*—It may be obtained through any

bookseller. The sixth volume of the FLORAL WORLD is now ready, cloth gilt, price 6*s*. Complete sets may also be had in cloth gilt, at 36*s*., in numbers, 24*s*.—The "Garden Oracle" for 1864 is now ready. It contains a list of about 500 succulents, arranged to show their order of blooming throughout the year. Also complete lists of new plants, flowers, and fruits, selections of florists' flowers, fruits, vegetables, etc.; numerous original articles on subjects interesting to all classes of gardeners, together with a review of horticultural affairs during the past year.

## TO CORRESPONDENTS.

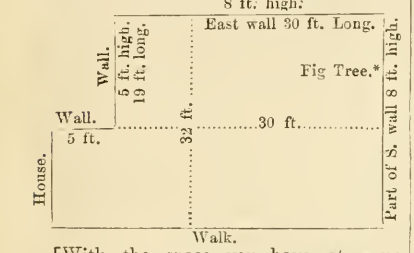
CATALOGUES RECEIVED. — "George Edwards, 1, King Street, Castlegate, York. Catalogue of Fruit Trees, Roses, Pelargoniums, etc." One of the most useful and carefully-prepared of all the north-country catalogues. Mr. Edwards announces his intention to sell all his specimen pelargoniums, having discontinued growing for exhibition.—"Nutting and Sons, 60, Barbican, E.C. Trade Catalogue of Garden and Agricultural Seeds." A capital trade list, priced for quantities.—"Sutton and Sons, Reading. Autumn Catalogue of Bulbous Flower Roots, also Geraniums, Carnations, Fruit Trees, etc." An excellent list of useful bulbs, and a selection of the best geraniums, fuchsias, roses, etc. The list of fruits comprises all the well-tried and useful varieties.—"Spring Catalogue and Amateur's Guide." A very useful and full list of seeds for the kitchen and flower-garden, with excellent cultural notes and directions, calculated to be of great service to amateurs.—"William Dean, Bradford Nursery, Yorkshire. Catalogue of English and Fancy Pansies." An important contribution to the literature of floriculture. The present issue is not overloaded with novelties, none being entered unless of sterling merit.—"Butler and M'Culloch, South Row, Covent Garden. Autumn Catalogue of Dutch and Cape Flowering Bulbs." A capital list, accompanied with short cultural notes. There are also good lists of chrysanthemums, vines, and other subjects usually bought in in autumn.

BOOKS RECEIVED.—"The New Zealand Handbook; or, Guide to the Britain of the South. London: Edward Stanford, 6, Charing Cross." Nothing could be plainer or more useful to the intending emigrant than the information contained in this little book, and indeed the general reader cannot glance at it without becoming at once interested in the state of the arts and manufactures, the perils, difficulties, and comforts of the voyage there, and the various methods resorted to for living after the passengers have arrived. An impression of 40,000 copies having been already disposed of, will show how much this little book is already appreciated.

AN APPEAL.—As we can always beg for others with better assurance than for ourselves, we do not scruple to make an appeal to our readers in behalf of a poor botanist whom adversity has nearly crushed, and to whom a little timely help will make all the difference between comparative comfort and extreme want. We make this appeal on our own responsibility: knowing the case to be most deserving, and being intensely anxious to render some assistance, we think it right to withhold the name of the person, but the case may be stated in a few words. Our poor client is a man of immense experience among British plants, and has several times filled important public appointments as curator, botanist, etc., etc., at various public institutions. After years of hard work he finds himself unable to provide for his family, and his friends are endeavouring to collect sufficient to enable him to take a shop, and make for himself a trade in dried plants and natural history collections. Many of our readers may feel disposed to assist him, and we shall gladly receive any contributions, large or small, and to every contributor we will forward an acknowledgment, and the name of the person for whose benefit the money is collected. If this were not a most deserving case, we would not obtrude it upon the notice of our readers.

GREENHOUSE.—I have a corner in my garden, 32 feet by 30, where I want to put a greenhouse for the protection of plants during winter; in spring to propagate a few bedders, tender annuals, vegetable marrows, cucumbers, etc.; and, if a few vines and dwarf "fruit trees in pots" could be grown in it, all the better. I want to use as little firing as possible, and the fire to require attention only morning and evening. Will you

please give me directions to make a good, useful house for above-named purposes on the best and cheapest principle. The size I am not particular about, but wish to build it on the cheapest plan consistent with a good and really useful house. The house might have a division about the centre, and so keep one part warmer, say the end intended for propagating. By keeping the centre door open during frost the whole house could be kept free from it, and the cooler part would also do to harden off bedders, etc. with the assistance of a two-light cold frame. I fancy the glass would be best if put on rib rafters, if I may so call them, instead of frames, and ventilation could be given at ends of the ridge, or, if a lean-to, on the top of back wall. I may here say the house is my own, the ground about one-third of an acre, with probability of one-fourth more being added ere long.




[With the space you have at your command it will be easy to construct such a building as will fulfil all your wishes. Cover the space with a double-span roof, and, as we judge from your plan that the corner you propose to build upon is contiguous to your dwelling, let the division be placed longitudinally exactly where the two spans meet; let the division most easily accessible from your house be so arranged that your orchard trees and cool greenhouse plants may be grown in it; and for purposes of propagation and general uses, let the other division be furnished with a hot-water tank after the model laid down in previous numbers of Floral World, with shelves for pots in every available space. To ensure perfect safety from frost carry a four-inch flow-and-return pipe along the front of the green-house division. And to secure immunity from excessive moisture in the winter and early spring months in the other division, and warmth enough at all times, let the same four-inch flow-and-return be carried round the front. Use Stephenson's copper boiler, or next best one of Jones's cylinders; glaze the ribs, and ventilate at top.]

Gladioli not Dying Down.—This season has been so mild that my autumn gladioli will not die down, and the summer ones are all shooting up again. We do not generally take them up, as they are never injured by the frost. What should I do with them?—*A.B.S.* [It is a very common occurrence for gladioli to keep green the greater part of the winter. We have sometimes forced them into a state of rest by taking them up with as much earth as possible about their roots, and laying them in a dry shed till they withered through drought. Then the bulbs were cleaned and stored away. Lately we have had doubts if this was so good a plan as leaving them alone, and we really think you will have just as good a bloom next year if you let them remain where they are. Your fern is Polystichum aculeatum.

Various.—*Zeno.*—Several correspondents have lately asked for the native places of various ferns, but we do not see how to spare space for such information at present, having so many demands upon us in reference to their cultivation; but as we shall shortly deal with ferns in a more systematic manner than hitherto, perhaps we may be able to give the native places of at least all the favourite species.—*J. Symon.*—1. Pteris aquilina; 2. Lastrea f. m.; 3. Lastrea marginalis; 4. Lastrea spinulosa; 5. Athyrium f. f.; 6. Lastrea recurva; 7. Lastrea Goldiana. "Moore's Handbook of Ferns," published at 5*s.*, by Messrs. Groombridge and Sons, is profusely and accurately illustrated—it is worth its weight in gold.—*Old Subscriber.*—Your request for a list of ferns has been complied with in another page. The mosses demand a little more thought.—*Gardener.*—In the "Garden Oracle," of 1863, you will find all the instruction necessary for growing Amaryllis. The variety Josephine requires the same treatment as the other hybrids there described.—*A.A.M.*—We must refer you to the list of ferns in another page for the present, but we will keep your note in sight for a time, and perhaps give some other lists. Mrs. Hibberd says the cocoa-nut refuse is the best material she ever had for growing ferns in glass cases. If you cannot get that, provide yourself with good turfy peat.—*T. W.*—We begin to think it may be done, but on such a matter we must think twice before we speak once.

THE

# FLORAL WORLD

AND

## GARDEN GUIDE.

FEBRUARY, 1864.

## CULTURE OF RONDELETIA.

MONG the most truly aristocratic plants that adorn our stoves, and give character to exhibitions, the Rondeletia and the Ixora have a very conspicuous place. Well grown specimens, when in their full blaze of colour, are in fact unique for splendour, and of the two, Ixora will always claim pre-eminence for beauty. We might consider these two genera together, for they both belong to the same natural order, and they assimilate very closely in habit and constitution. But experience has taught us that the less we associate different genera the better, when it is intended to give specific instructions respecting them, for as every genus has its structural characters by which it is distinguished from all the rest, so each has its special needs and peculiarities of growth, and frequently it becomes necessary to bestow upon a species more care than upon all the other members of the family to which it belongs. We shall therefore deal with Rondeletia for the present, and defer the consideration of Ixora for a future occasion.

The genus Rondeletia is named after Rondelet, a French botanist of the sixteenth century. It belongs to the important natural order of *Cinchonads*, the characters of which are—inflorescence cymose; calyx superior; corolla monopetalous, tubular; stamens inserted upon the corolla, and alternate with its lobes; ovary inferior, two or many celled; style sometimes divided, stigma simple or divided; fruit inferior, two or many celled, dry or succulent. Linnæan system Pentandria monogynia. The genus occurs chiefly in America and the West Indies, and though closely allied to plants of the highest renown in pharmacy, appears never to have been applied to any useful purposes. There are about fifteen species of Rondeletia known, and they date back to 1752, when *R. Americana*, with white flowers, was introduced. The other known species are as follows:—*R. discolor*, red, native of New Granada; *R. hirsuta*, yellow, Jamaica, 1820; *R. hirta*, pink, Jamaica, 1776; *R.*

*lævigata*, white, West Indies, 1790; *R. laurifolia*, white, Jamaica, 1824; *R. longiflora*, blue, Brazil, 1842; *R. odorata*, red, West Indies, 1836; *R. paniculata*, white, East Indies, 1820; *R. racemosa*, white, Jamaica, 1820; *R. speciosa*, scarlet, Havannah, 1830; *R. thyrsoides*, white, Jamaica, 1819; *R. tomentosa*, white, Jamaica, 1819; *R. versicolor*, pink, Veraguas, 1838. They are all stove evergreen shrubs, requiring careful treatment, and they are all worthy of cultivation, but the grandest of the series is the scarlet flowered species, *R. speciosa*, originally in-

RONDELETIA SPECIOSA.

troduced by the Messrs. Loddiges, through W. J. M'Leay, Esq., in 1830, and of which there is a strong-growing variety with larger flowers than the species, called *speciosa major*. This last deserves to be considered an essential in every selection of stove plants, which cannot be said of any of the rest; in fact, though beautiful and interesting plants, none but those who have accommodation for extensive collections need be anxious for many representations of the genus after speciosa and its variety have been secured.

PROPAGATION.—Rondeletias are easily propagated from cuttings

of half-ripe wood taken off close to the stem, and shortened to four joints each. These cuttings are to be planted in pure silver sand, covered with bell-glasses and plunged in heat. If bell-glasses are not available, allow sufficient space between the rim of the pot and the surface of the sand to plant the cuttings with their tops lower than the level of the rim, and lay squares of common window glass over; this answers as well as bell-glasses, and to prevent damping it is only necessary to turn the glasses upside down every morning. When bell-glasses are used, they should be taken off every morning, be wiped dry, and replaced, and in dull weather should be kept off a few hours at a time. As soon as the cuttings have rooted pot them off in sandy peat, and plunge in a brisk heat until they have filled the pots with roots, then shift to the next size, using sandy peat with one-fourth part of loam added. At the next potting use the soil recommended for old plants, to which also their treatment may be assimilated.

Treatment for Flowering.—None of the Rondeletias will thrive in a temperature lower than 60°, and a luxuriant growth and abundant bloom cannot be secured in a lower average temperature than 70°. During summer the temperature may range from 65° to 90°, during winter 50° to 60°. The soil best suited to them is a mixture of one-half hazel loam and one-half sandy peat, to which add one-sixth of the whole bulk of pounded bricks. In potting use plenty of drainage, carefully packed and covered with a layer of moss to prevent the fine earth running down amongst it. Overpotting is most injurious, and it is only by a regular course of accumulative potting, using at each stage pots only one size larger than the last, that a satisfactory bloom can be obtained. The best time to pot is immediately after they have done flowering, but if needful they may be shifted six weeks before flowering, but never on any account later. In the case of repotting old plants with matted roots, a little time must be bestowed in loosening the roots with a pointed stick, and removing some of the old soil from amongst them; if the outside mat of roots is removed with a knife, the plant may not recover for a whole season. Pot firm and encourage new growth by gentle bottom-heat.

When coming into bloom they require plenty of water both over head and at the roots; indeed the leaves may be sprinkled three times a week all the summer, much to the benefit of the plants.

Training.—Rondeletias are usually trained on wire balloons, in the same way as Dipladenias, and that method displays the blossoms very effectually. But as some sort of training is needful, we do occasionally see specimens tortured into indescribable forms, and the blossoms consequently exhibited at a disadvantage. *R. speciosa major* never looks so well as when its dazzling orange red blossoms hang freely and naturally, and for this purpose it is only needful to support the plant by means of stakes, or wirework, a height of eighteen inches, and then allow the branches to fall over and produce pendulous bunches of flowers. When in bloom the temperature should be slightly reduced, and the blossoms will continue in perfection a long time.

## CLIMBING ROSES.

The rose grower must never confound together the idea of a climbing with that of a pillar rose, for the simple reason that they are very distinct in their characters, and to a great extent require different treatment. Climbing roses may be grown on pillars, and *vice versa*, but a genuine climber is not best adapted for a pillar, nor is a genuine pillar rose best adapted for a trellis or wall. But as the leading principles of their respective cultivation agree in some points, and as for decorative purposes they very closely assimilate, there would be a strict propriety in considering them together, if we could afford room to do so, especially as the treatment needed by one would serve to illustrate and explain that necessary for the other. As a rule, fast-growing roses, of pendulous and rambling habit, such as *Boursault* or *Rampante*, for instance, make the best climbers, but these generally produce inferior flowers, though when seen *en masse*, their appearance when in full bloom is delightful. But for pillars, varieties of the highest floral excellence may be chosen, such, for instance as *Jules Margottin*, or *Mdlle. Haiman*, and others, which bear inspection individually, and exhibit characters consistent with the important and conspicuous places assigned them. Bearing these differences in mind, let us consider now the uses and abuses of climbing roses.

The object first sought is to cover the wall, trellis, or arch quickly, but not with such haste as to prejudice the future well-doing of the tree. For all the better class of climbers, the first thing requisite is to prepare the soil so that when planted they will have every help to free growth. No matter what the position or the circumstances in which the roses are to be planted, the soil should be deeply stirred and liberally manured some time before planting takes place; for these roses are hungry, and if starved the shoots get hard in the bark, and are reluctant to make side-shoots; and instead of making a vigorous growth at one effort, there is a succession of spasmodic efforts at growth all through the season, especially after rain, that prevents the formation of flower-buds. But for Ayrshire roses no great preparation is necessary unless the soil happens to be a poor peat, sand, or chalk, in which case some good loam must be introduced at the stations where they are to be planted. In nearly every case of planting climbing roses, plants on their own roots are to be preferred. If not on their own roots they should be on short briar stocks. Some kinds seem to do as well worked as on their own roots, and for the first year or two grow quicker. I remember once covering a great breadth of wall with one plant of Grevillea, in three years, the plant being worked on a briar about six inches from the ground; and another plant on its own roots, in a similar position close by, had not made more than half that growth in the same period, but after the third year there was no great difference between them.

Like other roses, they may be planted at any time between November and March if they have been previously growing out of doors, and as many of them are precocious in their movements in spring, autumn planting is to be preferred. But in any case of planting out of pots, if the plants have been sheltered or grown for some time under glass, it will be best to wait till April, and then turn them out carefully, loosening the ball of earth, but not stripping their roots entirely.

It will depend entirely on the varieties planted how they are to be dealt with from the day of planting. Ayrshire and Sempervirens roses require very little pruning at any time, whether in youth or age, but Boursaults, Rosomenes, Teas, and Noisettes, require careful pruning to insure a regular distribution of the flowering wood, and prevent increase of altitude at the expense of growth

at the base. Any of these roses left to grow as they please will soon become mere bunches of leaves at the ends of long naked shoots. It is the business of the cultivator to prevent this. If the plants are strong when planted in autumn, tie them in sufficient to keep them safe against wind, and so leave them till spring. At the end of February cut them down to within two eyes of the base of each shoot, and on no account begin with more than three shoots to each rose. The object of deferring cutting down till the spring is to prevent the premature starting of the buds at the base, as if there comes a sharp frost after mild weather those buds may be killed back after having grown a few inches, which would be a misfortune. From the three shoots supposed to be cut down there will probably start eight or nine shoots. Retain five of these, and cut or nip out the remainder as soon as you can determine which push the strongest; the weakest are to be removed. Supposing you have but one main shoot to begin with, cut it down to three, four, or five eyes, and from these form the plant. Train in all shoots regularly, never let them hang about, or the growth will be checked and they will flower prematurely. When they are established they may be allowed to fall over if the position allows of negligent growth, and they will bloom the more freely for it. At the next season's pruning cut back all the shoots at least half their length, no matter what the length may be, and at the same time remove any weak, or ill-placed, or imperfectly ripened shoots, leaving a bud at the base if another shoot is wanted in the place from which a poor shoot was removed. The next season cut back to a uniform length, but not severely, all the leading shoots, and shorten in very moderately all the laterals, and thenceforward prune very little, no more in fact than is sufficient to prevent crowding at any one place or the usurpation of the principal vigour of the tree by any one leading shoot. To keep a wall or trellis well clothed, it is needful to have an eye to the strong shoots that occasionally rise from the base. It will be well to allow one of these to rise every year, train it over the shoots that are already nailed in, and at the next pruning remove one of the old main shoots by a clean cut at the base, and let the young shoot replace it.

Arches and Trellises.—If the summits and connecting chains and rods only require to be covered, plant climbing roses worked on tall stems and train their heads over, and only prune sufficient to regulate the growth. For this purpose those of the Sempervirens section are invaluable; and as they retain their leaves till spring, you have the advantage of verdure in winter with roses in summer. When in bloom they are magnificent, the clusters showing from a dozen to forty or fifty roses each. The deepest coloured rose of this section is *Princess Marie*, reddish pink, the flowers nicely cupped, and produced in large clusters. The next brightest coloured is *Brunonii*, flowers of a lively rose, a brilliant object when full out, the plant less decidedly evergreen than the rest of the family.

The purest white of the race is *Mélaine de Montjoie*, which has rich deep green, glossy foliage. Another good white is *Rampante*, a tremendous bloomer. The most fragrant is *Banksiæflora*, with straw centre, very double. But the favourite of the race is *Félicité Perpetué*, a remarkably rapid grower, with lovely foliage, and myriads of little globular creamy blossoms. There are many others, the best of which are *Spectabile*, rosy lilac, and *Myrianthes*, with beautifully formed rosy-blush flowers, most delicate and graceful in all its aspects.

Chains and low Trellises and dividing Screens.—When worked roses are planted to run over the summits of arches and temples, the low trellises and chains connecting the principal supports of the arches may be covered with Hybrid perpetual and Bourbon varieties, or with *Rosa de Rosomène*, which is very vividly coloured, and most profuse in bloom, though a poor rose when compared with any of the florists' varieties. Among the H. P. and B. sections, any of the vigorous growing kinds may be

selected, and of Teas, *Gloire de Dijon, Amabilis, Homer; Adam, Frageoletta, Compte de Paris, Devoniensis,* and *Maréchal Bugeaud.* Of Noisettes, *Jaune Desprez, Ophirie, Triomphe de la Duchere, Aimée Vibert;* and of musk roses, *Princesse de Nassau.* As the Teas and Noisettes are comparatively tender, the Hybrid perpetuals and Bourbons will be found most generally useful for this purpose, and are to be preferred on their own roots.

Banks, Trees, and Wildernesses.—In wild scenes, and where truly rustic roses are required, the Ayrshires answer admirably, being of rapid wiry growth, and requiring only to be trained—if trained—the first season, after which they will take care of themselves, and festoon dead or living trees, ruins, gateways, and other rough elevations most gracefully and profusely. To start them well give every plant a square yard of prepared soil, consisting of good loam and one third manure, or if the staple is clay, break it up and manure it without introducing loam, and if they have but a moderate share of daylight they will grow in the confusion of a glorious wilderness, and make good hold for themselves wherever they go. Ayrshire and sempervirens roses furnish precisely the kind of materials needed for the banks of wilderness walks and for open spots in woodlands, and to clothe mounds and knolls where mere weeds would be obnoxious, and choicer plants out of place. Let the ground be well dug over and manured, and then plant the varieties in masses of a dozen of one kind together, the plants five feet apart every way, and after that an occasional dressing of manure on the surface is all they require. Even that is unnecessary on good clay or loamy soils. Mr. Rivers tells how sixteen years ago he covered a steep bank of hard white clay next the high road at Sawbridgeworth with "Ayrshire and other climbing roses; holes were made in the hard soil with a pick two feet over and two feet deep; some manure mixed with the clay, after it had lain exposed to frost to mellow it, and climbing roses planted. This bank is, when the roses are in bloom, a mass of beauty. I have never seen anything in climbing roses to equal it." ("Rose Amateur's Guide.") The cruel winter of 1860 killed all those roses to the ground, and the bank had to be planted with shrubs. But in the summer of 1863, when I walked over that same bank with Mr. Rivers, the roses were breaking through the turf in all directions, forming distinct patches of crimson and orange foliage, and now they promise to recover the splendour they possessed in bygone years, and, like the leather bottle, which "may fall, but cannot be broken," so these may show that they have such a vigour of life underground that though frost may destroy all it can reach, it is powerless to kill them outright. There are not many varieties of Ayrshire roses. The best for general purposes is *Queen of the Belgians,* flowers pure white, double, plentifully produced. *Ayrshire Queen* is the only dark one of this race, the colour purplish crimson, the habit less vigorous than the rest in this selection, yet it is not wanting in vigour. *Ruga* is a splendid rose, the flower large and double, and a delicate pale flesh colour. *Dundee Rambler* is the most vigorous grower of all, an almost double white, blooming in clusters, and superb in its way when in full bloom, a splendid rose for a ruin or dead tree. *Splendens* is white, edged with red, and only semi-double, and is desirable only where many varieties are required.

Wall Roses.—All the foregoing may be turned to good account on walls, but as walls are good positions, they should be appropriated to the best roses that can be had for them. I shall never forget visiting my excellent friend, J. Brickwell, Esq., of Tottenham, who had the most perfect *bijou* of a rose garden I have ever seen, and seeing a great breadth of wall on one side of the dwelling house, which is fitted from the eaves to the ground line with a wooden trellis, completely covered with *Jaunâtre* and Wistaria sinensis freely intermixed, and one mass of bloom throughout; such a curious blending of fawn colour and bluish purple as one can only expect to

see once in a lifetime! But I thought of this because I was about to remark how much better it is to have a wall fitted with a trellis to which the gardener will *tie* the roses instead of having to *nail* them, but instead of wood let it be stout galvanized wire run through eyelet hole nails. This plan preserves the wall, and is better for the roses than the nails and shreds. The most splendid and certain of all wall roses are the Boursaults. They grow fast, are thoroughly hardy, bloom in immense clusters, and are truly gorgeous in the display they make, but they don't last long. To grow Boursaults well, cut them down close at the first start, and after that merely shorten the seasonal growth, and thin out the weak spray and any soft or misplaced shoots, and they will never fail to be beautiful in their seasons. The Boursaults require a good soil, but the aspect is comparatively of little consequence. The best of these is *Gracilis*, which is a rapid grower and of pendulous habit, with handsome foliage. The flowers are of an intensely brilliant rose colour. *Inermis*, bright red, is a lively rose and of most luxuriant habit. *Amadis*, with purplish crimson flowers, is a favourite about London. At Sydenham it appears to come by spontaneous generation like an efflorescence of the brick walls. It is a truly deserving rose, and superb on a pillar.

In the multiflora section we have the finest wall rose known, but which unfortunately is only fit for a south wall in the south of England, being unfortunately very tender. This is *Laure Davoust*, a rose which claims admiration for its lovely foliage and large flowers, produced in immense clusters, the colour a curious mixture of lilac and blush. *Russelliana*, rosy lilac, is a trifle more hardy, but needs a south or west wall. *Grevillia*, or the *seven sisters* rose, is the best known of this class, and a superb rose it is, growing with marvellous rapidity, and if capable of enduring the climate, presenting a magnificent spectacle when in bloom, the flowers being in great clusters, and exhibiting various shades of rose and purple and deep crimson. I had a magnificent specimen of this rose worked on a briar stock on the front of my house at Stoke Newington, which the winter of 1860 destroyed completely. It is a troublesome rose to keep or grow, owing chiefly to its habit of beginning to push very early in the season, and its utter unfitness to endure those sharp frosts which invariably occur in this country just at the season when "hawthorn buds appear."

Banksian roses are of the same delicate constitution as the multifloras, but where they can be grown they are exquisitely beautiful. Travellers by the South Eastern Railway may in the season have a feast of these lovely roses by keeping a look out after passing Croydon, as at several of the stations, Carshalton especially, the walls are covered with them, and they grow most luxuriantly, and flower in dense sheets of white and yellow uniformly from head to foot. Banksian roses require a rich dry soil, a warm exposure, safe shelter from east winds, as they bloom in May when the weather is frequently as cold as in January; and in pruning any long rods may be cut away, but the small side-shoots must be left their full length or there will be no bloom. If they produce gross shoots late in the season, cut them clean away in September unless any are wanted to fill up gaps, in which case tie the shoot down to as nearly a horizontal line as possible. This will check the growth, and tend to its more perfect ripening. The next spring it can be trained into the place where required. The best of this series is undoubtedly *Jaune Perin*, with yellow flowers of good size, that is for a Banksian; and *Fortuniana*, with double snow white flowers, also larger than the ordinary type of a Banksian. But the old white and less old yellow Banksian are beautiful in their way, and where Banksian roses can be grown without risk, these should certainly have a place.

Lastly, there are some useful hybrid climbing roses partaking more or less of the characters of the preceding sections, which merit the attention of those who have occasion to use

climbers in plenty. *Laure Davoust*, classed above as a multiflora, is in reality a hybrid, though showing a predominance of the multiflora character. *Menoux* is a very showy crimson rose, which makes a fine covering for an arch or portico. *Madame d'Arblay*, pure white, flowering in immense clusters, is invaluable for its beauty and rapid growth. It is almost a sempervirens. *Wood's Garland*, lilac and blush, sometimes opening white and changing to pink, is a free growing climber, producing fragrant flowers in large clusters, and in habit closely related to the sempervirens. Prairie roses are of no use at all. The *Queen of the Prairies* will succeed in a few chosen spots, and is worth growing, though of very poor quality; but as it cannot be recommended for general use, and is quite unfit for the ordinary wear and tear to which roses must submit in this country, we can afford to dismiss it with the rest of its race, as unworthy of further notice.

## REMINISCENCES OF AN OLD FERN-GROWER.

When the blinds are drawn, the lamp lit, and the fire burning bonnily, what so pleasant, on one of these long winter nights, as to turn back a few of the pages of one's life, and recall some of the incidents of years which have long since passed away. I am afraid I often indulge in these reminiscences, and get so absorbed by my own thoughts that the fire might die out upon the hearth, the lamp go untrimmed, and the clock point to hours when one ought to be quietly stowed away in bed, were it not for a loving voice which calls one back to the realities of the present. I was last evening thinking over the progress which has been made since I was a boy in fern-growing, and as, perchance, some of those wandering thoughts which came into my head might have a trifle of interest for others, I will jot down a few of them.

Let me see—what was it that set me a-thinking? Oh, I recollect now, I had been carelessly turning over the pages of an old copy of Loudon's "Hortus Britannicus," when my eye happened to fall upon the name of the last new fern I had added to my collection—the little North American Xiphopteris serrulata. Curiosity led me to look down the list a little more closely. The book was published in 1830, and I found that about 370 ferns were enumerated as being then in cultivation. Doubtless they had been all introduced alive, and had for a time been grown, but how many of them had been lost before the revived taste for these plants had arisen? I should think we might safely aver that half of them had been allowed to perish, and have needed to be again imported. Some of the names included in that list are those of the rarest ferns we have at the present day. How many specimens are there in the country, except that splendid one at Kew, of that noble Pteris (or as we should call it now-a-days, Litobrochia) podophylla? Gymnogramma trifoliata, that distinct, tall growing, Epilobium-like, West Indian fern which we recollect being introduced as a great novelty from Jamaica about five or six years ago, is down in the list. And so is Dicksonia arborescens, a rare tree-fern from St. Helena, which few collections can boast of even now. Five species of Gleichenia are mentioned as having been introduced between 1822-4; they may be found in most good gardens now, but ten or twelve years ago I would have walked twenty miles to have seen one. There are some plants down in that list which it would be pleasant to find once more generally grown; there are, perhaps, in the whole family no two genera of greater interest than Lindsæa and Schizæa, there are five or six species of each of these men-

tioned. A few beautiful Lindsæas were shown in London last year, and among the greatest rarities at a few of the leading gardens a species or two of Schizæa may be found. It is with ferns as with flowering plants, our fathers, thirty years ago, grew many beautiful plants which we could not obtain in any nursery now, though we gave our ears for them. There was an outcry some fifteen or sixteen years ago about "selections *versus* collections," and though no reasonable man can say there was no need for it, yet it indirectly did a vast amount of harm, for many plants which, if properly cultivated, would be perfect gems, were thrown away among those which were more truly denominated weeds. Cromwell's army did a good deal of good, gained for us advantages we should perhaps never have otherwise enjoyed, but that army did its work very roughly, and gave us reason to regret much that can never be undone, and destroyed much that cannot be replaced. Thus was it with that revolutionary edict which went forth anent selections and collections. Weeding out our houses gave room for the better cultivation of the plants which were left, and so did good; but among the rejected plants were many which our nurserymen have found it worth their while to send collectors into far away corners of the earth to obtain, and which we now gladly buy again at high prices, and many of the younger ones among us look upon as "new and rare plants."

But what have I been talking about? I fear I must have fallen asleep, and been dreaming. To return from this digression, let us have another look at Loudon. How many varieties of the British ferns does he enumerate. Of Athyrium filix-fœmina, none; of Lastrea filix-mas. none; of Scolopendrium, four! Ah, now-a-days collections have got a little the best of selections in this point at least, and I for one am not a little glad of it. And yet our collections are, after all, to a certain extent, selections; for only the most distinct and well-marked kinds are grown. Here upon the table is the list of varieties of hardy ferns grown by the well-known Mr. Sim, of Foot's Cray; but I am not going to dip into it, for probably you know as well as I do how numerous and how distinct those varieties are. If you do not know, you have a great treat in store, and I envy you the pleasure with which you will run down to Foot's Cray the next time you have a few hours to spare.

It is not only among British ferns that we have gone ahead of late years; it is the same in every division of the family. Have you any idea how largely the living stems of tree-ferns are now imported? It is no exaggeration to say that one ship will sometimes bring hundreds of them, all packed among shavings or straw, in roughly made cases, more like crates than boxes. The fact is, if the boxes be too well made, the stems are likely to be killed by being kept air-tight, while passing through the tropics; therein lies their greatest danger. But what becomes of them all? Go where we will we only see two or three tree-ferns even in the best of gardens. Well, there are many things quite as mysterious. A few years ago I went into one of the largest nurseries in the kingdom, and saw I don't know how many thousands of Araucaria imbricata, enough to have supplied all Europe I should have fancied. I went again eighteen months afterwards, and every one of them had been sold. The men were getting a number of sacks out of a couple of waggons in the yard; I asked what the sacks contained. "Oh, they are only part of a lot of Araucaria seed we have just imported," was the proprietor's answer. What had become of all those trees puzzled me then, and does still; though I have been puzzled in a similar way many times.

But I have wandered away among conifers instead of talking of ferns. Suppose we try once more to return to the subject. Mine is a fearfully vagrant pen. There is one peculiarly beautiful group of ferns in which we have most decidedly eclipsed our forefathers—I mean the filmy ferns, the Trichomanes and Hymenophyl-

lums. These were more difficult things to manage ten or twelve years ago than perhaps any other plants that could be mentioned. They baffled us at first as much as the orchids did our fathers. But the difficulty has been overcome, and they are now no more trouble, if, indeed, they are so much, as some of the gold and silver ferns (Gymnogramma). Delicate and fragile, with their semi-transparent fronds, they look like tufts of the most beautiful sea-weeds, plucked from the decorations of a mermaid's ocean-home. More progress has within the last few years been made in introducing new species belonging to these two genera than among any other group of ferns. Messrs. Backhouse and Son, of York, have paid special attention to the cultivation of the filmy ferns, and have been rewarded with the success they deserved.

Simultaneously with the love of ferns grew up also a taste for other plants remarkable for the beauty of their foliage. This taste led to the collecting of Caladiums, Marantas, and all other plants possessed of large and showy leaves, and the more highly they were coloured, the more richly striped, or blotched with crimson, scarlet, or pure white, the more valuable they were. And very splendid a collection of them looked interspersed with the lively green, delicately cut fronds of the ferns. But no one ever dreamed that the two qualities would some day be found combined in the same plant, and that plant a fern. But, as you have often been told, there are more things in heaven and earth than are dreamed of in our philosophy, and so there was a great surprise in store for us. It is six years ago now since the first variegated fern — Pteris argyræa — was sent out by Mr. J. Veitch. It took the gardening world by storm, we were all mad until we had got it. There's an old adage which tells us, "That it never rains but it pours;" and it was proved true in this case.

We should all have thought that a variegated fern was an impossible sight—a thing we never should or could see. But we had no sooner added this one to our collections, and began to watch the creamy striped fronds uncurl themselves, wishing it may be that they would not grow so high, but that they would spread themselves so that they could be better seen, when the rumour passed round among us that two more variegated ferns were introduced. M. Linden had obtained the lovely Pteris tricolor from the East Indies, and a perfect gem it proved. A young plant of this grown in strong heat, with two or three half-developed fronds, is as beautiful a thing as one could wish to look upon. The other one, which was named Pteris cretica albo-lineata, was imported from the botanic garden at Java to that of Kew, at about the same time. This is decidedly the most useful, if not the most beautiful plant of the three. It does better in a greenhouse than in a stove, in fact it is nearly hardy. If I only grew half-a-dozen ferns this would be one of them. It had a very narrow escape after its long voyage, for when the vessel reached the docks in the Thames, the men in landing the case in which it and other valuable plants had been sent, managed to let it drop overboard. The glass roof was smashed, and half the plants washed out, but the sailors happened to pick up this one and some few others, and with a handful or two of mud threw them back into the case. There were only two little bits of fronds upon the best plant, and they were broken and injured; but it was tended by loving hands, and before a twelvemonth had passed away there were thousands of seedlings ready to be distributed to those who had anything new or good to give in exchange. The first plant came as I said from Java; but since that time Japan has, to a certain extent, been thrown open to our countrymen, and we find that this plant is quite common and a great favourite there.

It is a strange thing that the taste for variegated plants now become popular here, has been all the fashion in Japan for ages past. They have in their gardens as many variegated plants as we have with all the

advantages of our extended commerce. But it is time I laid down the pen, or I shall be rushing off into another digression about Japanese horticulture, or something else quite as irrevalent.

## THE IVY.

(An Abridgment of a Paper read before the *Central Society of Horticulture.*)

BY SHIRLEY HIBBERD, ESQ., F.R.H.S.

(*Continued from page* 10.)

Tree Ivies.—There are several varieties of ivy that show little or no disposition to climb, but, instead, form compact bushy masses. It will be observed, that whatever names these varieties bear, and to whatever types they may be related, they have these invariable characteristics: that the growth is forked, twiggy, and tends to form close, symmetrical rounded heads; that the leaves are either wholly entire or very slightly lobed; and that there is a disposition to the formation of flowers and fruits abundantly. In the tree ivies we have, in fact, the fruiting form only of the parent types; and it is a very simple matter for the cultivator to convert a climbing ivy into a tree ivy by first causing it to fruit by the discontinuance of vertical support, and then removing some of the fruitful branches, and either grafting them or causing them to form roots of their own. I know of no evergreen shrub that can surpass in beauty a well-grown flowering tree ivy; and as they are thoroughly hardy, they may be made available for winter decoration, and for many purposes for which at present more expensive subjects are required. The quickest way to get up fine specimens is to graft in March shoots cut from flowering wood of the kind to be propagated on strongly-rooted stocks of Irish ivy. The stocks should be struck for the purpose the previous April or May, and be kept in pots, so that when the grafts are put on they may be housed and kept shaded, to encourage a quick union. But flowering wood will readily strike, if the cuttings are made early in the season. Take off at the end of June a number of shoots on which the leaves are without lobes, prepare them in the usual way to form cuttings four to six inches long, and pot them singly in 54 or 60-sized pots; place them in a pit for about eight days, and keep them shaded and sprinkled occasionally; then put them on a gentle bottom-heat, until the pots are full of roots; shift to 48 or 32-size, using a fourth part rotten dung in the compost; place them on a bed of fermenting dung out of doors, and there let them remain till the end of September, when they must be removed to a pit or other place of shelter sufficient just to protect them from severe frost. In March these will be in fine condition for grafting, and will require no further potting for another year. But as flowering wood strikes as easily as any other part, real flowering tree ivies, producing none but ovate leaves, may be obtained on their own roots without difficulty.

Umbrellas.—These are easily formed, and the Irish and Algerian are admirably adapted for the purpose, as are also some of the small-leaved kinds, which form long-drooping sprays such as Helix poetica, palmata, Taurica, Pennsylvanica, Himalaica, crenata, and digitata. Pot young plants liberally, and set them growing; train out on wire, and the outline is covered, pinch in all the side-shoots so as to form the head into a dense mass of verdure. Do not entirely remove the side-shoots from the stem until a good head has been obtained, as they help to swell the stem, but keep them pinched back, and when they may be dispensed with

remove a few at a time, commencing at the bottom. These are useful at *fetes*, and to decorate halls and entrances, and should be grown of a suitable height and size of head to allow a couple to sit under the head for conversation; they are, in fact, a sort of lovers' retreats, and will not only contribute to the beauty of the scene on the occasion of a festive assembly, but often give occasion for sallies of wit and exchanges of playful badinage.

Pyramids.—The easiest of all the forms in which to train potted ivies is that of the pyramid. Train the young plants upright and orderly two seasons, then shift them into 8 or 10-inch pots, using a firm loamy soil, and a liberal proportion of manure in the case of the green-leaved kinds. Insert a few straight stakes, three or four feet long, and to these train the leaders upright, and take the side-shoots round and round, which will both aid in furnishing the stakes, and at the same time check their growth. In the autumn when they have done growing draw the stakes together at the summit and tie them firm. Those who visit Mr. Salter's nursery at this time of year may see beside his residence a long row of potted pyramid ivies standing next a white wall, where they look remarkably fresh and cheerful. These are all in 8-inch pots, and have not had a shift for five or six years past. During the summer they are plunged out, and kept from being damaged by storms by means of a few rough stakes, and in winter they keep guard like so many volunteer riflemen beside the abode of one who has earned a title to dwell in peace and safety. Pyramid ivies would give a better tone to many of our town and suburban gardens than they have at present, because of their genuine promenade character when well grown and grouped with other equally hardy evergreen shrubs, such as variegated hollies and potted conifers.

Bushes.—Ivies trained out in the form of round bushes make excellent window screens, and require almost no care at all, and they are admirably adapted for the decoration of town windows, because not requiring to be often repotted. In fact, when once large enough to occupy 8-inch pots, they never need be shifted again, a little refreshment annually by top-dressing being quite sufficient for them.

Variegated Ivies.—If these are kept much shaded, and grown in a highly manured soil, they lose their beauty, and throw out green shoots. To keep them true, and bring out the true colours of the variegation, the soil should be comparatively poor, well-drained, and the plants must be fully exposed to the sunshine. If it is desired to cause quick growth in any variegated ivies, to form handsome pot specimens, a sixth part of decayed manure may be used in the compost, with tough turfy loam and peat. Sound yellow loam full of fibre is the most nourishing soil that can be used with perfect safety in the growth of variegated plants, and should always be the principal staple in the culture of variegated ivies.

Propagating.—By the time that ivy berries are quite ripe, the spring will be sufficiently advanced to allow of the seeds being sown without any need of storing them previously. Rub out the seeds, and sow thick in beds of sandy loam. Keep the ground clear of weeds, and as soon as the seedlings show their characters remove any of distinct habit, and either plant them out where they will have attention or pot them. Those that remain will require to be planted out in nursery rows after they have made one year's growth in the seed-bed. Among the plants selected for special attention, some will prove to be district varieties, the true characters of which will not be fully determinable till they are quite three years old. Variegated ivies are seldom obtained from the seed-bed; they are usually sports produced on old specimens of wall ivies. Chalk and lime are favourable to the production of variegated sports. There are many variegated forms that have never been named or propagated. We may often see on ruins and old bridges broad sheets of variegated ivy, the result of

a sportive growth become permanent. These may always be propagated by removing some of the young growth in May or June, selecting those which have some proportion of green in the leaves, and placing the cuttings under bell glasses in any sandy or peaty soil. Many beautiful varieties might be added to our collections, if local sports were secured and distributed, which now exists only in single specimens, and many of those we possess might be improved by watching for peculiar growths, and rendering these permanent by propagation. The most remarkable specimen I ever had was a fine plant of *H. helix arborea variegata* I planted out on a mound in a mixture of poor peat and broken chalk. It formed a fine round head, and every year produced shoots more and more white, until at last there was scarcely any green tint perceptible in any part of the plant. I tried to root these white shoots—who has not tried the same thing with variegated plants?—and of course without success; they would not root either as cuttings or layers, and, at last, the plant becoming completely etiolated, perished in the severe winter of 1860, and so I lost the most remarkable of all the fancy ivies I ever possessed.

There is another method of causing cuttings of ivy to root quickly; it is founded upon the peculiar habit of the plant in attaching itself to rough surfaces, such as walls, the bark of trees, etc. If the growth of a new shoot be observed in spring, it will be seen that on the side next the wall it throws out a number of small, fleshy, tender claws. These are in every respect identical with roots, and only fail to become roots through lack of moisture in the substance to which they are first applied. Take off a young shoot when about four inches long, remove one or two of the lowest leaves, and plant it so that the delicate white rootlets at the base are uninjured, and it will scarcely receive a check, for those rootlets will push into the soil and form a plant at once without the otherwise needful preliminary of forming a callus. This is a quick method of propagating ivy, but it must be done in April and May, and the shoots must be taken from a wall or other place to which ivy is attached.

Lastly, we may always resort to the very simple, speedy, and certain method of *layering*. To accomplish this with extra speed, peg out the shoots on a bed of cocoa-nut dust. The free-growing kinds will throw out roots abundantly whenever they touch a damp surface; so there is really no limit to the possibilities of increase by this method; and even such delicate kinds as *H. helix marginata Cullisii*, and others that are usually grafted, may be layered on cocoa-nut waste or sandy peat with the greatest certainty.

## THE GARDEN GUIDE FOR FEBRUARY.

Kitchen Garden.—Crops to be cleared off as fast as possible, and the plots ridged up to be well aired before being appropriated to summer crops. Breadths of cabbage, kail, etc., may be taken up and planted close in out-of-the-way places where they will sprout as freely as if not lifted. Sow main crops of peas and beans, earth up any that are not out of the ground, and if any fear of vermin sprinkle with wood ashes. Messrs. Hooper, of Covent Garden, are offering wire protectors to cover drills of peas to protect them from the birds. We believe the common slug has more to answer for as to the destruction of early rows of peas than any other depredator. Sow a little of every kind of kitchen crop, and a few main sowings of beans and peas. Early crops of radishes and lettuces may be got on slopes, with the help of a few reed or straw hurdles, to give shelter from east winds. Put out a good breadth of young lettuce on a gentle hotbed for planting out a few weeks hence. Whatever arrears of winter work remain must now be cleared up, or the consequences will be serious. Finish all pruning, nailing, forking of borders, and planting of trees and bushes. Make a thorough clearance of the vegetable quarters.

*Cauliflowers* to be potted in pairs into

48-pots as soon as large enough to handle; use a mixture of half leaf-mould and half old dung in a state of powder. Make the ground ready at once on which the first lot are to be planted out.

*Cucumbers* for ridge culture to be sown now, or within a week or so. Sow also for frame culture to succeed plants now bearing. We prefer sowing in 60-pots, two seeds in a pot, the strongest plant in each to be kept, and the roots never to be damaged by shifting, so as to have them strong and short for turning out.

*Potatoes.*—The earliest sorts may now be planted out in small breadths. If the sets are not sprouted place them in full daylight, and wait till they have made stout purple shoots half an inch long; then plant them without breaking the sprouts. Main crops may be planted towards the end of the month, but the operation must depend very much on the weather. Better delay a week or a month than plant while the ground is wet. Put all seed potatoes in full daylight in shallow baskets, in thin layers on dry hay or straw. By keeping the shoots short and plump there is less likelihood of disease, and the vigour of the sets is not impaired.

*Rhubarb* in open quarters to be heavily covered with half-rotten dung. The last lot may be put in for forcing now.

Fruit Garden.—Refer back to the directions given last month; complete all pruning, nailing, and cleaning as soon as possible, and lightly fork over fruit borders, and avoid cropping them as much as possible.

Flower Garden.—*Tender Annuals*, as Portulaccas, Thunbergias, Schizanthus, Phlox Drummondi, Cockscomb, and the lovely Celosia aurea, to be sown the first or second week.

*Roses* may be planted now to advantage, and plantations that need trenching and manuring may be lifted for the purpose. We are advocates for lifting roses annually, and ours are now undergoing the process. Put stakes to all newly-planted standards, as, if they rock about in the wind, they may suffer so much injury by straining of the roots as to die in the course of the spring. Be in no haste to prune roses yet; a few for early bloom may be cut back, but the general stock should remain unpruned a few weeks. Bushes from which flowers are to be cut for show should be planted in a firm loam, well manured with turf and half-rotten dung. Dwarf-growing varieties, which are useful for the front lines of roseries, require an admixture of sand and leaf-mould, or peat, to lighten the soil and promote the formation of an abundance of fibres.

*Annuals* for specimen and bedding out to be sown now, include Balsams, Cockscombs, Globe amaranths, Portulaccas, Schizanthuses, Phloxes (don't forget Phlox Drummondi Radowitz), Brachycomas, Stocks, Tropæolums, Cobœas, Lophospermums, and Acroclinium. It is too early yet for Asters. First-class annuals should be grown with care, the plants be pricked out early and stopped; if they once get drawn they never bloom satisfactorily or show their full capabilities. Any that are wanted in large quantities had best, to make sure, be sown in pans also, and placed in a pit.

*Auriculas.*—Sow seed of the show varieties and a small pinch of Alpines, which, though of no great value, are sure to prove useful. Sow on nice friable soil, already well moistened, and lay squares of glass over the pans so that no more watering will be necessary till the plants are up. If in heat, it should be very gentle, though a cold frame is sufficient.

*Ranunculuses and Anemones* to be planted in beds of sound loam, well drained and well manured. Place the roots' claws downwards two inches deep. The safest method is to open trenches, which are to be sprinkled with coarse sand, on which the tubers are to be placed, and then covered with the soil that was taken out.

*Stocks.*—If any delay has occurred in securing stocks for working get them in at once. Briars for standard roses, Manettis for dwarfs, quinces for pears, etc., etc. Pot a lot of briar suckers for budding with choice roses for greenhouse culture, and pot also a few young privets, with one clean stem each to work Oleas on.

Conservatory.—*Climbers* require attention now to remove dead wood, rub away any pushing buds that are badly placed, and to train in young shoots where desirable. Most of our conservatory climbers require a liberal heat now to start them into growth, with a free use of the syringe to keep down red spider.

Orchid House.—*Orchids* will in many cases require to be repotted, and after which they must have the warmest end of the house. Those that do not need a shift should have a little of the old surface material removed, and its place supplied with fresh; at the same time make fastenings safe, and repair blocks and baskets.

Greenhouse.—*Orange Trees* should be well cleaned now to remove scale, and the tubs and pots have a fresh surfacing of rich soil or old dung. When starting

plants of this kind keep up a moderately moist atmosphere.

*Azaleas and Camellias* to be kept going for succession. Take care they have enough water while forcing; as the blooms open use the syringe less, and remove them to a cooler atmosphere to prolong the bloom.

*Fuchsias* for beds may be propagated to any extent from a few old plants, and a very moderate temperature will set them growing for the purpose. Take off the young shoots when about three inches long, with a heel to each.

*Specimen Plants* will mostly want pruning, repotting, cleaning, etc., previously to being started into growth. It would be well to look over the stock of such things at once, that valuable time may not be lost.

*Bedding Plants.*—Arrange the propagation of these according to their habits. Those that require to make a free growth before they bloom to be got on first; and those that come into bloom quickly may be deferred. Petunias, heliotropes, geraniums, ageratums, nierembergias, lobelias, cupheas, and lantanas to be cut from as soon as the old plants furnish shoots for the purpose. There need be no haste about verbenas, dahlias, mimulus, perilla, œnotheras, salvias, and tropæolums; they will make as good plants from cuttings a month hence. Be sure that the old plants are in vigorous growth before beginning to cut at them.

*Begonias* should now be repotted, and have large shifts when required afterwards.

*Gloxinias* started now will make rapid growth, especially if we are favoured with a continuance of this bright weather. In planting these use the compost in a moderately damp state, and give no water until the bulbs begin to grow; after which supply it with caution, until the plants have a pretty good show of leaves.

*Propagation* of climbers and tender annuals should now be going on in earnest, and there must be no more delay in propagating bedders, if a good early bloom is wanted. Tropæolum elegans and Triomphe de Hyris may be delayed to the end of March, as they bloom the better, and make less growth, if propagated late; but geraniums, fuchsias, petunias, and verbenas, should be cut from as fast as they furnish shoots.

*New Holland Plants and Heaths* demand a great deal of attention now to bring leggy specimens into shape, encourage the growth of those going out of bloom, and protect from cold draughts and undue moisture those coming into bloom. Continue to shift such as require it, and any that are looking out of health, turn out of their pots, to see if the drainage is right, and the stuff sweet and porous. The powdery peat in which these plants are generally grown at nurseries, is best got rid of as much as possible from the roots, taking care not to damage the delicate fibres, and in repotting, use plenty of fibry turf and peat, rough lumps, sifting out the fine dust if needful, which will be useful in propagating to pot young stuff in from the cutting pans.

Vinery.—*Vines* to be thinned as soon as the berries are of sufficient size. Tie in the young shoots and remove laterals early, so as to accomplish the pruning as much as possible with the finger and thumb. Be particular to lower the temperature at night. Very many of the failures in grape growing arise through too high a night temperature. Those swelling fruit will require plenty of moisture. The cause of cracking is, in the majority of cases, insufficient drink; and shanking arises through sour borders, where the drainage is imperfect.

Orchard House.—*Peaches* and other orchard house trees will set their fruit more freely if there is a good breeze through the house every day; the atmosphere at the same time to be kept as dry as possible. Peaches to be thinned and disbudded judiciously; do not remove all the superfluous fruit and shoots at once. Trees that have set their fruit to have liberal syringes with soft water of the temperature of the house. Figs setting fruit to be kept in a rather dry air, but with sufficient moisture at the root.

Forcing.—*Strawberries* in the forcing pit to have plenty of air, plenty of light, and plenty of water. Tepid manure water will assist in augmenting the size of the berries, but there must be plenty of light and air to insure flavour and colour.

*Asparagus.*—The beds should be lined, if the heat is declining; the heat ought to be near 60° to insure a quick growth of eatable shoots. Ground for new beds should be got ready at once, and tolerably manured.

*Pines* may have an increase of bottom-heat, with liberal supplies of water, and occasional syringing over-head. Put suckers in a tan bed, or a sweet and active dung bed, to insure a plentiful growth of roots.

*Cucumbers* recently turned out may be suffering from excess of heat; in which case draw some soil away from the bottom of the hillocks. Make sure of a few reserve plants.

*Vines* may be propagated now from eyes in a dung frame, where the bottom heat is steady at 75°. Vines in free growth to have plenty of syringing, except while in flower. A general rise in temperature may now be allowed.

*Celery* large enough to be pricked out, to be removed forthwith to a sweet hotbed. Sow again for the main crop. There are no sorts to beat Cole's white and Manchester red.

Stove.—The temperature may be increased now with advantage. Achimenes are pushing briskly; these and gloxinias to be potted to succeed the first batch. Soil equal parts turfy loam and fibrous peat, with sufficient sand to render the mass porous. These require full light while growing, though their flowers must be shaded. The whole of the plants will need a general revision at this time of year; those that have been blooming all winter require to be cut back, and encouraged to break, then to be shifted to larger pots, if needful, or have top dressings; where very large specimens are objectionable, the plants may be kept in bounds by the knife; and to obviate the use of larger pots, turn them out, remove some of the soil from the outside of the balls, and repot them with fresh compost in the same pots. Justicias are now going out of bloom, and may be propagated to any extent, to make fine specimens for next season. Poinsettia pulcherrima and Euphorbia jacquiniæflora and splendens should be grown in quantity, as they are invaluable for conservatory and drawing-room.

Greenhouse plants in flower.—*Acacia grandis, floribunda, holosericea.*—The soil should be sandy loam and peat, in a rough state, with lumps of turf and small nodules of charcoal. They occasion no trouble, and will endure some amount of ill-treatment without harm. Their foliage is so beautiful, that they are worth growing well, irrespective of their lively yellow flowers. They are best propagated from seed in a hot-bed in March, the seeds to be soaked a few hours before sowing it.

*Azalea obtusa, triumphans, Perryana, amœna, lateritia, tricolor, auruntiaca, Fortuni, squamata.*—Any it may be desired to propagate should be layered as they go out of bloom. The layers will require to be twisted and covered with moss, into which the first roots will run, and allow of the removal of the layers earlier than by any other mode.

*Brachysema lanceolatum.*—A beautiful Fabaceous greenhouse evergreen climber from Swan River. Flowers scarlet, abundantly produced. Soil peat and loam, winter temperature 50° to 60°, summer temperature 55° to 65°, easily propagated from half-ripe shoots in sand.

*Cytisus filipes.*—This pretty white-flowered broom is a charming plant for forcing, but it will bloom at this season in an intermediate house, and would be in no way improved by stove treatment. All the Cytisus are useful plants, and some of the hardy kinds of moderate growth are well worth potting, to decorate the conservatory. The best of the greenhouse kinds are elegans, yellow; filipes, white; laniger, yellow; rigidus, yellow; nubigenus, yellow; and proliferous, yellow. Though not particular as to soil, potted plants should have a light mixture of turfy loam with a little peat.

*Dielytra spectabilis* is one of the easiest plants to grow, and one of the most beautiful to group with other spring flowers, and with foliage plants and hyacinths in the conservatory. We usually see it drawn and weak through insufficient light and air, for like many other subjects that bear ill-treatment patiently, it is thrust into the dark or subjected to excessive heat, and otherwise most unjustly dealt with. It is much better as a pot plant for the greenhouse than for the borders, for except in warm sheltered gardens, the spring frosts do it much damage when coming into bloom. The best way to deal with it is to pot the roots in loam, leaf, and old dung, equal parts, as soon as the stems die down in autumn, place the pots in a pit and keep them only moderately moist. In November begin to force gently, and continue to introduce a few to the end of January. In May harden them off and turn them out into a rich border, and take up again when the foliage is withering.

*Ericas.*—The early blooming kinds are invaluable. The hardy heaths, such as Erica herbacea, should be grown in plenty wherever peat-beds form a feature in the garden.

*Pimelia decussata.*—These favourites of the greenhouse are natives of New Holland, and require the treatment usually given to New Holland plants. The soil should be sandy fibrous peat and fibrous loam, with a plentiful admixture of nodules of charcoal, and good drainage. P. decussata is entered in our list simply because we have happened to have it in bloom on the 23rd of February, in a warm greenhouse. But spectabilis and Hendersonii are much better. Pimelias are of very little use in small collections, as their colours are neither rich nor striking. To

make the best of them, young plants should be frequently stopped to make them bushy.

Correa cardinalis, Brachysema longifolia, acuminata, hybridum, undulatum, Epacris impressa, Erica blanda, vernalis, rubrocalix, and triumphans, all in bloom now.

## NOTICES OF BOOKS.

*The Story of a Bee and her Friends, told by Herself.* Wertheim, Macintosh, and Hnnt.—This is one of the best examples of natural history books for the young, the invention peculiar to the style of an autobiography having been indulged only so far as was needful to give the requisite personality to the subject without in the slightest interfering with the accuracy of the real history which the book conveys. The plates are admirably done, and the book is as pretty as it is good, and ought to be in the hands of all good boys and girls everywhere.

*Olney and the Lacemakers.* William Macintosh. — In this prettily illustrated volume the author gives an account of a visit to Olney, and the meditations which accompanied an exploration of the residences of Cowper, Newton, and others of the great Olney worthies. This part of the book is of that pleasant gossipy character which we look for in all accounts of pilgrimages to English shrines. But there is a painful history inwoven with it, for at Olney are to be found the producers of the so-called "Maltese lace," and there many of the social horrors common to London slopwork, and ill-paid needlewomen are repeated, varied only by the local colouring and the limitations consequent on the seclusion of Olney from the bustle and excitement of what is elsewhere called life. This short story of the lacemakers is deeply touching, and its recital in this attractive volume will, we have no doubt, accomplish some real good. If the public should demand a second edition—of which we have no doubt at all—we advise the author to cut out all the bits of stale biography, and in their place transcribe a few more passages from her note-book of things actually seen and heard at Olney.

*The Flora of Surrey.* By J. H. Brewer. Van Voorst.—*The Flora of the West Riding.* By L. C. Miall and Dr. B. Carrington. Pamplin.—*Flora of Marlborough, with Notices of the Birds, etc.* By T. A. Preston. Van Voorst.—These three Floras can only be announced here in order to inform our botanical readers of their existence. "The Flora of Surrey" is a very important work, and will be found immensely valuable and interesting to all London botanists. Mr. Miall's work on the West Riding is a masterly production. Mr. Preston's work is too restricted in its range, but it is at least a faithful guide to a spot possessing rare attractions for the naturalist.

*A Familiar Epistle to Robert J. Walker.* Saunders, Otley, and Co.—There is much in this book to interest all who are watchful of the changing aspects of American politics, and the book may probably have some influence on the tactics of parties both north and south. But if any one should expect to find in it a witty criticism on American affairs he will be mistaken; though there is a pretence to both wit and humour, there is not one grain of either.

*The Desk-Book of English Synonyms.* By John Sherer. Groombridge and Sons.—This is a work of high merit, and one of its greatest recommendations is that in a very small compass is comprised a very complete view of the whole subject. The classification and analysis of synonyms are tasks to which Mr. Sherer has applied himself with a reasonable enthusiasm, and the result is a reliable, discriminating, and suggestive work, to which the student of English composition may turn in any difficulty with a certainty of finding help.

*England's Workshops.* By Dr Strauss, C. W. Quin, J. C. Brough, T. Archer, W. B. Tegetmeier, and J. W. Prowse. A collection of papers on metal, glass, chemical and other manufactures, by writers familiar with the processes and operations described, and skilled in the instruction of the unprofessional in matters of practical science.

*De La Rue's Red Letter Diary,* 1864. De La Rue and Co.—Mr. De La Rue presents his subscribers this year with a photograph of the moon's disk, most beautifully got up by Messrs. Smith and Beck. There is no such artistically produced and thoroughly useful memorandum book as this, its production deserves to mark an epoch in the history of printing.

## FEBRUARY, 1864.—29 Days.

Phases of the Moon.—Last Quarter, 1st, 0h. 17m. morn.; New, 7th, 6h. 10m. after.; First Quarter, 14th, 1h. 24m. after.; Full, 22nd, 5h. 1m. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | Morn. | | |
| 1 | 7 42 | 4 46 | 1 26 | 10 38 | Cloudy; fine; rain | Hilary term ends |
| 2 | 7 40 | 4 48 | 2 33 | 11 18 | Overcast; windy; rain | *Purification of B.V.M.* Candlemas. |
| 3 | 7 39 | 4 50 | 3 40 | After. | Cloudy; fine; shower | Biot died, 1862 [born, 1778 |
| 4 | 7 37 | 4 52 | 4 40 | 1 9 | Clear; fine; cloudy | Augustus Pyramus de Candolle |
| 5 | 7 36 | 4 54 | 5 31 | 2 22 | Clouded; fine | *Agatha* |
| 6 | 7 34 | 4 55 | 6 15 | 3 43 | Cloudy; fine at night | Priestley died, 1804 |
| 7 | 7 32 | 4 57 | 6 52 | 5 7 | Warm, ther. 56° | *Quinquagesima* |
| 8 | 7 31 | 4 59 | 7 22 | 6 33 | Rain; fine; frost | Day breaks, 5h. 35m. |
| 9 | 7 29 | 5 1 | 7 49 | 7 56 | Frosty; clear | Shrove Tuesday [rist, died, 1850 |
| 10 | 7 27 | 5 3 | 8 15 | 9 18 | Cloudy; fine | Mr. Smith of Hopetown, Horticultu- |
| 11 | 7 25 | 5 5 | 8 40 | 10 36 | Partially overcast; fine | Twilight ends 7h. 1m. |
| 12 | 7 23 | 5 7 | 9 6 | 11 52 | Hazy; very fine; frosty | Custom-house burnt, 1814 |
| 13 | 7 21 | 5 8 | 9 37 | Morn. | Frost; baro. high 30·575 | Length of day 9h. 47m. |
| 14 | 7 20 | 5 10 | 10 12 | 1 3 | Hazy; fine, baro. 30·579 | *Quadragesima*, *1st Sunday in Lent* |
| 15 | 7 18 | 5 12 | 10 53 | 2 8 | Frosty, fog; fine; frost | Day breaks 5h. 22m. |
| 16 | 7 16 | 5 14 | 11 40 | 3 4 | Frost; fine; fog; frost | Burke executed, 1829 |
| 17 | 7 14 | 5 16 | After. | 3 53 | Dense fog; baro. 30·556 | Michael Angelo died, 1564 |
| 18 | 7 12 | 5 17 | 1 29 | 4 34 | Frost; rain at night | Luther died, 1546 |
| 19 | 7 10 | 5 19 | 2 30 | 5 8 | Rain; fog | Cethin colliery accident, 1861 |
| 20 | 7 8 | 5 21 | 3 35 | 5 37 | Hazy; cloudy; frost | Hume died 1855 |
| 21 | 7 6 | 5 23 | 4 38 | 6 2 | Dense fog; very fine | *2nd Sunday in Lent* [1850 |
| 22 | 7 4 | 5 25 | 5 42 | 6 24 | Fine; very fine; frost | Mr. Scott, florist of Dorking, died, |
| 23 | 7 2 | 5 27 | 6 46 | 6 44 | Fine; mild at night | Cato-street conspiracy, 1820 |
| 24 | 7 0 | 5 28 | 7 52 | 7 4 | Cloudy; hazy; frost | *St. Matthias* |
| 25 | 6 58 | 5 30 | 8 59 | 7 25 | Fog; baro. still high | Dr. Mackay died, 1862 |
| 26 | 6 55 | 5 32 | 10 7 | 7 47 | Fine; cloudy; fine | The "Birkenhead" lost, 1852 |
| 27 | 6 53 | 5 34 | 11 14 | 8 11 | Fine; very fine; frost | Twilight ends 7h. 28m. |
| 28 | 6 51 | 5 35 | Morn. | 8 41 | Foggy; fine; baro. still | *3rd Sunday in Lent* |
| 29 | 6 49 | 5 37 | 0 21 | 9 16 | high, rare thing in Feb. | Corn Laws repealed, 1849 |

Probable Weather, February, 1864.—Last month was much finer and milder than we anticipated. We are likely to have some sharp frosts in the present month, but probably not till towards the end. From 1st to 6th wind generally S.W., thence to 16th variable, much humidity, thence to end wind N.N.E. to N.N.W., with frost.

## TO CORRESPONDENTS.

Catalogues Received.—"Sutton and Sons, Royal Berkshire Seed Establishment, Reading. Spring Catalogue and Amateurs' Guide for 1864." One of the most useful catalogues issued; for besides some full and excellent lists of farm and garden seeds, there are some valuable hints upon their culture, and a calendar of operations in the garden for every month in the year.—"William Paul, F.R.H.S., Nurseries and Seed Warehouse, Waltham Cross, N. Se-

lect List of Vegetable, Flower, and Agricultural Seeds." A very valuable and intelligible list, in which great pains has evidently been taken to select only those varieties which have proved themselves to be real acquisitions to our gardens. — "Benjamin S. Williams, Paradise and Victoria Nurseries, Holloway, London, N. Descriptive Catalogue of Choice and Selected Flower and Vegetable Seeds for 1864." A large and well arranged list, with many really valuable novelties, among which may be specially mentioned a superb strain of primula, remarkable for their profusion of fine blooms.—"Wm. Wood and Sons, Woodlands Nursery, Mansfield, near Uckfield, Sussex. Catalogue of Seeds and Bulbs for Spring Planting, with an Appendix comprising Roses, Fruit-trees, Ornamental Shrubs, etc." A compendious list, intelligibly arranged, with valuable descriptions, cultural notes, and general remarks.—"London Seed Company (Limited), 68, Welbeck Street, Cavendish Square, W. General Price Current of Kitchen Garden, Flower, and Farm Seeds for 1864." A large and admirable catalogue, which contains in addition to the usual cultural notes, an almanack for 1864, and a first-rate calendar of operations for the garden for every month in the year.—"William Cutbush and Sons, Nurseries, Highgate, London, N. Catalogue of Select Vegetable, Flower, and Farm Seeds for 1864." A capital and thoroughly reliable list, none but good sorts being recommended.

Roses and Strawberries.—Please to say what is the best time for removing rooted cuttings of roses—perpetuals and Bourbons. I thought that some I put in in the autumn of '62 would do better if left alone till the spring of '64, but I am doubtful on this point now, as they have not made as much progress as I expected. On this account I wish for your advice as to cuttings made last autumn, some in the open air, others under cap-glasses, and all which seem to be doing well. Will roses do on a wall facing west? Is there any use in trying tea-roses at an elevation of over 550 feet above the sea-level, about sixty miles south of Dublin, and inland, but much exposed to N. and N.E.? The tea, G. de Dijon does well. Are there any other tea-roses equally hardy? I read your recent article on "Strawberries" with much interest. Would you recommend the same solidifying the soil for those grown in the open ground? If so, how could it be effected? Would walking over established beds answer? What is the best time for manuring strawberries? I am inclined to think when they are in blossom, as there is not then so much fear of the manure going only to promote the growth of leaves.—*S. C. M.*

[We have frequently advised rose-growers not to move rooted cuttings in winter or early spring, unless they could put them on a moderate bottom-heat immediately, as after disturbing their roots they are likely to perish, unless immediately assisted to make new roots. If you can make up a good hot-bed, and wait till the heat is steady at 65° to 70°, you may pot off your cuttings. If not, let them remain as they are till the end of April, then you may either pot them or plant in the open ground. It is impossible to say whether or not tea-roses will do on the bleak hill. Many experienced rose-growers would be afraid to plant them; for ourselves we would not hesitate to put out a few, and add to them or not, according as events might teach. The following are the hardiest of the race—Adam, Abricote, Comte de Paris, Devoniensis, Frageoletta, Gloire de Dijon, Leveson Gower, Mareschal Bugeaud, Pactolus, Safrano, Sombreuil. A west wall will do for any kind of roses. Manure your strawberries at once. You may make the ground as firm as a pavement between the rows. Don't be afraid of a too vigorous leaf growth; the finer the leaves, the finer the fruit, and the free growth of leaves will not prevent fruit coming, for if they mean to bear the embryo fruit is already formed in the crowns of the plants.]

Notching and Ringing.—After reading the account of Mr. Hibberd's method of making roses root themselves, in the Floral World, April, 1862, p. 70, I determined to try my hand at the same practice, and I wish my fellow rose-growers to know the result, to show that we amateurs may succeed in the nicer operations of horticulture as well as the great professionals. I used, for earthing up over the notches, common builders' sand rather dry, and obtained in one season from single plants of each, 3 M. Bernardin, 1 Duc de Rohan, 2 General Washington, 2 Senateur Vaisse, 1 C. Guillot, 4 La Reine, 2 Triomphe des Beaux Arts. Two of my notches missed. I know of many rose-growers who are always on the look-out for new information, and I almost wish the Floral World was at least half occupied with

rose papers. What most concerns me now is root grafting; when should it be done, and how?—*J. B., Leicester.* [Do it at once, by whip-grafting, and plant directly.]

ANACHARIS ALSINASTRUM.—The dreaded Anacharis alsinastrum has made its appearance here in the river Barrow. I first observed it in small quantities in 1862. Last summer it had complete possession. I am not aware if it has been observed in Ireland before. Can you in your next number give your Irish cousins some idea as to how it came to England and how it has come over here; it is a sad pest to millers, completely blocking up the water.—*Frederick Haughton, Maganny, Ireland.* [At page 61 of the "Book of the Aquarium," it is stated that this water thyme was first noticed by Dr. G. Johnston, in a pond at Dunse Castle, Berwick, in 1842. Dr. Johnston sent some of it to Mr. Babington at Cambridge. There it speedily increased in the Botanic Garden, and in time got into the Cam, and thence into other rivers, and so was distributed throughout the country. It is a native of North America, and is believed to have been originally introduced by means of the attachment of plants to imported timber. How it has found its way to Ireland we cannot imagine, but there is no mystery in the rapid spreading and propagating of a plant which possesses more than an ordinary share of vitality, for a scrap an inch long, once lodged in the bed of a river, would suffice to choke the stream in a very few years. But the great question is how to get rid of it? We know of but two methods, one is constant dragging, which is expensive, only partially effectual, and needs to be constantly repeated. The other is to launch a fleet of swans on the stream; these noble birds are excessively fond of Anacharis, and eat it with such voracity that it is impossible any river can long be choked by it if the swans are sufficient in number to eat it as fast as it grows.]

COLEUS VERSCHAFFELTI.—*Langley Fitzhurst.*—This and the pretty C. Blumei require to be kept all winter in the same way as variegated leaved begonias. The proper place for them is a stove or warm greenhouse; if in the stove they may have moderate supplies of water, and be kept growing slowly; if in a greenhouse very little water indeed. The simplest and quickest way to propagate is to put the plants now into a warm moist temperature, nothing so good as a dung-bed, with a brisk heat. Here they will produce abundance of shoots, which may be taken off when two or three inches long, dibbled into sandy peat, and placed on a bottom-heat of 70°, and they will root immediately. We had one small plant of C. Verschaffelti the first spring it was sent over from the Continent, and from this we raised just fifty-nine plants on a dung-bed, and all were strong enough to plant out in June of the same year.

THE APPEAL.—Received for poor Botanist, *G. T. S., Bow*, £1 1*s.*; *J. H. Brentingly*, 3*s.*; *Rev. H. B. Atherstone*, 5*s.*; *H. R. Redland*, £1; *S. C. M.* 2*s.*; *Jan. 5, Reading*, 5*s.*; *Lady D.*, 5*s.* These amounts have been paid over, and the recipient is grateful.

RHODODENDRON PONTICUM. — *A. B.* — This, the commonest of the rhododendrons, is as fruitful in varieties as any of them, but it may always be known whatever its peculiarities, by the peculiar leafage and habit. When choice hybrids are grafted on it, the stock is not so readily adaptable to a variety of soils as when it carries its own head, and therefore if good varieties are obtained, grafted on ponticum, our advice is, let them have good peat, or a suitable mixture of sand and leaf-mould.

GENETYLLIS TULIPIFERA.—*Rock Lodge.*—This charming evergreen and its associate Hederoma, are among the easiest of greenhouse plants to grow to perfection. Let the soil be light and rich; never suffer them to get starved, repot in spring, syringe frequently while making new growth, and otherwise let the treatment be the same as for a myrtle.

CASSIA CORYMBOSA.—Thanks are returned to the Editor of the FLORAL WORLD for the kind notice taken of inquiries respecting Cassia corymbosa, and in answer to the question "did it require or get protection through the winter?" I beg to state that the first winter it had only a little ashes placed around its stem, and over its roots. The second winter the same; last winter pine branches surrounded it. This season a light covering of reed net is over it, and so far it is perfectly uninjured. It is against an eastern wall, and in rather a cold situation.—*A. P. B.*

BLUE LOBELIA.—*R.B.*—On the 21st of December last we saw at a nursery enough seedlings of blue lobelia to make a mile of edging, so that you may judge that it is not too early to sow at once for

an early bloom. When we have grown lobelias in quantity we considered the 1st of Febrnary the best day in the whole year to sow the seed. Then we never pushed it so fast as they do at the nurseries. The consequence was that our edgings were not rich in bloom till about ten days after other people's were full out; but they lasted six weeks longer, the lobelias being everywhere shabby before the 15th of September, whereas ours was good till the 1st of November, or later, according to the severity of the first frost.]

Golden Ball Kail.—I enclose a small leaf of a savoy that I picked up in a cottage garden here, and I do so because I promise myself the pleasure of sending you some of the seeds, if I get any seeds from the plant. This is very like counting the chickens before the eggs are laid, but I want you to see what a valuable acquisition my Golden Ball Kail will be if it can be secured. The large leaves are very handsomely marked, but, alas! a cow got into the garden and ate up the best of my purple kails.—*M.B.* [The two leaves sent are interesting. The purple leaf is richly coloured, and might be useful to cut for bouquets as well as garnishing, but it is in no sense a remarkable sport. On the other hand the "Golden Ball" is the best variegated kind we have yet seen, the leaf a vivid gold yellow, with just enough green in the centre to show that there is no lack of vigour in the variety. A few cuttings of the Golden Ball should be struck in heat at once, or it may be lost altogether; for though it will no doubt seed freely, the chances are that not one seedling will be like the present. The only safe way to keep such things is to take cuttings as soon as they have made sufficient growth to furnish them, and it would be better to strike a few now than risk losing it. In 1862 we sowed several samples of seed of variegated kail, obtained from first-rate houses, and did not get a plant worth keeping. Our object was to introduce variegated kail into our scheme of outdoor decorations, and the effort was vain. We have now some very pretty examples in a piece of kail, and the seed of which was of the ordinary green kind. Such is the uncertainty attending the cultivation of these curiosities.]

Neapolitan Violet.—*H.T.*—This ought, so far as atmosphere is concerned, to grow in perfection at Tulse Hill. The reason yours neither grow nor bloom is that they are not cultivated. It is too often the fate of plants of humble growth such as violets, hepaticas, hardy primulas, etc., to be treated as weeds, that is, planted without regard to their habits and necessities, and after that left to thrive or perish as circumstances may determine. To grow Neapolitan violets in your garden, choose a piece of shaded ground, and have it deeply stirred, and liberally enriched with rotten stable manure, and clean leaf-mould. If your soil is heavy, add roadsand from a gravel road. This should be done now, and the ground left rough, and the best form will be a four feet bed of any length you desire. On the 1st of May plant the bed with the violets, planting the large plants in rows apart from the younger ones, the former fifteen inches apart, and the others twelve inches apart, and the rows a foot apart, those outside six inches from the alleys. Plant firm, keep the ground clean, give heavy soakings of water in dry weather. On the 1st of November these will be fine plants to take up for flowering under some sort of shelter, such as a frame, or to force on a bed of leaves, or some slowly fermenting material. Plant hepaticas in strong loam inclining to clay, and they will grow anywhere.]

Cuttings in Boxes, Culture of Hollyhocks.—In the August number of the Floral World, p. 173, I read with great interest an article on "Propagating for next Season," and immediately set about manufacturing a couple of boxes such as you described. Your directions were very faithfully complied with. I cannot find any fault with the carpenter, but, for some reason that I cannot discover, the boxes do not answer. I filled them with pots of cuttings of verbenas, lobelias, calceolaria, ageratum, and various other bedding plants, and all have by this time died of mildew. The oldest inhabitant has just died off, and is covered with mildew, although the cases have not seen water for several weeks. The cases stand in the conservatory, and are surrounded by many plants in full health. I have been always accustomed to strike my cuttings in the conservatory under the common "bell-glasses," and with regular watering they do not suffer as these have without, but root almost invariably. I fancy, from the depth of the cases the pots ought to stand on something to bring them *nearer the glass*. As it is, they were placed on the wood. Will you kindly inform me if you can divine the cause or causes of my utter failure? It

has sometimes occurred to me that I should like to try one of them in this way. To fill the case two or three inches up with broken crocks for drainage, and then lay on a depth of about four inches of mixed charcoal and cocoa-dust, and dibble the cuttings into the compost. When rooted they could easily be raised with a trowel, and be potted off. Do you think this plan likely to succeed? Of course, instead of having three, I should have about a dozen holes in the bottom of the case. The holes existing were made with a red-hot poker. I had some seeds given me a year or two ago of some remarkably choice double hollyhocks, but to my surprise the seedlings have flowered as *single* as it is possible to be. Should I sow the seeds of the *single* flowers, would they be likely to come *double?* or should I have taken cuttings of the double plants to propagate them in place of relying upon seeds? —*J. G., Peckham.* [This is the first failure of boxes we have heard of, but we are not much mystified about the cause of it. If *J. G.* will turn to the original description, he will see that an old Waltonian was adduced as the model for such boxes. Now the first principle of the Waltonian is to be covered with glass lights. It was not said that cuttings in boxes would do without glass over them any more than cuttings in pots, and the propagating cases, even if made of egg-chests, ought to have lights of some sort. The reason of *J. G.'s* failure is that his cuttings never got properly rooted, and no doubt he will lose them all. But if the cuttings had had lights over to keep them close, they would have rooted well, and a thousand plants that way are no more trouble than a hundred done in pots, as they may remain in the boxes till planted out in spring. Cocoa-nut waste is excellent for striking cuttings, and need not have charcoal mixed with it; a little fine loam would be better, though it is not absolutely needful. The hollyhocks were grown too poor. Throw them away and begin again. Grow them from the first in rich soil, and sow the seed in May or June.]

Camellias and other Greenhouse Plants, and Shady Border.—I am much troubled with my camellias. I have a number, large and small, nearly all clean and healthy. All formed a profusion of buds, and during the last two months almost every bud has dropped off. It is certainly not from want of water, possibly we have given them too much. How can I know what quantity *is too much?* They were in an open shed facing north till October, and since then in a cool house facing south. Many buds dropped in the shed, many since their removal. I wrote you an account some months ago of my Lapageria rosea, which you put into your October number. I have continued the same plan with it, and the plant is vigorous and healthy, but is only now sending up a slender shoot. And last night, alas! it was frozen hard in my little conservatory, and is not yet thawed. I am at my wits' end to keep the frost out. I have put in lighted lamps and hot-water bottles this evening. Is there any portable contrivance for heating houses that have no stove or water-pipes? What plants can I put in a very shady spot in my garden, under a box-tree, a holly, and other close shrubs? Ferns do not succeed because the rain can't get in, the trees shelter it so completely. My gloxinias are beginning to grow, though kept quite dry. Is it too early to start them and achimenes in heat now?—*H. R.* [The falling of the flower-buds of camellias is the subject of so many letters from correspondents, that we must endeavour to set forth in full (though briefly) all the possible causes and means of prevention. The falling of the buds may happen through any of the following causes:—Too dry and too hot an atmosphere. Want of water at the roots. Too much water at the roots. Water given *too cold* at the roots. Sudden changes of temperature. Want of daylight. Exposure to high temperatures at night. We will now state the means of preventing the falling of the buds:—Water as often as the roots are nearly dry. The water to be of the same temperature as the room. The leaves to be sponged frequently with tepid water. Plants to be removed when the room is extra heated, especially at night. Never to be exposed to cold draughts. On the other hand, to be set out on a balcony in the sun on bright, warm, still days. As the buds swell, the roots may be watered once a week with a solution of sulphate of ammonia —half an ounce to a gallon of water, or two or three drops of hartshorn may be put in the water every time the plant is watered. If the pots stand in saucers, these must be emptied of all drainings from the pots after watering. It may seem to some that there is a great deal to learn in order to make sure of keeping a pet plant. In plain truth, the

chief thing is to observe *regularity* in attending to window plants. It is the doing too much to-day and forgetting them to-morrow that kills most of the plants that are taken into rooms. Let it be remembered that the camellia likes a moist atmosphere, and that the air of dwelling rooms is generally dry, and it will be seen how important it is that the leaves should be sponged frequently to keep them clean, and to benefit the plant by the moisture the leaves will absorb during the process. Camellias ought never to be dry at the root, and especially at this time of the year. Drought does not hurt them so much in summer as in winter, and the cultivator of camellias should endeavour to keep the roots always moist, but not wet, and with no stagnant water under the pots. Treated according to these rules, the plants will flower well, and then they begin to grow. The growing season is the critical time for camellias, because then they require an atmosphere extra moist, still, and warm; and if they can be placed in a warm pit or shady greenhouse to make their new growth, it will be the better for them. Supposing that cannot be done, we should advise the cultivator to remove all the blooms as soon as the new shoots have a start. To dew the plants twice a day, by drawing the hand over a wet brush held close beside them. To water the roots regularly, as before advised, but to use no stimulants. To nip out the top bud of every shoot, and allow all other buds to grow as they please. To keep the plants in full daylight, but not to place them in the sun. To give them very little air. Not to sponge the new leaves till they are quite firm in texture. To cut away any ugly shoot which may have been preserved hitherto because it had flower-buds on it. To scrape away a little of the top soil, without hurting the roots, and replace it with a mixture of half leaf-mould and half dung, rotted to powder. With this treatment the plants will in due time cease to grow, and at the termination of every new shoot there will be a flower-bud formed. As soon as this terminal bud is visible, begin to give the plants air by degrees, and let them feel the sun morning and evening. Cease to dew the foliage, and give less water, *but do not let them go quite dry at the roots.* After a fortnight of this treatment, place them out of doors in a warm, sheltered, and rather shady place; and all the attention they will want till October following will be to water them regularly. A little sun will do them good, but to be exposed to the full sun in the height of summer will be hurtful. These plants grow naturally in damp shady woods, and thus they require less light than many other equally showy subjects, and that is the reason they do so well in old-fashioned greenhouses which have high walls and heavy roofs. The object of nipping out the top bud is to keep the plants dwarf and bushy; if the top buds are allowed to grow, the plants become in a few years very leggy and unsightly. Your Lapageria will not be much hurt by the frost. The best of all contrivances for small greenhouses, where there is no proper heating apparatus, is Joyce's patent stove, sold by Swan Nash, 119, Newgate Street, and 253, Oxford Street. Ferns would succeed in your shady spot if sprinkled with water every day from April to July, after that they would do without it. The following are useful for shady places —Periwinkles, six or more kinds; ivy, over fifty kinds; butcher's broom, hardy primulas, common box, green holly, Solomon's seal, etc. See page 66 of last year's volume. Start gloxinias and achimenes at once.]

ASPLENIUM BULBIFERUM.—*Rev. H. B.*— We never reply to queries through the post unless there are special and peculiar reasons for so doing. The fern named above, like most other evergreen ferns, is always growing, and should be allowed to grow, but, of course, it grows slowly in winter, and does not then need much water. It is one of our favourites, and we find it as easy to manage as a common polypody. Greenhouse temperature certainly suits it best, it is in fact nearly hardy. Some time in March or April is the best season for repotting, the soil to be equal parts of tough peat chopped up to the size of walnuts, and silky, yellow loam. If the loam is rather stiff add a fifth part of sand to the whole mixture. In reporting turn out the ball, remove the crocks, loosen the outside roots, and remove as much of the old soil as can be got away without seriously distressing the plant, and repot in one size larger, and pot *firm*, taking care to press in the nodules of peat all round with as much pressure as the thumbs are capable of. If the plant is placed on a gentle bottom heat after potting, it will quickly make new roots, and grow vigorously, but it will do very well without bottom-heat. It is fond of water, and must have abundance all the summer, both at the root and overhead; but as it does not

like stagnant water, the pot should be well crocked, and should be so placed that superfluous water can flow away easily. Selaginellas growing in the pot will do no harm.]

TROPÆOLUMS AND STACHYS LANATA.—*A. P. S.*—Spring cuttings of tropæolums make the best plants for summer bloom, and it is well not to take the cuttings too early. All the Lobbianum sections, to which yours belong, are easy to manage; the soil should be rather poor and sandy, but quite sweet. The plants like plenty of sun, and only moderate supplies of water. They make very good window plants. Stachys lanata is best increased by parting the roots.

CHRISTMAS GIFTS.—The January number of the FLORAL WORLD was printed before Christmas-day, and we were therefore unable to acknowledge till now the kindness of those friends who sent proofs of their regard in gifts of fruits and flowers. Some of these forbid the mention of their names and offerings, and we must, though reluctantly, comply with the old rule of acting only on permission in what we publish of the communications of our friends. A. B. S., of Torquay, took us completely by surprise, for on Christmas morning we received from him two large boxes of flowers, gathered the day previous from his well kept garden. Such a collection of flowers gathered from the open ground at Christmas we never saw before, many of them subjects that we Londoners are compelled to nurse with the greatest care; would that we could find space to name them, but we know not how to squeeze in all the papers that have been put in type for this number. From H. E. Montgomerie, Esq., of Sydenham, we received a fine basket of Canadian apples, remarkable for beauty and fragrance. The varieties were—Fameuse, a medium sized apple with large eye in a shallow basin, and the colour intensely deep crimson, shading into streaks of delicate mauvy pink; this apple has the flavour of a nectarine. Golden Reinette, less distinctive in character; Bourassa, a medium sized russet-red fruit, with small closed eye, flavour peculiar and refreshing. Gloria mundi, in the best style of a picked sample of white Calville, a large, handsome, and superb table fruit. The best proof of our thankfulness shall be set forth in renewed efforts to help our readers through their horticultural difficulties, and provide for them new horticultural pleasures.

RED-HOT POKER PLANT.—*G. Simmons.*—The plant so described to you is Tritoma uvaria, and your friend's name for it is descriptive and appropriate. It is one of the grandest promenade plants we possess, and anybody can grow it. At Kew they display this plant in large beds in company with Canna Warscewiczi, and nothing can be more superb. Prepare for your plants a bed of sandy loam, liberally enriched with leaf-mould and rotten dung. If the soil for a depth of three feet down consisted of one-third part dung, it would not be too rich. Keep the plants in pots till April, then turn them out, give as much water as you like all summer, and you will have a marvellous bloom.

VARIOUS.—*Beginner* will find all the information he needs in the FLORAL WORLD, and it will be cheaper to procure the set, which may be had in Nos. for 24*s.*, than to look about for books on special subjects, for there does not happen to be one in existence which gives just the information you want.—*Frizella.*—Since the arrival of your second letter we sent the frond to Mr. Sim, and his name for it is Pteris scaberula. It is certainly more smooth than ordinary, but fern-growers do not think much of that. As the finding of this fern on the Eildon hills is not substantiated, we must still maintain the position taken at first, and believe that if found there, it was first planted there in order to be found. We are greatly obliged for your communications on this subject, and we trust you will forgive us for publishing the name, on the ground that such a peculiar circumstance required to be set forth with all the evidence properly belonging to it. Your Polystichum is one of the forms of lobatum of which there are many, which differ considerably in minor details. We had fine specimens of Veronica Andersoni out in the late frost, and they are literally cut to pieces; the minimum was 16°. We have known them bear a minimum of 23° without harm when on a wall.—*A. B. S.*—Your fern is Todea pellucida.—*R. Sanders.*—The book to suit you is "Profitable Gardening," published at 3*s.* 6*d.* You need not send us a fee for a design for a rosarium, for if you wait a week or two you will find one to suit you in our rose book, which you can buy for a few shillings. If you buy seeds of hucksters and cornchandlers you must expect failures; go to a seedman who knows what he sells.

THE

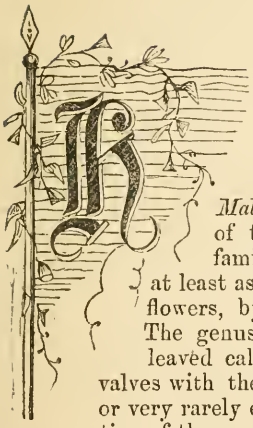
# FLORAL WORLD

AND

# GARDEN GUIDE.

MARCH, 1864.

## CULTURE OF HIBISCUS.



IBISCUS is one of the Greek names of the mallow, and the etymology of this genus is therefore strictly botanical, Hibiscus being an important member of the great natural order *Malvaceæ*. There are upwards of 100 species of this genus, and they all bear such a strong family likeness, that they may be readily identified, at least as members of the genus, both by their leaves and flowers, by persons comparatively unskilled in botany. The genus is characterized by having an exterior many-leaved calyx; carpels united into a five-celled capsule: valves with the partition in their middle; cells many-seeded, or very rarely containing only a single seed. A large proportion of the species are herbaceous, but a few are shrubby, and are found of great value, both as useful and ornamental trees. Most of the species abound in wholesome mucilage, and many are cultivated for the sake of the fibre yielded by their bark, which is used in various arts and manufactures. We shall treat of the culture of a few of the species only, selecting those which are the most ornamental, and therefore adapted for the decoration of our plant-houses and gardens.

STOVE SPECIES.—We begin with stove species, because these are the grandest in character, and therefore the most worthy of special attention. They are mostly natives of the hottest parts of Asia, America, and Africa, generally found growing in rich soils and open, sunny positions, producing myriads of magnificent flowers, which are usually of very short duration. The stove species may be grouped into three classes, according to their respective habits of growth, as trees, shrubs, or herbaceous perennials. The following are noble species of the first class:—*Borbonicus*, native of Bourbon, yellow flowers; *Æthiopicus*, native of Africa, purple flowers; *Ferrugineus*, native of Madagascar, scarlet flowers; *Lampas*, native of India, pink flowers

*Lilliflorus*, native of Mauritius, scarlet flowers; *Mutabilis*, native of East Indies, changeable flowers; *Rosa sinensis*, East Indies and China, red flowers; *Tiliaceous*, native of East Indies, flowers yellow and rose. To grow these, the soil should consist of light, rich loam, with no admixture of peat, and whether grown in pots or borders, there must be effectual drainage, or the trees soon become sickly. If kept in ordinary stove temperature, and with what is understood as good stove treatment, these plants will occasion the cultivator but little trouble to grow them in perfection. The simplest and most effective way to deal with them is to form them into trees, with clean stems and open heads, by a regular course of cultivation. Young plants should be encouraged to grow to a reasonable height, without stopping, to have stout, straight stems; they may then be stopped, and encouraged to throw out side-shoots, which are to be removed a few at a time, commencing at the base of the stem, and proceeding upwards, until the lowest branches of the head are reached. By this plan, strong straight, tree-like stems are formed; whereas, by suppressing the shoots, except such as are wanted for the head, the stem is likely to be weak and twisted. If an early bloom is desired, however, it will be best to allow the plants to grow in their own way, except to pinch back or shorten a shoot occasionally, to preserve a moderate regularity.

All the tree kinds will thrive in pots, and the best time to shift them is immediately after they have done flowering. Let them first be moderately pruned back, and in the course of eight or ten days they may be turned out of their pots, a portion of the old soil removed from their roots, and repotted in the same or larger pots according to circumstances. One of the most interesting of the arboreous species, is *mutabilis*. This requires abundance of root-room, and is best planted out in a border of rich loam, and allowed to grow in its own way with very little interference with the pruning knife. It soon forms a magnificent tree, and will grow to a height of five and twenty feet if encouraged. When in flower, it is one of the most interesting plants of the stove. The flowers open in the morning a yellowish green colour; in the course of an hour or two they become white; at noon they acquire a tinge of red, and as the day draws to a close, they become a full bright crimson colour; after which, they quickly perish, and are succeeded by others, each individual blossom lasting but one day only. The most handsome of the shrubby kinds, are: *Abelmoschus*, native of India, yellow flowers. *Bifurcatus*, native of Brazil, purple flowers. *Cameroni fulgens*, native of Madagascar, red flowers. *Ficuloides*, native of Ceylon, yellow and purple flowers. *Lilacinus*, New Holland, lilac flowers. *Lindleyi*, Burmah, purplish crimson flowers. *Pulchellus*, East Indies, crimson flowers. *Rosa Malabarica*, East Indies, scarlet flowers. *Splendens*, New Holland, rose coloured flowers. *Telfairiæ*, native of Mauritius, red flowers. *Unidens*, native of Brazil, yellow and pink flowers. The treatment of these does not greatly vary from that required by those previously described; but, as a rule, they prefer a lighter soil and less root-room. The best compost for these is one consisting of two parts turfy loam, with one part leaf-mould, and one part fibry peat. These may be formed into very neat compact specimens, by carefully pruning in after flowering, and

repotting into the same pots, until they acquire such a size as to render it imperative to increase the root room. *Lindleyi* is a magnificent species introduced from Ava, by Dr. Wallich, in 1838. It grows freely in loam and peat, and forms a handsome shrub, with light green three-lobed leaves, and flowering profusely all winter and spring; the flowers a brilliant purplish crimson colour, and three inches in diameter. *Ficuloides*; the fig-leaved hibiscus, will flower almost the whole year round, if the roots are cramped in a small pot, and the pot kept in the hottest part of the stove. All the stove species are easily increased by cuttings. For this purpose, take young shoots with a heel, and plant them in pans of sandy peat, under bell-glasses on a brisk bottom-heat, and they will root quickly. In all cases the young plants should be grown in peat till large enough to require 48-size pots, when they may have the compost required by mature plants.

The stove herbaceous species require rather different management from the arboreous kinds; they must have less water when the season arrives for them to die down, and at the same time should be placed in the coolest part of the house. As soon as they commence growing again, let them be shaken out and repotted in light rich soil. They require abundance of water while growing. The most desirable stove herbaceous species are the following:—*Crinitus*, native of Burmah, flowers yellow and red. *Speciosus*, native of Carolina, flowers crimson, grows in marshes and hence requires an abundance of water while growing. *Furcatus*, East Indies, flowers yellow. *Jerroldianus*, Brazil, flowers crimson, grows six feet high, and is a superb species. *Manihot*, East Indies, yellow flowers.

Greenhouse Species.—The treatment recommended for the stove species is precisely that required for these, with the single exception that a lower temperature suffices to bring them to perfection. These are all of less vigorous growth than the stove species, but they are well worth adding to the choicest collections for the sake of their cheerful leafage and showy flowers. The largest of the group is *Heterophyllus*, from New South Wales, with white and red flowers. This forms a fine shrub, six to twelve feet high. *Strigosus*, native of South America, with rosy flowers, makes a fine shrub, eight or ten feet high. *Pedunculatus*, from the Cape of Good Hope, flowers red, requires an intermediate house, or if grown in an ordinary greenhouse, it must be kept rather dry all winter, and be well roasted in autumn. *Richardsoni*, from New South Wales, with yellow flowers, is a neat shrub, growing three or four feet high. *Racemosus*, from Nepaul, flowers yellow, is usually grown in the stove, which is too hot a place for it. It is at home in the greenhouse, and is, in fact, nearly hardy. In handling this species be careful to keep the hands covered if possible, for the stem is thickly covered with hairs, which, when pressed by the hand, occasion a stinging sensation. *Gossypium* and *Grossulariæfolia*, the first with yellow and the second with rosy flowers, are useful species in addition to the foregoing.

Hardy Herbaceous Species require a wet soil of a rich mellow character. None of them are thoroughly hardy, and hence it is only in a few sheltered places that they can be depended on to survive a severe winter if left out of doors. They are, however, valuable subjects for the decoration of the margins of lakes, and for gardens subject

to be occasionally flooded, or that by reason of a low level are always damp. But unless the position is peculiarly favoured, the plants must be taken up and put in frames for the winter, or be protected in the borders by coverings of cocoa-nut fibre or other similar material. The best of the hardy herbaceous kinds are *Aquaticus*, native of Italy, white flowers. *Grandiflora*, native of Georgia, scarlet. *Palustris*, native of North America, flowers pink. *Roseus*, native of Italy, flowers pink. *Virginius*, native of Virginia, flowers red. *Moschatus*, native of North America, flowers white and pink. These may all be increased by division and seeds.

Hardy Shrubs.—There are only two hardy shrubby species. *H. Wrayæ*, native of Swan River, with purple flowers in October, is scarcely hardy enough to be recommended for general use; but in the south and west of England it will be found well worth adding to a collection of choice shrubs, and should be planted in the sunniest position that can be found for it. *H. Syriaceus* is the well-known *Althæa frutex* of the catalogues, and one of the handsomest hardy shrubs we possess. This will grow in any soil, and requires to be freely exposed in order to ripen its annual growths thoroughly, in which case it flowers most abundantly in autumn, and is a truly superb ornament of the shrubbery. There are at least a dozen varieties, all showy, and of precisely the same habit of growth, but differing in the colours of their flowers. The original species has purple flowers; the variety *albus* has white flowers; *albus plenus*, double white; *marginatus*, purple and white; *purpureus*, purple; *purpureus plenus*, double purple; *ruber*, red; *variegata* has the flowers striped and spotted. To propagate these is a rather troublesome task. Cuttings taken in autumn, and put in the open border under hand lights, will generally be found well rooted in the spring. A more certain way is by layers. But the most speedy method is to graft the choice kinds on seedling stocks. The Althæa frutex has the most wretched appearance all winter of any tree in our gardens, and is very late in coming into leaf in spring. Hence it is quite unfit to place near the dwelling-house, or on the terrace, though, from its bold and brilliant appearance when in bloom, it is well adapted to occupy conspicuous positions in the shrubbery, and at angles and other similar spots among the walks of the pleasure-ground.

## PILLAR ROSES.

The best pillar roses are those that grow from six to twelve feet high, and produce flowers of a quality good enough for exhibition. If climbing roses are used, the flowers will be of poor quality, though there may perchance be plenty of them; and in the majority of cases the pillars will be less uniformly clothed, though they may have a certain picturesqueness, which only true climbing roses can impart to them. Climbing roses are unsuitable, because usually they grow too fast and free. A moderate growth with a superior style of flowers are qualities to be preferred in forming objects that are likely to be closely and frequently inspected, and that under any circumstances are subjected to closer and more critical scrutiny than roses trained over arches, banks, and the roofs of temples and arbours. The more vigorous growing varieties of hybrid perpetuals, Bourbons, and moss, and damask, hybrid China, and a few of the

hardiest of the teas and noisettes, are those usually selected to form pillar roses. No rule can be laid down as to the class of roots to be preferred, for that depends so much on the character of the rose to be planted, and in our general remarks on the families of roses, numerous hints are given as to the treatment of individual varieties so as to insure the most vigorous growth. If any rule can be hazarded, it is that as only the most vigorous growers are suited for pillars, so there is not much choice between having them on their own roots or on Manetti. If on their own roots, they will not at first grow so vigorously, for all roses capable of growing at all on Manetti grow with remarkable vigour the first year or two; but, on the other hand, Manettis sometimes throw up suckers which escape notice, and these soon tend, by their usurpation of the sap, to destroy the rose altogether, a disadvantage to be balanced against the advantage of a rapid growth at the first start. Perhaps, if the whole case is fairly considered, Manetti will win the day for climbing roses, so immensely does it increase the vigour of the rose it is compelled to nourish.

The culture of pillar roses certainly demands some skill; but it is a skill easily acquired by the observant and inquiring cultivator. Let us consider all the points in regular order, so as to dismiss all simple matters with a word, and deal with difficulties as they come before us at such length as their relative importance demands.

Planting.—In any case the soil must be well drained, liberally manured, deeply stirred, and in a sound condition. It should be of such quality as to produce good wheat or cauliflowers, or it will never produce pillar roses. A pillar rose will require at least one square yard of soil which must not be occupied with shrubs, or grass, or in fact anything but annuals, and other flowering plants of humble growth, all the summer; and every autumn this soil must be enriched with dressings of half rotten dung. As the pillars need not, and had better not, be fixed till the roses are in their third year, it only remains, after having prepared the soil, to plant firm, and insert one or two ordinary four-feet stakes. If Manetti roses are planted, be sure to place them sufficiently deep to have the point where graft and stock meet two inches below the ground line. Whatever tends to increase the vigour of a rose—such as top-dressings in summer, abundant supplies of water, etc.—must be given to pillar roses; for it is not only desirable to clothe the pillars, but to do so with *stout wood*, which can only be accomplished by feeding liberally. Let us suppose the roses planted, they are then to be cut down to within one or two buds of the base, then are to be allowed to grow the first season as they please.

Pruning.—Early the second season they will require pruning. Now, to prune them properly, the rosarian must bear in mind that it is much easier to induce a tree to grow to its full height than to induce it to form regular tiers of flowering wood all the way from its roots to its summit. This is true of apples, pears, plums, vines, and hundreds of other trees. Keep the leading shoot upright, and do not prune it at all, and it will grow with great vigour, so as continually to increase its length till it attains its maximum height; but in the meantime, the leading bud having monopolized the sap, there will be but few side-branches formed, and consequently there will be little or no flowering wood produced. The sap of a tree always rushes upwards; hence, if the leading shoot be trained out of the perpendicular, the side buds are developed, and these assume a vertical form in the majority of cases. It is true that trees *do* produce side-branches without the aid of the pruner, and that these often take a horizontal or oblique direction; nevertheless, the general tendency of the sap is upwards, and one of the first consequences of allowing a tree to grow in its own way is to cause the formation of a bare stem for some distance from the ground line; and that tendency is of itself a sufficient argument for pruning pillar roses. In a word, if the pruning is

neglected, they soon acquire their full height, but have naked stems; whereas, if properly pruned, these stems will be clothed from head to foot with flowering branches. The pruning in the second year will consist in removing by a clean cut, to within one or two buds of their base, all long, weak shoots, reserving two or three of the strongest shoots, and shortening these about one-third or one-half of their whole length. If in any doubt as to the application of these instructions, let the rose itself furnish a hint. If it has attained to a great height, and is so regularly furnished with side-shoots as to be already very nearly sufficient to cover a pillar, prune all the side-shoots back to about four buds, and the leaders only a fourth or fifth of their whole length. If it has not grown much, cut it back very hard, removing quite half of the entire growth, so as to conform pretty nearly to this rule—*the more growth, the less pruning; the less growth, the more pruning.* Having accomplished the pruning, lay the shoots down full length on the ground, and fix them with a few strong pegs, so that the wind may not blow them about. This will cause the buds to break—that is to say, will cause the formation of side-shoots the whole length of the rods; and by the end of April, or the 1st of May at latest, they must be tied up to their poles or pillars.

The third season's pruning must be on the same principle as in the preceding year; the cultivator must be more anxious about obtaining plenty of furniture—that is, of hiding the pillar with a plentiful side-growth from the ground upwards. He need not think much about getting the rose to the top of the pillar; it will go there in time, and perhaps sooner than will be good for its ultimate beauty; and if it does not, it is only needful to leave one or two long rods unshortened, and they will soon mount to the summit of their ambition. To begin, then, with the pruning, let us first determine about the furniture of the base of the pillar. Here we find already plenty of weak spray, some well-placed strong shoots, and perhaps a certain proportion of wiry twigs that produced blossoms the previous season. All the weak spray should be cut clean out, leaving only the buds at the base to break again; the same with the wood that flowered the previous year. But the strong side-shoots may be cut to six or eight buds from the base. Where the pillar is bare, cut a few shoots very close, so as to get some vigorous growth to fill up the gaps; where crowded, thin away the weakest of the shoots, and leave those that are best placed for flowering. Proceed thus till you arrive at the top, then shorten back the leading shoots according to their length and strength, but not severely, to a plump bud, to carry the growth upward the next season.

After this pruning there ought to be an abundant bloom; and from this time forth there must be very little pruning; the cultivator's principal care will be to keep the tree liberally nourished, and provide for the occasional *renewal of the main shoots*, for those originally formed will in time get debilitated with excessive production of flowers. It is a good rule with Provence, Perpetuals, and Bourbons, to prune in the short ripe side-shoots to from four to six eyes throughout. These shortened shoots will produce flowers plentifully; and as effect is more desirable than the quality of individual flowers, it is best, after fairly pruning, to allow all the flowers that are produced to come to perfection, helping the tree through the flowering season with copious supplies of water, and with strong top-dressings.

The renewing or repairing of the pillar is accomplished by means of the strong shoots that rise from the base. As these appear, tie them in loosely, so as to induce a free growth, prune them as recommended for the first formation of the pillar, and as soon as they reach half way up the pillar, and are tolerably well furnished with side-shoots, remove one of the old leaders, and let the young one take its place. When an abundance of young shoots is produced, some must be cut away entirely to

within one bud of their base; from the bud left a flowering shoot will generally be developed next season, or it may be another strong shoot, which may be useful, though not wanted the previous year; in which case keep it; if not, either pinch it back, and cause it to form a mass of laterals, or leave it to grow its full length, and then cut it back as before. Two more remarks seem needful to complete these directions. By training the leading shoots straight up the pillars they will grow with more vigour; by training them regularly round and round the pole, the growth will be more moderate and regular, and there will be an earlier disposition to form flowering wood. I prefer in all cases to allow new shoots to go straight up, and to twist them the next season, after pruning. This secures strong wood in the first year, and plenty of laterals in the second. The last remark is, that poles and pillars should not exceed twelve feet; and when it is determined to have them of that height, the most robust-growing pillar roses should be selected. The better kinds of hybrid perpetuals and Bourbons do best on pillars of six to eight feet; if taken higher, it is difficult to keep them furnished at bottom.

We may now offer a few remarks as to the poles and pillars themselves. It is best not to insert these till the roses have grown two years, and when inserted, it must be in a way to stand firm during a gale. Larch poles, with short snags, and the bulky portion of the roots attached, make the best of pillars, as when planted they have a firm hold of the soil, and are not easily blown out of the perpendicular. Old stems of yew are very durable; ash poles require frequent renewal, and being slight, it is best to put two or three close together, and brace them together with copper or galvanized wire, so as to form one stout pillar. In all cases, it is best if the lower parts of the posts can be charred, as this prevents the growth of mycelium, by which so many roses are destroyed, owing to the proximity of decaying wood to their roots.

When climbing roses are used conjointly with genuine pillar roses, very beautiful effects may be produced. The climbers may be trained as fast as they will grow, without any pruning, to cover the roof of a temple, and the pillar roses trained to the trellis supports, which by a regular course of pruning they may be made to cover completely. To form a simple rose temple is a matter of no great difficulty, as suitable breadths of stout galvanized wire trellis can be obtained at a cheap rate, and the roof might be either of zinc or copper, or left open by continuing the breadth of trellis in a graceful curve to the apex. There can be nothing more suitable for the centre of a rosarium; and, besides its elegance as an architectural object, it serves the useful purpose of displaying varieties that are only seen to advantage when allowed to grow to vast dimensions. Other and more simple methods of training will occur to the ingenious rosarian, as, for instance, a tall pole sustained by trellises, chains, or wire ropes, in the fashion of a flagstaff. The pole may be covered with a climbing rose, or with ivy, the dark green of which would show up the roses trained to the chains very effectually. An open tent, formed of roses trained to trellises, forms an agreeable rendezvous in summer time.

## THE COMMON POLYPODY.

*Polypodium vulgare*, Linnæus, Babington, Deakins, Moore. *Ctenopteris vulgaris*, Newman. Fronds deeply pinnatifid, linear oblong or ovate oblong, acuminate; lobes linear oblong, obtuse or acute, obscurely serrate, connivent.

The common Polypody is the most widely distributed and the best known of all the British ferns, and when in

a fruiting state it is one of the most beautiful, and well deserves to be carefully cultivated. It has a creeping rhizome, ordinarily as thick as a common lead pencil, which, when young, is clothed with rust-coloured

but usually form a dense mat near the surface. The proportion of the stipes to the length of the frond varies considerably; in localities eminently favourable to the growth of this fern, always longer than the frond as re-

P. VULGARE, VAR. CAMBRICUM.

scales, but at length becomes smooth and shining, and of a rich, lively, tawny tint, here and there flecked with dull green. From the rhizome proceed numerous wiry roots, which never penetrate deeply into the soil,

presented in the cut which accompanies this. Mr. Moore ("Handbook of British Ferns") says:—"Stipes usually nearly equal in length to the leafy portion of the frond, at the base distinctly articulated with the cau-

dex." When growing in a position which starves the plants, the stipes are short, but in most shady places the stipes are invariably *longer* than the leafy portion of the fronds, and the fronds attain a total length of eighteen to twenty-four inches. When growing luxuriantly, the lobes of the frond are usually more or less acute; but when starved, the lobes are blunt and somewhat regularly rounded at the ends. The relative fruitfulness of the fronds is in like manner very much influenced by circumstances. When growing in a rich soil and a moist and shady position, the lobes are nearly all fruitful, and the orange-coloured sori are large and boldly produced, so as to give this fern a truly magnificent character in the autumn. But when found on walls and other places less favourable to luxurious growth, the fructification rarely extends beyond the upper half of the frond, and sometimes not more than one-third of its whole length.

This fern is like the genus Homo, capable of living in almost any climate, and of subsisting on any kind of nutriment, yet attaining its full proportions and proper beauty only under certain conditions that are very easily defined. It is found in all parts of the British Islands, and in all parts of Europe, in the Canaries, Algiers, South Africa, Siberia, Kamschatka, Asia Minor, North West America, California, and Mexico. In some districts it grows in such exposed situations as to become quite stunted and deformed; as, for instance, in some parts of Epping and Hainhault forests, where it extends over large tracts of land, as a true epiphyte, forming huge tufts in the forks of pollard alders, maples, and oaks, into the decaying wood of which its wiry roots penetrate, and find abundance of nourishment, the starved appearance of the plants being the result of drought and exposure.

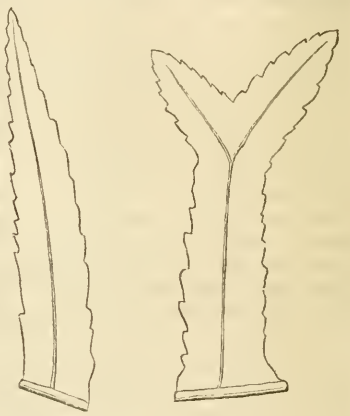
POLYPODIUM VULGARE.

I have severa times proved this to be the true explanation of the dwarfed and altered appearance of those epiphytal plants, having grown

them on blocks of wood to which they were attached, without removing them or adding fresh soil, into the most luxurious forms identical with specimens found on wet shady banks, simply by placing the blocks in the shadiest part of a damp greenhouse, where they were as nearly as possible in the same condition as when found growing wild in deep shady woods. Yet, though so widely distributed, this fern is rather fastidious as to soil and climate. It never thrives unless its roots can obtain a sufficiency of real vegetable mould; but, where there is a layer of three or four inches in depth of decayed vegetable fibre, the common polypody will live, even if exposed to all the winds of heaven, and to the full sunshine all the year round. Hence, we find it on dead and living trees, where accumulations of withered leaves provide it with the necessary pabulum; on old thatch, on walls, moist rocks, and hollows in woods, wherever in in fact vegetable mould can accumulate, but it is only when moist and shaded that it attains perfection, whether the soil be good or bad.

To grow this fern, it is only necessary to bear in mind that, next to a layer of vegetable soil, three or four inches deep, on a damp bottom, a moist atmosphere, and constant shade are essential to its wellbeing. Nothing suits it better than a tree stump in which the process of decay has already commenced; and when seen growing in the forks of old trees and on trunks, roots, and the tops of old pollards, it is one of the most beautiful objects among all the race of ferns, where beauty is by no means rare. When grown in pots, plenty of drainage is requisite, and the pots may be partly filled up with any common soil, provided the roots have at least three inches of good vegetable mould, such as silky yellow loam, full of fibre, tough fibry peat, or half-decayed cocoa-nut fibre refuse. When planted in pots, the soil should first be firmly pressed and the rhizomes should then be securely pegged down and filled in between with soil so as to be slightly covered. The operation of watering, and the natural tendency of the rhizomes to run on the surface, will cause them to appear on the surface after a short time, and they should not again be covered. Plenty of water should be given all the summer, nor must it be withheld altogether during winter, when the plants are in pots; but those in the open air fernery will take care of themselves when dormant.

Though the commonest of all ferns, we have found this, with Lastrea filix-mas for a centre-piece, the most effective of all hardy ferns for large vases; and we have at the present time in the entrance hall one of Ransome's most elegant vases filled with these two ferns only, and it could scarcely be surpassed in appearance,



ACUTUM. BIFIDUM.

even if furnished with exotic species. The common polypody is always evergreen when protected, and will endure several degrees of frost without changing colour.

There are numerous varieties of this fern, of which I shall notice only those that are really interesting or beautiful.

There are eighteen varieties of this fern enumerated in the Fern Catalogue (No. 6), published by Messrs. Stansfield and Sons, of Todmorden. In the catalogue (No. 1) of Mr. J. Illman, of Strood, there are twelve. In the "Descriptive Catalogue of British Ferns" (No. 7), by Mr. Sims, of Foot's Cray, there

are seventeen. The most distinct of these are the following :—

*Acutum*, tips of the segments narrowed to a tapering point.

*Auritum*, an ear-like process on the upper edge of each lobe, near the rachis of each.

*Bifidum*, lobes two-cleft sometimes three or four cleft, and all the lobes differing from each other throughout. This is a very bold variation from the type, and being both handsome and curious, well deserves admission to the choicest collections. It is an excellent fern for culture in glass cases.

*Cambricum*.—This is otherwise known as the "Welsh Polypody," and is one of the handsomest of all British ferns. It is of dense growth, the frond usually taking the form of a nearly regular triangle, and in all cases being considerably blunter and broader than the type. It is bipinnatifid throughout, the lobes much widened in the centre and overlapping, and except at the base and apex, cut into narrow serrated lobules. This fern has a lively light green hue, a rich leafy appearance ; it grows with great vigour, and is always barren. Like the type and the rest of the varieties, it may be increased by divisions of the rhizome ; but the process of division may be carried so far with the Welsh polypody, that every separate frond may be made to form a plant. The process of multiplication is performed as follows :— Take a fine plant, and cut the rhizome into as many pieces as there are fronds, and with a perfect frond to each piece. These cuttings are to be carefully potted in small pots, the soil chopped peat or decayed cocoanut refuse, and each must be fixed firmly in its place by means of a wooden peg. Plunge all the pots in some moist material, such as cocoanut dust, and shut them up in a shady frame. Keep them moderately moist by occasional sprinkling, but

never allow them to get very wet and give but little air. In the course of about six weeks they will begin to throw up new fronds ; and as soon as that occurs it may be concluded that they have acquired the character of independent plants, and may be treated accordingly. To grow Cambricum to perfection, keep it close and shaded, frequently sprinkled, allow sufficient pot room, and for soil take the best peat that can be had.

I have seen it grow to remarkable luxuriance in a mixture of old decayed thatch and rotten wood; in fact, any sweet vegetable earth will suit it. Near London, it should be grown under glass exclusively. It is too delicate for the open air; but it will make amends for its delicacy by its luxuriance and beauty when grown in a glass case.

I have been favoured by E. K. Clay, Esq., of the Vicarage, Waterbeach, with some sportive fronds of P. cambricus, which are here figured, A, B, C. Respecting them he says: "They

B

were all growing from the same root —those marked A and B, almost from the same stalk. A still more curiously shaped frond I gave to a friend in Dublin." A plant so sportive should be carefully preserved, and left undisturbed; in the course of time it may throw up crowns producing fronds of a distinct form, and so originate a new variety. Such a form as A or B would be a desirable addition to the lists, and perhaps might even now be secured by the process just described for the multiplication of polypodies by cuttings of the rhizome.

*Compositum* combines some of the peculiarities of *semilacerum*, *sinuatum*, and *bifidum*, and is a very interesting fern.

*Crenatum* has large, broad, nearly erect, six to nine inch wide, pointed ovate fronds, their divisions long, tapering, wavy, and more or less roundly toothed. There are several inferior forms of this in cultivation; when *true*, it is quite distinct, and one of the finest of the series.

C

*Cristatum*.—Fronds narrow, each division ending in a forked crispy tuft, and the frond terminating in a larger tuft. Very handsome, distinct, and desirable.

*Deltoideum*.—Fronds almost triangular, the divisions broad and tapering, the lowest pair very broad, and deeply toothed on the upper edge, on the lower edge deeply cut into D shaped lobules; very handsome and distinct.

*Multifido-cristatum.*—This is a crowned form, and might with propriety have been designated "Coronatum." The frond consists of a long rachis, which terminates in a forked, leafy, crispy tuft, which is continued downwards for an inch or so in the form of a narrow leafy margin, which is sometimes divided into crested lobes. It is rare, curious, extremely beautiful, and, fortunately, very constant.

*Multiforme* presents the distinctive features of several other varieties, and is a true composite.

*Omnilacerum.*—The lobes are irregularly pinnatifid, as in Cambricum, the lobules being long and narrow, and the lobes terminating in attenuated points, so as to have a "horned" appearance.

*Semilacerum.*—This is the "Irish Polypody," and a proper companion both in habit and aspect to the beautiful "Welsh Polypody." The frond consists of a long rachis, the leafy part being six to eight inches broad, with narrow divisions deeply divided into slenderly toothed lobules, the upper part of the frond bluntly and broadly toothed only, and this diminishing gradually. Unlike the Welsh Polypody, this is tolerably fruitful, and the plants produced from the spores are tolerably uniform in character, and preserve all the distinctive peculiarities of the variety. It is one of the finest evergreen hardy ferns we possess, and should be in every collection.

*Serrato-truncatum.*—The divisions toothed, and the ends appearing as if bitten off.

SEMILACERUM.

*Suprasoriferum.*—Of the same form as the species, but bearing its spores occasionally on the *upper side of the frond.* It is not constant, but the most curious sport known. It puts one in mind of some of the anomalous organizations met with in Australia.

SHIRLEY HIBBERD.

## THE IVY.

(An Abridgment of a Paper read before the *Central Society of Horticulture.*)

BY SHIRLEY HIBBERD, ESQ., F.R.H.S.

(*Continued from page* 31.)

DOES IVY INJURE TREES AND WALLS?—Observations of the growth of ivy will, I think, establish two conclusions—first, that it never benefits the tree to which it clings; that it tends slowly and surely to destroy the means of its support, and, as sometimes happens in the affairs of men, the parasite becomes the usurper, and the monarch of the forest succumbs at last to the insidious enemy to which it first afforded the means to lift its head above the earth on which it else must have lain prone and helpless. Shakspere, ever ready to illustrate the accidents of life by the ways of nature, uses this fact with remarkable effect in the "Tempest" (i. 2), where Prospero recounts to his daughter the story of his wrongs, he compares

Antonio to the ivy exhausting the tree to which it clings for support:—

> "Now he was
> The ivy, which had hid my princely trunk,
> And sucked the verdure out on't."

This tendency of ivy to kill trees may be kept in check by the exercise of a little care. The parasite probably does not "suck the verdure" out of the tree—it simply kills by suffocating, when by rampant growth it overwhelms the head of the tree, and this the knife will arrest; and the gardener's business is to see that when ivy is allowed to grow on trees in gardens it does not run too wildly in the head of the tree, which a reasonable amount of cutting back annually will effect.

The second conclusion respecting ivy is that it never injures a wall, but is to be considered as a preservative of buildings, for where ivy grows it is impossible for a wall to be damp. Many a wall has become damp when ivy has been removed from it, but the best remedy for a damp wall is to plant ivy on it. Not long since the question whether ivy injures buildings was made a subject of discussion in the *Times*, a certain archdeacon being properly anxious about the safety of the sacred fabrics in his charge, put the question, Does ivy on a church hasten its decay? To that question a churchwarden replied that "nothing so effectually keeps a building dry as ivy; for after the heaviest rain the wall to which it adheres will be found quite dry, the leaves acting as a weather-board, or vertical tiling, to throw every drop of rain away from it. Its exuberant and web-like roots," he said, "bind everything together with which they come in contact with such a firm and intricate lace-work that not a single stone can be removed from its position without first tearing away its protecting safe-guard." This holding of the old fabric together may be of further importance in the case of venerable old churches on which *restorers* have cast their Vandalic and Iconoclastic eyes: perhaps the warden had such in view when he laid stress on the conservative principles of his favourite evergreen. In proof of his statements he refers to ruins of castles and abbeys, "for while in those parts of the structure that have not had the advantage of this protection all has gone to utter decay, where the ivy has thrown its preserving mantle everything is comparatively perfect and fresh, and oftentimes the very angles of old sculptured stones are found to be almost as sharp and entire as when they first came from the mason's yard!" This is fortunate, for what should we do without ivy in the regions of the picturesque? How it marries the youth and freshness of the world to things old and crumbling to dust; how it brings the past and the present into complete unity, and shows us how "on the faltering footsteps of decay youth presses;" and in its riotous luxuriance vindicates the triumphs of nature over the art of man. And when it reaches the topmost tower of the ancient castle or the hallowed shrine, and throws out its huge bosses of shining leaves and flowers, like a canopy to the summit, "the fowls of the air lodge in the branches" of it, and a thousand happy ministrels sing the merry song of the "Ivy Green."

Species and Varieties.—There are strong probabilities in favour of considering the majority of the so-called species merely as forms of one specific type. That *H. canariensis* and *H. helix* are so related is now generally admitted; but there are good reasons for regarding *H. Regneriana* and *H. cordifolia* as scarcely entitled to be regarded as species, for in their several varieties they approach remarkably near to varieties of canariensis and helix. But I shall not attempt to classify the hardy ivies on any method having mere opinion for its basis; and it will, perhaps, be better for purposes of reference to characterize as species all those that have hitherto been regarded as such, simply because of their distinctness of form and habit, and claim on that ground to be separated from the mass of varieti s that differ but little among themselves. The following are the most useful and interesting:—

*Large-leaved Green and Variegated Ivies.*

1. Hedera Algeriensis. — A species remarkably distinct and handsome, and has no equal among hardy ivies for the freshness and sparkle of its foliage, which is of a comparatively light tint of green. The leaves are large, almost angular, distinctly three-lobed, highly varnished, and of firm texture. The habit is robust, and the growth rapid. A fine ivy for walls, and especially for the pillars of porticoes and other places where a very distinct and lively climber would be seen to full advantage.

2. H. Canariensis. — This, the well-known "Irish ivy," is classed as a species because of its distinctness, and the comparatively close adherence to the type of its sub-varieties, although there can be no doubt whatever that H. helix is specifically identical with it, and that one of the two is to be regarded as a variety of the other. It is too well known to require description, and it may be regarded as the most useful of all the ivies known for rapid growth, adaptability to any soil or situation, and rich luxuriance of habit. Irish ivy does not train itself so readily as the climbing forms of H. helix, and for the first year or two after planting it should be carefully nailed in. When established, it trains itself regularly, if the wall is moderately rough.

3. *C. arborescens.* — This is the fruiting form of Irish ivy. The leaves are ovate without lobes, and slightly curled, so as to show the under side. It is superb in habit and aspect, and well adapted both for the decoration of the conservatory and to use as a furnishing plant for beds in winter.

4. *C. aurea maculata* differs from the type only in its curious variegation. Some of the leaves are wholly green, others are delicately blotched with cream and amber, and others are either half green and half amber, the colours dividing at the midrib, or wholly of a lively amber hue. It is a fast grower, and acquires richer colours with age, but is never constant in its variegation. A fine specimen of this richly-coloured ivy is a magnificent object.

5. *C. marmorata* has elegantly-marbled leaves.

6. *C. marmorata elegans*, syn. *latifolia maculata.*—Invaluable for conservatory decoration in winter. The leaves are very uniformly blotched and clouded with creamy amber, which in places fades to a glaucous haze, and in other places is invaded by dull green in specks, blotches, and patches. The young stems and leaf-stalks are of a bright red colour, and the variety is altogether one of the most attractive we possess. It is invaluable for pot culture, but is rather tender when planted out.

7. *C. palmata*, syn. *Hibernica palmata.*—A palmate form of Irish ivy, free-growing and elegant, well adapted for pillars, and to run over architectural mouldings.

8. *Sulphurea maculata.* — A fine ivy to train to a high wall, as it grows rapidly, and has a very gay appearance all winter, owing to its greenish yellow colour.

9. Hedera cordifolia. — Very distinct, and probably deserves to rank as a species. It has cordate-ovate, entire, coriaceous, dark green leaves. It is of robust habit, and grows rapidly.

10. H. Regneriana. — This is a superb species, distinguishable for its large ovate, entire, leathery, dark-green leaves. It grows rapidly, and is a true wall ivy.

11. *R. arborea.*—This is the flowering form of H. Regneriana, and the most distinct and handsome of all tree ivies. When grafted on a short stem, so as to form a moderate-sized shrub, it has somewhat the appearance of a rhododendron.

12. H. æsculifolia.—The horse-chesnut-leaved ivy of Nepaul: leaves compound digitate, leaflets 7, serrated; racemes lateral. A fine hardy tree or shrub; very fruitful, and the most distinct in character of all the hardy ivies.

*Green-leaved Climbing Ivies.*

13. Hedera helix.—This species varies so much according to the age of the plants and the circumstances of their growth, that it is impossible to describe it in such a way as to include in the description even its most

common forms. Nevertheless, when growing wild, whether throwing up weak shoots and minute dark green leaves on a ruin, or running rapidly with fleshy stem and light green acuminate leaves up the bole of a tree, is never difficult of identification, the veining and general character of the leafage having in the varieties many points of similarity. The most frequent form of the leaf is triangular, with three distinct pointed lobes forming the triangle, and two indistinct rounded lobes at the junction with the leaf-stalk. It is very beautiful when it acquires a fruiting state, the narrow ovate leaves being of a bright glossy green, and with the umbels of flowers or fruit borne on freely branching arborescent stems.

14. *Baccifera lutea.*—This is the climbing form of the yellow-berried ivy, and does not greatly differ in general characteristics from H. helix. When it acquires a fruiting state, it is remarkably handsome; but the berries are of a greenish-yellow, and hence less beautiful than those of the variety which follows.

15. *Chrysocarpa.*—It is of great importance for the cultivator to be able to identify this variety, on account of the brilliant golden colour of its berries, and fortunately it is as distinct in its leafage as in the splendour of its fruit. The leaves are distinctly quinquangular, the segments lengthened out into lanceolate lobes; and when the leaves obtain their largest size, there are added two small auricled lobes at the base. Colour of leaf a deep green, with distinct whitish midrib and veins. This variety is a native of India, and at present scarce.

16. *Digitata.*—The leaf regularly divided into five equal finger-like lobes; the colour bright deep green, with prominent white veins.

17. *Crenata.* — A quinquangular form, not greatly different from the type.

18. *Lobata.*—Leaves sharply and distinctly lobed; fast-growing and distinct.

19. *Palmata* —Scarcely to be distinguished from the type in the form of the leaves, but it may be known by a peculiar bluish tinge of the under side of the leaf. It grows rapidly.

20. *Gracilis.* — Habit very slender; leaf-stalks hair-like; leaves dark green, regularly but not deeply lobed.

21. *Sagittæfolia.* — Leaves distinctly arrow-shaped, dark green, with whitish veins; distinct and pretty.

22. *Poetica.*—The "Poet's Ivy" is a very pretty form of H. helix; the leaves are of the full size of the type, somewhat angular; the terminal lobe a regular triangle; the side lobes very slightly marked. The colour a fresh bright deep green, glossy, and with whitish veins.

23. *Himalaica.*—Not very different from the type; habit slender, long-jointed; leaves approximating to the form of an isosceles triangle, the terminal lobe being long and wedge-shaped. This has no special excellence, and is, perhaps, less effective as an ornamental shrub than the English form of H. helix.

24. *Taurica.* — A very beautiful green-leaved variety from Taurica. The leaves vary from a distinct cuneiform outline to regular ovate or broadly triangular, with three distinct lobes. They are small, deep green, glossy; and the plant is of a robust growth, short-jointed, and soon makes a compact and handsome specimen. This should be selected by cultivators as one of the best of the green-leaved ivies for exhibition and home decoration.

25. *Taurica Leeana.* — A pretty variety of the last, though not very distinct from it.

26. *Pennsylvanica.*—Leaf broadly quinquangular; dull green, with veins similar to the species. Like digitata and crenata. Makes a pretty bush or pyramid.

27. *Minor Donerailense.*—Leaves distinctly five-angled, and resembling those of 15; colour bronzy-green; curious.

28. *Vulgaris.*—A stunted and impoverished form of the type, as it frequently appears when growing on ruins. It does not deserve to be considered a variety, and ought never to have been named as distinct from H. helix.

*Arborescent forms of H. helix.*

29. *Arborescens.* — The fruiting form of the species. It forms a beautiful shrub, either grafted or on its own roots; berries black.

30. *Arborescens aureum.*—An elegantly variegated form of 29, the leaves being deeply margined with bright orange. This forms a beautiful shrub, and is quite hardy.

31. *Arborescens alba lutescens.*—Similar to 30, but with the leaf belted with white. This and the preceding are the most picturesquely marked of all the arborescent forms of H. helix.

32. *Arborescens aurea maculata.*—The leaves are clouded, and splashed with broad masses of bright sulphur yellow; a very handsome and fast-growing variety.

33. *Arborescens baccifera lutea.*—This is the fruiting form of 14; it makes a pretty bush, and is very fruitful; berries greenish-yellow.

34. *Arborescens marginata argentea.* — Leaves slightly lobed, ovate, acuminate, uniformly margined with creamy white.

35. *Arborescens minor lutea.* — Small, regularly ovate entire leaves, deeply margined with sulphur-yellow.

36. *Arborescens chrysocarpa.* — The fruiting form of 15, and the most beautiful of all fruiting ivies when covered with its golden berries. It requires a dry soil and free exposure to sunshine to render it prolific of berries.

## THE GARDEN GUIDE FOR MARCH.

Kitchen Garden.—This is one of the busiest months of the whole year, and great exertion will be necessary in order to keep pace with the work, which will now multiply so rapidly that there will be considerable danger of allowing some things to get behind. Those who have paid attention to our directions for last month will be well forward and able to devote themselves exclusively to the real work of the season.

*Artichokes.*—This is the time to make new plantations and dress up old ones. Plant the suckers in clumps of three, a foot apart in the clumps, and the clumps four feet apart; dress the surface of the quarter with fine coal or wood ashes.

*Asparagus and Seakale.*—This is the best time in the whole year to sow, and the best beds are raised from seed, without any transplanting. The ground should have been prepared long since, and be now in a friable mellow condition. Dress asparagus beds with manure, and make all ready for the crop of the season. Seakale that has been forced should now be allowed to grow, to gather strength for next season. Remove all the coverings from the stools, lightly fork between the rows, and dress with strong manure. Asparagus beds to be forked over, and sprinkled with salt.

*Beans and Peas.*—Sow for succession as required. The marrow peas are the kinds which answer best for present sowing. If any accidents have happened to early sowings, get in a few rows of Early Emperors and Dillistones at once; these will come in usefully between the first earlies and the marrows. Dress the roots of peas and beans with wood-ashes or soot before moulding up. Earth up as needful. If slugs abound, strew wood-ashes or soot along the rows. Knight's Dwarf Marrow and Taylor's Long Pod beans are good sorts for a late supply.

*Brocoli* for autumn use to be sown in small quantities this week and next. Early White, Walcheren, and Purple Sprouting will give a good succession.

*Cabbage crops* of all kinds to be cleared off the ground as soon as possible to make room for spring produce. Broccolis, Brussels sprouts, Scotch kale, etc., etc., now begin to cumber the ground. If there is any fear of the supply running short before round spinach and other early vegetables come in, plant the best of the old stumps in a quarter by themselves, and they will furnish a few good gatherings. Otherwise consign them to the muck-pit to rot into manure. Sow at once Rosette Colewort, Early York, and Shilling's Queen and Grange's White and Purple Brocoli, and London Market Broccoli.

*Cauliflowers* will be growing now that the weather is milder. Give air by tilting the lights, and let them have warm showers, but cover up at night in case of frost.

*Celery* sown early will now require to be pricked out into boxes on a slight hotbed. The plan we have followed many years with the first crop is to pot them separately in 60-sized pots, which they completely fill with roots by the time the

weather will allow of their being planted out, and then they suffer no check. Sow now for the main crop.

*Onions.*—Main crop to be sown about the middle of the month. Choose a rich and sweet piece of ground that has been heavily manured and ridged up. Reading and James's Keeping are the best for main crops. Silver Skin and White Globe, sown thick on very poor soil, are the best for pickling.

*Potatoes* may be planted for main crops. The seed should be hard, dark green; the sprouts short, and purple; the soil in a dry state and quite pulverulent; the sets trenched in—the dibble is a destroyer. Cover only three or four inches, so that the hoeing between and earthing up will add to their depth, and cover them in the end with about seven inches of soil. In spite of the disease, potatoes are grown more extensively than ever both as a farm and garden crop.

*Rhubarb* will be greatly benefited by heavy waterings with liquid manure during dry weather. Like all other docks, it likes moisture and good living. If new plantations are wanted for next season, now is the time to make them. Choose deep, rich soil, trench and manure, and plant stout pieces of good varieties, with one plump eye to each; rub off any small side eyes, and in dividing, do as little damage to the roots as possible. If not gathered from at all this season, these plants will be very strong next spring; but if gathered from too soon, they will never be strong.

*Saladings* of all kinds to be sown in small breadths. Lettuces may be planted out in quantities, and succession crops sown.

*Spinach* to be sown in successive breadths between rows of peas. This crop is apt to come in a glut, and this should be guarded against by sowing only a sufficient breadth at one time for a fair supply. Where there is plenty of room New Zealand Spinach may be sown in heat for planting out; a dozen plants will be enough for any family. The spinach beets are delicate and useful vegetables to sow a fortnight from this time.

*Sweet Herbs* to be sown and planted. The majority of these do best on raised banks of sandy earth, in the full sun.

*Winter Greens.*—Sow first crop of Brussels Sprouts, Scotch Kale, and Savoy. Drumhead Savoy sown in February will now want pricking out, to get strong for planting as vacancies occur in the open quarters

Fruit Garden.—*Wall Fruits* are now pushing into bloom, and protecting material should be put up at once, if not done already. We use Haythorn's hexagon netting, and find the large meshes as effectual as the small, and the price is considerably lower. Beware of coddling the trees by means of shelter. Sunshine and air are beneficial; it is frost that does the mischief. If any pruning or nailing has been neglected see to it at once.

*Grafting* may be commenced now; and as we are likely to have cold drying winds, be careful to clay and moss the insertions securely.

Flower Garden.—*Balsams* for bedding out to be sown this week. These need not have such high culture as those now coming on for early bloom in pots, as short, sturdy, slow-growing plants are required. Balsams must always have a rich light soil, suffer no check, and be well supplied with water.

*Box edgings* made now will do far better than in autumn. If the weather is dry after planting, keep newly-planted box well watered, as, if a few plants die, the unsightly gaps are not easily mended in the height of summer.

*Herbaceous Plants.*—Continue to divide and plant the borders. The early blooming kinds are now coming into flower, and may be propagated from cuttings as soon as the bloom is over.

*Liliums.*—If these are growing freely in good turfy peat, a top-dressing of half-rotten cow-dung will now be beneficial. Give plenty of water, and take care the pots are not exposed to hot sun.

*Pansies* to be pegged out in the style of verbenas, so as to display their blooms over a large surface, and root if they please at every joint. For those who use pansies in beds and front lines, Magpie and Trentham Blue are two very valuable kinds; but they are not show flowers. Sow now to bloom during the summer.

*Roses.*—This is the best time to plant dwarf roses from pots. Plants from last year's cuttings may now be had in 54-sized pots full of roots, and the Chinas and Hybrid Perpetuals will be sure to bloom freely in the autumn, if planted in a well-manured loamy soil.

*Rockery.*—This is a good time to buy in alpine and succulent plants for raised banks and rockeries, as their character can be seen in the foliage, and many will now be in flower. The majority prefer a sandy loam; but places should be prepared for such as love chalk or peat, so that several distinct features may be presented in various parts of the construction. For small gardens the saxifrages, varieg ted and other kinds of thyme, aubrietia, smaller

potentillas, and sedum are the most useful. Choice kinds of alpines should be grown in duplicate in pots in case of losses, by which means they can be replaced.

Conservatory. — Frequent changes should be made in this house, and as there are now plenty of things coming into bloom in the other structures, the task will not be found a difficult one. Re-arranging the plants will be found particularly beneficial to the hard-wooded ones, as they will not flourish long in a house of this description. All soft-wooded plants may be suffered to remain till their bloom is gone; but overcrowding must be avoided, and care must be taken to keep the foliage clean and healthy. Prune overgrown camellias. Oranges, citrons, camellias, and other plants now in full growth to have plenty of water and an occasional supply of liquid manure.

Orchid House will require an abundance of atmospheric moisture now, and general attention to plants newly potted and those coming into seasonal growth. Give water cautiously to such as are yet dormant, but encourage growth by sprinkling water about the floors, and keep an average day-heat of 80°. The sudden outbursts of sunshine, with dry, cold winds, at this time of year, frequently give rise to disease in the plants. Shading during mid-day may be used to advantage in fine weather, and as most of the stock is now in a growing state periodical steamings will be beneficial.

Greenhouse.—Greenhouse plants are now in active growth, and require more than usual care. Green-fly and all other enemies will abound, and if not kept in check, irreparable mischief will ensue. See at night that there is water in the house to warm and soften for next day's use. Use the syringe among fuchsias, acacias, and other subjects that are now growing freely. Be careful in giving air that there is no chill, and regulate watering and ventilating by the weather. As soon as the weather gets warm and settled pass every potted plant through your hands to shift those that need it, top-dress those not shifted, and to prune, train, and propagate as occasion may require.

*Bedding Plants.* — Keep the stock warm, and give little air. We shall soon have bright weather, when they may be more freely ventilated, to harden the wood and check their growth. Let nothing remain in the cutting-pans after forming roots, as every day beyond the proper time is a day wasted to the injury of the plants. Cuttings put in now will bear more heat than those put in a month ago, as vegetation is more active with the advance of the season. There is plenty of time now to raise stock of verbenas, petunias, fuchsias, and lobelias, and they will bear a moist temperature of 75° to advantage. Young plants that want a shift to larger pots, and which are to be stopped to make them bushy, should be stopped first, and the repotting delayed till the side-shoots begin to break.

*Capsicums and Tomatoes* to be potted off and put in a moderate heat to encourage new roots. Use light rich soil. Tomatoes wanted early may be thrown into a blooming state by allowing them to get pot-bound in small sixties; as soon as they show for bloom shift to forty-eights; and when they fill those pots with roots, shift into six or eight inch pots. By this method a very early crop of fine fruit may be secured in pots, and there is generally plenty of room to ripen them under glass after the end of May. In shifting none of the crocks should be taken from the roots, but the ball should be lifted without damaging a fibre into the pots they are shifted to, and the compost filled firmly round it. As the fruits swell use strong manure-water, and plenty of it.

*Dahlias* at work will require to be potted, and those not set to work should be laid over a tank, or placed on dung-heat at once, to get strong plants. The dahlia-grower is, however, reminded that the gain in time by early propagating is sometimes a loss in the end.

*Geraniums* that have been kept in pits, windows, and cool houses, in a rather dry state, now require pruning and a little water. If they can be put in a warm house to give them a start, they will bloom earlier; but Tom Thumbs and other comparatively hardy kinds commenced growing long since. Those that are to be flowered in pots require a shift; those that are to be turned out into beds may remain in pots as they are.

*Pelargoniums* now showing their trusses will need a little manure-water occasionally, and occasional syringing. Plants lately potted to be stopped as soon as their new growth admits of it, or they will soon become leggy.

*Strawberries* under glass require frequent and liberal supplies of water at the roots, and sprinkling over the leaves. They must also have something stronger than water at the roots occasionally while swelling their fruit; but manure-water should be withheld a few days before gathering. Strawberries in the open ground may now be heavily mulched, if not done already. Let there be no deep digging near them, and see that the plants are firm in the

ground. Plantations made now will give a moderate crop.

*Succulents* are usually kept dry all winter, and have supplies of water in very small quantities as they commence their seasonal growth. Though easily kept in windows and ordinary greenhouses, they rarely flower unless they have some special care at this time of year. If any of them want larger pots they should now be shifted, and the soil used should be a mixture of lime-rubbish, broken bricks, turfy loam, and a little cow-dung, with plenty of drainage crocks in the bottoms of the pots. As a rule large pots are not favourable to their prosperity, so they should never be shifted unless the old soil is worn out and the plants have grown to a size out of proportion to the pots they are in. All the cacti and mesembryanthemums, etc. etc., now stored on greenhouse shelves, should be dressed on the surface with rotten dung, and be placed over a moderate bottom-heat, with small supplies of water to set them growing. Plenty of light, plenty of water, when in free growth, and a generous temperature are requisite to produce a good bloom.

Orchard House.—Trees in bloom to have air in abundance. Some slight agitation among the blossoms will help to set them. Keep the air as dry as possible till the fruit is set, and while stoning be very careful not to let them get either too wet or too dry at the root. Trees swelling their fruit in the early house to be assisted with manure-water.

Forcing House. — Use the syringe freely on fine mornings, to assist the swelling of figs, peaches, and nectarines. Figs will take more water now; peaches need liberal doses of liquid manure. Pinch in betimes where the trees are making a nice growth. Plums, pears, and cherries are impatient of heat, and should have the coolest and airiest part of the house.

Pits and Frames.—*Cucumbers* in bearing to be kept in good health by very careful ventilation and a steady heat, during dull weather water very sparingly, so as to allow of keeping them rather close. Those coming into bloom to be regulated very carefully, and the laterals stopped above the second joint. Thin the crop in time, if fine fruits are required; but where produce is more important than size and beauty they may be allowed to bear all that set, and they will be sooner over to make room for succession plants. A brisker heat in the frames may be encouraged now by linings; but vermin will abound unless a sharp look-out is kept to fumigate when needed.

*Auriculas* are now growing, and want frequent supplies of water and abundance of air when there is no frost. Remove secondary trusses, and thin the pips in the trusses left to eight in number, taking care to remove those that are ill placed.

*Melons* begin to require considerable attention to set the blooms; train the vines, thin out the superabundant growth, and ventilate cautiously. The more fully developed leaves are better if evenly distributed, so as to have a fair share of light; leaves that are overlapped may be removed, and no side-shoots should be allowed to push which are likely to crowd the vines and rob bearing laterals. But the other extreme must be avoided; thin plants will never produce fine fruits, and none should be allowed to bear until they have acquired a robustness of character. The smaller kinds of melons may be very successfully grown in pots, and, if well managed, the fruit so produced is invariably handsome and finely flavoured.

*Pines.*—Encourage fruiting plants with liberal waterings and atmospheric moisture. Take care the heat does not decline. Plants recently shifted require much care, especially to shade them during sudden bursts of hot sunshine; and beware of giving them too much water while they are making new roots. Where the heat can be sustained without trouble in pits properly constructed, there is no plan so satisfactory as planting them out, or plunging the pots, and allowing the roots to run out into the bed.

Vinery.—*Vines* that have begun to swell their fruit will be much benefited by an abundance of atmospheric moisture, if the heat is kept steady. The thermometer should not go below 65° by night, nor above 80° on the brightest days; but 75° may be considered a good day average. In houses where the vines are coming into bloom there must be less moisture. As grapes begin to show colour more air must be given. Prevent crowding by stopping laterals, or removing them altogether where not wanted. One thing must always be kept in mind, and that is that every bunch of grapes should be shaded by its own leaves.

Greenhouse Plants in Flower.—*Bavera rubiafolia.*—This is closely allied to Hydrangea, and requires similar treatment, but with the temperature of an intermediate house all winter. It is an evergreen under-shrub, and blooms at this time from cuttings of the previous summer. Its natural season of bloom is September.

*Berkheya cuneata.*—A pretty Cape evergreen shrub, useful now for its yellow composite flowers. They are not particular about soil so long as it is sandy, and to bloom now should have been in an intermediate house since January.

*Boronia latifolia.*—This, and B. serrulata and B. pinnata, are truly fine plants, and the three are worthy of a place, as they are very different in flower and foliage from each other. They require much care, and are quite unfit for the collections of amateurs who are much away from home, or for gardeners who have many various duties. The soil should be peat and turfy loam without dung, and the greatest attention must be paid to the watering, as, if water is given when not needed or in excess, the plant will be likely to rot at the collar. These require the same temperature as Bossiæa, with a little extra heat inspring. They belong to the family of Rue-worts.

*Bossiæa ovata, tenuicaulis, and cordifolia.*—These are not much valued, and, though we have ourselves always considered them essential in a collection of New Holland shrubs, we cannot bestow upon them any high praise or venture to describe them as invaluable. They are, however, interesting, and will be most prized where they can be grown with heaths, as they require the same treatment as to soil, drainage, etc., but a warmer atmosphere. They will not bear a much lower temperature than 40° in winter, and require a range of from 60° to 70° during summer. To grow good specimens they must be frequently stopped. Their pea-shaped blossoms are abundantly produced if the wood is well ripened and the drainage kept open by the use of turfy peat, with a considerable proportion of nodules of charcoal intermixed.

*Callistemon phœniceum, and mycrostachyum.*—These beautiful myrtaceous shrubs are highly prized for their graceful long scarlet stamens, and when well grown are of the highest value for the conservatory and drawing-room table. The same treatment as described for Boronia will suit them, and, like Boronias, they do well with heaths, but require rather more warmth than is generally allowed to Ericas.

*Cantua dependens and bicolor.*—These are shy and fitful, and sometimes refuse to bloom under treatment which the previous season was most successful. The soil should be peat and loam, and a few young plants should be raised every season so as to allow of the starving of a few old plants into bloom, and replacing them if after they are not thought worth repotting. From this time the plants should be encouraged to grow in an intermediate house or the warmest end of the greenhouse. Those we have in bloom now were kept dry and cool till the end of January, then placed with camellias and azaleas, and the flowers come abundantly at the points of the shoots. We think the reason of its occasional failing to bloom is the insufficient ripening of the wood the previous autumn. Keep it growing all summer, and from the first week in August begin to dry it, and expose it to the full sun. When housed to be kept nearly dry, and at a temperature not higher than 40° all winter, till again started for flower.

*Chorozema flava, scandens, and varia.*—There are no New Holland plants more worthy of general culture than the chorozemas; they are all beautiful, and will repay for every care and attention bestowed upon them. The proper soil for them is lumpy peat with plenty of fibre in it, and an addition of sand and small charcoal to keep it open and porous. These plants never root deep; therefore wide shallow pots suit them best, as they like to root near the surface. The plants are dormant all autumn and winter, and then require very little water, and in starting them into growth at the turn of the year great caution should be used in watering. They are moderately hardy, and may be kept in any ordinary greenhouse with safety, provided the roots are nearly dry. To ensure plenty of bloom in spring it is only necessary to have the wood thoroughly well ripened the previous autumn. Reds and yellows are the predominating colours in these pretty papilionaceous flowers, and the plants may be used in the same way as Leschenhaultias in grouping where light and graceful forms are requisite. Chorozema scandens is a beautiful plant to train on a dwarf trellis in a six or eight inch pot.

*Double-flowering Peach.*—There are now so many varieties of peach and plum with double blossoms that a very large selection may be made, either for ordinary conservatory work, to give variety among hyacinths, camellias, and azaleas, or for the orchard-house, to add to the gaiety of the scene while the fruiting trees are in bloom. All these double-flowering kinds are as hardy as fruit-producing peaches, but take forcing much more kindly, as a fair expansion of their blossoms is all that is required of them.

*Hibbertia flexuosa.*—The Hibbertias are not very showy, but useful for hanging baskets. H. grossulariæfolia is the best for general purposes.

*Hovea purpurea.*—This and H. ilici-

folia and H. celsu are most beautiful greenhouse shrubs. The culture is the same as for heaths; no manure, and the soil chiefly turfy peat. To grow them well frequent stopping is necessary, as they are very apt to become leggy. They strike readily from cuttings in silver sand over a moist bottom-heat.

*Salvia gesneræfolia.*—This fine species is only fit for the stove, where, with good treatment, it may be now one mass of scarlet bloom. We have found it make the most satisfactory bloom by growing it in a mixture of one half turfy peat, one quarter silky loam, and one quarter leaf-mould, and when the bloom-buds first appear to dress the top with rotten dung, into which the plant throws surface-fibres and blooms with great vigour.

## MARCH, 1864.—31 Days.

Phases of the Moon.—Last Quarter, 1st, 1h. 12m. after.; New, 8th, 3h. 59m. morn.; First Quarter, 15th, 6h. 7m. morn.; Full, 23nd, 10h. 24m. morn.; Last Quarter, 30th, 10h. 20m. after.

Averages for the Month.—Bar. 29·984. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | Morn. | | |
| 1 | 6 47 | 5 39 | 1 28 | 10 0 | Cloudy; very fine | St. David |
| 2 | 6 45 | 5 41 | 2 27 | 10 55 | Densely overcast; fine | St. Chad |
| 3 | 6 43 | 5 43 | 3 21 | After. | Cloudless; bright sun | Wesley died, 1791 |
| 4 | 6 40 | 5 44 | 4 5 | 1 15 | Foggy; hot; ther. 70° | Day breaks 4h. 48m. |
| 5 | 6 38 | 5 46 | 4 45 | 2 34 | Slight fog; fine, warm | Covent Garden Theatre burnt, 1856 |
| 6 | 6 35 | 5 48 | 5 16 | 3 59 | Fine; cloudy; wind | 4TH SUNDAY IN LENT |
| 7 | 6 34 | 5 50 | 5 47 | 5 23 | Cloud; fine; rain | Perpetua [1862 |
| 8 | 6 31 | 5 51 | 6 13 | 6 46 | Fine; cloud; showers | Merrimac and Monitor contest, |
| 9 | 6 29 | 5 53 | 6 40 | 8 7 | Frost; clear; sharp fst. | *R. H. S. Hyacinth Show* |
| 10 | 6 27 | 5 55 | 7 7 | 9 27 | Hazy; fine; slight rain | John Playfair born, 1748 |
| 11 | 6 25 | 5 56 | 7 36 | 10 42 | Overcast; fine, but cold | Twilight ends 7h. 51m. |
| 12 | 6 23 | 5 58 | 8 10 | 11 50 | Cloudy; rain; fog; fst. | David Gorrie, landscape gardener, |
| 13 | 6 20 | 6 0 | 8 50 | Morn. | Fine; sharp frost | 5TH SUNDAY IN LENT [died 1856 |
| 14 | 6 18 | 6 1 | 9 35 | 0 53 | Dense fog; fine; rain | Klopstock died, 1803 [menced, 1852 |
| 15 | 6 16 | 6 3 | 10 27 | 1 47 | Overcast; fine; rain | Mausoleum at Frogmore com- |
| 16 | 6 13 | 6 5 | 11 23 | 2 31 | Cloudy; showers; wind | Duchess of Kent died, 1861 |
| 17 | 6 11 | 6 7 | After. | 3 8 | Clear and cold; clouds | St. Patrick |
| 18 | 6 9 | 6 8 | 1 26 | 3 39 | Frost; clouds; fine | Cambridge Lent term ends |
| 19 | 6 7 | 6 10 | 2 29 | 4 5 | Cloudy; fine; rain | *R. B. S. First Spring Show* |
| 20 | 6 4 | 6 12 | 3 32 | 4 27 | Rain; fine; wind | PALM SUNDAY |
| 21 | 6 2 | 6 13 | 4 36 | 4 49 | Boisterous; fine; dry | M. L. Vilmorin died, 1862 |
| 22 | 6 0 | 6 15 | 5 42 | 5 10 | Fine throughout [air | Prof. Kunth died, 1850 |
| 23 | 5 58 | 6 17 | 6 49 | 5 32 | Foggy; fine; frost | National Gallery founded, 1824 |
| 24 | 5 55 | 6 18 | 7 56 | 5 52 | Fine throughout | Josh. Priestley born, 1773 |
| 25 | 5 53 | 6 20 | 9 5 | 6 16 | Fine; hot sun; th. 69° | GOOD FRIDAY |
| 26 | 5 51 | 6 22 | 10 13 | 6 45 | Fine; cloudy; frost | Charles Albert abdicated, 1849 |
| 27 | 5 48 | 6 23 | 11 18 | 7 19 | Fine; cloudy; fine | Mr. Drummond, botanist, d., 1863 |
| 28 | 5 46 | 6 25 | Morn. | 8 0 | Fine; cloud; windy | French victories at Cochin China |
| 29 | 5 44 | 6 27 | 0 20 | 8 51 | Cloudy; fine at night | Earthquake at Quito, 1859 [1862 |
| 30 | 5 42 | 6 28 | 1 15 | 9 51 | Fine throughout | N. W. Wickham died, 1846. *R H.* |
| 31 | 5 40 | 6 30 | 2 2 | 11 1 | Light hazy clouds; fine | R. Descartes born, 1596 [*S. Show* |

Probable Weather, March, 1864.—Likely to be very wet during the first half of the month, thence to the end very changeable, with occasional frost.

## NOTICES OF BOOKS.

*The Journal of Botany, British and Foreign.* Edited by Berthold Seeman, P.H.D., F.L.S., etc. Robert Hardwick.—We much regret that our limited space compels us to attempt no more than the briefest possible notice of this work. It has been in existance fifteen months, and is now everywhere recognized as the proper means of intercommunication among botanists of all pretensions, schools, and degrees. The editor is one of the most experienced and far-sighted botanists of our time; a sound scholar, and a traveller of highest repute. With him are associated the ablest and most renowned botanists, not only of England, but of Europe; and the result is that botany is fairly and fully represented, and every enlightened endeavour for its improvement and advancement brought to the test of fair criticism, and, if needful, of earnest advocacy. Among the numbers before us is a full translation of Goethe's celebrated paper on the "Metamorphosis of Plants." Some of the historical papers that occasionally appear exhibit sound learning and a refined taste. The work is published monthly, at 2*s.*, and is illustrated with coloured plates.

*The Botanists' Chronicle,* published at 28, Upper Manor Street, Chelsea, is a small monthly circular, conveying items of botanical news and contributions on British plants and their uses, etc. If unambitious it is at least useful, and being published at one penny, will be of special service to the humbler class of botanists.

*The Rose Book* is the title of a new illustrated work on the cultivation of the Rose, by Mr. Shirley Hibberd, F.R.H.S., which will be published in the course of the present month, by Messrs. Groombridge & Sons. The price will be five or six shillings.

## TO CORRESPONDENTS.

Selection of Show Flowers.—*J. H.*—If you intend to show sets of 4 and 2 among the subjects named, you ought to grow more in order to have extra strings to your bow. However, we gladly comply with the request. 4 *Fuchsias single*, Bridesmaid, Earl of Devon, the Lord Warden, Wiltshire Lass; 4 *Fuchsias double*, Universal, Sir Colin Campbell, Madame Cornelissen, Hercules; 4 *Calceolarias*, Ajax, Gem, Desirable, Excelsior; 4 *Scarlet Geraniums*, Dr. Lindley, Beauty, Eleanor, Alfred; 2 *of any class*, Mrs. Pollock, Sunset; 2 *Phloxes*, Alice Allain, Madame Van Houtte; 2 *Petunias*, Eliza Matthew, Flower of the Day; 2 *Roses*, Madame Vidot, Comtesse Cecile Chabrilland.

Forming a Fernery.—*R. Q.*—You could not obtain a *complete* set of British ferns at any price, but the most complete set possible, such as Mr. Sims could supply, would cost you about £150. The varieties of Scolopendrium alone would cost over £80 to have one plant of each. But for a very few pounds you could have a selection of all the most useful, for such as the common Lastrea, Lady-fern, Blechnum, Harts-tongue, etc., The place selected is well shaded by trees, and eminently suitable for ferns. We would advise you not to bury any of the butts and other pieces of rustic timber near the roots of the adjoining trees, as there is frequently engendered large quantities of the spawn of fungi by decaying timber, and the roots of living trees are sometimes seriously damaged in consequence. You must ram the soil firm in all the larger spaces between the butts and roots, and grout it into the small crevices. The commonest stuff will do for this purpose. If you intend to grow any very choice ferns you must have peat, but all the robust growing kinds will thrive in good yellow loam. If the loam is inclined to clay, mix with it a third part of cocoa-nut fibre refuse, or leaf-mould. Mr. Sims' "Deseriptive Catalogue of British Ferns" may be obtained through the post by sending six stamps to him at Foot's Cray. It is the best trade list of British ferns, and of much more value than some of the expensive books upon the subject. The best book on British ferns is "Moore's Handbook," published at 5*s.* by Messrs. Groombridge and Sons. We have given so many lists of ferns that we must on this occasion refer you to previous issues.

Beds Gay in Winter.—*H. B.*—Reference to former volumes will show you that we have treated this subject at considerable length. Perhaps as the winter is nearly over, you may not now be anxious about the matter. But we advise you to procure at once, and pot for use next winter, a few (say a dozen each) of the following shrubs—Erect-growing Chinese Arbor-vita, Pinus cembra, Pinus excelsa, Pinus monticola, Abies Khutrow, Laurestinus, Irish Ivy, red cedar, and green holly.

Suppose you had just a dozen each of these potted, you could at once plunge them in the nine pairs of beds, six of each in a bed, right and left all down, and make the beds gay till you can put flowers in them. Those we mention are kinds that are eminently adapted for the purpose, as they bear potting patiently and are of a lively character, and may be had cheap. Our own garden is always furnished in winter with such things, and we shall have to say something about the system shortly. The volume on "Garden Favourites" is out of print. The book on the rose will be published shortly.

THE APPEAL.—Received for poor Botanist, *W. C.*, £1; *W. D. T.*, 10*s.* 3*d.*; *M. G.*, stamps, 2*s.* 6*d.*; *D. P.*, 3*s.* 8*d.* We are not less grateful than our poor client, and we tender sincere thanks to those friends who have responded so generously to our appeal. We now have the pleasure to announce that a sufficient sum has been raised to enable the recipient to enter into business; the money having been subscribed solely as a guarantee fund to secure the payment of the first year's rent, and the necessary fittings of a shop for the sale of botanical specimens. The subscription is therefore closed.

TRICHOMANES RADICANS.—*Rosa.*—All your failures with this rare fern, as well as with Hymenophyllum Tunbridgense and Todea pellucida, arise through giving too much air. We can call to mind all the difficulties we had to encounter in our early days of fern-growing, and how by degrees, and after much costly experience, we learned that the golden rule in growing these rarities is *not to give air at all.* Plant as directed in the books, and add the rule we now give to the other rules you have on the subject.

TURNING VINES OUT OF THE HOUSE.—I intend building a 30-feet greenhouse, and wish to grow grapes as well as plants, but I have always heard that they never do well together, because the vines require to be hardened by exposure for a couple of months in winter. I therefore propose to leave holes up the centre of the brickwork at each sash, and put a rod of each vine up and through the centre of the front wall-plate, also to have the front lights hung on hinges, with hooks inside and out, so as to hang on either side of the upright. When the lights are taken out, the vine-rods can be easily removed through the 4-feet opening, and tied under the spout, secure from drip and ice, and the lights hooked on the inside, leaving the greenhouse free for plants without starting the vines. May I request your consideration of this plan and the benefit of any suggestions in your next number.—*X.* [Not the slightest advantage will be gained either to your vines or plants by the plan you propose. By keeping your vines always within the house, the wood will become harder and riper than if exposed to the open air during the two or three dampest and darkest months in the year. You may cultivate grapes to perfection in a common greenhouse, and the worst inconvenience the plants will suffer will be, that the vines will be in leaf before you can safely remove them to the open air, and consequently, throughout the month of May, will have more shade than will be quite compatible with their well-doing. We would recommend you to cultivate none but the hardier greenhouse plants, give abundant air whenever practicable, so as to retard as much as possible the breaking of the vines, and with proper management in other respects your plants will go on satisfactorily. As soon as the shoots of your vines are fairly developed and showing fruit, a little fire-heat should be applied, lighting your fire about one o'clock in the day, and carried on till seven or eight o'clock in the evening; at the same time, for the sake of your plants, giving abundant air. The application of fire-heat will promote the well-doing of your vines, and when your plants are removed to other quarters, an increase of heat may be applied, and the house kept closer, keeping the floor constantly wet, by throwing water on it several times in the day. Continue fire-heat and close treatment till the fruit begins to colour, when give more air, and the fruit and wood will thus become thoroughly ripe.]

VARIOUS.—*Miss K. R.*—The iron hurdles may be obtained of Mr. Hawkins, Dale End, Birmingham. His address was given when the hurdles were described. *J. Parsons.*—Calystegia pubescens may be obtained of any of the nurserymen who advertise in this work. We never recommend dealers. You must have plants; it does not produce seed. Loam is intermediate in consistence between clay and sand. Most garden soils are called loam. The last question would be answered on the wrapper, if thought desirable to answer at all.—*A. B.*—Ask a cooper, or send the query where the other paper went.—*W. R. C.*—Apply to Messrs. Hooper and Co., Covent Garden, London, W.C.

THE

# FLORAL WORLD

AND

# GARDEN GUIDE.

April, 1864.

## BEDDING GENERALLY, AND BEDDING FASHIONS OF 1864.

THE Floral World has endeavoured to keep its readers *au fait* in all the details of the bedding system, and in this its seventh year it has to pronounce for the seventh time that gardens are not made for bedders, though bedders are undoubtedly made for gardens. We never had but one quarrel with the bedding system, though some of our contemporaries have had a thousand. And in spite of the quarrel, we never ceased to offer suggestions for improving the established routine of using bedders, and of adapting the most luxurious notions of bedding to the purses of practitioners, whose taste and ambition were likely sometimes to outrun their means. The quarrel we had with the bedders was of this kind, that in thousands of private gardens they absorbed all the gardener's time, all the master's money, all the attention and admiration of the guests; and in return for this wholesale and general absorption, gave a display of colour during only four or five months of the year, and that very often the same every succeeding year; so much scarlet, blue, white, and yellow, like the wearing of a court costume in business hours, until its very sameness and commonness becomes a joke. The consequence of the usurpation by the bedders has been the deterioration of horticulture, in some respects, among the class to whom it offers the greatest hope of pleasure and profit; namely, the amateurs who generally keep only one gardener, or who perform all the light and amusing operations in their gardens with their own hands. Prohibit these from using bedding plants, and forthwith they will begin to restore to the neglected borders the noble clumps of fragrant white lilies, the patches of Christmas rose, winter aconite, double daisy, polyanthus, primula, Solomon's seal, Indian pink, potentilla, and the thousand other interesting subjects which make no blaze at any season, but are constantly presenting beautiful forms and cheerful colours, and offering

breathings of incense every day throughout the year, and in spring-time especially make the garden where they are to be found in plenty a living poem, which all may read and rejoice in who have eyes to see and hearts that beat. But in making such an objection to the bedding system it was always hard to be understood. One of our most enthusiastic admirers, who carries the FLORAL WORLD with him to all parts of the country, and vows it to be the only book in which amateurs may implicitly trust, met us last summer in the grounds of the Crystal Palace, and the very first words he uttered after greetings had been exchanged were these—"What a mistake it is of you to complain of the march of the bedding system! Is not this a grand display, which it would be impossible to produce by means of border flowers?" There are some arguments so fallacious, that when they are seriously propounded there seems to be but one way of dealing with them; and that is, to let people believe them if they will, for to refute them is a waste of strength. I felt as if just such an argument had been levelled at me in the question of my friend; and instead of making a long speech in vindication of all I had written on the subject, I contented myself by replying, "This is a grand display, it could be produced in no other way than that which has been adopted; and in such a place as this, it is most appropriate and moreover useful." All that I thought it prudent to attempt in the course of a delightful conversation was to this effect, that though we expect to find at the Crystal Palace, Kew, Hampton Court, and such places, good collections of all the most ornamental and interesting hardy plants, we expect above all things to see examples of the best styles of bedding; for it is only during the summer months that our great public gardens are frequented by large numbers of people, and for large numbers there is no better entertainment than a grand display of floral colouring.

But let it not be supposed that we object to bedding exhibitions in small gardens; nothing of the sort. When a certain reasonable proportion of the space at the gardener's disposal is allotted for bedders we will help him, to the utmost of our ability, to make a good display; but when the garden is used only as a receptacle for bedders—when neat conservatories, that ought to be always gay with flowers, are stuffed full all the winter with geraniums and verbenas instead of camellias, genistas, cinerarias, and primulas—when the only beds to be found on the place are those used for the bedding plants, and which are consequently empty and useless seven months of the year—and when the borders are so neglected, in consequence of the claims of the bedders, that they present no attractions at any season, and threaten to become a nuisance;—then we feel wrathful against the vitiated taste which aims at accomplishing an impossibility, and in the effort loses the highest gratification it is possible to derive from the possession of a garden. We shall suppose now that our readers are all reasonable creatures, and so far genuine lovers of gardening as to be able to take dispassionate views of the bedding system, and render it subordinate to the idea of a garden beautiful at all seasons; we shall suppose, in short, that they regard bedders as made for gardens, and not gardens as made for bedders.

At page 101 of last year's volume, in a paper which our bedding friends would do well to read again, I hinted at the tendency of bedding practitioners to develop more and more the most distinct and striking tones

of colour. "Nothing less than sunshine and Tyrian dye will suit us now." We shall see in 1864 many proofs of advance in respect of colour, not only because there has been great improvement in the variety of bedders, and inferior kinds are going out of cultivation, but because the masters have learnt how to produce decisive, sharp, and expressive tones of colour, and a new element has been gradually worked in expressly to increase the definiteness and decision of the expressions. Tricolor-leaved geraniums will be seen in plenty everywhere, those with golden margins being used in conjunction with *Amaranthus bicolor* or *A. melancholicus* and *Coleus Verschaffelti;* not as makeweights, but as principal elements of the design. The result of the increased use of foliage bedders, which the FLORAL WORLD was the first to encourage and explain, will in 1864 render the great gardens remarkable for the boldness of their geometric groups, and the gradual approximation of English garden colouring to the purest examples of arabesque. There are no flowering plants known capable of producing so rich and decided an effect in a composition as *Amaranthus melancholicus*, *Perilla nankinensis*, or *Coleus Verschaffelti*, for the simple reason, that the effect of each is of one kind, there is no green groundwork scattered over with flowers, but the same tone from first to last, and on the day they are planted the effect is the same (though less rich) as on the day when they have attained their fullest luxuriance. Every student of colour knows how successful the Egyptians and Assyrians were in the formation of coloured devices, in which black, red, yellow, and blue played conspicuous parts. Hitherto in the colouring of geometric gardens we have never thought black a necessary agent, possibly because we had no plant suitable to produce it, but we have now perilla, which is sufficiently deep in tone to serve the purpose, and we have also *Ajuga reptans purpurescens*, which Mr. Salter uses in quantity in the curious exhibitions of foliage bedders which are to be seen every season at his nursery, and the leaves of which are several tones darker than perilla, and for all practical purposes may be considered nearest to black of any bedding plant known. But the ancients, and after them the Moors, accomplished some of their most remarkable successes by means of half tones that we have been equally ignorant of in gardening. It is only by the use of foliage bedders that we can produce clear breadths of chocolate-brown, ruby, and dull-red, each tone pure and unmixed, for if we had flowers of those colours, they would be next to useless, because the green leaves of the plants producing them would form with such flowers discordant combinations, and as gardeners we are bound to thank Dame Nature for giving us these colours, *pur et simple*, in the form of stems and leaves, all coloured alike, instead of in trusses of flowers on green-leaved plants, as she presents us with scarlet, yellow, and others of the spectral series.

Fashion has for years been tending in the direction of more decided and more classical effects. By the aid of the yellow-leaved geraniums we can now produce those sharp lines of gold, which are so effective to separate reds and blues, to prevent them blending and forming purples; and where the planter, for the sake of extra brilliancy of effect, desires to use scarlet or blue in excess, the yellow lines with black lines on each side of them, are the most available and classical methods of sepa-

ration. It may sound strange to talk of using black to light up a pattern, but black and gold yellow in thin lines side by side, have a very illuminating effect, with large compartments of red, blue, and white.

But the most satisfactory march of fashions in bedding is the improved modes of using yellow in masses. Hitherto the calceolarias have given more pain than pleasure to genuine artists, through the vulgar display of yellow and scarlet in juxtaposition, and the yellow generally used in such excess as to render it impossible for the eye to take cognizance of other elements. Never yet have the presiding spirits of the Crystal Palace done aught with calceolarias but abuse them, but we think we shall prove true prophets if we say that in place of those repetitions of calceolaria in the south compartment of the second terrace, which have heretofore made artists groan, we shall see the glare toned down with intersecting tones of black, brown, ruby, and other colours producible by the use of foliage plants.

Another movement of fashion is in the direction of what we may call predominating colours. Now this idea of predominating colours is one which every amateur may adopt with equal advantage, both for effect, for frequent change, and for easy cultivation. Let us, instead of elaborating a theory, cite an example. At the Kensington Garden of the Royal Horticultural Society last year, Mr. Eyles adopted for predominating colour blue lobelia, and at the same time illustrated a theory, frequently propounded in these pages, that every garden should present some distinct feature—a feature of sufficient distinctiveness and importance to render every other feature subsidiary to it. The two great triangular friezes on either side the main walk, in the centre of the garden, were almost wholly planted in blue lobelia. The planting of those triangles was in this wise. All the inner beds Lobelia speciosa, presenting such a breadth of intense blue as was never seen before, except perhaps in masses of troops in blue; and there is an artillery regiment, the costume of which is blue picked out in white, which might be mustered in illustration. The long marginal beds were in Crystal Palace geranium, bounded on each side with Purple King verbena and edged with Manglesi geranium. But here, with broad sheets of blue enclosed with thin lines of cream, scarlet, and purple, Mr. Eyles was compelled to use a few of the foliage colours as separating agents, to save the pattern and prevent it becoming like a blue cloth spread on the ground; and very effectually did the strong tones of the foliage colours accomplish the purpose they were put to. The reader does not need to be reminded that orange and brown are the best of all contrasts to blue. Now taking this lesson of Mr. Eyles's as applicable to the planting of small private gardens, we shall see how the proprietors of those gardens may gain, as just remarked, signal advantages in effect, frequent change, and easy cultivation. To raise ten thousand or five thousand plants of one kind is a much easier matter than ten or five thousand of ten, five, or fifty kinds. Plant the geometric garden, then, on Mr. Eyles's plan, and if any doubt about the first start, take blue for the dominant colour, and use white edgings and no yellow at all. Next year let scarlet be the leading feature, with blue and white edgings; and the next year yellow, with black and purple edgings. You may thus go on

for a lifetime, changing the tone of the whole scheme every year, which will be vastly preferable to the present system of endless and wearisome repetition of the same colours, in the same places, in the same proportions, and perhaps in the same execrable taste, from year to year, as if the world had but two plants and one idea; the plants Tom Thumb and Aurea floribunda, and the idea that of using them side by side expressly to torture those whose refined taste compels them to look for harmonious arrangements of colours. S. H.

## THE IVY.

(An Abridgment of a Paper read before the *Central Society of Horticulture.*)

BY SHIRLEY HIBBERD, ESQ., F.R.H.S.

(*Concluded from page* 59.)

*Variegated Climbing forms of H. helix.*

37. *Aurea maculata.* — A free-growing climbing ivy, leaves broadly triangular, and irregularly spotted and clouded with dull yellow.

38. *Aurea densa.*—Leaves three-lobed, occasionally slightly dessucate, dull green ground, clouded and spotted with dull greenish-yellow.

39. *Aurea densa minor.*—A small edition of 38.

40. *Auruntiaca.* — A fast-growing variety, with leaves resembling the type in outline, but the young growth is almost wholly of a bright orange colour, which loses its intensity and becomes more and more green as the leaves get old.

41. *Minor marmorata elegans.*—Leaves small, nearly equal, triangular, elegantly veined and marbled with whitish vegetation.

42. *Palmata aurea.*—Occasionally blotched with orange and red in the centre of the leaf, as if punctured by an insect. This is tolerably pretty, but not very distinct or striking.

43. *Japonica argentea.* — Leaves varying in shape from a regular triangle with wedge-shaped terminal lobe and small blunt side lobes, to an unequal and irregular triangle; the edge of the leaf slightly marked with amber. A neat and free-growing variety.

44. *Marginata argentea.*—There are numerous forms of this beautiful variety, all of them variously margined with creamy, silvery, and yellow variegation. All the varieties of marginata are worth cultivating, whether on walls, in pots, or as marginal lines for ribbons, beds, or terrace verges. They grow with tolerable rapidity, and show their colours best when fully exposed to sunshine, and in a comparatively poor soil. Where it is thought the soil will be too rich for them, as may happen when manure has been largely used, it will be advisable to mix with the soil a considerable proportion of chalk or lime rubbish. The variety catalogued as marginata argentea has small three-lobed leaves, pretty uniformly dull green in the centre, with whitish midrib and veins, with broad margin of creamy-white, producing a rich silvery variegation. This is the variety frequently recommended under the name of "silver-edged ivy," for edging beds in geometric and terrace gardens, as it is as brilliant in the depth of winter as in the height of summer.

45. *Marginata canescens.*—Similar to the last, but the variegation more dense, and of a grey hue.

46. *Marginata Cullisii.*—The variegation consists of a very deep margin of creamy-sulphur, deepening at the edge of the leaf into bright crimson-red. The colouring of this variety approximates very closely to that of the tricolor geraniums.

47. *Marginata elegans.* — Not greatly differing from 44, but more striking when grown to specimen size, the variegation being more intense and brilliant.

48. *Marginata elegantissima.* — Leaves larger than 47. The silvery variegation is uniform and brilliant, and the variety is not unworthy of its name.

49. *Marginata latifolia.* — Leaves deeply margined with clear sulphur-yellow; a very elegant and fast-growing kind.

50. *Marginata major.* — Like 47, with bright line of red on extreme edge of the leaf.

51. *Marginata pulchella.*—Margin not deeply marked with creamy-sulphur, the edge of the leaf tinged with red, which is most distinct on the under side. The reddish hue is seen to be one of the distinctive features of this variety, when a good specimen is seen in full sunshine.

52. *Marginata robusta.* — Irregularly marked with creamy-orange in sharp outlines, which give the leaf the appearance of a palmate green leaf laid on the surface of a larger, almost entire yellow leaf. This is one of the handsomest of the marginata section, and should always be selected, if a few of the most striking varieties are desired.

SYNOPSIS OF SPECIES AND VARIETIES.

No. II.

*Distinct green-leaved Climbing Ivies.*—1, Algeriensis; 2, Canariensis; 3, helix; 4, helix baccifera lutea; 5, helix digitata; 6, helix Taurica; 7, helix sagittæfolia; 8, Regneriana; 9, Cordifolia.

*Distinct varicgated-leaved Climbing Ivies*—1, Carnariensis marmorata elegans; 2, helix aurea maculata; 3, h. marginata argentea: 4, h. marginata Cullisii; 5, h. marginata robusta; 6, h. minor marmorata elegans; 7, h. Japonica argentea.

*Distinct green-leaved Arborescent Ivies.* — 1, Regneriana arborea; 2, Canariensis arborescens; 3, helix arborescens; 4, h. arborescens baccifera lutea.

*Distinct variegated-leaved Arborescent Ivies.* — 1, helix arborescens aurea; 2, h. arborescens alba lutescens; 3, h. arborescens marginata argentea.

SYNOPSIS OF SPECIES AND VARIETIES.

No. III.

*Variegated Ivies, yellow predominating.* — 1, Canariensis aurea maculata; 2, helix arborescens aurea maculata; 3, h. aurea densa; 4, h. marginata latifolia; 5, h. marginata major; 6, h. palmata aurea; 7, h. auruntiaca.

*Variegated Ivies, white or cream predominating.*—1, Canariensis marmorata elegans; 2, helix arborescens alba lutescens; 3, h. arborescens marginata argentea; 4, h. marginata argentea; 5, h. marginata canescens; 6, marginata Cullisii; 7, h. marginata robusta; 8, h. minor marmorata elegans; 9, h. Japonica argentea.

## FOLIAGE MASSES IN GEOMETRIC GARDENS.

We have encouraged the use of what are called "foliage plants" in garden decoration for some higher reasons than mere whim, and our advocacy of their use has not been in vain. The most exquisitely coloured of the small circular beds on the great cross walk of the first terrace at Sydenham last year afforded the public a fair opportunity of comparing the respective merits of foliage and flowers in a more decisive manner than was ever anticipated. *Coleus Verschaffelti*, *Perilla*, the exquisite silvery *Centaureus*, of which the best bedders are *candidissima* and *ragusina*, the common *purple Orach*, and *Amaranthus melancholicus* have now acquired a fame as great as that enjoyed for many years by scarlet geraniums and yellow calceolarias; and amateur cultivators are all anxious to know which are the most distinct and lasting in their effects out of doors, and how best to

bring them to perfection. We have progressed so far in this branch of the bedding system that we can afford to throw out of our lists the purple orach altogether, for it is quite eclipsed by Amaranthus melancholicus, which is of neater habit, endures to the close of the season, and is richer and more uniform in colour. We can now add another exquisitely coloured subject, namely, *Amaranthus bicolor*, which has ovate leaves, an inch and a half long. At the extreme end, the leaf is of a rich chocolate crimson colour, and the remainder of the leaf and the footstalk are of a glowing crimson quite transparent, and when the sun shines, as brilliant as coloured glass. To manage these, the Amaranths, it is necessary to sow the seed early in heat, and get the plants forward with the same treatment as seedling Lobelias, the plants to be very carefully hardened before being put out, and then bedded in a rich light soil. Coleus Verschaffelti has become the most popular of all the foliage bedders, and it is unquestionably a magnificent thing when well done. For amateurs the best plan of procedure is to keep a few old plants in the stove or warm greenhouse to cut from in spring. If there is no convenience for keeping stove plants, buy in from the nurseries at six shillings a dozen. Early in the spring put the plants in a frame over a bed of fermenting dung, and cut their side-shoots as fast as they grow to the length of an inch and a half, and strike these singly in thumb-pots in the same bed, using a rich sandy compost from the first. When planted out the soil can scarcely be too rich for this plant, and an open, sunny position is indispensable. It is not generally known that perillas strike from cuttings in May without heat in the greenhouse as readily as mint or cerastium, and the plants topped for cuttings soon throw out vigorous shoots from the base, and make superb masses for first and second lines in ribbons. It is very fortunate that we have now some superb golden-leaved geraniums of so hardy a nature as to be adapted for bedding under any ordinary circumstances. *Cloth of Gold*, *Golden Fleece*, and *Gold Leaf* are invaluable for foliage patterns, and the first of the three is decidedly the best. With the coloured amaranths and coleus judiciously disposed in the same compartment, Cloth of Gold tells superbly. Many of the tricolor-leaved geraniums are equally adapted for out-door work, if planted in sheltered positions in beds moderately enriched with rotten dung and leaf-mould. As we have added to the lists of variegated plants some that have proved serviceable, we thought it right to pursue the same course with the *Golden Balm*, which has been so greatly admired in our garden for many years past. This we have handed over to Messrs. Carter and Co. to propagate, and from them it may be obtained this spring in any quantity. Where it can be left in the ground, it makes a magnificent belt or edging the second season, and the way to manage it is to cut it down close as soon as the brilliant orange colour of its leaves begins to decline. During May and June it is remarkably rich in colour, but in the later months it acquires a dull green hue, unless cut down; but its appearance then is of less consequence as there are so many good subjects that can be relied on for late effects, but there is nothing so bright as this in the early part of the season. While on this subject we must again call attention to Meteor fuchsia as a fine subject for grouping in masses, which are to give effect by foliage instead of flowers. We made up a bed of Meteor and the aucuba-leaved fuchsia last season, and it was the admiration of many of the best judges of garden colouring. Mr. Salter has some new variegated fuchsias, among them a variegated gracilis, which is a first-rate bedder. The new fuchsia, "Pillar of Gold," will be useful for similar purposes. Among Mr. Salter's novelties is a new variety of Oxalis corniculata, with dashes of rose-crimson on the leaves, which will work in admirably in elaborate patterns.

S. H.

## A CLASSIFIED SELECTION OF BEDDING GERANIUMS.

*Plain-leaved Dwarf Bedding Scarlets.*—Attraction, Eclipse, Frogmore Improved, Lord Raglan, Harkaway, Crystal Palace, Little David.

*Plain-leaved strong-growing Bedding Scarlets.*—Queen, Punch, Wellington Hero, Defiance.

*Horseshoe-leaved Dwarf Bedding Scarlets.*—Smith's Superb, Baron Hugel, Bishopstowe, Lilliput, Scarlet Perfection.

*Scarlets suited for Walls and Pillars.*—Scarlet Queen. Wellington Hero. Defiance, Hibberd's Pet, Reidii, Richmond Gem.

*Horseshoe strong-growing Bedding Scarlets.* — Hibberd's Pet, Cottage Maid, Captivation, Martin Gireau, New Globe.

*Scarlets for Pot Culture.*—Dr. Lindley, the most perfect scarlet geranium known. Alfred, shell-like petals, extra fine. Beauty, has a fine white eye. Eleanor, rich vermilion. Beauty of Brixton, invaluable for early bloom. Brilliant, well-known. Globe. Compactum.

*Rose-red Bedders.* — Trentham Rose, Lady Middleton, Judy Superb, Rubens.

*Rose-red for Pots.*—Paul l'Abbé, Cecilia, Effective.

*Cerise-red for Pots.*—Lady of Loretto, British Flag, Sheen Rival, Umpire, Viceroy, Rose of Denmark, new and magnificent.

*Rose-pink Bedders.* — Christine, Helen Lindsay, Rose Queen, Lucea Rosea, Princess Alice.

*Rose-pink for Pots.*—Christine, Rose Queen, Rosetta, Lucilla, Bonnie Dundee.

*Salmon-red and Salmon-flesh.*—[None of this section can be recommended as generally suitable for beds, though in many soils and situations. Prince Louis of Hesse, Blackheath Beauty, Madame Rudersdorf, and others, answer admirably. We believe the last-named will prove to be one of the best bedding geraniums known, but having grown it only one season, we would not venture yet to assign it a place among bedders. All we name here are of exquisite beauty.]—Rosamond, the finest of this series, Madame Rudersdorf, Prince Louis of Hesse, Countess of Beetive, Blackheath Beauty, Auricula, Enchantress, Nelly, Lady Emily Stanley.

*Blush and White.*—[The remark appended to the foregoing section might be repeated here.]—Madame Vaucher, Eugene Defoy, Henri de Beaudot, Boule de Neige, Galanthiflorum, The Swan, Skeltoni.

*Nosegay Geraniums for Beds.*—Lord Palmerston, crimson. Rival Stella, crimson-scarlet. Imperial Crimson. Carmine Nosegay. Spread Eagle, scarlet. Rival Nosegay, crimson-scarlet. Fothergilli (syn. Purple Nosegay), purplish-red. Mrs. Vernon, rosy-purple. Scarlet Nosegay, grows tall.

*Nosegays for Pots and Vases.*—Lord Palmerston, Imperial Crimson, Rubrocinctum, Coral, Pink Nosegay.

*Hybrid Bedding Geraniums.*—Diadematum, rose. Flambeau, scarlet. Ignescens superba, scarlet. Unique, three varieties, white, scarlet, and purplish-crimson, the last-named being the well-known and invaluable "Rollisson's Unique." Britannia, scarlet; very effective.

*White-leaved Variegated Bedders.*—Bijou, Queen of Queens, Alma, Jane, Mountain of Light, Mountain of Snow, Silver Queen.

*Cream and Silver-edged Bedders.*—Flower of the Day, Annie, Countess of Warwick, Perfection, Flower of Spring, Lady Plymouth, Manglesii, Dandy.

*Gold-leaved Bedders.*—Cloth of Gold, Gold Leaf, Golden Chain, Golden Circle. The last-named is the least strikingly yellow of the series, but is the most hardy, and is very effective.

*Tricolour-leaved.* — Mrs. Pollock, Mrs. Milford, Honeycomb, Sunset, Rainbow, Hotel de Cluny, Burning Bush.

## BEDDERS FOR THE MILLION.

The cost of a grand bedding display is often a subject of surprise to persons unaccustomed to garden expenditures. The proprietor of a garden has it laid out, perhaps, by a talented landscape gardener, and at his own wish is provided with pincushion-beds beside the walks, groups of beds on the turf, a geometric design in box on the gravel, and perhaps, farther away, a very pretty panel garden. When the landscape gardener takes the amount of his bill, and hands over the place to the gentleman's gardener, there are, perhaps, not fifty bedding plants in the place; the houses are all new, the gardener and his extra hands have enough to do in rolling new turf, tallying and staking newly planted trees, and the thousand other pressing jobs that belong to a new place; and to get up a stock of bedders the first season is a sheer impossibility. But as the demand for bedders is immense, and as there is a limit both to the patience and the purses of persons so situated, a few hints as to the cheapest ways of accomplishing distinct and satisfactory effects may be useful not only to those who are precisely so situated, but to others who, at this time of year, are filled with anxieties to make a grand display, without of necessity having to waste their substance in riotous gardening. We are to suppose now that there is no intention to experimentalize; whatever is done must be according to the safest rules, and from beginning to end all the subjects selected are to be of the cheapest possible. As price is to be considered at every step, we must advise the possessor of the garden in this first start not to employ any of the Centaureas, which are the grandest of all silver-leaved bedders. He must also eschew Petunias, because of the risk attending their use, for they may happen to bloom very unsatisfactorily; and as plants with grey, creamy and yellowish leaves abound, there need not be much outlay incurred for variegated-leaved geraniums.

Let us, bearing these points in mind, consider the case of the beds on the terrace, which must be as grand as possible. The varieties of Tropæolum Lobbianum are remarkably effective, and always to be depended on, and as cheap as any bedders in the list, because a sixpenny plant will cover more ground than any other bedder at the same price and quality. Here, then, is one of the finest promenade bedders; make it the principal element for colour. If the beds admit of planting in lozenges, put Christine geranium in the centres, surround them with broad bands of Tropæolum Crystal Palace scarlet, and fill in from the outsides of the lozenges to the margin with variegated Arabis, and edge the beds with blue Lobelia. Suppose four compartments in a set of eight beds so planted, the other four alternating with them, may be all in Purple King verbena for centre, surrounded with Imperial Crimson or Lord Palmerston Nosegay geranium, filled in to the lozenges with variegated mint, and edged with lobelia. For the centre Gem calceolaria surrounded with Love lies Bleeding, and edged with the new golden balm, which is cheap and effective, or with Cerastium Bieberstein, or Cineraria maritima. If a simpler style with greater variety is desired, then let us pair off the beds, and we must have four groups of colours besides the centre. For the centre Foxhunter or Lord Raglan verbena, and variegated mint mixed, and edging of Coleus Verschaffelti, which is now cheap, and must not be planted till June. If any difficulty as to buying or raising the coleus, use Perilla instead. In any case we must have a dark edging. The surrounding beds must be planted so that every bed has an exact counterpart opposite; that is, if I find a bed of yellow on the right hand, I must see a bed of yellow on the left, and so on all round; so that if the plan were drawn and coloured on paper, it might be cut in half through the

centre bed, and would then serve as a guide for two separate persons. We shall, therefore, only have to describe four plantings. 1. Centre green-leaved Attraction geranium, broad band of Tropæolum edging of Lobelia Paxtoniana. 2. Centre Mrs. Vernon geranium, broad band of Purple King verbena, edging of Cineraria maritima. 3. Centre calceolaria Prince of Orange, broad band of Calceolaria Aurea floribunda, edging of Vinca minor argentea. 4. Centre Rose Queen geranium, broad band of Christine geranium, edging of Lobelia speciosa. In each of these beds there would be a predominating tone produced by two tints in juxtaposition, which would give them a oneness of character as seen at a distance—No. 1 pair being intensely red, No. 2 intensely purple, No. 3 intensely orange, No. 4 soft, rich, rosy pink. But when examined separately, they would be more interesting than if the several effects were obtained by a fewer number of varieties and tints.

Suppose there is now a ribbon to be provided for, and the proprietor wishes it to be quite distinct from the foregoing, yet in harmony with it, because it happens to skirt the same terrace, or is the accompaniment of a walk leading to some part of the lawn. First row, that is to say the margin of Gazania splendens, which, when the blossoms close, is of so peculiar and pleasing a tone of green that no one can call it ugly; and when the blossoms are expanded it is a gorgeous first row subject, and cheap, because each plant soon covers a large space. Second row, Nosegay geranium Stella. Third row, Verbena snowflake, or Grand Boule de Neige, or Mrs. Holford. The first of the three is the best; but three are named in case of any difficulty in procuring supplies of either. Fourth row, Crimson nosegay geranium. Fifth row, Double white Feverfew. Sixth row, Rollison's Unique geranium. Seventh row, Dahlia Pluton, or Meteor, or Alba multiflora. If the ribbon is too narrow for seven rows, the selection may extend to as many rows as needed, beginning with the first. If Gazania is not a favourite with the planter, because of its habit of closing early in the day and during damp weather, a fine edging to Stella would be Lobelia Gordoniana, or Nierembergia gracilis, or Stachys lanata, or Variegated Alyssum.

Suppose we now bethink us of the panel garden. If it is not of such peculiar design as to need a complicated system of planting, we should prefer to trust almost entirely to geraniums, say a pair of Lord Palmerston nosegay edged with Golden Balm. Next, a pair of Charles Domage edged with Oxalis Corniculata rubra; a pair to follow of geranium Vivid edged with Variegated Mint. Next, a pair of Rose Queen edged with Perilla sown late. To follow this, a pair of Imperial Crimson nosegays edged with Golden Balm. Next, a pair of Madame Chardine edged with Oxalis Corniculata rubra. If more are needed repeat Stella, and so on for ever. To make a centre or for a series of central beds, having smaller beds on each side, Fothergilli edged with Flower of the Day, and Trentham rose edged with purple verbena alternately, would be remarkably telling.

We must halt here and leave our supposed noviciate to his own resources of invention for the pincushion beds; and we may the more safely do so, because it is only needful to balance them and plant each pair as a pair, and it scarcely matters how the several pairs differ or agree. But it is a good rule with these to proceed on the principle proposed for the panel planting, that is to observe a certain order of succession, and when that is exhausted, repeat it, observing the same general style throughout, so as to give to the series a certain harmony of character. It does not seem needful to make any special remarks on the propagation or preparation of any of the plants named above, except Perilla, and unless this is wanted extra strong it may be sown now, and will be sufficiently forward at planting-out time for any ordinary purpose. Having used all the foliage plants largely and variously here during the past seven years, we often have inquiries

made about them by the gardeners of the neighbourhood, and last spring brought several inquiries as to the vitality of Perilla seed, many of the Stoke Newington gardeners alleging that the seed was bad and it was impossible to grow it. Not then wanting any for myself, I had not sown, but the complaints were so numerous that I thought a little experiment would be better than any amount of cross questioning and collecting of questionable evidence. So I sent to Barr and Sugden for an ounce of seed, and paid for it eighteen pence. I took two old frames, nine feet by three and a half feet, placed them on a bed of loam, and then filled them to within a foot of the glass with mixture out of the bin used for ordinary potting. This mixture consists of loam, leaf mould, and rotten dung in about equal proportions. Over the bed of mixture I spread about two inches of cocoa-nut fibre refuse; on that the seed was thinly scattered, and the ounce sufficed to cover the soil in both frames. The seed was covered with another fine sprinkling of the cocoa-nut dust, the lights were put on and the seed had neither water, air, nor attention of any kind until the whole bed was bristling with the dark green seed-leaves of the plants. Then air was given occasionally on bright mornings, but no water till the plants nearly touched the glass; they were then lifted out with a trowel, and came away with such balls of roots as astonished the gardeners among whom the plants were distributed. I potted fifty for use, and very serviceable they were for my plunging system to make a circle round a clump of plunged Gauntlet Pelargoniums. I imagine the seed was good in all cases, but the gardeners used too much heat and so killed it. Those who sow in the first week of April, and in the same way as I do, will have nice plants by the middle of May, and as they grow fast after they are put out they soon become effective. Of course when wanted for a back row, they ought to be sown on the 15th of March at latest.

SHIRLEY HIBBERD.

## PERNETTYA MUCRONATA AND OTHER BERRY-BEARING SHRUBS.

THIS beautiful evergreen berry-bearing shrub has been hitherto regarded as comparatively tender, and therefore unsuited for the decoration of the shrubbery, and, in fact, requiring either to be grown under glass or have some sort of protection during winter when planted out. Thus, in the "Cottage Gardener's Dictionary," it is stated that the species of Pernettya "require similar treatment to the tenderer Azaleas and Rhododendrons," by which it might be inferred that at least a cool greenhouse is needed for their culture. For many years past we have grown all the species of Pernettya in a very exposed situation on the north side of London, and have proved them to be thoroughly hardy, so hardy indeed that they survived unhurt the winter of 1860, in positions equally exposed with such subjects as Pinus insignis, Pampas grass, Arbutus Croomi, etc. which were then killed to the ground. We have selected *P. mucronata* as especially worthy the attention of those who collect and cultivate interesting shrubs, from having found it the most free in growth and the most fruitful of all the species near London, and therefore the best for general purposes. When grown in good peat it has a most luxuriant and elegant habit, throwing out long whip-like shoots covered with ovate, serrated, dark green glossy leaves, and soon forming a diffuse and spreading bush. In May it produces an abundance of epacris-like flowers, white, drooping, globose flowers, which are succeeded by bunches of

berries of the size of peas, and which, when ripe, are of a beautiful purplish-red colour, very bright and glossy, and which remain through all the winter, and are extremely ornamental.

This and other species of Pernettya, as, for example, *P. angustifolia* and *pumila*, which are of diffuse habits, and *prostrata*, which is well adapted for rock work, will grow in good loam, especially if assisted at first with the addition of a little peat or leaf mould, but a cool peat bed is far preferable. The specimen of P. mucronata, here figured, was cut from a plant growing in good peat, where, with others of the same species, it has made as brilliant a show all the past winter as could possibly be obtained by any hardy subject known.

PERNETTYA MUCRONATA.

As berry-bearing shrubs are invaluable for winter furnishing, it may be as well to remind our readers of a few of the best.

*Skimmia Reevesii* (*Syn. S. Japonica*) is very fruitful in a small state, and unfortunately grows very slowly. We find that it grows most rapidly in a mixture of equal parts of peat and yellow loam from Wanstead, and we have found it a good plan to remove the flowers from small plants, in order to prevent the formation of berries; this aids their growth, and when they are a foot high they may be allowed to fruit, which they will do to such an extent as sometimes to be scarcely able to support the weight of the ripe berries. The plant hitherto known and described as Skimmia Japonica, is now known by its proper name of *S. Reevesii*, the true Japonica having been lately introduced, and for the sake of distinction has been called *S. Japonica Vera*. This last is more robust in habit and more luxuriant in appearance than S. Reevesii; it has larger leaves, and forms a more dense and elegant bush. But it has not yet been proved if it is as fruitful as its forerunner, and therefore we cannot now include it among berry-bearing shrubs.

*Cotoneaster microphylla* is the best of the genus for gardens near great towns, as it grows freely and bears abundance of fruit in the most smoky districts. Though beautiful and

peculiar it is not however a lively shrub, as the leaves are small and dark-coloured, and the berries have a dull tone of red. Its best place is on the face of a bank or rockery, where it should be allowed to grow in its own way without pruning. When aged, and in a good position, it has a remarkably fine appearance. When grown for furnishing, it is necessary to cut back all the long ungainly shoots, but the small twiggy side shoots should be left untouched. When grafted on the thorn this cotoneaster makes a curious and interesting standard, suitable for the decoration of the lawn.

*Cotoneaster Simmonsii* is almost deciduous, which is a misfortune. But it compensates for the partial loss of its leaves in winter by the profusion of its orange-red berries, which are very attractive and apparently not cared for by birds. Messrs. Pince and Lucombe, of Exeter, are very successful in growing standard trees of this species without grafting. Some standards on their own roots, received from this firm a few years since, have done remarkably well in our London garden, where they are planted in a deep and damp loam, and have had no more attention than is bestowed on the commonest shrubs. During the winter and far into the spring they are one mass of glittering berries. At the end of March we gather the crop to sow it, and the seedlings appear a few weeks after. In the course of time, we shall have a large stock of seedling plants to incorporate in our system of winter furnishing.

*Aucuba Japonica.*—We have already, on several occasions, given our readers reason to hope that the day would come when all the great aucubas in our gardens would become as fruitful of berries as any evergreens known. It will perhaps be to the majority of our readers only the repetition of a familiar fact, if we say that in the aucuba the male and female flowers are produced on different plants; and all the specimens hitherto planted in English gardens are females, having probably proceeded from but one female plant originally. Mr. Fortune had the good fortune to secure the male form of the species for Mr. Standish in his last expedition to Japan, and one result of that importation was seen at the spring exhibition of the Royal Horticultural Society, on the 5th of March, when Mr. Standish exhibited a female aucuba japonica covered with scarlet berries. As soon as the male plant can be distributed at a moderate price, the possessors of old aucubas will have at their command the means to render them fruitful; and no doubt the aucuba japonica will prove itself the most useful of all the hardy shrubs adapted for decorative gardening.

*Holly.*—Some varieties of holly scarcely ever produce seed; others are almost invariably fruitful, though of the same varieties the individuals differ, and much of course depends upon age, soil, situation, etc. Those who use hollies for winter furnishing are advised to give the preference to *Broad-leaved Silver, Milkmaid, Bronze, and Painted Lady,* as these are tolerably fruitful in a small state. Occasional lifting promotes fruitfulness.

## THE SPRING EXHIBITIONS.

The Royal Horticultural and Botanic Societies of London generally enliven the dreariness of the month of March, by interesting exhibitions of the early spring flowers. The first show of the Royal Horticultural Society took place on March 9th, at South Kensington. The day was one of the most miserable which could possibly happen for a flower show. Early in the morning a heavy fall of snow commenced, and continued without intermission until an advanced hour of the afternoon. But in spite of this the visitors were numerous, a considerable number of ladies gracing the

exhibition by their presence. The flowers were arranged partly in the entrance-hall, in the council-room, and the adjoining arcades. The display was, all things considered, one of the finest which has been seen for several years. The Hyacinths were in great perfection; two collections of 100 each, shown respectively by Messrs. Cutbush and William Paul, making a very fine display, and filling the room with their fragrance. More beautiful flowers it would be impossible to produce, those of Messrs. Cutbush being particularly fine, and taking first prize in all the classes in which they competed. Mr. Paul's flowers were not far behind, his finest specimens being in the class for eighteen, which were considered by the judges worthy of an equal first prize. The Hyacinths shown by amateurs were extremely fine, approaching nearer in beauty and general merit to those exhibited by nurserymen than is generally the case, Mr. Young, gardener to R. Barclay, Esq., Highgate, having by far the finest display.

The early flowering Tulips are such very effective decorative flowers, that it is surprising they are not more extensively cultivated. No one could look at the exquisite collections of Messrs. Cutbush without a feeling of intense admiration. Among the miscellaneous subjects, were some charming things. Messrs. Paul and Son, of Cheshunt, delighted the ladies with half a dozen small pyramid Roses in pots; which, considering the time of year, were beautifully bloomed. A nice little collection of pyramid Azaleas in flower was shown by Mr. Todman, gardener to R. Hudson, Esq., Clapham Common. Messrs. Cutbush had a fine lot of Narcissus; and Mr. Parker, of Tooting, some beautiful Amaryllis. There were also some fine pots of Lily of the Valley, beautiful specimens of Primulas, and excellent stands of cut Camellia blooms. But perhaps the most interesting plant in the exhibition was a specimen of Aucuba Japonica vera in fruit, from Mr. Standish, of Ascot. It was about eighteen inches in diameter, and covered with large bunches of orange scarlet fruit. British horticulturists have been acquainted with the blotched form of Aucuba for nearly a century, and have found it to be one of the most valuable evergreens we possess. But now that they have an opportunity of seeing it in its truly normal state it acquires a great additional importance, for when seen covered with its bright scarlet oblong berries, it is undoubtedly the finest hardy shrub we possess. The reason we are not familiar with the fruit of the Aucuba, may be easily explained. The plant is dioecious, some individuals producing only male, and some only female flowers. The form common to our gardens are the female plants, and as we have not hitherto had in this country any of the anther-bearing individuals their fertilization was impossible; and therefore, although they flower freely, they never produce fruit. Mr. Fortune, during his late travels in Japan, succeeded in sending to this country a male plant, which last spring blossomed with Mr. Standish for the first time in Europe. That spirited nurseryman was thus enabled to fertilize the mother plant, and the production of beautiful scarlet berries is the result. We may thus confidently expect that at no very distant day, we may see in our shrubberies the Aucubas covered with fruit. The plant shown was awarded a first-class certificate, and recommended in addition that it be distinguished by the award of a medal.

The class for new Hyacinths naturally attracted a large share of attention. There were some beautiful flowers staged, Mr. Cutbush obtaining the first prize; Mr. W. Paul, the second; and Messrs. Barr and Sugden third. The following may be considered desirable acquisitions:—From Mr. Cutbush, Josephine, a beautiful flower, colour, intense orange scarlet, the tube shaded with a lighter tint, fine spike; Schwarzwald, a fine dark purple, almost black; Robert Fortune, a delicate mauve, with darker stripes of the same colour, spike very fine, the bells small, but very numerous. From Mr. W. Paul, Alba Nova, very

large bells, fine white; King of Blues, dark blue, with very fine spike; Lord Palmerston, clear blue, white eye, very good.

The first show of the Royal Botanic Society was on Saturday, the 19th; the day was exceedingly fine, the visitors came in great numbers, the display of flowers was in every respect satisfactory; and so the exhibition was a decided success. The Hyacinths were again the chief attraction; the show made by Mr. Wm. Paul being extremely beautiful, and obtaining the first prize; those from Mr. Cutbush were also very fine. Mr. Young maintained his superiority among the amateurs, and carried off three first prizes. The Camellias shown were, perhaps, not so good as might have been expected, although some of Wm. Paul's specimens were large and very perfect. Cyclamens and Chinese Primroses were shown in good condition by various exhibitors; and Mr. Parker again showed some splendid Amaryllis, which were greatly admired, although no prize was awarded them.

Messrs. Cutbush and Son, of Highgate, opened their private exhibition of Spring flowers at their nurseries, on March 21st, and continued it during the fortnight following. The hyacinth house was as usual most tastefully filled with a variety of plants in bloom, of such great merit that the visitor felt more than repaid for his journey up Highgate Hill. The Hyacinths formed of course the chief attraction, being shown in vast numbers, and generally superior to former seasons; among them were all the good old sorts and several beautiful novelties, the best of which were those described above. All were neatly tallied, the pots dressed in the greenest of moss, the perfume of the flowers putting it quite out of our minds that the east winds were blowing, and that there was not yet a green leaf on any of the trees. Another attractive feature was a noble display of Amaryllis, which elicited great admiration. The high stage at the back of the house was closely packed with hepaticas, mignonette, fairy roses, Cyclamen persicum, tulips, cytisus, azaleas, camellias, and acacias, forming a rich bank of foliage and flowers.

At these various exhibitions, the following were the most striking and desirable varieties of the various plants exhibited. Hyacinths: Baron von Tuyl, Ida, Argus, Mirandolin, Gen. Havelock, Macaulay, Feruk Khan, Queen of the Netherlands, Chas. Dickens, Howard, Marie, Snowball, King of Blues, Princess Clothilde, Duc de Malakoff, Mimosa, Von Schiller, Grand Lilas, Seraphine, Mont Blanc, Bleu Aimable, Gigantea, Florence Nightingale, Duke of Wellington, Haydn, Grandeur à Merveille, and Lawrence Koster. Tulips: Florida, Cramosie, Royale, Kiezerkroon, Duc d' Aremburg, Vermilion Brilliant, Fabiola, Coleur Cardinal, Pottebakker, Van der Neer, and Proserpine. Crocuses: Giant Yellow, Formosum (white striped with brownish purple), Venus (white), Lilaceus superbus (lilac), Ne plus ultra (blue), La Lueur (purplish blue), Elfrida (creamy white), Calypso (creamy white), Pomona (blush), Maria Stuart (yellowish white), and Albion (light blue striped with dark blue). Roses: Anna Alexieff, Souvenir d'un Ami, Paul Ricaut, Géant des Batailles, Mad. Villermoz, Devoniensis, Triomphe de l'Exposition, L'Enfant Trouvé, and Triomphe de Paris. Azaleas: Princess Bathilda, Rosa alba, Mad. Miellez, Duchesse de Nassau, and Empress Eugenie.

## CHEAP TALLIES.

Cut broken glass into small strips, brush one end with white lead paint. When dry write upon it with a blunt lead pencil, which removes the paint, and you have the best and most lasting tallies I have seen. If for a fernery, use vermilion.

T. F.

## GAS HEATING.

I HAVE a tank 8 ft. by 2 ft. 9 in. It is kept 20° above atmosphere of fernery by a Phillipps' gas stove; the said stove is in an adjoining tool-house, and I can only allow about eight of the minute jets to be open (that is, a quarter of a ring, of which there are about four); at its full power it would heat eight times the surface I use.

I do wonder amateurs do not use gas more frequently. Phillipps' stove should always be in a warm tool-house, or box with double sides, and holes left only large enough to support combustion. It would be greatly improved if the boiler part were surrounded with some non-conductor, and another tap added, enabling me to use half the ring only when it is sufficient, as it is not economical to burn a quantity of jets with a very short flame. T. F.

## APRIL, 1864.—30 DAYS.

PHASES OF THE MOON.—New, 6th, 1h. 49m. after.; First Quarter, 14th, 0h. 9m. morn.; Full, 22nd, 1h. 19m. morn.; Last Quarter, 29th, 4h. 34m. morn.

AVERAGES FOR THE MONTH.—Bar. 29·021. 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.

| D M | Sun rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 5 37 | 6 32 | 2 42 | 0 16 | Frost; fine; frost | Cambridge Easter |
| 2 | 5 35 | 6 33 | 3 16 | 1 35 | Light hazy clouds; fine | Battle of Copenhagen, 1802 |
| 3 | 5 32 | 6 35 | 3 45 | 2 55 | Cloud; fine; rain at night | LOW SUNDAY |
| 4 | 5 30 | 6 37 | 4 10 | 4 16 | Fine; boist.; cloudy; | Martin Mayes, nurseryman, d. 1858 |
| 5 | 5 28 | 6 38 | 4 37 | 5 38 | Cloudy; fine; rain | Napoleon abdicated, 1814 |
| 6 | 5 26 | 6 40 | 5 4 | 6 58 | Fine but cold; hail; rain | Oxford Easter Term begins |
| 7 | 5 23 | 6 42 | 5 33 | 8 16 | Clear; rain; showery | Prince Leopold born, 1853 |
| 8 | 5 21 | 6 43 | 6 6 | 9 29 | Overcast; rain; showers | J. C. Loudon born, 1783 |
| 9 | 5 19 | 6 45 | 6 43 | 10 36 | Cloudy; fine and mild | *R. B. S. Second Spring Show* |
| 10 | 5 17 | 6 47 | 7 27 | 11 35 | Cloud; lightning night | 2ND SUNDAY AFTER EASTER |
| 11 | 5 15 | 6 48 | 8 17 | Morn. | Fine; cloud; shower | Peace of Utrecht, 1713 |
| 12 | 5 12 | 6 50 | 9 13 | 0 25 | Shower; fine; cloud | Rodney's victory, 1782 |
| 13 | 5 10 | 6 52 | 10 12 | 1 5 | Fine throughout | Handel died, 1759 |
| 14 | 5 8 | 6 53 | 11 13 | 1 39 | Hazy; cloud; fine; frost | Princess Beatrice born, 1857 |
| 15 | 5 6 | 6 55 | After. | 2 8 | Fine throughout | Easter Term begins |
| 16 | 5 4 | 6 57 | 1 21 | 2 31 | Cloudy; fine | L. Vilmorin born, 1816 |
| 17 | 5 2 | 6 58 | 2 25 | 2 53 | Fine throughout | 3RD SUNDAY AFTER EASTER |
| 18 | 5 0 | 7 0 | 3 30 | 3 14 | Partly cloudy; fine; frost | Day breaks 2h. 46m. |
| 19 | 4 58 | 7 2 | 4 36 | 3 35 | Clear; bright sun; frost | Byron died, 1824 |
| 20 | 4 55 | 7 3 | 5 43 | 3 56 | Cloud; fine; slight frost | W. Stephens, Esq., hort., died 1856 |
| 21 | 4 53 | 7 5 | 6 52 | 4 20 | Fine; cloud; fine at night | *Royal Oxfords. Hort. First Show* |
| 22 | 4 51 | 7 7 | 8 2 | 4 48 | Cloud; boist.; shower | Arctic ships deserted, 1848 |
| 23 | 4 49 | 7 8 | 9 9 | 5 20 | Clear; white clouds | St. George |
| 24 | 4 47 | 7 10 | 10 13 | 5 59 | Clear; dry air; fine | 4TH SUNDAY AFTER EASTER |
| 25 | 4 45 | 7 12 | 11 12 | 6 47 | Fine throughout | *South Metropolitan Auricula Show* |
| 26 | 4 43 | 7 13 | Morn. | 7 46 | Fine throughout | New Orleans taken, 1862 |
| 27 | 4 41 | 7 15 | 0 0 | 8 52 | Fine throughout | French enter Piedmont, 1859 |
| 28 | 4 39 | 7 17 | 0 42 | 10 5 | Dusky clouds; showers | Mutiny of the Bounty, 1789 |
| 29 | 4 37 | 7 18 | 1 17 | 11 22 | Clear and cold; squally | Lord Melville tried, 1806 |
| 30 | 4 35 | 7 20 | 1 46 | After. | Cloudy; wind; showers | *R. B. S. Third Spring Show* |

PROBABLE WEATHER, APRIL, 1864.—The month is likely to have all its ordinary characteristics. If any deviation from averages, it will be an augmented rainfall, and this will most likely occur in the early part of the month. Wind generally N. to N.E. till after the 15th; after that date very variable, but generally agreeable, wind S.W.

# THE GARDEN GUIDE FOR APRIL.

KITCHEN GARDEN.—There cannot be too much vigilance now in keeping down weeds, hoeing between crops, earthing-up peas and beans, and promoting growth by any other means that suggest themselves, such as top-dressings of soot and guano, etc., etc. Our climate affords us but a short season, and it is our duty to make the very most of it.

*Cabbage.*—A sowing of two or three sorts now will furnish a supply of useful plants to fill up vacant plots as summer crops are taken off. Advantage must be taken of the fine weather to fetch up arrears. Early Dutch Twist is a capital one to sow now for filling up gaps, as it may be planted as close as lettuces. Enfield Market, Early York, Sugar-loaf, and Shilling's Queen, are kinds that should be largely relied upon.

*Celery.*—Sow for the last time, in seed pans, and place on a hot-bed; but if no convenience of that kind, sow on a warm dry border, and it will come up in time to make good plants for a late supply. Where there are no conveniences for growing celery in trenches, useful plants may be had for soup by sowing any of the red kinds on a warm border, and when large enough planting them out in beds, six inches apart every way. These need not be earthed up at all, as the earthing is intended to blanch it, and for soup that is not necessary. This plan is recommended for poor shallow soils where fine heads of celery for table cannot be produced. Prick out on a bed of three parts rotten dung and one part loam the plants from the last sowing; pot off singly, in 60-sized pots, the plants for the first crop, which encourage with a moist heat in a cucumber pit. We always turn out from pots our first crop of celery, and obtain fine heads early in the season; it is a method which occasions no check to the plants.

*Couve Tronchuda, or Portugal Cabbage.*—This delicious vegetable should be sown now in every garden for autumn use. In warm districts, where winter greens do not usually suffer from frost, it may be sown again in May and August, to stand over winter, but in ordinary English climates one crop to use in autumn is sufficient to be safe. Sow in a well-prepared bed, and when large enough plant out on deep rich soil, two feet from plant to plant. The heart of the plant is superior to cauliflower, and the mid-ribs of the outside leaves nearly as good as sea kale.

*Onions* for salads to be sown frequently. Look over the beds of main crop, and if no blade appearing, or if the blade is thin, make up your mind whether you ought to sow again. Onions sown last autumn may now be transplanted to rich beds, in rows nine inches apart, and be helped with occasional sprinklings of guano on the surface.

*Potatoes.*—It is not late now to get in the main crop, but it had best not be longer delayed. Those coming up to be flat hoed between. Potatoes may still be planted, but it is full late, and any remaining out of the ground should be got in at once.

*Spinach.*—Sow the round seeded again, for succession, and also the prickly, or Flanders. These winter sorts do not bolt so soon in hot weather as the round-seeded, and should be preferred for all except the earliest spring sowings.

*Winter Greens* to be sown now in large breadths for the main crop, especially Brussels sprouts, collards, Scotch kale, and Savoy. Later in the month make a last sowing of all kinds, and of former sowings that have failed, sow again—better late than never.

FRUIT GARDEN.—Wall and bush fruits should be hunted over to gather the first crop of young caterpillars. There is no process like hand-picking, and where to pick will be known by the curl of the leaves. Trees that were washed in winter, as we recommended, will probably be very clean in their first growth. Disbud and thin fruit with judgment, and remember that there is nothing gained in the end by taking too large a crop from a fruitful tree. In disbudding do not remove too many buds at a time. First take off with finger and thumb those that are obviously ill-placed; a week afterwards select a few for laying in to keep up the furniture with young wood, and remove others that are again evidently not needed. This process will very much reduce the work of summer pruning, and strengthen the shoots left to form bearing wood. It makes one shudder to see how some gardeners lay in all the wood they can get till their walls are literally felted, as if peaches and apricots were to serve the same purpose as ivy. Be in no haste to remove tiffany and other shelters from walls; but let the trees have air: they are as fond of it as you are.

CONSERVATORY.—Bright weather will necessitate the use of shading, and the best of all is Shaw's tiffany, hung in large bag-like breadths inside. Give as much air as possible all day, but take care to shut up early; this will keep the plants in

bloom a considerable time. Frequently clear up any litter, such as fallen acacia flowers, etc., etc., which look very untidy about the fronds of ferns and other plants in the borders and rockeries. This dry weather is favourable to repairs and alterations, any of which if urgently needed in consequence of mishaps during the winter, had better be attended to before the hurry of bedding-out time is at its height. Hard-wooded plants not very attractive now may be removed to cold pits, to make more room for coronillas, cytisuses, pelargoniums, cinerarias, etc. Clear away the hyacinths as they lose their brightness, and if to be kept plunge the pots in a border facing west, and give them plenty of water alternating with liquid manure, till the foliage begins to show signs of decay. At the nurseries the bulbs are always destroyed after flowering, but private growers need not follow that rule, as the hyacinth can be grown as well in this country as in Holland, with due attention to its peculiar habits.

Flower Garden.—Clear up everywhere and everything that has a touch of untidiness about it. At the first break of genuine sunshine the ladies will be exploring the garden, and there ought not to be a withered leaf, or a broken flower-pot, or a scrap of stick, or cast off tally, anywhere visible. Make all bright and firm with broom and roller, and thin out dead wood from all trees and shrubs.

*Evergreens.*—This is a capital time to move them, and to plant beds, borders, and hedges. If the weather is dry, water freely, or, better still, mulch heavily after planting; give no water at the root, but syringe overhead two or three times a day while they are making new growth.

*Grass Turf* must have every necessary attention now, or the consequences will be a burnt up lawn by July, and the predominance of coarse grasses. Proper care of grass turf now not only preserves its beauty for present enjoyment, but improves the quality, frequent mowing tending to weaken the coarse grasses and encourage the finer kinds, which latter are overpowered and choked out when the strong-growing kinds are allowed too much their own way. Where there is any extent of grass, it is high time the scythe was abolished; for the machine soon pays for its cost in the saving of time, and it is no longer fair to require gardeners to waste their strength on scythe and broom and roller, when the machine performs all three operations of cutting, sweeping, and rolling at once. A sprinkle of guano or nitrate of soda, where the turf is poor, will be very beneficial now. Grass newly up from seed to be handled very carefully, and not to be rolled or beaten till after it has been once mown. If appearances are not important, it is a good plan to mow seed-grass as soon as it is strong enough, and leave the mowings on the ground. A boy should follow the scythe and rake them back on to the swathe cut; if the machine is used, take off the grass-box, and let the knives scatter the cuttings. The new turf will look unsightly for a fortnight afterwards, but it will be immensely benefited by the mulch of its own material. *Lawns* may be made still; the best plan is to sow *good seed*. Spergula planted now will have plenty of time to get well rooted before hot weather sets in to try it. Roll well after planting out tufts. Seed sown now will be fit for planting out at the end of June; it must be grown without heat, and in its first stages have as much care as is bestowed upon seedling lobelias and other valuable plants.

*Hollyhocks* planted now will bloom well this season, so there is still time for those who have not yet made up their selections. The soil for hollyhocks should be a deep well-manured loam, and the plants should be from cuttings of last autumn, now strong, in sixty or forty-eight pots, the pots quite full of roots. After planting, turn an empty pot over every plant, to prevent exhaustion by the sun for a week.

*Pansies.*—This is a good time to buy in stock of new kinds, and to sow for pot and border bloom. Cuttings of bedding kinds put in now will make nice plants to bloom all the summer; better than if propagated earlier.

*Roses.*—Begin now to use the syringe, in the morning only, and before the sun shines on the plants. This will in a great measure prevent an outbreak of fly. For the grub in the buds, hand-picking is the only remedy.

Vinery.—Vines in covered borders require the full power of the sun on their roots now, so remove the covering at once. Let there be no neglect in stopping and tying in, now that the vines are growing freely. Vines coming into bloom should never be hurried by raising the temperature unduly. A vast amount of mischief is inflicted on vines by shutting the house up close to hasten the growth, while the roots being in outside borders cannot possibly sustain the demands upon them of the expanding leaves. Forward crops may still require thinning of the bunches, and if so forward as to be near changing colour, raise the heat a trifle, say to near

80° by day and 58° by night. Pot vines in free growth now should be shifted, if necessary; it will never pay to starve them.

Orchid House.—Raise the temperature to 65° by night, and 85° by day during sunshine. Most of them are advancing rapidly, and therefore the atmosphere must be kept thoroughly moist by means of water on the shelves and walks, and by evaporation. The house must be shaded on bright days, syringing overhead must not be resorted to till the growth is somewhat more advanced.

Greenhouse.—A general clearance may now be made of all such plants as can be removed to turf pits, frames, and other cool receptacles. This will make more room for spring flowers, and give a better chance to pelargoniums and other specimen plants now growing into shape and size. The best shading for plants in flower is tiffany hung inside in large bag-like festoons. Hitherto shading has not been wanted, but it will be henceforth, and should be got up while the house is in process of re-arrangement.

*Bedding Plants* to be exposed as much as possible now, night and day, during warm weather. Be in no haste to plant, as we may yet have frosts and cold rains. Pot off plants newly rooted, and let them taste a little bottom-heat to induce new roots to form. Shift any that are wanted large for centres of beds and back rows of ribbons. Now proceed to propagate all the variegated geraniums and silvery-leaved plants, which, as bloom is not of much consequence, need not be got on as early as the flowering kinds. Cerastium tomentosum, cut up into bits two inches long; the lower leaves of the cuttings removed, and dibbled into pans of very sandy soil, will be in prime condition for planting at bedding-out time. It may be delayed another week if work presses hard. The same with variegated mint—much better when struck late in spring from shoots truly coloured than if got forward too early. The variegated arabis may be rooted quickly in the same way by dividing it into separate crowns. It is said to be shy of rooting now that it is in flower, but that is a mistake, as we know from having raised thousands of plants at this time of year. If there is a moderate quantity of old stools, they may be divided and planted in tufts, with a bit of root to each, four inches apart, at the end of this month, and will meet and form a lovely yellowish grey line by the middle of June. Verbenas and petunias struck now will make good bedding plants, if encouraged to grow after potted off. This is the best time also to put in cuttings of bedding tropæolums, which flower best and grow more moderately when struck late and planted out in poor soil. Make sure of Cerastium Biebersteinii, which is vastly superior to C. tomentosum for edgings; Agathea cælestis variegata, now to be had very cheap; Stachys lanata, which is quite hardy and a most effective silver-leaved plant; Centaurea candidissima, almost snowy-white, and a strong-growing hardy herbaceous plant. Others of this class have been recommended as suitable for amateurs from the ease with which they can be kept and propagated; and these are mentioned as being at present little known, yet of the highest value in decorative gardening.

*Azaleas.*—Keep shaded while making their new growth, and syringe frequently. Remove all seed pods and the few remaining flowers that abstract vigour from the new wood. Like ourselves, plants cannot well do two things at a time; when growing, they don't need to be bothered with flowers, and *vice versâ*.

*Camellias* require careful attention now. As soon as the new growth begins there is an end of bloom, and any unopened buds that may remain may as well be removed. The temperature for growing plants is 65° by day and 55° by night; the atmosphere moist, and the position shady. But there must be no coddling; give air at all favonrable opportunities, or the new growth will be long and weak, and the next season's bloom of necessity inferior.

*Chrysanthemums* should be propagated now for autumn beds and blooming in pots; if delayed any longer, it will be impossible to make fine plants, or to secure bloom before the autumn frosts occur.

*Heaths and New Holland Plants.*—Repot as required. Newly-potted plants to be carefully watered until they begin to make new growth, which is always a sign they have taken hold of the new soil.

*Tomatoes, Capsicums,* etc.—Pot off as fast as needful, and keep them growing vigorously. It is not too late to sow if they have been neglected hitherto.

Fruit House.—Figs will need stopping the young shoots at the fourth eye, and plenty of syringe, to help the swelling of the fruit. Cherries of good size must have plenty of light to give colour and flavour; also syringe, liquid manure, plenty of air, without cold draughts; and as soon as they show colour, less water. Strong foreright shoots to be stopped back to five buds. Peaches and nectarines may have clear

weak liquid manure as soon as the fruits begin to swell; at the same time thin the crop, and syringe every morning. All the foregoing may have a temperature not lower than 48° at night, nor higher than 88° by day; keep as much within these extremes as possible, and give plenty of air till 2 p.m. on bright sunny days.

Pits and Frames.—Cucumbers require careful management in dull weather. See that the beds are not too moist, or mildew may appear. Add fresh linings, fork up the beds, give air cautiously, stop and train, and use tobacco at the first sign of fly.

*Cucumbers* for ridge culture to be kept as hardy as possible, but not to be checked. Give them a shift if they require it, and frequently sprinkle over the foliage. First make sure of a strong plant, and you will then be sure of abundance of fruit. Fruiting cucumbers must have shade during mid-day hours now, but keep the lights tilted, to give air. Water round the sides and the frames to keep the atmosphere moist.

*Pines* fruiting require more air than growing plants, or the fruit will be flavourless. If the fruit needs support, it is a proof the plants are not robust.

*Strawberries* ripening to have less water and plenty of light; temperature not lower than 55° by night, nor higher than 70° by day. Remove runners on plants coming into fruit; those gathered from may be allowed to run, to make early plants for forcing next year.

*Vegetable Marrows* sown now will produce almost as early as those sown a fortnight or a month since. It is best to get the plants on singly in pots, as they are shorter and stronger when turned out than if grown several in a pot and allowed to sprawl about and spindle away their strength.

Greenhouse Plants and Flowers.—Actinotus helianthi, a not very interesting umbelliferous plant from Holland. It is an herbaceous greenhouse perennial, grown in loam and peat, and propagated by dividing the root. To have it in flower now it should be put in a gentle heat in February, and have the same treatment as Dielytras for early blooming.

*Athanasia tomentosa*, a pretty composite-flowered greenhouse evergreen, from the Cape. Grows well in peat one-third and loam two-thirds, with plenty of drainage, and valuable now for its yellow star-like flowers to group with cinerarias.

*Arum crinitum*, from Minorca, is an interesting plant, worthy of a place in every collection. Grows well in sandy loam in a greenhouse temperature, and has a tropical appearance.

*Abutilon striatum*.—This never does so well as when planted out in a border of rich loam and peat, in a cool house, and left to grow almost as it pleases. Carrie across the path of the house on a wire or chain, it is one of the most graceful and free-blooming of all climbers; and in Devonshire and other south-western countries is quite hardy on a south wall in a soil that suits it.

*Anthocercis viscosa* is a useful stove plant which may be made something of in a warm greenhouse, if encouraged in spring with a genial temperature. Specimen plants may be got up six or seven feet in height, when it is a good subject, but in a small state is comparatively uninteresting. This is the time to propagate it from cuttings of ripe wood, which should be inserted in sand, without water, and left for about ten days covered with a bell-glass to callus; then, if placed in bottom-heat, they soon form root.

## TO CORRESPONDENTS.

Catalogues Received. — "William Thompson, Tavern Street, Ipswich, Descriptive Catalogue of a Choice Collection of Annual, Biennial, and Perennial Flower Seeds." A very carefully-prepared and valuable catalogue. Mr. Thompson's fame as a grower of first-class annuals will ensure for his catalogue a large circulation and an attentive perusal, which it well merits, as the remarks upon the various subjects are thoroughly practical, and being the result of experience and dictated by good judgment, are of great value.—"Charles Turner, Royal Nurseries, Slough, and Salt Hill, near Eton and Windsor, Catalogue of Seeds for the Kitchen Garden, Flower Garden, and Farm." Mr. Turner's catalogue is as good as ever, and contains a particularly fine assortment of first-class vegetable seeds. The lists of new peas and potatoes are especially worthy attention.—"Barr and Sugden, 12, King Street, Covent Garden, London. Compendium of their Illustrated Guide to the Flower and Kitchen Garden." Consists of 20 folio pages, closely printed. It is full of excellent lists of all kinds of

seeds, among which are numerous novelties and specialities for 1864, which will well repay the attention of amateurs.—"Hooper and Co., Central Avenue, Covent Garden Market, London. General Spring Catalogue of Flower, Shrub, Ornamental Plant, and Kitchen Garden Seeds." This is always one of the best sent out by the trade, and the one at present before us is excellent in every particular.—"Henry N. Bransby, Corn Market, and High Street, Alton. Spring Catalogue of Select Vegetable and Flower Seeds." A small but useful list.—"James Carter and Co., 237, 238, and 261, High Holborn, London. Gardener's and Farmer's Vade Mecum for 1864. Part I., Flower Seeds and Plants; Part II., Vegetable and Agricultural Seeds." We know of no catalogue better adapted to the wants of the professional and amateur gardener than the Vade Mecum of Messrs. Carter. It forms a pleasant and profitable companion in the garden and field, and is an unerring guide to successful cultivation. — "Frederick Boshell, 86, High Street, Borough, London. Catalogue of New and Genuine Vegetable, Garden, and Agricultural Seeds." A compact and useful list, printed on a large sheet.—"George Bland, 117, High Street, Stourbridge. Descriptive Catalogue of Vegetable, Flower, and Agricultural Seeds." A very good list.—"West Riding Seed Establishment, St. John's, Wakefield. Descriptive Catalogues of Flower and Vegetable Seeds." Both lists are full and comprehensive.—"E. G. Henderson and Son, Wellington Road, St. John's Wood. Catalogue of Choice and Selected Flower Seeds." We are always glad to see Messrs. Henderson's list, as it is invariably full of interesting and valuable information.—"Joseph Courcha, Victoria Nursery, Esmond Road, Grove Road, Victoria Park. Descriptive Catalogue of Dahlias, Chrysanthemums, Verbenas, Fuchsias, Geraniums, etc." Mr. Courcha is so well known as a florist, that his catalogue is always in great demand.—"Henry Brown, 4, Commutation Row, Liverpool. Descriptive Catalogue of Select Vegetable and Flower Seeds." A large list, with a variety of valuable information.—"George Walker Dixon, 48A, Moorgate Street, London. Catalogue of Kitchen, Garden, and Flower Seeds." A good and useful list.—"Samuel Stafford, Hyde, near Manchester. Catalogue of Greenhouse and Stove Plants, Orchids, Ferns, etc. Catalogue of Forest and Fruit Trees, Shrubs, etc." These catalogues are of more than average interest and merit. They are neither voluminous nor verbose, but short, concise, and containing only the choicest and most useful subjects in the several departments represented—"Herbst and Stenger, Kew Nursery, Kew Road, and Upper Hill Street, Richmond. Catalogue of Choice and Selected Flower, Vegetable, and Agricultural Seeds; also Miscellaneous Plants." A well got up and thoroughly reliable list. The plants of recent introduction recommended for cultivation are particularly well chosen, and worthy of notice.—"George Rawlings, 21, Globe Road, Bethnal Green. Descriptive Catalogue of Dahlias." Mr. Rawlings has introduced so many superb new varieties to the world, that his name is a sufficient guarantee that the kinds he recommends are good, and that all those enumerated will be found true to name. All the good new sorts are to be found in this catalogue.—John Salter, William Street, Hammersmith Turnpike, near London. "Descriptive Catalogue of English and Foreign Novelties, comprising Chrysanthemums, Dahlias, Pæonies, Phlox, etc." Mr. Salter's Catalogue contains, without exception, the very best selection of new and old chrysanthemums to be found anywhere. The descriptions are accurate, and the remarks about them thoroughly trustworthy. In this catalogue too, is to be found the best list of hardy ornamental plants with variegated foliage. Mr. Salter has devoted his attention to this department for some years past, and has succeeded in gathering together an unique collection from different countries, which forms one of the most attractive features of his interesting nursery. Every one who possesses a rock-work may consult this list with advantage; and those of our readers who can pay a visit to the nursery to see this interesting class of plants, will be well repaid for their trouble by the entertainment and instruction they will receive. — "John Morse, Nurseries, Dursley, Gloucestershire. Catalogue of Cuttings for the Spring 1864." This contains an immense variety of florist's flowers, and a good assortment of greenhouse plants, cuttings of which may be obtained through the post at low rates. Those of our readers who are clever at raising cuttings received in this way, have here an opportunity of obtaining a choice collection at a very trifling cost.

CUERO GUANO.—*E. H. W.* will be glad if some correspondent will advise on

the use of Cuero guano for liquid manure, in what proportion mixed with water, and how often given to the plants, etc. Will it do for roses, geraniums, and all greenhouse plants, also for standard roses in the open ground? This manure was strongly recommended in the FLORAL WORLD in 1858. [We remember that several correspondents testified to the excellence of Cuero guano in 1858, and since that time we have heard nothing of it. Having never used it ourselves, we cannot give explicit instructions, or as to the proportions in which it should be used for liquid manure; nor, indeed, can we say, of our own knowledge, if it is of any use at all. We hope some of our correspondents who have given it a fair trial will let us know something about it. Meanwhile *E. H. W.* will probably be quite safe in using it according to the directions frequently published in these pages for the use of Peruvian guano, and had best not give it to geraniums or hard-wooded greenhouse plants at all, until advised. Roses and fast-growing herbaceous plants will no doubt take it kindly.]

FORTUNE'S YELLOW ROSE.—*E. H. W.* has a plant of this rose now covered with buds in the greenhouse, but the leaves look curled and sickly. Last year a large expanse of roof was covered with its magnificent flowers. Would liquid manure, used now, help the plant, and restore the leaves to their former healthy tone? [The border in which the roots are may have been too dry during the winter, for many plants under glass have suffered through the drought they have been subjected to during the long and wearisome winter which has just ended (if it has ended). Or the plant may have been lately touched with frost, which would cause the leaves to curl. In any case, liquid manure is more likely to do good than harm, and we should prefer to put fresh sheep or deer's droppings in a tub of hot water and stir them about, and draw off the clear liquid when cold, and water the border with it liberally twice a week. Fresh sheep, goat, or deer's dung should be used in the proportion of a peck to thirty gallons of water. The dung of domestic poultry, one part to ten of water, is an excellent refresher for established roses.]

PTERIS TREMULA.—*Farringdon.*—Some growers would like to know how to prevent the growth of this pretty fern, for it has not long been in a stove or greenhouse ere its seedlings spring up everywhere, and become a pest in the same way as its near relative, P. serrulata. It is nearly hardy, evergreen, and requires no particular care. Your window plant must be repotted every season in March or April, in order to remove some of the exhausted soil from among the roots, and replace it with good fresh turfy peat. It may be repotted into the same pot, or one a size larger. Keep it in a shady window, and never put it out of doors. A pair of Lady Ferns would perhaps suit the open flower-stand, but the proper way to keep that flower-stand would be to place on it plants in bloom, and remove them and replace with others, for no plants will live long in a room at any distance from the windows. Saxifraga pyramidalis must be potted in equal parts, loam, leaf-mould, and thoroughly decayed manure. Send to Mr. Standish, Ascot, for the noble Forget-me-not, Myositidium nobile.

SELECTION OF MOSSES.—*Old Subscriber.*—The following are recommended for cultivation in Stark's "Popular History of British Mosses" (published by Routledge, 7*s.* 6*d.*) Andræa rupestris, Anictangium ciliatum, Anomodon viticulosum, Bartramia pomiformis, Bryum punctatium, B. pyriforme, B. rostratum, B. argenteum, Cinciidotus fontinaloides, Dicarum bryoides, D. pellucidum, D. squarrosum, D. taxifolium, Didymodon heteromallum, D. trifarium, Encalypta vulgaris, Grimmia apocarpa, G. leucophæa, Gymnostomum fasciculare, G. ovatum, G. pyriforme, G. truncatulum, Hedwigia æstiva, Hookeria lucens, Hypnum cordifolium, H. cupressiforme, H. dendroides, H. molluscum, H. plumosum, H. trichomanoides, Ortholrichum anomalum, O. Hutchinsiæ, O. rupincola, Polytrichum alpinum, P. juniperinum, P. undulatum, Tortula enervis, T. subulata, Trichostomum aciculare, T. heterostichum, Weissia contraversa, W. curvirostra.

CAMELLIAS.—How soon shall I put camellias in heat to grow? All the buds that did not drop, flowered at Christmas. I carefully read some directions for flowering them, and cannot see anything we failed to do, yet almost all the buds dropped off.—*H. R.*—There is but one rule needful, and that is to set camellias growing as soon as the bloom is over; no matter what

time of year that may be. We never allow camellias to show themselves out; but as soon as the new shoots begin to push and there are still a few blooms not expanded, we remove those blooms, being content with what the plants have given us already, and seeing they are in the humour to grow, we help them with moderate heat and a moist atmosphere. If H. R. and others would do the same, and be careful to get the wood well ripened, we should hear less of buds falling; but there are not many people who have the courage to sacrifice a few of the last blooms.

Cotton Plant, Cerastium tomentosum.—I put some seeds of a cotton plant in a hot-bed, and they quickly germinated. Will you tell me how to manage the young plants, and what temperature they require? We have a greenhouse and bark-bed. In one of Mr. Hibberd's papers he remarked that the value of Cerastium tomentosum depended on the way it was used. We have not succeeded with it, and will be glad of a hint on the subject.—*Sudbrook.* [We ought to know what is the species of cotton plant which has been taken in hand by Sudbrook. The best for ornamental purposes is *Gossypium hirsutum*, a biennial shrub which grows like a currant-bush, and flowers profusely. Having got up the plants in a hot-bed, pot them singly in small pots in rich light soil, and replace in the hot-bed. When they have filled the pots with roots, shift to 32-sized pots, and plunge in heat again, keeping them at an average of 65°; say 60° by night, 70° by day. In June place them in a sunny greenhouse, and at the end of July shift to 24 or 18-sized pots, using equal parts of loam, rotten dung, and sharp sand. Winter them in the coolest part of the stove, and keep rather dry; while growing give abundance of water. Cerastium should be propagated every year by cuttings in spring, and is best got up without the aid of artificial heat. Shoots two inches long make the best cuttings. Remove the lower leaves without tearing the bark of the stem in the operation; dibble them in close together in pans filled with a mixture of half sand and half loam, and shut them in a frame. In the course of a month they will be well rooted, and may be planted out from the pans without any potting. By this method a close low growth is obtained, and this may be kept to one uniform height by nipping down as required. A still simpler way is to dibble the cuttings into the beds where required. If put in thick, they give immediate effect, and get rooted before the leaves lose their colour, and then throw up new growth from the roots in plenty. Cerastium edgings may be made at any time during the summer by this process, and the variegated mint may be used in the same way. We described this process under the head of "Instantaneous Bedding," in the "Garden Oracle" of 1862.

Plants for a Small Conservatory.—I have fully determined that my little conservatory shall no longer be used for bedding plants, and want you to name me a dozen select little specimens. Among those that thrive I have camellias, azaleas, callas, cactus, mesembryanthemums, Acacia armata, and, of course, the usual fuchsias, geraniums, bulbs, primroses, etc. In selecting my plants for me, it may be a guide to know that I have also a pit without fire in which I store genista, fuchsia, myrtles, etc., etc., but in summer this is the hot-house, or almost a moist stove. The names of a few plants that would winter in it would be very acceptable. Magnolia fuscata, Escallonia macrantha, variegated ivies, yuccas, ferns, are all wintered here, and occasionally do duty in double windows. By the bye, I do wonder these are not more used. If acceptable, I will send descriptions of mine. [The following are a choice dozen of easily cultivated plants which bloom in a comparatively small state, and serve well to group with more popular subjects, such as fuchsias, etc., etc.—Boronia serrulata, Chorozema varium, Coleonema gracilis, Epacris miniata, Hovea celsi, Kalosanthes coccinea, Leschenhaultia splendens, Oxylobium Pultenæa, Salvia splendens, Statice Holfordii, Styphelia tubiflora; and last, but not least, Tangerine orange. By the help of the pit you could grow Agapanthus, Lilium giganteum, and the Japanese species and varieties of Lilium, Tritomas, Tritonias, and, in fact, any of the Cape bulbs—calceolarias, cinerarias, cyclamens, daphnes, ericas, hydrangeas, *et hoc genus omne.* We shall be glad of an account of your double window.

Cheap Tallies.—I find that wood tallies, when written upon with blacklead pencil and tied with cord, are apt to get lost or illegible. I am now cutting sheet zinc into strips say 2 in. by $\frac{3}{4}$ in., make a hole at one end with a bradawl

to pass a copper or lead wire through to fasten the label to the tree with; then with a narrow chisel or screw-driver punch deep enough to be legible, thus IV. for 4, XV. for 15, and so on, then by keeping a list of names numbered to correspond, plants, etc., so labelled may be known at any time; if required, each class may be distinguished by some particular mark, as [] for apple, [ pear, [ plum, etc., but if small steel punches can be had cheap, 1 to 9 and 0 inclusive, a gardener could punch *any* number; but the chisel or screw-driver would do for most moderate-sized gardens. I beg to suggest the above plan because I think the material cheap, easily made, and lasting.—Polly.

Datura Floribunda.—R. T. P. If you had given us the exact name of the plant, you should have been replied to last month. We suppose your query to refer to *Datura floribunda*, which is nearly hardy, and requires no particular skill to flower it. Your best course of procedure is to shift the plant to a pot one size larger, as soon as it has quite filled with roots the pot it is now in, and proceed then till it is in a twelve-inch pot, and then wait patiently for bloom. The soil should be equal parts fibry peat and loam, no dung and no liquid manure: grown in this way in an airy greenhouse it will bloom abundantly some day, but it never blooms in a small state. If you have not greenhouse room for it, you may plunge the pot in a sheltered border from the end of May till the end of September, and then remove the plant to a pit for the winter.

Herbaceous Plants for Exhibition. —G. D.—We do not understand your request for names of six herbaceous plants for exhibition in August. It would have been better if you had given us a copy of the clause in the schedule of the exhibition they intended for. The following are fine subjects which bloom in August: Inula glandulosa, Agathyrsus Sibiricus, Sabbatia campestris, Pentstemon Jaffrayanum, Dianthus serotinus, Phygelius capensis. These will group very well, but a collection of Florists' Pentstemons, Phloxes, or Lobelias would quite eclipse them.

Various.—*W. B.*—Any old frames and lights can be used for hardening bedding plants; the merest shelter at night is sufficient after the first week of April. There is no need anywhere to build houses for the purpose. There is no such a thing as a book on bedding plants. The stock of Antennaria was all disposed of a year ago; we have not an inch left.—*A. Cathcart.*—Your queries open a broad question, and we must defer replies till next month for want of space. —*J. W., Maidstone.*—The blue heartsease vanished within a week of the offer being made. The subject named shall have attention.—*A. B.*—The primulus you name are garden varieties, and their names are supposed to be descriptive of their colours, cuprea meaning coppery, and carnea flesh-colour. Such a question as you ask can only be settled by a comparison of the varieties, many of which are local, and have never had a place in books. We have not seen Mr. Fleming's book, and have no particular wish to see it. The best book for you is the Rev. J. S. Henslow's "Dictionary of Botanical Terms," published by Messrs. Groombridge, price 4*s.* 9*d.*—*E. M. H.*—Your tender ivy-like plant is *Senecio Mikaniæ*, which you will find described in the Floral World, vol. ii., p. 131.—*A. G., Surrey.*—We do not know the stove you name. We kept a large collection of rather tender herbaceous plants through the last winter by the aid of one of Joyce's patent stoves. How do you manage to bloom Deutzia gracilis all the year?—*J. B.*—We prefer in every case that our friends should apply to the booksellers.—*J. C. L.*—We have explained at least a dozen times how to make the lamp burn. Have a wick of proper size, and trim it neatly about three-quarters of an inch long, and you will get over that difficulty.—*Polly.*—Give more air, and you will escape all your present troubles. Any of the large London houses can supply Magpie pansy.—*H. R., Redland.*—For raising ferns from spores, see Floral World, vol. v., p. 36. Your Pleroma wants repotting; it is starving to death. Do it at once, removing a portion of the old roots, and using equal parts peat and loam full of fibre. Assist it to make a new start by means of bottom heat. Treat the Polygala the same, but add a fourth part chalk to the soil.—*Spa Hill.*—The flax will flower this season. Convolvulus Mauritanicus is called a hardy plant, because it can be grown out of doors during the summer; it requires protection during winter. It will flower this season if sown at once and grown on under glass.—*Subscriber.*—You will require two pipes for bottom heat and two for top heat. You need not screen off the portion intended for cucumbers; as if grown at the warmest end the temperature would just suit for winter-blooming stove-plants.

THE

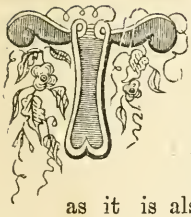
# FLORAL WORLD

AND

# GARDEN GUIDE.

MAY, 1864.

## CULTURE OF EPACRIS.



HE genus Epacris is noted for the strong and decisive family likeness of its various species, as much as for their elegance, the delicate and lively colouring of their blossoms, and their great value as early flowering and nearly hardy shrubs. The genus is the most conspicuous and notable of the natural order *Epacridaceæ*, to which it gives its name, as it is also the most important genus of that order. In the Linnæan system the Epacris belongs to the class *Pentandria*, and the order *Monogynia*, having five stamens and one pistil, hence is easily operated on for purposes of hybridization, which is not usually the case when either stamens or pistils are more numerous. The epacrises are all natives of New South Wales, and adjacent parts of the great Australian continent, where they enjoy an equable temperature, and are rarely subjected to extremes of either heat or cold, damp or drought. Hence, when cultivated in this country they are classed as hardy greenhouse plants, requiring to be as nearly as possible acclimatized, and assisted more by protection from the vicissitudes of the season than aided by artificial heat. There are over thirty species known among cultivators, and there are many varieties which are more valued than the species. *E. andromedæflora* has andromeda-like flowers. *E. bicolor* has pretty crimson and white flowers. *E. campanulata* has bell-shaped bluish flowers of great beauty, and there are varieties of it with white and crimson flowers. *E. densiflora*, with the flowers blush and white, is very effective and is well named. *E. grandiflora* has large blossoms of a fine scarlet colour, with greenish white tips, and is remarkably ornamental. *E. miniata* and its variety *E. miniata grandiflora* are the two most generally cultivated of all the species and varieties, and they fully deserve the high esteem in which they are held. *E. nivalis*, with snow white flowers, is a charming species for winter decoration, as are also *E. purpurescens*, purple, and *E. variabilis*, which may be had in bloom from January to April.

Cultivation.—The close resemblance and near botanical relationship of the Epacrids to the Ericas afford the key to their successful treatment. They are so far hardy that a close damp stove would soon be the death of all the species committed to it, and so far tender that exposure to burning sun or frost would be equally fatal. Moderate and gentle forcing they bear with patience, but they require at all times plenty of light and air, and must be guarded against stagnant moisture, and all sudden changes of temperature. In a greenhouse badly managed, the epacrises will be among the first plants to perish, but with thoughtful and constant attention they make a good return, and are exquisitely beautiful in their flowering season, and at other times neat and interesting shrubs. All the species and their varieties thrive in good peat alone, and require no other soil, with the exception of *E. microphylla*, *E. exserta*, and *E. andromedæflora*, which do better in a compost consisting of one-third mellow hazelly loam, and the remainder sandy peat. As they all flower early in the year, and continue in bloom from January to July, it is necessary to give them every needful attention during the winter, as the flowering wood is then in process of advancement from a state of comparative rest to the development of blossoms, and any undue degree of cold or damp will render the flower buds abortive. The winter temperature should never exceed 50°, nor be lower than 40°, in order to keep the plants as nearly dormant as possible without injuring the flowering wood. As the season of flowering approaches, there will be no need of the aid of artificial heat to the extent of forcing, but a temperature of 60° to 70° is allowable, then plenty of air can be given, and the plants must then have plenty of water, and be scarcely at all shaded. As soon as flowering is over, cut back the plants moderately, and keep them rather close till new growth begins, which will follow close upon the pruning. They may now be treated in precisely the same way as camellias and azaleas when making their new wood, and as soon as the new shoots are an inch long, turn them out of their pots, remove a portion of the old soil without injuring the principal roots, and repot in the same pots or one size larger. After this operation shut them up for about ten days, and then give them plenty of air, and in about fifteen or twenty days after repotting place them out of doors in turf pits to finish their growth and ripen the wood for next season's bloom. If turned out without repotting, they frequently die or become unhealthy and unsightly, and if not properly prepared for turning out as we here advise, some similar disaster may occur, for the delicate roots of these plants are quite unfitted to bear any extremes, and it is for that reason we recommend turf pits, which are more uniformly moist and equable in temperature than any other kind of receptacle for plants in summer time out of doors. In any case the pots must be plunged to the rim; earth or ashes may suffice for plunging, but there is nothing to equal cocoa-nut fibre refuse for this purpose, as we have proved by experience, it is such a perfect non-conductor, that a mass of it is not soon affected by alternations of temperature, and it is always uniformly moist without being over wet, unless the bed is made up on a surface of undrained clay which, of course, is not to be taken into the reckoning when we are addressing sensible gardeners. Never let them get dust dry, never make them excessively

wet, never let them be exposed to a burning sun, but treat them as nearly as possible as hardy plants, and let them enjoy all the summer sunshine and fresh breezes as you would the hardiest alpines, and house them for the winter early in the month of October.

Propagation.—Cuttings strike very slowly but surely, as with proper treatment not one in fifty need be lost. Cuttings, if made short, and of the extreme ends of half-ripe branches, will strike at any season, but the only safe season for beginners is the spring. The points of shoots should be removed for the purpose, and should be only an inch or an inch and a-half long. These cuttings, divested of their lowest leaves, are to be potted in pure silver sand. Cover the cuttings with bell-glasses, and place the pans in a cold pit, which is preferable to placing them on bottom-heat. When they have struck root, which may be known by the fresh growth of the points of the cuttings, pot in small pots, using sandy peat and placing them in a frame or pit, and as soon as they have again begun to grow, again remove them to the greenhouse, and there treat them as we have above directed for old plants.

It is of the utmost importance that the pots containing epacrises should be well drained, and in potting extra care must be taken to pack the crocks so that there will be no fear of the soil washing down and stopping the drainage, for a water-logged condition will soon prove fatal to them. The soil should never be sifted, but broken with the hand to the size of walnuts, and with all the dust and grit added in filling in. In case of compulsory neglect in regard to potting, they may be shifted when taken into the greenhouse for the winter, but it is greatly preferable to repot them before turning out in summer. Take care in potting to merely loosen the roots with the hand so as to remove a little of the old soil without distressing the roots, but never cut the roots with a knife except in some extreme case, and then cautiously.

## THE PLUNGING SYSTEM.

### No. I.

For three seasons I have been interested and occupied in a system of garden decoration, to describe which I can find no better term than "the plunging system." Possessors of my "Town Garden" will understand, by reference to the frontispiece, which represents the forecourt of my residence at Stoke Newington, how admirably adapted to such a place, and to all such places, this system is, if I add that the sole purport of the system is to produce a beautiful scene at any and every season. I think I may venture to say that I have brought the plunging system to perfection, and I have deferred mentioning it in these pages till now, expressly that I might be able at last to deal with the subject fully, and with a practical knowledge of all its difficulties and possibilities, all its ups and downs and ins and outs, and all the cautions necessary to be observed by those who intend to take to it. It is usually necessary to prove the propriety of a proceeding—especially if it be a new proceeding—before attempting to describe it; and to comply with this common necessity, I take the liberty of asking you to look at your own gardens and forecourts on this present 1st of May, when, according to the season, you ought to be sur-

rounded with flowers; whereas your forecourts, borders, lawns, and all else, are flowerless, and probably contain no plants at present, and have not contained plants of any kind for some months past. My plunging system changes all that, and the extent to which it is to be carried out is to be measured by the purse only; for as a matter of art, or science, or mere convenience, it is illimitable. Take a common case: a series of beds and borders in the most conspicuous position that can be found for them, and all they do for their possessor is to produce a glow of colour from June to September. For seven months in the whole year they are literally useless, and virtually *unsightly*. To be sure, those who really read the FLORAL WORLD and follow its advices, do not follow so false a system. During the seven years of our labours in these pages we have brought forward numerous simple methods of redeeming the bedding system from its numerous evil accompaniments, and the consequence is that a much more liberal system is coming into fashion; so that we see hyacinths and tulips in spring, and pompone chrysanthemums in autumn, and evergreen trees and shrubs in winter, besides geraniums and verbenas during the summer months. But the plunging system, if adapted to any place, by any means, supersedes and outshines, and all but extinguishes, every other system; for it can be carried to such an extent as affording a complete change of scene every day throughout the year, or it can be contracted to three or four changes a year; and independent of complete changes and re-arrangements, the various minor details may be varied *ad lib.*; so that if you have but a dozen plants in flower, and capable of bearing exposure in the open air, that dozen may be introduced in the midst of thousands already placed for effect, and will tell their own tale and justify their own presence from first to last.

I am bound to say further, by way of preface, that I have horticultural as well as artistic reasons for following out this plan. I am so shut in by high walls and large trees that there are some difficulties occasionally in producing a fine display of flowers at the entrance to my little garden, where it is most important to give to all who present themselves a floral welcome. I can grow a few dozens, hundreds, or thousands of plants, and introduce them to the scene while they are in their full glory, and the shade of trees and walls does no harm, seeing that when their bloom is over they go back to their pits or greenhouses, or elsewhere, or to the rubbish heap if done with for ever, as will of course be the case with such things as asters, balsams, etc., when their best display is over. The system has, however, not been forced upon me. The walls and trees are not so near and so darkening as to render it impossible to grow flowers in the usual way; it is the result rather of intense dissatisfaction, and sometimes of disgust, at the appearance of unoccupied beds and borders for months together, for by the planting system there must be blanks at times, and the evil must be borne with patience. But I want more than the planting season will give me. I want to be constantly enjoying my little enclosure, and have no stomach to live on mere anticipations and remembrances; as by looking forward to the display that is to be, and calling to mind the display that was; so if we can walk on carpets of flowers all our days, it is much preferable to walking sometimes on flints and brick-bats.

It must be understood that I am not advocating the plunging system as intended to bring about a revolution in amateur gardening. You all know I am as careful as can be not to write about hobbies in a way to make people forget the serious duties of life, and ruin themselves in extravagant schemes of horticultural display. The regular geometric garden must, no doubt, remain to be dealt with on the planting system, though that system is greatly open to enlargement and improvement; so, perhaps, must it be with the generality of borders and beds on lawns; but the plunging system is particularly adapted for entrances, approaches, groups of beds placed immediately under the win-

dows, and, in fact, for the decoration of a distinct garden within a garden —such, in fact, as my forecourt happens to be—a place apart from the rest of the ground, and which being seen daily and hourly, needs to be more lavishly dealt with than any other part of the vast and princely estate.

But you will be asking, What does all this mean—what is the plunging system? Well, it can be described in a word — it consists in plunging potted plants in the open ground; and that plunging may be well done or ill done, and the grouping may be according to good or bad taste, as suits the desire and means and knowledge and ability of the operator. I have followed the system more or less for more than fifteen years, having begun by plunging potted evergreens to fill up beds in winter, and having now attained to such a mastery of the business that I can cheat you into a belief that it is high summer any day throughout the year, and you shall only discover the cheat by the fit of sneezing that the east wind may cause when you take off your hat and make obeisance to my ivies and conifers, which, when undeceived, you aver you thought, by their brightness and beauty, were wonderful exotics just put out to be killed with the cold, instead of, as they are, common, cheap, hardy things, that thrive the better for the use to which they are put. I used to plunge in the common soil, and when the trees were removed, the beds were planted in the usual way. There were evils connected with that method that could not be tolerated with any extension of the system. It was hard work to dig holes, and insert huge pots in their places, and it was needful to place bricks and tiles under the pots, to prevent them becoming waterlogged; and to move a few at any time was a great trouble, for after a week's rain the heavy soil would consolidate about the pots like so much cement. The remedy for those evils was cocoa-nut dust. The beds furnished on the plunging system consist of two feet depth of cocoa-nut fibre refuse only. The consequences of the adoption of this material to plunge the pots in are not only to render the operation of plunging more expeditious and cleanly, and to do away with any need for measures to prevent the pots becoming waterlogged; but the appearance of the material, as compared with soil for the same purpose, is immensely superior; the beauty of leaves and flowers is enhanced by the contrast of the clean brown surface against which they are seen, and evergreen shrubs especially never look so fresh and bright as when plunged in beds of cocoa-nut. Then there are other advantages of the use of this material. In case of neglect in watering, the plants plunged in it suffer less; in case of excessive watering or long-continued rains, there is little fear of injury to the plants, for the material has the peculiar quality of absorbing a certain amount of moisture, and no more; it is rarely wet, and it is never dry; if the soil below is at all receptive, so as to carry away the surplus moisture, cocoa-nut fibre refuse never becomes soddened with water. It is, moreover, a tolerably good non-conductor of heat, and hence is warm in winter and cool in summer—that is to say, does not readily vary in temperature, and hence is well adapted to screen the roots of potted plants from atmospheric influences. Lastly, as to this part of the business, if a large mass of cocoa-nut fibre is heaped together —say not less than two cart-loads — a slow fermentation takes place, and the temperature rises four or five degrees above the mean of the atmosphere surrounding it. If then a large bed is made up for plunging, plants of comparatively delicate constitution may be placed in it, and the gentle warmth will tend to their preservation and improvement; and in the case of plants plunged in winter and early spring, the slow fermentation of the material is of necessity antagonistic to the penetration of frost to the roots; and thus in many ways the cocoa-nut fibre is far superior to mould for plunging, and its appearance is so neat and cleanly, that wherever it has been once used, it

would be like a revival of the customs of the dark ages ever to dispense with it again. If the portion of the ground to be dealt with on the plunging system is to be kept gay by that system during winter and spring only, it will be no difficult matter to remove the cocoa-nut dust, and replace it with loam for planting the summer bedders in; and wherever the refuse is placed in the reserve ground, it will be the best of all substances in which to plunge the stock of potted plants while making their growths for the season, for by its powers of resistance the plants will be saved all the injury that commonly results from the burning heat of the sun acting on their roots through the exposure of the pots.

As this paper is only introductory, I shall conclude with a sketch of the general scheme of plunging for one year round. Beginning at the commencement of the winter, potted coniferous trees, hollies, laurestinuses, aucubas, ivies, and a few berry-bearing evergreens, form the bulk of subjects immediately available for forming handsome groups. As the spring opens, potted crocuses and snowdrops are brought from the pit, and plunged in the front rows. When these fade, the hyacinths grown without forcing are in a fit state to succeed them. This present season I have had hyacinths in perfection out-of-doors, by plunging, from the middle of March to the middle of April, and by changing the plants as the batches in the pits came into bloom, the display continued twice as long, and was twice as good, as would be possible by planting in the open ground. When the hyacinths are done, their places are taken by potted Alyssum saxatile, Iberis sempervirens, and Aubrietia purpurea, the three best hardy spring flowers we have; and if these are grown in sufficient quantity, all the evergreens may be removed, and the flowers may be disposed in true bedding style, and the result will be a glorious display of true spring colours, at a season when everybody is rejoicing at the bursting of buds and the blooming of trees, and nobody has a flower of any kind in those portions of the ground which are professedly set apart for flowers only. These will all be done in time for the true bedders; and as these never flower so well as when planted out, no doubt a combination of the planting and plunging systems will in the end be the most useful. But I shall not consider combinations in this series of papers any more than I can help, but deal with the plunging system *pur et simple*.

Well, then, we come to the bedders, and you will see that by the plunging system you may use asters, balsams, fuchsias, and other subjects that make their effects in separate efforts; and you may, by growing plentifully of suitable subjects, make any number of those charming groups which may usually be seen at nurseries, where masses of potted plants are plunged out to catch the eyes of pedestrians. Then again, as sometimes a line in a ribbon turns out a failure, or some species or variety adopted in a bed disappoints the cultivator, by the plunging system he needs but to move his furniture, and there is an end instanter of any excuse for reproaching his taste, for the defect is no sooner known than it is mended. Then, instead of needing geraniums and verbenas in such quantities as they are generally required for bedding, the plunging system allows of the use of plants of any kind that are suitable to produce an effect; and nearly all the inhabitants of the greenhouse and many from the stove may be turned out for a season, and be benefited by their sojourn in cocoa-nut dust, and the decorations may be rendered the most gorgeous possible consistent with the contingencies of outdoor work and the peculiaritiesof our climate in the summer season. I can say this much of summer effects, that I never saw a group produced by planting in the open ground which was worthy to be compared for a moment with groups that I have produced by plunging; and the reader may be the more inclined to believe this when I say that the principal subjects in my grand group were Gauntlet pelargoniums, five feet high, double petunias of the same height,

with a few bold foliage plants to bring out the colours with more force—such as *Veratrum album*, the variegated *Aspidistra lurida*, etc. Such subjects planted out must be two or more feet apart, but when plunged they may be packed close together to form a dense pyramid, the more dense the better. Of course the tall plants are soon made leggy and leafless at bottom by the process; but we shall want a change when the asters and fuchsias are in bloom, and then they can go to the greenhouse, and will soon recover their looks, while the plunging is continued with the late flowering subjects, producing two or three crops of flowers in the same period which by planting would produce only one. Of course chrysanthemums come in to wind up the year, and of all the ways in which chrysanthemums may be used, this is the only one to render them really serviceable out of doors. When planted in beds they occupy space which could be better used all the summer, and are not certain to bloom when their season arrives; but when grown for the purpose in pots, they may be put under glass as soon as the nights become chilly, and a good bloom be secured before they go to their places; and as we generally have four or five days' frost at the very time when the buds are expanding, they may be secured against harm by seasonable shelter, and when plunged at last, make a grand display for at least a month, without any further cause for anxiety as to their safety.

On this 23rd of April, on which I write this paper, the principal materials of my out-door show consist of potted plants of *Forsythia viridissima*, *Ribes sanguinea*, *Dielytra spectabilis*, early tulips grown in a pit, yellow Alyssum and purple Aubrietia, double wallflowers and *Rhododendron ciliatum*. In a week from this date—say on the 1st of May—I shall have a supply of Spirea Japonica, with its exquisite snow-white blooms; and then, if a great change is needed, all the miscellaneous and nearly hardy greenhouse plants may be turned out and grouped in the beds, until the next change is made to huge pelargoniums, petunias, and stove-plants.

SHIRLEY HIBBERD.

## PLATYLOMA TERNIFOLIUM.

*Platyloma ternifolium* (Syn. Pteris subverticillatus, Pteris ternifolia, Pteris Peruviana, Pellæa ternifolia, Allosorus subverticillatus, A. ternifolius). Fronds glabrous, linear, pinnate, reclining, pinnæ opposite or alternate, about ten pairs, sessile, trilobed, sometimes 5-lobed, the pinna nearest the apex is usually bilobed, cordate at the base, coriaceous, having a cartilaginous margin, ultimate pinna trilobed. Rachis and stipes purple, being covered with a plum-like bloom; stipes pubescent, with long and thin whitish scales, terminal, adherent to a short, creeping rhizome, which is scaly. Sori linear, continuous, indusium very narrow.—Lowe's "British and Exotic Ferns," vol. iii., p. 70.

This is a rare and beautiful fern, a native of Mexico, introduced in 1841, and usually grown in the stove, where it does not attain perfection without demanding more than ordinary care. It is one of the most desirable ferns to cultivate, on account of its graceful habit, and unique character. The pinnæ are set on the black rachis, like a series of hexagonal stars, and the fronds, which grow to a length of eighteen inches, have a graceful pendulous outline. The colour of the pinnæ is a bluish grey-green, which, with the black colour of the rachis, give this fern, irrespective of its peculiar form, a character distinct from most others.

To grow this fern to perfection, it is necessary, in the first instance, to remove it from the stove, and place it in a greenhouse which is kept tolerably dry. It will not bear with impunity either the heat or the excessive

moisture to which it must be subject in the stove, and thus it is, as remarked by Mr. Lowe, and as proved by the numerous failures that occur in its cultivation, "less easily cultivated than the other members of this lovely family." We have never found the slightest difficulty in growing this fern so long as we gave it good greenhouse treatment, but in the stove it was always liable to red spider or the sudden decay of its fronds without apparent cause, and in the Wardian case it invariably perished of mildew in the course of a few months. To grow a good specimen, pot it at one shift from a small pot to a seven-inch pot, in which there must be two inches of drainage very carefully packed. The soil should be sharp grit or bricks pounded to the size of peas, silver-sand, tough peat torn to pieces, the size of walnuts, and silky loam, equal parts. If there is any doubt about the quality of the loam, use three parts good peat and one part each of pounded bricks and silver sand. Pot firm, and place the plant on a gentle bottom-heat, with moderately moist atmosphere, using only just as much water as will keep the soil moist, and taking care not to wet the fronds. In the course of a fortnight the plant will have begun to root into the new soil, and it may be removed to the greenhouse, where it should have a shady and rather dry position, and have only as much water at all seasons as will suffice to prevent the soil becoming quite dry, and never be watered on the fronds. Of course the water supplies may be increased during hot weather, when the plant is making free growth, but there must be a constant exercise of caution never to give water in excess. During winter it may be kept almost dry, and if quite safe from frost, will never suffer from exposure to a low temperature. The propagation of this species may be effected by dividing the rhizome, for which operation the spring is the most suitable season. Or the spores may be sown on the surface of a pan of silver sand, which must first be pressed close and moistened. After sowing cover

PLATYLOMA TERNIFOLIUM.

with a bell-glass, and keep the sand moist by placing the pan when necessary in a shallow vessel, so that the sand can absorb sufficient without being disturbed. As soon as the seedlings are large enough to handle, pot them singly in a mixture of half peat dust and half silver-sand, and keep them close and warm without subjecting them either to an extremely high temperature or to any excess of moisture.

## FERTILIZATION OF FRUITS IN HOUSES AND PITS.

The necessary operation of fertilizing the blossoms of fruits grown under glass, is oftentimes overlooked by the amateur, if not by the professional gardener; and the loss of a crop of fruit is often the consequence, especially if dull and damp weather sets in at the time the trees are in blossom. I some time back threw out a hint respecting the artificial "setting" of fruits in orchard-houses, and doubt not that those who acted upon it have now an abundant "set." Let them beware now that they do not fall into the opposite error of overcropping the trees, merely because it seems a pity to destroy the young fruit: better destroy a part now, than all, and the tree into the bargain, hereafter. But the season being now at hand for the blossoming of the grape, my object in this paper is more especially to direct the attention of our readers to the desirableness of assisting the setting of this fruit also—especially the Muscat section, which I do not consider are to be relied on for a fair and even crop without it; and I know that it is the secret by which some cultivators are enabled to show that noble variety the Cannon Hall Muscat in perfection, whilst others do not get half-a-dozen full-swelled berries in a bunch. My plan is extremely simple; it merely consists in drawing the bunches very lightly through my hand twice a day for a few days, whilst the bunch is flowering, and afterwards give the stem a smart rap with the knuckles, to bring off the capsule from the stamens, and set the pollen free. The time for performing this operation may be known by gently shaking the vine, when the capsules that hold the stamens prisoners will begin to fall; then is the time to cautiously and gently assist them as above described. If the weather is dry and hot at this period, they will be found to part from the bunch freely; but if gloomy and damp, it will be well to give the maximum amount of fire-heat allowable, and also to withhold some of the moisture usually thrown on the floors, etc.

That cucumbers and melons require the aid of the cultivator to assist their setting, by placing the male or "false" blossom (divested of its corolla) within the fruit blossom, is, I presume, known to all.

Yet, that is not sufficiently persevered in, especially early in the season, I know to be a fact; for as it can always be seen when the pollen is exactly fit for effecting its important office, it oftentimes happens that the first attempt proves abortive, and is only known, when too late to remedy, by the embryo fruit turning yellow, and dropping away. Therefore, it is safe practice to apply a second or third male blossom at intervals of a few hours to each fruit blossom that is wished should "stand;" and this applies with greater force to melons, for unless a crop is set at once, one or two fruits taking the lead will prevent all the rest from swelling: and for this reason none should be "set" until a sufficient number of fruits show themselves for a crop in nearly the same stage of growth.

*Whitwell.* H. Howlett.

## CULTIVATION OF ASTERS.

The improved Asters which have been introduced during the last few years have completely vindicated annuals from the charge of weediness of appearance which has been so often urged against them; and as the time is near at hand, when it will be advisable to sow the seed, our readers will, perhaps, not object to a few hints concerning them.

To begin at the beginning, it is very important to get good seed, and in order to do this, it is necessary to pay a good price, and to have it from a respectable house, which will be a guarantee for the genuineness of the article purchased. Much, however, of the want of success with asters arises from sowing too early, and neglecting to give them sufficiently generous treatment, so that the seed often gets blamed when it is the management which is at fault. Asters should not be sown before the latter end of April or the beginning of May; nothing, whatever, can be gained by sowing earlier, but much is likely to be lost; for if they receive a check during growth from a few days' extra cold weather, it renders them very liable to the attacks of green-fly, or any other kind of vermin; and after a sudden severe check of this kind, it is almost impossible ever to get them up to their standard of beauty. We have on an average of seasons, found the 20th of April the earliest date at which it was safe to sow, and thence, to the 10th of May, to follow with successional sowings, so as to extend the blooming period over the largest possible space of time. Those sown after the 10th of May, generally flower before they have acquired sufficient strength. Therefore, remember first of all, that moist warm weather is most favourable to this tribe of plants. Many among our amateur friends look at the pictures of the beautiful varieties lately brought out, and then heave a half-sigh, as much as to say, "Ah, that is all very well in a nursery or in a picture, but it is quite out of the question for *me* to produce such flowers as those." Now, my dear friend, this is not by any means the case; and if you will only give a moderate amount of care and attention, you will have flowers this year which will be both a credit and a pleasure to you.

They should be sown on a spent hotbed, or in pans or pots placed in a close pit or frame; the plants will make their appearance in a few days, when you must give them plenty of air. When they are about an inch high, spread some fine soil over the surface of a slight hotbed, into which transplant your seedlings at a little distance apart, and let them remain there till they are three or four inches high. Now that asters are so perfect in shape and quilling, and on every variety of colour, from white to a deep crimson and purple, a well-arranged set of them would have a fine appearance on a ribbon border or in a geometric garden, and would remain gay from the 1st of August, until cut down by frost. If, therefore, you desire to grow them either in ribbons or masses, prepare the soil generously with old dung; that which suits them exactly is a mixture of light sandy loam and rotten dung. When the ground is in good order, wait for a favourable opportunity, and after some nice showery weather transplant them into the border, and water them for a few days; should the weather prove very hot and dry, the watering must be continued, for if they get the least check through drought, the insects (which seem as though they were always waiting in ambush) will pounce upon them and claim them as their own. Should this misfortune occur, it will be advisable either to syringe or sprinkle with tobacco-water, taking care that some of it goes into the centre of each plant, when the enemy will be effectually dislodged.

Supposing that it is desired to grow them for exhibition, the plants should be finally planted out for blooming in well-manured soil, in rows ten inches from each other. Keep them well watered during dry

weather, and quite free from weeds, stirring the ground between the plants occasionally until about the first week in August, when it will require a good top-dressing of rotten dung from an old hotbed, and then a good soaking of water if the ground appears at all dry. As soon as you have given them the top-dressing, procure some small stakes and tie them up; when the buds are sufficiently developed for you to see which will make the best flowers, thin them out, leaving three or four to each plant. The flowers to be exhibited must be protected from the wet and from injury by the wind.

Among the greatest enemies of the aster may be reckoned slugs, and in places infested by these pests it is somewhat a difficult matter to protect them. Lime is useful in dry weather, but its efficacy is destroyed by a shower, and so a more desirable way is to trap them; this may be done by placing heaps of two or three fresh cabbage-leaves on either side of them, which will generally attract the rascals; but, perhaps, the most effectual way is to take out a lantern at night and search the plants individually, when, with a little perseverance, they may be soon got rid of by this style of hand-picking.

## THE SPRING EXHIBITIONS.

The second show of the Royal Horticultural Society took place on Wednesday, March 30th, and no one was surprised to see a wet day, introduced by a snow storm, because it is the society's evil fortune to have bad weather for their shows as a rule, the fine days being quite the exception; even the presence of Her Majesty, who had signified her intention of being present, had no effect, and the day remained dull throughout. The exhibition was ostensibly a camellia and rhododendron show, but there were scarcely any of either in the exhibition, and those were not of first-class merit. The only really fine camellias were those belonging to the gardens, among them being a grand tree of tricolor, covered with blossoms. Mr. W. Young took second prize for a shabby collection. There was a nice display of cut camellias from Mr. Treen, of Rugby, which were deservedly awarded a first prize. Of rhododendrons there was only one good lot, and that was from Mr. Young, gardener to R. Barclay, Esq., Highgate, and beside these there were none worthy of note. In spite of this, however, the show was no mean affair, but well repaid the visitor, as there were magnificent displays of roses, hyacinths, tulips, azaleas, and miscellaneous plants, which made up a really fine exhibition. It would be impossible to produce finer collections of cut roses than were contributed respectively by Messrs. Paul and Son, of Cheshunt, and Mr. William Paul, of Waltham Cross; they were bloomed just to the point of perfection, the colours were as brilliant as is possible to imagine, and they were put up with such exceeding good taste and skill, that each bloom not only appeared to the greatest advantage, but enhanced the beauty of its immediate neighbours. There were staged some beautifully grown specimens of roses in pots, the best being those from Messrs. Paul and Son, of Cheshunt, and the next best from Mr. Turner, of Slough. Hyacinths were shown in large numbers, the principal exhibitors being Messrs. Cutbush and William Paul, who each sent a collection of 100, for which they were awarded equal extra prizes, Messrs. Barr and Sugden. Mr. Young, and Mr. Carr. A collection of azaleas from Mr. Bull, of Chelsea, gave evidence to the excellence of his mode of cultivation and good taste in staging. At the back stood a grand plant of Triumphans, measuring five feet from the rim of the pot to the top of the pyramid, a mass of bloom; in front of that Queen Victoria, a perfect cone and quite solid, with its charming

white and faintly lilac striped flowers; next Preclari, a diffuse bush, smothered with flame-like flowers, the colour a vivid tone of purplish lake, with deep lake blotch on the top petal; Roi Leopold, clear salmon red, with blood-coloured blotch; Chelsoni and Etendard de Flanders, a charming white; those well deserved the extra prize awarded them. Mr. Turner sent four plants of Bougainvillea spectabilis, in 7-inch pots, covered with the lovely mauve-coloured bracts, which render this plant such a superb stove climber. Chinese primulas were sent in excellent condition by Mr. Todman, gardener to R. Hudson, Esq., Clapham. Mr. Turner had a set of six nice forced pelargoniums, and was the only competitor in this class. The forced spring flowers furnished by Mr. Treen, of Rugby, were models of good culture, and richly merited the prize awarded them.

A considerable number of genuine novelties were shown, which added not a little to the interest of the display. Mr. Williams, of Holloway, had good specimens of Sarracenia purpurea, with purplish green pitchers and greenish yellow flowers, an unattractive species; S. Drummondi, a fine species, the leaves averaging 2 ft. 6 in. in length, ribbed with thin lines of purplish red, and opening to a wide lip, which, with the lid, is delicately reticulated with green and pink veins on a white ground; the flowers are brownish-red, and in their way as attractive as they are curious. Mr. Standish sent a new Forsythia, completely covered with canary yellow blos oms: this plant will prove as useful for forcing as for the shrubbery. Mr. Early, of Digswell, sent a seedling small-leaved begonia, called Digswelliensis, which produces large bunches of pinky red flowers, varnished on the outside, and with yellow stamens peeping out, lighting up the whole plant in a most peculiar and attractive manner. Mr. Bull had a most attractive collection, many of which have been already figured and certified. The greatest novelty in the lot was Dielytra spectabilis alba, with white flowers—a plant which will, no doubt, soon become very popular; there was also a very pretty selection of new ferns, the most beautiful of which was Asplenium ferulaceum, which Her Majesty admired so much, that she had the bell-glass removed in order to observe it more attentively; it is finer cut and more delicate than either A. diversifolium or A. viviparum, but belongs to the same section. The next best was Doryopteris alcyonis, also from Mr. Bull; this is a hart's-tongue-looking species, from St. Catherine, the fronds elegantly saggitate, of a dark green, and with Pteris-like marginal sori.

The second show of the Royal Botanic Society took place on Saturday, April 9th, and was a successful exhibition in every respect. Nowhere else but at Regent's Park can be seen such excellent taste in arranging the subjects exhibited, nor so much attention paid to the general effect of the whole display, as well as showing each separate lot of plants to the best advantage; and this circumstance it is which renders these shows such invariable triumphs, and has made them the most popular of all floricultural displays. The azaleas lighted up the tent by their brilliant colours in an extraordinary manner, the specimens sent by Mr. Turner being perfect specimens of good culture, and were so densely bloomed, that not a leaf could be seen. Messrs. Lane and Son took second prize, and Mr. Bull third. The amateur collections were all good; but Mr. J. Cross, gardener to Sir F. H. Goldsmid, Bart., took first prize with six finely-trained specimens; the second prize was awarded to Mr. Todman, and the third to Mr. W. Young. A pleasant change from the ordinary sugar-loaf style of growing azaleas was made by Mr. Turner, who sent ten plants trained columnar fashion, or like well-trained distaff fruit-trees, which were so laden with bloom, that there seemed almost too much upon them. Cinerarias were shown in abundance, and were of first-rate excellence, but did not differ in any notable way from those ordinarily shown in previous years. Mr. J. James, gardener to W. T. Watson,

Esq., Isleworth, took first prize, and Mr. R. Marcham, gardener to E. Oates, Esq., Hanwell, second. Hyacinths and tulips were sent in vast quantities by Messrs. Cutbush and W. Paul, but they showed evident signs that the freshness of their beauty was rapidly departing. Stove and greenhouse plants were very good, the most remarkable specimen of all being a grand plant of Gleichenia speluncea, from Mr. Williams. Mr. Turner sent six charming dwarf bushy pelargoniums, richly bloomed; and, as a counter attraction to the glaring masses of colour to be seen on every side, were some fine pots of lily of the valley, quietly sparkling in emerald green and snow white. New plants were largely represented. There were two new ericas, of fine quality. Messrs. Low, of Clapton, sent E. Halfordianum, with large finger-like blossoms, arranged seven, eight, or nine in each bunch, and all forming radii of a nearly completed circle, the colour of a light yellowish red, the tube highly varnished. Mr. Williams sent E. profusa, a species as fine as the last, and not greatly differing in its characters; the flowers are large, but are not set in such wheel-spoke regularity as E. Halfordianum; the colour is light coral-red, the lips white. The variegated-leaved New Zealand flax, from Mr. Williams, will prove a grand plant for damp rockeries and for the conservatory. The interesting Streptocarpus Saundersi, with a lovely bunch of Gloxinia-like flowers, white, with bluish-grey eye, springing out of a large flat leaf, attracted much attention as a rarity of great promise: it was from Messrs. Low.

The Azalea and Early Rose Show of the Royal Horticultural Society on April 30 was the most successful they have had this season, as the day was as fine as one of the most glorious in the month of June, which made the visitors flock in great numbers to see the display, which was uniformly good. The azaleas were magnificent and made the principal feature of the show, the exhibitors who gained the prizes at the Regent's Park a fortnight before being the most distinguished on this occasion also. The roses formed the next most imposing feature, and were of such exquisite quality that the display at the forthcoming summer rose show can only exceed this one in quantity, as it is not possible to surpass the quality of those shown on this occasion. Messrs. Paul and Son and Mr. William Paul took first prizes and extra prizes, Mr. Turner a first and second prize, and Mr. W. Paul a second. Cinerarias were in perfection, the amateur collections being the best. Pansies were poorly represented—Messrs. Dobson, of Isleworth, having the best collection. Auriculas were not plentiful, but were good, and were grown with as much skill as was ever displayed in times gone by. Mr. Turner had two very beautiful collections, grown in remarkable perfection. Among the amateurs Mr. Potts, of Old Kent Road, was first, and Mr. James second, both lots admirably flowered, those of Mr. Potts having a remarkable freshness and purity. The most remarkable novelty came from Mr. Williams; it was a plant of Xanthorrhœa Australis, the celebrated grass tree of Australia. The growth of this remarkable plant (which belongs to the natural order Liliaceæ) combines the several features of the tree ferns, the grasses, and the rushes, and the result is a sort of sublimation of Bonapartea juncea. The swollen stem, consisting of the aggregated bases of withered leaves, is very rough and picturesque, and from its summit springs a mass of foliage of a most rush-like character, but which falls over most gracefully, and gives the tree the character of a vegetable fountain. Bhotan and Sikkim species of rhododendrons were brought forward by various exhibitors in great perfection, and formed a most interesting feature of the show.

The finest and most desirable species and varieties of the various subjects exhibited at the above show were as follows: — Hyacinths and tulips were of the same varieties as those mentioned in our last month's number. *Camellias.* — Chandleri, Chandleri elegans, Duchess d'Orleans, Imbricata rubra, Delicatissima, Picta

superba, Valtevaredo, Fimbriata, Targioni, Rubens, Tricolor. *Azaleas.*—Prince Jerome (fiery red, very effective), Beauty of Reigate (white, with lively red stripes and splashes), Coronata (rich carmine), Criterion (soft rose), General Williams (fiery red), Iveryana, Murryana, Chelsoni, Eulalie Van Geert, Prince Albert (deep dull red, finely formed flower), Queen Victoria (white, pale rose stripes), Sanguinea (purplish rose), Optima (fine red), Princess Marriana. *Cinerarias.*—Lord Elgin (rich magenta self, dazzling), Perfection (white, with clear sharp purplish-rosy margin), Conqueror (fine mauve), Miss Franklin (broad rosy purple margin, dark disc, large and smooth), Miss Eleanor (snow white, with dull dove-coloured disc, most delicate and lovely, most desirable), Regulator (fine blue self), Viola (broad, bluish margin, white circle, dark disc), Admiral of the Blue (very dark), Dobson's Amy (paper white, pucy margin, dark disc), Queen Bertha (broad rosy margin, white ring, dark disc), Prairie Bird (fine cobalt blue, sharp thin white ring, dark disc, form perfect). *Roses.*—The new roses occasioned the greatest interest among the visitors. The best were Peter Lawson, Madame Alfred de Rougemont, Vainquer de Goliath, John Hopper, Le Rhone, Kate Hausberg, Louise Margottin, Alba rosea, Mad. W. Paul, Murillo, Mad. Valembourg, Comtesse Brossard, Bernard Palissy, Baron Adolphe de Rothschild, Sœur des Anges. *Auriculas.*—Ensign, Othello, Traill's General Neil, Lowe's Maggie Lauder, Popplewell's Conqueror, Spalding's Metropolitan, Wariss's Union, Taylor's Glory, Douglas's Sir H. Havelock, Fletcher's Mary Ann, Strech's Alexander.

## BRACHYCOMA IBERIDIFOLIA.

This genus belongs to the Linnean class and order *Syngenesia superflua;* to the natural order *Compositæ*, and second division of the third tribe, and first sub-tribe of that order. *Asteræ*, the sub-tribe, are plants with star-shaped flowers—the genus under notice being, in its flowers, very like the common daisy, but different from that in its habit, being annual and shrubby, with a disposition to trail, or spread itself along the ground, and thus well adapted for beds or borders, where a low growth and a disposition to cover the ground are desired. It is a native of Australia, found in the Swan River colony, 1840. It grows in rocky places, the fleshy roots establishing themselves in the light mould which collects in the small hollows and fissures of the rocks; and thus it makes a pleasant addition to the summer ornaments of artificial rockwork; though it may also be grown in a bed or border, or in the greenhouse or windows. Excepting frost, it bears all the vicissitudes of weather in Britain; and as it is never exposed to frost, but when sown in autumn in order to flower early in the spring for ordinary cultivation, it may be treated in the same manner as the hardy annuals. The natural situations in which it grows point out the soil in which it should be cultivated artificially. It should be a very light sandy loam, with a good drainage, so that the roots may not be over-moist at those seasons when the plant requires little or no water, as overwatering is the chief danger to which the plants are liable, except too damp an atmosphere, which is equally injurious to them.

Plants early sown must be protected from frost while they are young, and from heavy rains at all times, unless that which answers to the rainy season in their country; and the season there is not constant, there being sometimes two years without a drop of rain.

With due attention to these very simple directions, the plant may be grown in a bed or border, or in pots or vases. As a bed and border flower,

it may be sown in March, April, or May; and thus the period of its flowering may be considerably lengthened by succession. When it is thus grown, however, the situation must be dry, the underground drainage complete, and the loam in which the seeds are immediately sown, light and loose, or otherwise the plant will not live.

If intended for early flowering, in the greenhouse or window, or even out of doors, it must be sown in the latter part of the season, and protected from the winter frost. For this purpose it should be sown in August or September, though it will do with later sowing than this. When thus grown in pots, these should be placed as near the glass as possible during the winter months; for, though frost destroys it, it prefers rather a cool atmosphere with plenty of air. The seed should be sown in 48-sized pots; and the young plants should be thinned out to four or five in each pot, in order that they may have room to spread, as that is the state in which they make the finest appearance. The reason why they ought to have little heat or moisture during the winter months, even while in a state of young growth, is to avoid over-stimulating the roots, which would bring on an unhealthy growth, and destroy the whole of the plants.

If the directions we have given are observed, the plant is well worthy of culture, whether sown in the latter part of the season, for a greenhouse plant in winter and an early flowerer in the spring; or sown in the spring, so as to flower late in the summer or during the autumn. Both these periods may be considerably lengthened by sowing successions; and as the pause between the autumnal sowings and the early spring ones may be lessened, if not obliterated, the plant may be kept in continual flower, with the exception of three or four months in the winter.

When skilfully grown in a proper situation, this is a handsome plant—much more so than *Diversifolia*, which is inferior in habit, with the petals white; and though it has been eighteen years in Britain, it has never been held in much estimation. The eye only of *Iberidifolia* is white; the petals, or rather the marginal florets, being purplish blue, of a delicate shape. When the plants have room to spread, they do not rise higher than from six inches to a foot; and then, as they are free flowerers, they are delicately handsome, and form a good contrast with various other annuals, both upright and spreading.

## A SELECTION OF FERNS.

TWENTY-FIVE MOST DISTINCT STOVE FERNS.—Adiantum trapeziforme, Alsophila pruniata, Amphicosmia capensis, Anemia collina, Asplenium Veitchianum, Drynaria morbillosa, Davallia tenuifolia, Gleichenia hecistophylla, G. pectinatum, Gymnogramma chrysophylla, G. ochracea, Hymenodium crinitum, Lomaria attenuata, Nephrolepis davalloides, Nothoclæna nivea, Onychium auratum, Pteris cretica albo lineata, P. tricolor, P. aspericaulis, Stenochlæna tenuifolia (climber), Thamnopteris Australasica, Pleopeltis membranacea, P. longipes, Elaphoglossum brevipes.

TWENTY-FIVE CHOICE FERNS FOR WARDIAN CASE.—(Those marked thus * are for suspending.)—Adiantom assimile, A. cuneatum, A. setulosum,* A. formosum, A. capillus veneris, Asplenium marinum, A. fabianum, A. viviparum, Camptosorus rhizophyllus.* Asplenium flabellifolium,* Acrophorus hispidus, Hymenolepis spicata, Asplenium attenuatum, Asplenium pinnatifidum, Diplazium radicans, Goniophlebium piloselloides, Doodia caudata, Niphobolus lingua, Nephrolepis pectinata, Onychium Japonicum, Platyloma rotundifolia, Polypodium plumula, Pleopeltis terminalis, Polystichum triangularum.

## MAY, 1864.—31 Days.

Phases of the Moon.—New, 6th, 0h. 14m. morn.; First Quarter, 13th, 6h. 21m. after.; Full, 21st, 1h. 24m. after.; Last Quarter, 28th, 9h. 21m. morn.

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 sun-heat this month.

| D M | Sun rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 4 34 | 7 21 | 2 13 | 1 59 | Eight days frost; fine | Rogation Sunday |
| 2 | 4 32 | 7 23 | 2 38 | 3 17 | Fine throughout | Day breaks 2h. 0m. |
| 3 | 4 30 | 7 25 | 3 5 | 4 35 | Clear; cloudy; fine | Jamaica taken, 1695 |
| 4 | 4 28 | 7 26 | 3 31 | 5 38 | Cloudy; fine; clear | Inundation at Lyan, 1862 |
| 5 | 4 26 | 7 28 | 4 2 | 7 8 | Very fine; shower; fine | Ascension Day |
| 6 | 4 24 | 7 29 | 4 37 | 8 17 | Dry haze; very fine | St. John Evangelist |
| 7 | 4 23 | 7 31 | 5 19 | 9 20 | Cloudy; white clouds | Savings' Banks introduced, 1815 |
| 8 | 4 21 | 7 33 | 6 5 | 10 15 | Cloudy; dry haze; frost | 6th Sunday after Easter |
| 9 | 4 19 | 7 34 | 6 59 | 11 0 | Dry haze; clouds; fine | Easter Term ends |
| 10 | 4 18 | 7 36 | 7 59 | 11 37 | Fine throughout | Mr. Geo. M'Ewen died, 1858 |
| 11 | 4 16 | 7 37 | 8 59 | Morn. | Cloud; fine; wind; rain | Revolt in Sicily, 1860 |
| 12 | 4 15 | 7 39 | 10 4 | 0 8 | Rain; drizzling rain | Twilight ends 10h. 33m. |
| 13 | 4 13 | 7 40 | 11 8 | 0 33 | Rain; showery; fine | Cambridge Easter Term divides |
| 14 | 4 11 | 7 42 | After. | 0 56 | Cloudy and fine; rain | James Veitch, sen., died, 1863 |
| 15 | 4 10 | 7 43 | 1 15 | 1 17 | Rain; showery, warm | Whit Sunday |
| 16 | 4 8 | 7 45 | 2 20 | 1 38 | Squally; fine, windy | Prof. Henslow, botanist, died, 1861 |
| 17 | 4 7 | 7 46 | 3 26 | 1 59 | Cloudy; fine | French Empire established, 1804 |
| 18 | 4 6 | 7 48 | 4 34 | 2 23 | Fine; wind with rain | Crimean medals distributed, 1855 |
| 19 | 4 4 | 7 49 | 5 45 | 2 47 | Stormy; trees bl. down | *Royal Oxfords. Hort. Second Show* |
| 20 | 4 3 | 7 50 | 6 54 | 3 17 | Boisterous with rain | Columbus died, 1506 |
| 21 | 4 2 | 7 52 | 8 1 | 3 55 | Cloudy & cold; frost | *R. B. S. First Great Show* |
| 22 | 4 0 | 7 53 | 9 3 | 4 40 | Fine & cold; air dry | Trinity Sunday |
| 23 | 3 59 | 7 55 | 9 57 | 5 35 | Fine; white cloud; frost | Battle of Ramilies, 1706 |
| 24 | 3 58 | 7 56 | 10 42 | 6 41 | Fine throughout | C. Linnæus born, 1707 |
| 25 | 3 57 | 7 57 | 11 21 | 7 54 | Fine but cold; clouds | Princess Helena born, 1846 |
| 26 | 3 56 | 7 58 | 11 52 | 9 10 | Fine throughout; frost | John Edwards, F.R.H.S., died, 1862 |
| 27 | 3 55 | 8 0 | Morn. | 10 28 | Very fine throughout | Habeas Corpus instituted, 1679 |
| 28 | 3 54 | 8 1 | 0 18 | 11 48 | Fine throughout | *Crystal Palace Great Show* |
| 29 | 3 53 | 8 2 | 0 45 | After. | Cloudy; fine | L. J. M. Daubenton born, 1716 |
| 30 | 3 52 | 8 3 | 1 8 | 2 21 | Cloudy; fine; rain | Mr. Lovell, gardener, died, 1859 |
| 31 | 3 51 | 8 4 | 1 34 | 3 37 | Cloudy; fine; very fine | Chalmers died, 1847 |

Probable Weather, May, 1864.—In the early part of the month much rain, with wind, generally S.W. From 15th to 20th frequent gales and changeable weather, wind S.W. to N.W.; thence to the end settled and fine, wind S.E. to S.W.

## THE GARDEN GUIDE FOR MAY.

Kitchen Garden.—Sow beet for a winter supply. Thin beets already up, and if any gaps in the drills, fill up by transplanting the thinnings in showery weather. Sow Walcheren brocoli, collards, cauliflower, endive, kidney beans, lettuce, leeks, spinach. Plant out marrows, ridge cucumbers, capsicums, tomatoes, celery, and anything that may be strong enough from seed-beds of cabbage and winter greens. Top beans as they show flower; earth-up succession crops of peas and beans, and dust them with soot or wood ashes. Flat-hoe between potatoes.

*Cabbage, Cauliflowers, etc., etc.*—Hoe

between, to loosen the surface and destroy weeds. The frequent use of the hoe will obviate the need of watering in dry weather. It is only where the ground is allowed to bake into an impervious crust that kitchen crops suffer by drought. Cauliflower and brocoli will make finer heads and come in quicker with the help of manure water given liberally and pretty strong, with plain waterings to alternate. Sow cauliflower for late autumn use.

*Kidney Beans* may be sown in the open ground now ; sow also a few in pots, to make good any that miss in the rows. Sow also in pots or pans sufficient seed of scarlet-runners for a first planting, to give an early supply. They will be a fortnight earlier in fruit than those sown in the open ground next week. The old scarlet-runner is the best for general purposes ; the best white is the Case Knife.

*Parsley.*—Sow on a rich border, very thin, and cover the drill with tiles or stones for about ten days ; then remove the covering, and the parsley will be found peeping through. This plan hastens the germination of the seed, which is generally very slow.

*Sow* cucumbers, gherkins, peas, parsley, and spinach, according to anticipated requirements.

*Vegetable Marrows and Ridge Cucumbers* to be planted out under hand-glasses on moderately warm beds. Dung three parts rotted will generally give heat enough, if not less than two feet deep; covered with a foot of good loam. If no convenience to cover the plants for a few days after planting, wait another week, and meantime get the plants hard for the purpose.

Flower Garden.—*Annuals* will require thinning out, and the straggling kinds will be the better for topping. There are very few who know all that may be done with annuals by giving them a rich soil, plenty of room, and occasionally pinching out the points of the leading shoots.

*Bedding out.*—Choose dull dry weather if possible, while the ground is moderately moist. Have the plants pretty dry, by withholding the water the day they are to be turned out. By watching the barometer, and getting all planting done just before rain, much labour in after watering will be saved. Everything in the way of bedders may be put out now.

*Flower Beds* are supposed to be turned once or twice during winter, and to be manured if necessary in spring. Supposing them to have had such proper attention, now is the time to turn the soil once more, and break the clods and make all tidy. But beware of making the ground over-fine. When muddled into fine powder with rake and hoe, it will either exclude air and rain from the roots of the plants, or if the rain forces admission the soil will become a sort of paste. We are no advocates for raking beds to the fineness of peat dust, and would sooner see the surface rough with clods broken to the size of one's fist than looking as if it had been run through a sieve. Plant out lobelias, pentstemons, calceolarias, verbenas, and all the hardier kinds of variegated edging plants. If very hot sun, or very cold nights, shelter with inverted pots or branches, or if trouble and expense are not thought much of for the sake of an early bloom, hoop them over with tiffany, as tulip beds are treated.

*Hardy Herbaceous Plants* that have bloomed should now be propagated. Take cuttings of double walls, alyssum, arabis, and Iberis sempervirens, the best of all the white-flowering plants for early bloom out of doors.

*Ivy* does not generally figure as an item in garden calendars. But it may be well to remind our readers that now is the best time to propagate it ; the plants struck from young shoots now will have tremendous vigour if well managed. Now is the time to strike cuttings for the purpose of growing ivies to form nmbrellas and canopies for use at fêtes and festivals ; take them up in clean rods to the required height at which they are to be stopped to form a head. These should be grown from the first in pots, and never be put in the open ground until discarded for the purpose for which they were originally grown.

*Phloxes* struck from cuttings now will bloom well in the autumn ; strong stools in the border will need thinning, to reduce the number of shoots to a few manageable leaders, which are to be staked neatly and separately. Phloxes are now being grown in pots, but are scarcely the best of subjects for that method, though it is convenient for showing, and enables the exhibitor to put up complete plants, which are always preferable to cut blooms when it is possible to show them.

*Roses* beset with grub and green-fly, if neglected (as in too many instances they have been already), the first bloom will be worthless. There is no effectual process but hand-picking for the grub, and pure water used with force is the simplest agency against green-fly, and will vastly benefit the roses.

*Spergula* planted this season will need

constant weeding and rolling. Until the tufts join together, weeds of all kinds have their own way, unless kept in check; but after it has closed and began to form a turf, grass is the only weed that troubles it. Established lawns of spergula need frequent rolling, and that is about all the trouble necessary to keep them in perfect order. If there are many worms in the ground, water with lime-water in damp weather, when the worms are near the surface, to get rid of them, as they not only injure but absolutely destroy this plant by throwing their casts up in the centres of the tufts.

Orchid House.—This will now be gay with bloom, as many beautiful varieties are in perfection, rewarding one amply for all the care and attention bestowed upon them. The air must still be kept moist, but only in the morning, for if there is much moisture in the atmosphere towards evening the cold nights will cause condensation and drip, and some injury to plants will result from it. During bright weather shading must be used; plants in suspended baskets may be taken down now and then, and immersed in water of the temperature of the house; those which will bear cool treatment may be removed to the conservatory.

Stove. — Sprinkle water frequently upon the pavement, to keep up a moist atmosphere, especially where begonias and other soft-leaved plants are growing. A single drop of water on the leaf of any of the variegated begonias will spoil its beauty, but atmospheric moisture they will absorb to almost any extent, if the temperature suits them. This is the best time to propagate a supply of Cannas, Begonias, Euphorbias, Justicias, Poinsettias, and other quick-growing soft-wooded plants for display during winter. Specimen plants to be assisted with manure water, and shoots to be stopped of all shrubby and branching kinds. Justicias especially should be freely grown now, to get the wood well ripened for a good bloom at the turn of the year.

Greenhouse. — *Aphis Brush.* — The soft brushes sold for the removal of aphides are of great service where a few plants are affected and it is not worth while to fumigate, and it obviates that too common practice of crushing the vermin on the plants with the fingers. Pinks and auriculas are better cleaned by the brush than any other method.

*Asters, Stocks, and Balsams* to be shifted frequently as required; give them plenty of air and water, or they will be eaten up with fly. Hot weather will throw balsams into bloom if they are at all pot-bound or dry at the root; and those not yet sufficiently grown and which are showing bloom should have the buds nipped out as fast as they show, and be shifted in rich compost to the next size, to encourage growth.

*Azaleas* going out of bloom to have all the ill-placed shoots cut back, the trusses removed, the plants placed in a moderate heat, liberally supplied with water, and frequently syringed. Camellias have mostly completed their growth now, and require to be hardened. Though generally placed out for this purpose, we are inclined to believe that where it is convenient they are best under glass the whole year round, as in the open-air the light is too strong for shrubs that naturally grow in shady humid places. Certainly the best collections everywhere are under glass at all seasons.

*Balsams and Cockscombs* for exhibition to have a good shift in rich light soil, and a little extra heat to promote new roots. They must have abundance of water, to prevent green-fly, which is sure to attack them if they are starved. As they fill their pots with roots, give manure water, but not till the roots touch the sides of the pots. Balsams required very large must have the bloom buds nipped out as fast as they show, and the points of the shoots stopped, to cause them to break and form dense bushes.

*Bedding Plants* to be got from under glass as fast as possible, to harden off in the open-air. Never plant immediately after removing from warm pit or greenhouse; but let them have at least a week in the open-air, kept rather dry, and with some protection at night, in case of frost.

*Chrysanthemums* lately struck to be potted off, and have a little bottom-heat for a week or ten days, and after that to be plunged in beds of coal ashes or cocoa-nut waste. Cuttings put in now will make nice shrubby plants by autumn, if well treated. When shifted to 60's, let them have a firm loamy soil, plenty of turf, and well-rotted dung, abundance of water overhead as well as at the root, and exposure to all weathers.

*Cinerarias* to have a little sandy compost placed around the stool into which the suckers will throw roots, so that when taken off they may be put into thumbs singly at once, which is a gain of time and strength to the plants. As they are cut down and moulded, place them in a cold frame, and shade from mid-day sun.

*Circumposition* is a method of propagating without removing the shoot to be

rooted. An incision is first made in the bark, say of a rose shoot. When that has healed, the shoot is drawn through a pot, which is fixed by some support according to the requirements of the case. The pot is then filled with light soil, and kept moist, and in about three weeks it is full of roots. The shoot is then separated from the parent plant by cutting it through close under the pot. Of course when the pot is placed some of the leaves and buds must be removed where the shoot is to be covered with soil. This is the best time to propagate by this method, and it is of great value to get plants on their own roots which it is difficult to strike by other ordinary processes.

*Reserve Plants.*—There will be a certain number of geraniums, verbenas, calceolarias, etc., etc., left after the beds are filled, and these may be grown into specimens for keeping the houses gay, and to make good any gaps that occur in the planting. A few cuttings of geraniums of all the sorts in stock should be taken now and potted singly in thumbs, which they will soon fill with roots in a warm house, and form stocky plants for autumn bloom. Odds and ends of plant stock for which there is no immediate use should be placed out fully exposed to the weather, and the best material to stand the pots on is the cocoa-nut refuse, in which no insects will harbour. It is always sweet and moist.

Forced Fruits.—Give air freely to these, or they will lack flavour and colour. Houses in which fruits are forced should have the lights merely screwed on, so as to allow of their removal altogether when the weather permits, which it will now, and to the advantage of the crop, especially of peaches and cherries. Avoid that bad but common practice of laying in an abundance of wood, for instead of furnishing plenty to choose from at the winter pruning, it is more likely to furnish none at all, for the crowding of walls and trellises renders all alike soft and sappy. Lay in wood as required, and thin away all other growths, and you will get wood worth keeping, instead of a forest of mere spray.

*Peaches* ripening to have as much air night and day as can be given; if the lights are off all the better. Keep the atmosphere pretty dry, but the border must be moist while the trees are still growing. As soon as the trees show that they have made sufficient growth, assist them to ripen the wood by letting the border get rather dry, and the more the sun roasts them the better. We have frequently advised the clothing of the lower parts of leggy trees by inserting grafts. Where that was neglected at the proper time, the object may be accomplished by inserting buds, which will now take directly.

*Vines.*—Where crops are ripening, raise the temperature to a maximum of 90°, with a minimum of 65°. Muscats are worth nothing in a low temperature. Stop laterals, remove superfluous shoots, and on all the wood left, whether young wood or bearing shoots, let every leaf remain. The removal of leaves to admit light to the bunches, is almost as bad as putting the bunches in an oven to ripen them.

Orchard House. — *Orchard House Trees* are now swelling their fruit, and need the help of manure water. Use it rather weak at first, for fear of causing stone fruit to fall. After two or three doses, alternating with plain waterings, increase its strength. Stone fruits not yet beginning to swell should be kept without it for the present. As the mulch in the pots has now become dry and chippy, take it out, and replace with fat half-rotted dung. Use the syringe freely, and with force, to wash off withered blossoms; give air night and day, and pinch in to the third or fourth leaf from the base all the side shoots, to cause a production of fruit spurs. If the shoots have got too far, and the thumb-nail will not cut them clean through, use a small knife or scissors. Wherever you see a curled leaf, search for the cause of it, and you will find either grub or fly, with either of which deal promptly.

*Vines* to be again thinned in cool houses, and the operation accomplished without handling the berries. Crops ripening to be kept rather dry, and with a temperature not less than 90° with sun heat, and 65° by night.

Pits and Frames.—*Cucumbers* in fruit may be kept going now by linings of grass mowings. We have for many years used grass mowings, mixed with dry straw and other such waste, in trenches on either side of the beds; and though the heat is sudden, fierce, and of brief duration when grass is heaped up by itself, when mixed with dry litter it is more moderate and lasting, and one dressing will last well until the next mowing takes place to furnish a fresh supply.

*Melons* in fruit to have less water as soon as the fruit begins to ripen. Let them have the full sun, no matter how it may roast them; shut up early with a good heat, and sprinkle the leaves at the same time. Those lately planted out to have soil added to the hills as required, and linings if the heat declines. Do not allow fruit to swell until you have a good plant. As to setting

the blooms, we must conform o custom, and remind the gardener to perform the operation about midday in bright weather; but we begin to believe it a most unnecessary trouble. We have had fine crops of melons on a border of a lean-to, and did not set artificially a single blossom. We left it to the bees, and they worked with vigour amongst them.

*Pansies.*—This is a good time to strike cuttings for a good autumn bloom, and to secure pot plants of choice kinds to keep over winter for spring cuttings. The side-shoots and very young tops of the leaders root quickest, and make the best plants. Old stems that are hollow should never be used, unless the case is one of desperate necessity. Florists' pansies are generally grown in too light a compost, and hence there is often a lack of substance in varieties which in a firm soil are as stout as cardboard. Seed sown now will bloom in ten weeks, and afford plenty of time to prove them, and secure a few cuttings of the best.

*Pines* to be shaded as little as possible, except those lately potted. Give plenty of air and plenty of water. Keep a brisk heat to succession plants.

*Pines* for fruiting in autumn to have a bottom-heat of 90° by day, and 75° by night, with abundant moisture. Plants throwing up suckers to have liquid manure and every necessary attention. In too many instances they are neglected at this stage of their growth, and the consequence is, that stock has been raised from poor weak suckers, instead of the strongest that the plants can make.

Greenhouse Plants in Flower.—*Andromeda floribunda*, and *pulverulenta.*—The first of these is well known as a charming white-flowering shrub for the conservatory, requiring the treatment of a heath, but ten times as much water. The other is of diffuse habit, bold shining foliage, and the flowers in large bunches of snow white, also fond of moisture, and the soil turfy peat or silky yellow loam.

*Aotus incana.*—The pretty little shrubs of this genus require the usual treatment of New Holland plants, and do not produce their leguminous blossoms freely, unless generously dealt with as to temperature all winter. A. gracilis, lanigera, incana, and villosa are the best of them.

*Cytisus nubigenus*, and *laniger*, are two useful yellow-flowered shrubs, for cool stove or greenhouse. The first forms a fine bush, six feet high, and is a fine object when in bloom; it requires warmth as it is a native of Teneriffe. The other is nearly hardy, and there is a strong growing variety of it called *rigidus*, which is useful for specimen culture.

*Chorozema Hugelii*, *Henchmanni*, and *macrophylla*, are first-rate for spring bloom. For culture see former notices.

*Clerodendron tomentosum.*—One of the best greenhouse kinds, requiring warmth to bring it into bloom, and to be kept rather dry all winter. Soil, peat, loam, dry cow-dung, and a little charcoal.

*Echium giganteum* is a greenhouse shrub of the class of Borageworts, from the Canary Islands. It requires ordinary greenhouse treatment. Soil, peat and loam; plenty of air when growing. It may be got up to ten feet high if needful; but moderate sized plants bloom freely, if the wood was well ripened the previous year. The blossoms are white.

*Echium petræum.*—This beautiful blue-flowering bugloss is worthy of a place in every greenhouse for the vivid hue of its early flowers. It is quite hardy, but if grown in pots takes heat kindly, and likes a little peat and old mortar.

*Hindsia alba* and *violacea.*—These pretty cinchonads from Brazil require only good greenhouse treatment in heath soil, and to be managed the same as Epacris. They will be found useful to give variety and interest among more showy occupants of the front stage.

*Datura Waymannii.*—The best of the small greenhouse evergreen Daturas; it grows to a height of two and a half feet, and forms a nice specimen if kept clean and in free growth early in the year. The flowers are white and purple, and abundantly produced.

*Nerium oleander* is often seen in a bad state, many cultivators forgetting that it is an aquatic. Mr. Layard describes it as fringing some of the mountain streams of Armenia and Kurdistan, as osiers do in this country. Moist bottom-heat and plenty of water are the chief requisites to the production of fine blooms, and without warmth and moisture it never can come to any good.

*Ptelea pinnata.*—A handsome greenhouse shrubby trefoil, belonging to the natural order Xanthoxyls. It is nearly hardy, and requires same treatment as heaths, plenty of air, and merely to be protected from frost. Sandy loam and peat is the right mixture for it, and cuttings may be rooted at almost any time in sand, with moderate bottom-heat.

*Sempervivum cruentum*, now in bloom, is a pretty succulent, flowers yellow and blood-red, requiring the ordinary treatment of its class.

*Struthiola ovata.*—A pretty shrub of

the family of Thymelaceæ, requiring the same treatment as Cape heaths. It grows two feet high, and produces white flowers.

*Berchemia floribunda and lineata.*—Rhamnaceous twiners, now producing white flowers in abundance. They are very nearly hardy, and are useful plants for an unheated conservatory.

*Bignonia capreolata.*—We have had this festooning the rafters of an unheated lean-to, where it grew superbly in a deep border of loam from roasted turfs, mixed with old plaster and old hot-bed dung. All it needs is patience, and when it has made free growth overhead it is sure to bloom superbly. The flowers are scarlet. It is of no use in a pot.

*Clethra quercifolia.*—An almost hardy Mexican evergreen Ericaceous shrub. In a warm house it blooms from the middle of April to the middle of May, the flowers white; the plant may be got up to ten feet high, if a fine specimen is desired. Treat the same as Erica.

*Clianthus Dampieri.*—This gorgeous glory pea of New Zealand leaves all others of its race far in the rear. It is strictly biennial, and therefore invariably perishes after flowering, so that a succession of plants should be secured. Quick growth is essential; the slightest check causes an outbreak of red spider.

*Clianthus puniceus* has been eclipsed by the more showy *C. Dampieri*, but it is still worth growing, and has stood the winter out of doors on south walls in several places in the south and west of England. The great secret of success with any clianthus is to grow it quick; if they get starved, the red spider takes complete possession; hence it is best not to show much favour to old plants.

*Dillwynia juniperina.*—So named on account of its fine leaves; it is one of the useful species of this genus, and produces an abundance of its yellow papilionaceous flowers, if well ripened the previous season. It requires the same treatment as a Cape heath, and will resent confinement and damp.

*Dillwynia sericea.*—A charming Fabaceous New Holland shrub, with showy orange flowers; worth a place anywhere, and requiring the usual treatment of New Holland plants.

*Dillwynia speciosa.*—A very showy species of one of the most manageable of the tribe. Though interesting and useful, it must be remembered that we have now such an abundance of plants in flower that Dillwynias are not to be considered precious.

*Diosma subulata.*—This forms a handsome shrub, if grown in a tough, fibry loam; it is a common mistake to grow Diosmas in peat, which starves them, and makes the plants thin and sickly. With plenty of drainage and an airy place, it only needs to be well stopped to make a bushy plant three feet high, now covered with snow-white blossoms. Cuttings will strike now in sand under a bell-glass, and when rooted, should be potted into sandy peat, and at the next shift have half peat and half loam; after that fibry loam only in a lumpy state. D. succulenta has thick leaves, and is less robust than the foregoing.

*Diplacus glutinosus.*—This and punicea are two capital mimulus-like plants for turning out into warm borders during the summer, where they make a gay show, and grow freely. D. glutinosus produces orange flowers, the other scarlet; any ordinary good soil suits them, with the same treatment as mimulus.

*Euchilus obcordatus.*—A useful greenhouse evergreen shrub, producing yellow papilionaceous blossoms, and requiring the same treatment as Gastrolobium. Soil, peat and loam.

*Eutaxia pungens.*—A pretty New Holland shrub, of the leguminous order, which makes a neat specimen when covered with its orange flowers. It requires warmth all winter, and otherwise must have the usual treatment of a Cape heath.

*Gardoquia multiflora.*—This is entered because it happened to be in bloom on the 22nd of May, as placed in the calendar; but G. Hookeri is a better species. The present species produces purple labiate flowers; G. Hookeri is scarlet. Anybody can grow them; the only point of importance is to give it a shady place out of doors, or under glass during summer.

*Gastrolobium speciosum.*—This is a first-rate yellow-flowered Fabaceous plant, which requires and is worth good culture. The soil should be old fibry turf that has been laying about some time, with one-half yellow loam, and a fourth part of sand and charcoal, to be potted with an extra layer of crocks. To be the least water-logged is death to it. During winter a warm house is the best place for it, though, like the rest of the tribe, it is nearly hardy.

*Gompholobium angustifolium.*—A good yellow-flowered papilionaceous New Holland plant, requiring a warm house all winter a very porous soil of peat, silver-sand, and fibry loam in lumps, filled in between with potsherds broken almost to dust. If the drainage is in any way imperfect, they are sure to suffer.

*Grevillea acuminata.*—Curious, if not over-beautiful, though the red flowers are abundantly produced all over the plant, and make a nice variation of character in a large collection. In a sheltered place, this is hardy enough to be planted out.

*Habrothamnus elegans.* — This is a plant for everybody, nearly hardy, and as easily kept and grown as a Cytisus or Veronica. When in bloom, the carmine flowers are truly magnificent. It is one of the best of plants for a pillar or conservatory wall, but needs shade during June, July, and August. Soil, turfy-peat one part, yellow loam two parts. Prune after flowering.

*Olea Americana.* — This beautiful white-flowered olive forms a fine conservatory tree, if grafted on the privet, and is one of the best of subjects to plant out on a bank or broad border, in a large house, for the beauty of its foliage and profuse habit of flowering. O. Dioica is a magnificent stove tree.

## TO CORRESPONDENTS.

CATALOGUES RECEIVED. — "Sutton and Sons, Royal Berkshire Seed Establishment, Reading. Priced list of Clover, Grass, and other Farm Seeds." A convenient condensed list, with spaces left for filling in the quantity required, so that it can be used as an order-sheet. —"Frederick Boshell, 86, High Street, Borough, S.E., Catalogue of Dahlias." A well-selected and reliable list, with a fine lot of novelties, printed on a large sheet in good clear type.

THE GROUND VINERY.—At page 99 of Mr. Rivers's work, called "The Miniature Fruit Garden," Mr. Rivers says, "I have very recently planted some peach-trees in one of these slate-paved vineries, and feel assured that very early and fine peaches can be grown in such places. I have managed my trees in this way. I took two pyramids full of blossom buds, cut off the shoots on one side, so that the stem would be flat, and then pegged it down with hooks made of stout iron wire, thrusting them into the soil between the interstices of the slates." Now, I have just made one of these ground vineries, five feet long, two feet six inches wide, and sixteen inches high, and have planted in it, resting on the slates one maiden peach, carrying only a single stem. This stem is about thirty inches high, and well clothed with wood buds for about eighteen inches from the graft upwards, and it has very weak laterals the rest of the way up, and the top is very weak. The buds are just beginning to break. Please instruct me how I am to train and prune this tree, so as to make it what Mr. Rivers calls a "pyramid."

UPRIGHT ESPALIER PEARS. — In the FLORAL WORLD, speaking of the training of trees in this form, you say:—"To form the tree it is requisite to begin with a leader, and two side-branches. From the side-branches all the buds are kept pinched, except one left to lead on, and another to form a shoot for upright training. The next year two other buds are selected on each side, one to lead on and the other to form the next upright rod." What do you mean by this? Do you mean that, when there is one upright shoot and two side-shoots, the cultivator is to select, on each of the side-shoots, a bud to form the next upright shoot, and another to lead on; and that he is then to cut back each of these side-shoots to the bud selected to lead on? What is to be done to the first upright? Is it ever to be shortened? If so, when and how much? Are the other uprights to be shortened? If so, when and how much?

VERTICAL CORDON.—I have got some maiden pears, carrying one stem, and I want to train them like the "Vertical Cordon" named in the "Miniature Fruit Garden." This "Vertical Cordon" has five upright branches; each branch eight inches apart. Please instruct me how I am to form this particular "Vertical Cordon" with five upright branches. Mr. Rivers's instructions are very "misty," and I cannot possibly make them out.—*Fanny.*

[In forming the upright espalier, the top bud left is that which will take the lead; consequently, the side-branches forming the base of the tree are every year cut back, so as to leave two buds so situated that one will push horizontally and the other vertically, the horizontal shoot serving to extend the base of the tree, the vertical shoot to be trained in and clothed with bearing spurs. All the summer shoots pushing where not required are suppressed by pinching, so that there is no wild growth left to prune away except the horizontal and vertical rods which should be allowed

to push to any length the first season, as a free growth ensures stout wood, which the next season will form fruiting spurs. All the fundamental parts of a trained espalier should usually be allowed to grow freely in length all the season, as they can be cut back to a proper length at the winter pruning, and the wood will be stout and ripe. The first upright is never to go beyond the limits of the espalier, and all other uprights are to be allowed to grow to the same height. Hence, it and its fellows will generally require to be shortened back at every winter pruning. Page 48 of Mr. Rivers's 5th edition of the "Orchard House," you have a figure of a peach-tree in a pot pruned so as to form a close pyramid. When the top-shoot has made five leaves, pinch out the top, and adopt the same plan with all the shoots below the uppermost one when two, or at the most three, leaves are developed. By practising this method, one season will be sufficient to form a close pyramid with a plant of tolerable vigour. When the laterals, induced by the taking out of the points of the shoots, have attained the third leaf, pinch out as before, and so for every growth that may be made in the course of the season. Precisely the same remarks will apply to the formation of the "Vertical Cordon." Let the same treatment in the way of pinching, stopping, etc., be applied to each of the three, five, or seven shoots, as the case may be, as to the one in the case of the pyramid. The only difference will be, at the end of the first year's growth, having secured as many shoots as you wish, bring down the shoots at the bottom, and curve them upwards, so as the tree may be open in the centre that the fruit and leaves may have all the benefit of a free circulation of air, thus :—

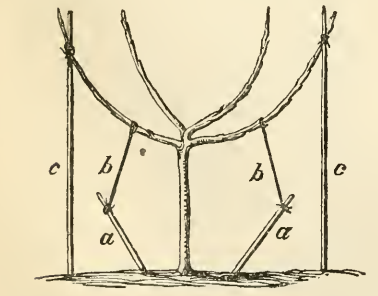



FIG: 1

*a* is a strong peg thrust into the soil; *b* is a tie of bast matting, securing the shoot at the point indicated, to the top of the peg, which should have a notch cut in it, so as to prevent the slipping of the tie; *c* is a slight stake, sufficiently strong to carry the remaining part of the shoot into an upright position. Compare Fig. 1 with Fig. 2, the natural mode of growth without artificial interference, and you will see the propriety of the mode of training indicated.

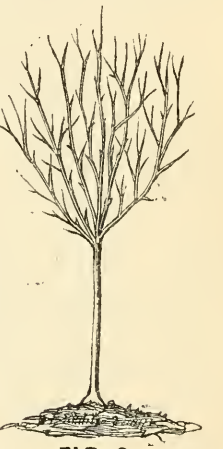


FIG: 2.

QUERIES ON ROSES.—*S. X. Z.*—The many questions you ask in reference to roses could not very well be replied to, unless we were to devote the whole of our pages to the subject for some time to come. The months of March and April is the season for pruning roses in the open ground, and but few general rules can be given as to the modes of pruning, which would be applicable to all kinds of roses. Moss, Provence, Hybrid Perpetual, and Bourbon roses require rather close pruning, leaving five to eight eyes only on each main shoot, and observing this general rule to prune weak shoots more severely than strong ones, and weak growers more severely than strong growers. If these kinds of roses are not pruned every year, they become lanky and weak, and by producing their blossoms at the end of long thin shoots, the weight of the flowers bends them over, and when they should be at their best they are in reality at their worst, for they fall over and become a disgrace to the garden. Strong grow-

ing Noisette and Chiua roses should be very moderately pruned, and climbing roses should be simply slightly shortened back and regulated, and occasionally an old rod cut clean away. Now is the best time in the whole year to turn small roses out of pots into the open ground. You cannot get "all kinds of roses from a good rose-grower on their own roots," because for the first few seasons of multiplying a new rose, Manettis are used almost exclusively for the sake of quick growth. Roses on their own roots should be pruned by the same rules as the same varieties on other roots. All the varieties of roses and all the modes of growing them are treated of at length in "The Rose Book," by Mr. Hibberd, which can now be had through any bookseller.—*G. W. F. H.* —The use of a mulching material on the borders of your rose-house, whether stable manure, or cocoa-nut fibre refuse, will be more likely to prevent than cause mildew. If you do not mind the appearance of the manure use it by all means; as to the smell that will go off in two or three days, and you might prevent the unsightly appearance of the manure laid on by a thin sifting of fine earth over it. There is no mulching material to equal cocoa-nut waste for cleanliness, for preserving the roots in a moist condition, and for resisting sudden changes of temperature, and it has moreover a very agreeable appearance to the eye. There is, however, so little nourishment in it, that it should never be used where a feeding material is required. Let us hear about your roses by all means. We prefer close netting to shade a rose-house, as it is so little shade roses require. Divide your double primulas in August, choosing rainy weather for the operation.

Camellias.—I have seven camellias which two months ago looked as healthy as possible, and most of them set well for bloom, but now they look as if they had been scalded. Will you tell me the reason, and what had best be done with them. I have all your books, and cannot find in them anything about camellias going off as mine have done.—*W. S., Norwood.* [You cannot find anything in our books about camellias going off as yours have done! It would be a disgrace to the fraternity of gardeners, and to some extent discreditable to amateurs, if it were often necessary to deal with such a case as yours, for your plants have, no doubt, been literally dried up, and will probably perish unless they have more water. We may suppose too that they are frequently shut close when the sun shines fiercely, and have thus been burnt. The only hope for you is to keep what is left of them well moistened with the syringe from day to day, and on bright days several times a day, and shaded from the fiercest rays of the sun. When they have completed their growth, set them out of doors entirely till the end of September, and if they do not set bloom-buds this year they will perhaps regain their strength, which will be something after such a season of affliction.]

Various.—*Polly.*—There is no air chamber under the tray of the Waltonian; a packing of flannel, or other non-conducting material, would no doubt contribute greatly to preserve an equable temperature for a longer period than the present method. The introduction of a coiled flue pipe to carry the heat of the flame through a greater extent of water will probably have this effect, that there will be no heat to carry, the flame will not burn. Should it prove otherwise, we shall be glad to know from your experiments, but we cannot give you one word of encouragement, having a distinct recollection of our own candle experiments, when it was often noticed a direct and short exit for the heated air was essential to keep the flame burning. —*S. E. Walters.*—One of Musgrave's smallest size slow combustion stoves would answer admirably for your house, 15 feet long, with high back wall. The pipe can be carried up through the roof without any damage to the house; it only requires the removal of a square of glass, and replacing it with a sheet of zinc, cut to fit the flue pipe, and cemented round with putty. Our Musgrave did us such good service last winter that we shall have another word to say about it some day. For the present we can recommend a straight zinc or iron pipe; ours is in all 8 feet long, and the draught is perfect.—*A. B.*—A panel garden is sunk below the general level of the ground, so that the flowers are either seen from a higher level or you have to descend a step or flight of steps to reach them. The plant you inquire about is Juniperus sabina.—*E. H. G.*— Your pretty yellow spring flower is Doronicum Mexicanum.—*Mr. B., Upper Norwood.*—Thanks for the seeds.—*T. T. W.*—We can only think of "Profitable Gardening" as likely to suit your wants. There is really no such book in existence as you inquire about.

THE

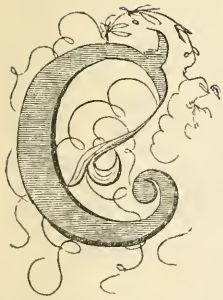
# FLORAL WORLD

AND

## GARDEN GUIDE.

JUNE, 1864.

## CENTRADENIA ROSEA.



CENTRADENIA ROSEA is a plant of graceful habit, with curious copper coloured leaves and rosy-white flowers, which blooms in the stove at all seasons, but is most prized for conservatory decoration in the late autumn and early spring months. It is a stove evergreen shrub of small growth, which, like many other useful subjects usually grown in the stove, may, with proper care, be made amenable to warm greenhouse treatment; and it is therefore the better adapted to be applied to the various decorative purposes for which plants are required in the collections of amateurs. If there are qualities in some plants which give them precedence in the favour of lady cultivators, Centradenia rosea may be pronounced as decidedly a lady's plant, and one of the most desirable objects to place on a pedestal, or in a conspicuous place apart from the general collection of plants on stages, as its distinctness of colouring and graceful outlines are seen to the fullest advantage only when it is isolated and placed as nearly as possible on a level with the eye. Centradenia belongs to the first suborder and first subtribe of the great natural family of *Melastomaceæ*, having for its associates in the division of the order to which it belongs, *Lavoisiera*, *Brachycentrum*, *Bertolonia*, *Sonerila*, *Sphærogyne*, and other genera of stove plants which are held in high estimation. All the Melastomads have a regular corolla of four or five divisions, the petals being inserted at the base of the lobes of the calyx, and the stamens inserted with the petals in two ranks usually differing in form and size. It is a family especially rich in plants with grand foliage; in the first section we have, besides Centradenia and other genera just mentioned, the magnificent *Sphærogyne latifolia*, and in the fourth section *Cyanophyllum magnificum*, the two most magnificent in respect of foliage of all known stove plants.

If we mention, as congeners of Centradenia, such genera as *Pleroma*, *Lasiandra*, *Melastoma*, *Osbeckia*, *Monochætum*, and *Medinilla*, we shall have said enough to show that this pretty plant has very respectable relationships.

Propagation.—This is one of the easiest plants to propagate by means of cuttings, and the operation may be performed at any season the whole year round. But it is not advisable to disregard the time of year and the condition of the plant to be cut from, for these circumstances have much to do with the relative vigour and beauty of the specimens to be formed hereafter. When only green succulent shoots can be obtained, as may happen in the case of having them as a gift, very great care is required to root them. But the best cuttings, and those alone which should be used when the cultivator can choose for himself, are those taken from firm ripe wood of the previous season. The usual mode of striking cuttings of stove and greenhouse plants must be resorted to; pots or pans filled to within two inches of the rim with a mixture of equal parts fine peat and silver-sand, and then to the rim with silver-sand alone. Insert the cuttings—the shorter the better—in the sand, and water gently to settle them, put bell-glasses over, and place the pots on a gentle bottom-heat where they can be shaded from sunshine; when they have made root remove the bell-glasses and let them get moderately hardened for a week, then put them in small pots, using equal parts of leaf-mould, fibry-peat, and silver-sand. The mixture for potting need not be sifted; it is best to break up the peat and leaf-mould as small as hazel-nuts, then mixing them well with the sands use it rough and fine together, closing in round the tender roots with the most dusty portions of the mixture, water freely and place on bottom-heat in the shade again for four or five days, and then remove them to a shelf near the glass in the stove.

Routine Culture.—Some cultivators keep them growing in the stove the whole of the first season, a system which we prefer, so as to take full advantage of the initial vigour of the young plants. But they ought to have somewhat of a rest in the latter part of the summer, by being taken to the greenhouse for a few weeks; but they should not be put out of doors or exposed to any harsh treatment, such as withholding water or placing them in a draughty place. In September or October give a shift to the next size pots, and place in the stove. The compost for this and every subsequent shift should be equal parts hazel loam, fibry peat, leaf-mould, small nodules of charcoal, and silver-sand. This will be very light and porous, and the roots will rejoice in it. At the end of March again take them to the greenhouse, which will result in a more moderate growth than if they remain later in the stove, so as to obviate the necessity of stopping the shoots, and they will flower the better for it. Shade slightly during the months of May, June, and July; after July let them be fully exposed to sunshine, and they will form an abundance of flower-buds and have fine heads by the time they are taken to the stove again. Remove some to the stove again in October, others may follow in November and December, and a few may remain in the greenhouse, where they must have the warmest end.

With such treatment a profuse winter bloom will be produced, and the plants will occasion but little trouble to keep them in health

and vigour. The cultivator may take his choice of various systems of management. Old plants left to grow as they please—if not starved outright—will be nearly always in bloom; but they will bloom more densely and beautifully if subjected to a regular course of pruning and potting. As soon as the flowering is over in spring, cut back moderately or severely according as you wish for large or small plants; merely shortening the points of all the shoots will suffice if the plants are not threatening to outgrow the space allotted to them. As soon as the fresh growth is breaking freely, turn them out of their pots, remove the greater part of the soil from their roots, and repot in the same size pots or one size larger, shortening the roots very slightly. If the roots are severely injured the plants will never recover.

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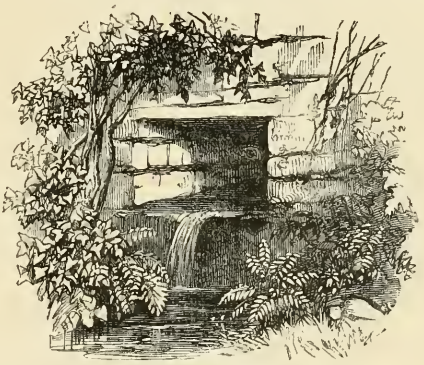
## WATER SCENES.

At page 260 of last year's volume, an attempt was made to convey to our amiable and affable correspondent "Jemima." some useful information on the formation of water scenes. We doubtless said sufficient then to enable Jemima to sketch out for herself a design, and determine for herself the position and nature of the intended consecration of a site to the nymphs and naiads. We are gracefully reminded by her, in a note which diffuses through our sanctum sweeter odours than are wafted in through the open windows from the lilac and hawthorn blossoms, that though we had said enough to enable her to direct the gardener, who had directed the labourers, who by this time have dug a hole and filled up the stuff to form banks and braes, still the subject is not yet exhausted; and it may be supposed that the matters that so much interest Jemima, may at the same time interest other readers.

I think I may venture to say that water is rarely used to such an extent as it might be, and should be, in English gardens. Frequently the abundant supplies of water on an estate are looked upon as a calamity; the owner frets himself to find outlets, the legislature comes to the rescue with a drainage act; and oftentimes when the drainage has been effectually diverted away from the place, it is discovered that it might have been put to better use than to swell the woodland rivulets and add to the volume of a stream which contributes to the wealth of lands miles away by means of many such injudicious contributions. I have in my mind now a property which I was engaged to lay out, and where I was permitted to indulge my taste freely in forming a beautiful scene. While I was scheming to carry water away from the land, and carrying out great drainage works for that purpose, the engineers were at work on the highest part of the ground boring an artesian well. Every one to his trade, the landscapist must drain, drain, the engineer must bore, bore; one is getting rid of the very element the other seeks, and the proprietor who pays for the work simply occupies the position of a means of separation between agents that ought to work together, and according to one plan, from the first. It is true that land needing drainage must be drained; it is true that water stagnating in the soil is like so much poison; but

having once persuaded that water to move in channels provided for it, having guided it into small pipes, and thence into large mains, and thence into lakes, ponds, and outlets, ought we to dismiss it at the boundary, lose it for ever, while the domestics are perhaps crying out against the scanty water supply, and the proprietor contemplates sinking another well in hopes of the second being less intermittent than the first? Generally speaking, the economy of country houses in respect of water may be likened to the act of a farmer who should pay fifty shillings a quarter for imported wheat, and, at the same time, give the produce of his own farm to the fowls of the air, and yet, after all, should persevere in growing wheat, that he might continue to waste it in the same manner.

It is said that all possible ranks of industry are filled up, which is equivalent to saying that human invention is exhausted. I can see here, having made this quite superficial remark on the paradoxical management of water on landed properties, that there is ample room and verge enough for any thoroughly competent and ingenious person to make a fortune by the establishment in country houses of economical water-



works. In many private houses small gas-works are in operation, but there are many substitutes for gas, and there is no substitute for water. When you have a great supply of water by surface drainage, the only question of its conversion to tank water for domestic purposes is one of pure mechanism, and a mere beginner in engineering could devise plans for the appropriation of every drop at such a comparatively low rate of cost as should, in many instances, render well-sinking and boring most ridiculous.

Let us suppose a property to be completely drained, it is a mechanical matter to collect the water somewhere; a mechanical matter to take it from thence to any higher level if there is anywhere near a moderate fall, whether natural or artificial. Even the water used to afford mechanical power to the ram need not be wasted; and, having got a ram to work, the water may as well be carried to the top of a house or the top of a hill or tower, as to any level midway between such extremes. The next business is to make this water subservient to utility and ornament at one and the same time. The quantity which can be kept

flowing, and the volume of the reserve, on which the works will have to rely during a long drought, must to some extent determine the nature of the ornamental purpose to which the water may be applied; it may sometimes furnish a cascade, and send silvery spray through a rocky glen clothed with myriads of mosses and ferns, or furnish a little spring or fountain to splash over a stone into a nook full of freshness, and thence flow to the lake again, or to fill the tanks which supply the garden.

It must never be forgotten that the disposal of water-scenes demands the exercise of great taste and judgment. Water of itself is always beautiful, but its association with objects of interest enhances its beauty, and supplies also the justification of usefulness. Where the space and circumstances admit, water should always be

enriched by plantations; clumps of trees, rustic buildings, rockeries, and belts of shrub are appropriate accessories; but they must be adapted in style to other surroundings, and the general character of the place; and there is a certain point at which to stop in the work of embellishment, or the whole affair may be overdone. Architectural fountains and the accessories of terrace water-works may be complicated and elaborate, but whenever water is allowed to expand to show its gleaming surface beside green turf and trees there must be *breadth;* the eye must be free to range in some one direction over lawns or other open spaces, in order to render the thickening of sylvan scenes and the confusion of bush and brake the more agreeable where the water is conducted away from the dressed grounds and made subservient to true rusticity. What a charm would be imparted to many a garden where

a still pool, "mantled o'er with green," reproaches the proprietor with neglect, by the introduction of a clump of trees and a garden-house, or by the appropriation of one bank to a bee-shed looking south, and a summer retreat in the rear, facing in the opposite direction, where the bees would neither harm nor alarm anybody. Picturesque objects in the vicinity of the water double themselves on its surface, and the shadows and reflections are alone sufficient compensation for the cost of the work when the arranging and grouping have been managed with real taste. For any of our readers in want of a pictorial hint on the subject, we give a sketch from the grounds of a friend, who, in constructing a garden-house to occupy a spot beside a pretty rill, succeeded in effecting an exact reproduction of Cotton's fishing-box near Hartington-on-the-Dove, to the delight of many brethren of the angle, who occasionally assemble there to make a clinkling of glasses. S. H.

## THE SPRING EXHIBITIONS.

South Metropolitan Auricula Society, April 25th.—One of the principal features of attraction at the recent flower shows was the fine specimens of auriculas, which have been produced in such very superior style, that they attracted more attention from the public than has been vouchsafed to them for many years; and will, no doubt, materially assist in reinstating the auricula in the high position of public favour which it at one time occupied. The South Metropolitan Auricula Society was established two years since, for the purpose of bringing the flower prominently before the metropolitan public, and the exhibition on April 25th, gave good testimony that great improvement had been made, although the productions were still far short of what may be considered the fair capabilities of the flower. The principal exhibitors were, Mr. James Butcher (the originator of the Society), Mr. Pink, and Mr. Potts, of Old Kent Road; all of whom sent excellent specimens, most of which were well-known old varieties. There were, however, some very good seedlings shown by Mr. Butcher, many of which were promising flowers, but none of sufficient merit to render them worthy of taking a place in the first rank. Mr. Butcher had some pretty examples of polyanthuses, the best of which were, Milkmaid, Madonna, Princess of Orange, Bonny Bess, Bernard's Formosa, and Black and Gold.

Royal Botanic Society, April 30th.—This was the last spring show, and was certainly one of the best of the season, and a great credit to all concerned. With this show was combined the annual exhibition of the National Auricula Society, under the management of Mr. Douglas, of York; and the number and beauty of the flowers shown, together with the spirited competition for the various prizes offered, added very considerably to the interest of the exhibition. The flowers were exquisitely beautiful; some of the established kinds being in extraordinary fine condition. The most attractive, and most beautiful stand of auriculas, was the collection of twenty-five put up by Mr. C. Turner, of Slough, these were awarded an extra prize. The varieties were — *Green edged:* Stretch's Alexander, Campbell's Admiral Napier, Cumming's Oliver Cromwell, Hudson's Apollo, Smith's Sir W. Wallace, Olliver's Lovely Ann. *Grey edged:* Headley's Superb, Captain Barclay, Jeffrey's Sir H. Havelock, Turner's Mr. Marnock, Turner's Earl of Shaftesbury, Moor's Violet, Traill's General Neill, Backlow's Morning Star. *White edged:*

Lightbody's Fair Maid, Lightbody's Countess of Dunmore, Lee's Bright Venus. *Selfs:* Spalding's Bessie Bell, Turner's Negress, Turner's Shakespeare, Martin's Eclipse, and Martin's Mrs. Sturrock. In the Royal Botanic classes for six, Mr. Turner sent a grand lot, which obtained the highest prize offered. They were, Reid's Miss Gidding's, fine bold eye, solid paste, purple ground, good grey edge, smooth and well proportioned; Spalding's Metropolitan, Moor's Violet, round eye, rather thin paste, ground a lovely shade of rosy violet, rather rough, a charming flower; Spalding's Blackbird, Lightbody's Fair Maid, one of the finest auriculas in the show, its glittering mealy leaves rendering it very attractive, large eye, broad solid paste, dull maroon ground, good edge. Mr. Potts, of Glengall Grove, Old Kent Road, was another successful exhibitor, his flowers being in remarkably fine condition, and Mr. J. James, gardener to W. F. Watson, Esq., Isleworth, and Mr. James Butcher, of South Street, Camberwell, had some good flowers. The National Society's schedule was framed with great judgment, so as to give the fullest possible interest to the selections exhibited. In the class for eight dissimilar varieties, Mr. H. Steward, of York, took first prize with Fletcher's Mary Ann, Meteor Flag, Smith's Waterloo, Lightbody's Countess of Dunmore, Traill's May Flower, Beeston's Apollo, and Conqueror; all very fine. 2nd, Mr. C. Turner, of Slough, with Headley's George Lightbody, Smith's Ann Smith, Smith's Lycurgus, Martin's Mrs. Sturroch, Olliver's Lovely Ann, Campbell's Robert Burns, Spalding's Bessie Bell, and Turner's Buckstone, like Conqueror of Europe, with smaller eye and broader paste. In the class for four, Mr. Richard Headley was first with Colonel Taylor, George Lightbody, Napier, and Mrs. Sturroch. 2nd, Mr. Polhman, with Garibaldi, a bold self, good circular eye, paste rather thin, ground blackish purple. In the single specimen classes, Mr. Douglas was first with Countess of Wilton, grey edged; Mr. Turner was first for white edge, Taylor's Incomparable, and also first for specimen self, with Spalding's Metropolitan. There were several new auriculas of great merit shown. *Turner's Webster* is a fine self, like Othello. *Jamieson's Mrs. Jamieson*, has a large circular eye, blackish maroon ground, green edge, a substantial and finely built flower. *Turner's Shakespeare* has a small good eye, firm paste, deep mulberry ground, a great beauty. *Turner's Mr. Marnoch*, large circular eye, fine paste, dark ground, bold grey edge. *Turner's Buckstone* has a bold circular golden eye, solid paste, blackish purple ground, good grey edge, and grand truss, and was the finest auricula in the show, the judges deeming it worthy the premier prize.

*Roses.*—These were shown in grand style, and made the finest feature of the show, the specimens in pots forming a huge bank of surprising loveliness and fragrance. Messrs. Lane and Son had the largest plants in the show. Mr. Turner's collection were smaller, but were very refined in character, the foliage being remarkably fresh and abundant, and the flowers disposed with admirable symmetry. These two exhibitors were placed equal first. Mr. William Paul was second, with very good plants, and Messrs. Paul and Son were third. The principal varieties were Duchess of Sutherland, Paul Ricaut, Paul Perras, Souvenir d'un Ami, Baronne Prevost, Comte de Paris, Madame Cambaceres, Souvenir de la Malmaison, Comtesse de Chabrilland, Madame Charles Wood, Madame Damaizin, Lælia, Madame Boll, Senateur Vaisse, Catherine Guillot, Victor Verdier, Charles Lawson, and Comte de Nanteuil.

*Azaleas.*—There were some very fine specimens trained both pyramid and bush fashion, the chief exhibitors being Messrs. Turner, H. Lane and Son, and J. Dobson and Sons.

*Foliage and Flowering Plants* formed an important part of the show, and were produced in fine style. Mr. B. S. Williams had the best collection, which consisted of Gleichenia speluncæ, Yucca aloifolia variegata, Azalea alba magna, a mass of bloom,

Erica Cavendishii, Cordyline indivisa, and Cypripedium barbatum superbum. Messrs. A. Henderson and Son were second, and Mr. W. Young, gardener to R. Barclay, Esq., Highgate, third.

*Pelargoniums.*—There were some fine collections of show varieties from Mr. Turner and Mr. Wiggins, among them being beautiful plants of Canopus, Phœbe, Dr. Andre, Eugene Duval, Orion, Sir Colin Campbell, Rosabella, Princess Mathilde, Pline, Madame Corbay, Amazon, and Madame Heiner.

*Pansies.*—The collections of cut flowers were of great merit; Mr. J. James sent a stand of twenty-four, all of which were models of beauty. They were, Jeannie's Rival, Lord Cardigan, Baronet, Ranger, Gem of the West, Rev. H. Dombrain, White Lady, Perfect Model, William Austin, Prince Imperial, Arcturus, Flora, Thos. Martin, Queen, Ladyburn Beauty, Chas. Turner, Beauty, General Young, Sarah, Lord Palmerston, Cupid, Miss Muir, seedling very much like Lord Palmerston, but darker; and Vesta. Messrs. Dobson and Sons and Mr. W. Bragg also had very beautiful collections.

*Novelties.*—Messrs. Veitch sent an interesting hybrid Cattleya, intermediate between Epidendrum auranticum and Cattleya Skinneri. *Primula cortusoides amœna*, from the same firm, is a charming addition to our spring flowers, and an improvement on the old form of P. cortusoides. *Clematis reginæ* is a fine hybrid, with large flowers of a bluish lilac colour. Mr. Bull sent a charming zonale geranium called *Eve*, the leaves being marked with a dull zone, the flowers a soft tint of rosy pink, one shade lighter than Christine, and the trusses much finer in carriage and proportions. Petunias, *Holland's Pet* and *Crimson Gem*, from Mr. Williams, are fine flowers, the form according to the type of all the seedlings of this careful breeder, the colour of the latter being a deep, rich ruby. *Euonymus Japonicus fol. argentea major*, from Mr. Bull, is one of the best of the nearly hardy variegated shrubs, being a glittering mass of silvery-margined leaves. *Collinsia verna*, from Mr. W. Thompson, of Ipswich, is a valuable addition to our spring flowers, as it produces myriads of blue and white flowers in April, the effect of which, when bedded out, is similar to that of Lobelia Paxtoniana.

## ROSE GOSSIP.—No. 7.

From the middle of May to the middle of June is the best time for planting roses out of pots. The earth has usually become of a genial warmth, well calculated to induce immediate growth; danger of injurious frosts is passed, and occasional showers assist the plants to get well hold of the ground and to make an effectual start. For the assistance of those who require to make good the ravages of winter, or to commence the formation of a rosery at this season, I have, therefore, appended a list of the best kinds for such purposes, which will be found to include several varieties introduced so recently as during the past year; they are as follows:—

*Hybrid Perpetuals:* Anna Alexieff, Baronne Prevost, Beauty of Waltham, Charles Lefebvre, Comtesse Chabrilland, Duc de Rohan, Duc d'Anjou, Duchess of Sutherland, Francois Lacharme, General Jacqueminot, Jean Goujon, John Hopper, Jules Margottin, Le Rhone, Louise Darzins, Madame Bruni, Madame Charles Wood, Madame Clemence Joigneaux (a most robust grower) Madame de Cambaceres, Madame Domage, Madame Knorr, Madame Laffay, Madame William Paul, Madame Therese Appert, M. de Montigny, Mrs. Elliott, Praire de Terre Noir, President Lincoln, Prince Camille de Rohan (worth risking on ac-

count of its dark colour), Senateur Vaisse (not equal to General Jacqueminot as a *town* rose), Vainquer de Goliath, Victor Verdier, Vicomte Vigier. The *Bourbons* are Baronne Gonella, Catherine Guillot, Emotion, Louise Margottin, Souvenir de la Malmaison. The *Teas* are Gloire de Dijon, Devoniensis, Narcisse, Comtesse Ouvaroff and Triomphe de Guillot fils are under trial this season, and both being strong growers, I am sanguine they will do well. I am less confident of Gloire de Bourdeaux, a seedling from Gloire de Dijon; I fear it is not a free bloomer.

Our modern florists, like the ancient Athenians, appear ever desirous of seeing or of hearing about new things. This desire for novelty, combined with merit, is a powerful incentive to all improvements. Accordingly, I dare say my confreres in the love of roses will not be uninterested in the little information I can give about the novelties for the season, some of which have already displayed their pretensions to the floral public. Upon collating the catalogues of our largest importers of new roses from France, I find not less than sixty odd candidates for our insular patronage. Besides these are the beautiful English seedlings of Mr. William Paul, and also one announced to be sent out in the autumn by Mr. Cranston of King's Acre.

It is highly gratifying to enthusiastic aspirants after perfection in the rose to find our own most eminent florists devoting their energies and skill to the improvement of England's special flower. *Beauty of Waltham*, concerning which a somewhat tart controversy has been going on for some weeks in the columns of a contemporary periodical, is already well known, and its merits widely acknowledged. Mr. William Paul believes that he has in this rose the parent of a new race of really hardy roses, destined to displace many beautiful kinds which have become so delicate in constitution as to be scarcely worth cultivating. *Princess of Wales*, to be sent out this month, is the most important of the novel strain. I have seen it, and can safely recommend it as a most promising kind, in every way deserving trial, without which no collection can be considered complete. *Red Rover* is also another of the same class, not double enough for a show rose, but a free and rapid climber, blooming very late, and likely to prove an acquisition in that respect, especially to rosarians in the neighbourhood of towns. I shall be able to describe these seedlings more fully when I have criticised them out of doors—at present my opinions have been necessarily formed upon examition of the forcing house.

It is always a hazardous and conjectural undertaking to speak upon the really new roses. At this period the produce of small, forced plants only can be brought under review; and even such persons as have seen them in bloom at the French nurseries, have done so under such different conditions to those under which they will be cultivated here that their verdict is liable to be totally reversed. Viewed from their aspect, I believe the best of the new foreigners to be the following, which are given alphabetically, the reader being referred for detailed descriptions to the growers' lists. *Hybrid Perpetuals:* Alpaide de Rotalier, Bernard Palissy, Gabriel Peyronny, Kate Hausburg, Madame Soupert, on account of its being white; Madame Victor Verdier, Mareschal Forey, Pavillon de Pregny, that is if it answer its description, in which case it would be novel; Senateur Reveil, Le Geant, described as the largest rose grown; Vicomtesse Douglas, a sport from Baronne Prevost, an origin much in its favour. *Bourbons:* Madame de Stella, and Henry Dombrain are likewise promising varieties. Upon Teas it is particularly unsafe to prophecy. Lays seems fair, a light yellow, and Alba Rosa, from Devoniensis, described as good; I am not quite certain whether this is of 1863-64.

I cannot refrain from a passing remark upon the outrageously absurd nomenclature bestowed by Gallic raisers upon their progeny. The less educated among the gardening tribe must be sorely puzzled by such names as "Triomphe de Villecresnes,"

"Docteur Vingtrinier," "Gloire de Sacre Cœur," "Pavillon de Pregny," etc. Simplicity in this as well as in more important matters of taste is not only a charm but a convenience.

The unprecedented weather, acting upon the well-ripened wood of last season, appears to have produced an unusually early development of growth and bloom, promising a display of flower sufficient to gladden the heart, and satisfy the desires of the most insatiate gluttons of floral beauty. The only drawback up to the present time has been the prevalence of that intolerable pest the black grub, whose ravages must have already decimated the rose beds. It will be difficult at present to foretell what effect the weather will have upon the shows if they take place about the usual time. It would seem that the first period of bloom, at many of the rose grounds, must have passed by before the period for exhibition arrives, especially on light soils. This will, however, offer a chance of carrying off the prizes to growers upon the heavy lands—of late years such have not been up to the mark in time.—This 21st of May I have a few blooms of Gloire de Dijon, Lord Palmerston, Victor Verdier, and Prince C. de Rohan out, with many more coming on; and a neighbour has anticipated me by a fortnight with Gloire de Dijon, Jules Margottin, and General Jacqueminot on a south wall. As a final admonition to purchasers I would recommend them to have large and established plants: chances of failure will be diminished, and effect sooner produced. Most of the great nursery firms keep half specimens in pots, at a small advance in price on those usually sold in 60's or 48's. It will be better to have one such plant than two or three of the smaller size. W. D. Prior.

*Homerton, May* 21.

## JUNE WORK IN THE ROSE GARDEN.

Having proved the possibility of planting roses in any week of the whole year, we may now remind our readers that this is as good a season as any for furnishing a rosarium, though it is not usually so regarded or described. There are many blights that affect the rose, but the greatest of all is the nursery system of propagation. How many of the roses planted last autumn are now poor scrubby things, like worn out mops, or puny imitations of dwarf bushes that refuse to grow, and when their flowers appear it is with some twist of the bud that indicates constitutional weakness. Nevertheless, for plants carefully worked on young lusty briars or Manettis, and duly pinched in when forming their first shoots, the autumn is the best time for planting, because all winter the roots are at work, and a good summer bloom is the proper result. But suppose a man with a passion for roses has just made up his mind which of the new ones he will add to his collection, or suppose a new garden where it has been tremendous hard work for months past to get things in order, and the season ordinarily used for planting has been lost, it is not too late now to plant roses in either case, and we will venture to say that under certain circumstances it is the best season of the whole year.

There is one thing certain about roses planted in April and May from nursery pots, and that is that a good many always perish, though there are few writers who have the courage to acknowledge it. People order in so many of such and such roses. The plants arrive in due course, and very shortly afterwards they are turned out to take all chances of weather. They were perhaps worked on Manettis during winter from forced plants and forced stocks, and to meet the demand in spring were sent out before the junction of the two barks

had been fully effected, and being tender through having been "pushed," they are quite unfit to endure the assaults of the weather in cold ground, and with occasional morning frosts; and, *par consequence*, some of them die, some stand still a few weeks and then grow with vigour, and some linger between life and death, and are never worth the room they occupy. The Manetti is a good stock, but it is made the worst by the system of forcing to which it is subject in the nursery mode of propagating. The roses are manufactured *to sell*, and about nine-tenths of them are very different to plants worked in summer-time, on stocks in the open ground. When these die we may blame the possessor; when death happens to the pot plants sent direct from an atmosphere of 70°, and warranted fit for immediate planting out, we must blame the system by which they are manufactured and the strength driven out of the plant by stove treatment.

"But there are no others to be got," so says the rose amateur, who burns to complete his lists of selected varieties, and to whom the "new roses" are as important as the new fashion in bonnets to a blushing belle. Unfortunately that is almost true; the new roses are hurried into size for sale, and when sent out there is something of a plant to look at, and very often much more to look at than the price would lead one to expect. There the purchaser must take his share of blame. The trade cannot get up new roses on their own roots at the price which competition fixes, and the hunger for cheap things causes amateurs to prefer plants at three to five shillings each, one-third of which are scarcely worth having, rather than pay a shilling or so more and have plants fit for any purpose, with the vigour of their own life in them. With old roses the only excuse for working them on Manettis in a forcing temperature is to produce them wholesale at a cheap rate; and without opening again the question long since settled, we have only to say on this subject that when roses are advertised it should be stated what their roots consist of, and before people order them they should inquire what roots are obtainable, and as a rule give the preference, and an extra price, for roses on their own bottoms.

Stocky plants in 60 or 54 sized pots are to be had all the year round, and this is as good a season as any in the year to plant them out for beds of dwarfs, whether on their own roots or Manettis. If they have been pushed during the early months of the year, the ground is now warm enough for them to take to it at once, without any long process of hardening; and the conditions essential to success are to obtain plants that have filled their pots with roots, or that (if worked) are healed at the junction, to plant them in well-manured soil, eighteen inches or two feet apart, according as they are moderate or robust growers, and to give them plenty of water during dry weather all the season.

You remember well the disastrous season of 1860, when it rained, rained, rained, as if the world had been doomed to suffer another deluge for its sins. The first bloom of roses that year was magnificent. The rain just suited them; it is evident that the frequent recommendation to give roses plenty of water, especially overhead, is no figment of the imagination. Now the work of the season among roses consists first in giving them abundance of water. The drier and hotter the weather, the more are they infested with fly. The more rain, or the more artificial rain from hydropult or engine, the less will they be troubled with this horrible pest, and if sent through the heads of standards with some force, every aphis will be hurled to limbo, and the bloom buds will plump up by absorption, and give richer and larger blooms. We have advised hand-picking for the grub, and never was it more needed than this season. Now the enemy that awaits them is fly, and though water is not poison to it, plenty of water and plenty of aphis rarely go together; one must give way; and it is the rose-grower's business to see that the fly is kept down by a process

which enhances the beauty of both foliage and flowers.

The blooms are opening well and early this season, and we fully expect that the rose shows which are fixed for the earliest dates will have better contributions than those that come later. When the first bloom is nearly over, prune in slightly, and mulch with either rotten dung or wood-ashes and guano, a bushel of the first to a peck of the last, and a peck of the mixture to be spread in a circle of three feet in diameter round the stem of each tree; half the quantity will suffice to spread around dwarfs: but half-rotted dung is best where appearances are not of much consequence, as it is so retentive of moisture and keeps the roots cool.

Those who plant now must not touch standards, unless they can be got in pots. We have frequently turned standards out of pots in the height of summer, and found that frequently syringing for a fortnight afterwards was all they needed to help them take hold of the ground. Dwarfs in 60, 54, or 48 pots, the pots full of roots, will turn out without damage to a fibre, and if the ground is mellow and well manured they will give a fine bloom in the autumn; but with this object in view it would be well to take off all bloom buds when planting. The best bed of roses we ever had was planted on the 3rd of June; it consisted of Jules Margottin, in three inner circles, and General Jacqueminot outside, all on their own roots; they were not allowed to bloom till August, and then continued in bloom until their buds were frozen before they could open, and the next season made tremendous growth. Anybody can tell if a rose is on its own root or worked, for the scar of a worked rose remains a long time at the collar. This scar should be planted below the surface, in order that the rose may form roots of its own, and a slight notch in the bark with a sharp knife just above the work will hasten the process. We are not inclined to quarrel with Manettis, Briers, Boursaults, or any other stock; we have always had fine plants of all kinds as the result of giving each the requisite management. But own roots are best for ninety-nine out of every hundred varieties we possess, and all we insist on is that nurserymen should state in their lists what the roots consist of, and that purchasers should know when ordering roses what sort of roots they are to expect. S. H.

## A SELECTION OF FERNS.

Twenty-five most beautiful and easily-managed Greenhouse Ferns.—Adiantum assimile, A. cuneatum, A. formosum, A. pedatum, A. capillus veneris, Asplenium bulbiferum, A. viviparum, A. fabianum, A. fragrans, Campyloneurum phyllitidis, Davallia canariensis, D. bullata, Humata pedata, Lygodium scandens, L. hastatum (climber), Nephrodium exaltata, Polypodium aureum, Platyloma falcata, Platycerium alcicorne, Pteris serrulata, Scolopendrium Krebsii, Woodwardia radicans, Polystichum coriaceum, Niphobolus rupestris.

Twenty-five choice Hardy Ferns.—Allosorus crispus, Asplenium marinum, Athyrium filix-fœmina, A. f.-f. corymbiferum, A. f.-f. diffissum, Cyrtomium falcatum, Blechnum spicant, Lastrea filix-mas, L. f-m. cristata, L. oreopteris, Onoclea sensibilis, Osmunda regalis, O. Claytoniana, Polypodium phegopteris, P. vulgare, P. v. Cambricum, Polystichum angulare, P. aculeatum, P. lonchitis, Scolopendrium vulgare, S. v. cornutum, S. v. crispum, S. v. alcicorne, Woodsia ilvensis.

## JUNE, 1864.—30 Days.

Phases of the Moon.—New, 4th, 11h. 40m. morn.; First Quarter, 12th, 11h. 48m. morn.; Full, 19th, 10h. 54m. after.; Last Quarter, 26th, 2h. 15m. after.

Averages for the Month.—Bar. 29·973. Therm. max. 71°, min. 50°, mean 58½°. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 3 50 | 8 5 | 2 2 | 4 52 | Fine throughout | *Royal Hort. Soc. First Great Show* |
| 2 | 3 50 | 8 6 | 2 34 | 6 2 | Fine throughout | *R. H. S. Exhibition of Sculpture* |
| 3 | 3 49 | 8 7 | 3 13 | 7 8 | Very fine, ther. 83° | Viceroy of Egypt in England, 1862 |
| 4 | 3 48 | 8 8 | 3 57 | 8 5 | Fine throughout | T. S. Albrecht born, 1795 |
| 5 | 3 48 | 8 9 | 4 48 | 8 55 | Fine; rain; wind; rain | 2ND SUNDAY AFTER TRINITY |
| 6 | 3 47 | 8 10 | 5 45 | 9 34 | Rain; fine; breeze; fine | Dr. Horner died, 1862 |
| 7 | 3 47 | 8 11 | 6 46 | 10 9 | Cloudy; cloudy; shower | *Royal Oxfords. Hort. Third Show* |
| 8 | 3 46 | 8 12 | 7 50 | 10 35 | Fine; wh. cloud; shwrs. | *Glasgow Horticultural Show* |
| 9 | 3 46 | 8 13 | 8 54 | 11 0 | Fine; white clouds; rain | B. Pascal born, 1623 |
| 10 | 3 45 | 8 13 | 9 57 | 11 22 | Hazy; fine; showers | Dr. Robert Brown died, 1858 |
| 11 | 3 45 | 8 14 | 11 0 | 11 43 | Fine; windy; showers | *R. B. S. Second Great Show* |
| 12 | 3 45 | 8 15 | After. | Morn. | Cloudy; heavy rain | 3RD SUNDAY AFTER TRINITY |
| 13 | 3 44 | 8 15 | 1 10 | 0 3 | Fine; showery; cold | Trinity Term ends |
| 14 | 3 44 | 8 16 | 2 16 | 0 24 | Very fine throughout | T. Pennant born, 1726 |
| 15 | 3 44 | 8 16 | 3 25 | 0 48 | Fine; cloudy; fine | *Hort. Society of Edinburgh Show* |
| 16 | 3 44 | 8 17 | 4 34 | 1 15 | Hazy; rain; much rain | Earl Canning died, 1862 |
| 17 | 3 44 | 8 17 | 5 42 | 1 48 | Cloudy; overcast; fine | Duke of Marlborough died, 1722 |
| 18 | 3 44 | 8 18 | 6 48 | 2 30 | Fine; cloud; heavy rain | Battle of Waterloo, 1815 |
| 19 | 3 44 | 8 18 | 7 46 | 3 21 | Heavy rain; fine; cloud | 4TH SUNDAY AFTER TRINITY |
| 20 | 3 44 | 8 18 | 8 35 | 4 24 | Fine; cloud; fine; cool | Accession of Queen Victoria |
| 21 | 3 44 | 8 18 | 9 19 | 5 36 | Fine throughout | R. H. S. Meeting for Scientific Dis. |
| 22 | 3 45 | 8 19 | 9 53 | 6 53 | Cloud; fine; cld.; fine | E. A. Copland died, 1858 [1859 |
| 23 | 3 45 | 8 19 | 10 24 | 8 13 | Fine throughout | Josh. Wells, gr., Redleaf, Kent, died |
| 24 | 3 45 | 8 19 | 10 49 | 9 34 | Shower; fine; thund. st. | St. John Baptist (Midsummer-day) |
| 25 | 3 46 | 8 19 | 11 14 | 10 53 | Fine; cool at night | S. Kensington Museum op. 1857 |
| 26 | 3 46 | 8 19 | 11 40 | After. | Fine; showery at night | 5TH SUNDAY AFTER TRINITY |
| 27 | 3 47 | 8 19 | Morn. | 1 27 | Rain; fine; cloudy; fine | Buenos Ayres taken, 1806 |
| 28 | 3 47 | 8 18 | 0 7 | 2 40 | Very fine; cool at night | *Leicestershire Horticultural Show* |
| 29 | 3 48 | 8 18 | 0 37 | 3 51 | Very fine | *R. H. S. Great Rose Show* |
| 30 | 3 48 | 8 18 | 1 12 | 4 58 | Fine; ther. 34° at night | Length of night 7h. 32m. |

Probable Weather, June, 1864.—During the first ten days likely to be much rain, with strong gales and thunder, wind S.W. to S.W.S. From 10th to 20th generally bright and occasionally showery, temperature high, wind S.W.S. to S.S.E. From 20th to end, dry, barometer and thermometer high, wind S.E. to N.E.E.

## THE GARDEN GUIDE FOR JUNE.

Kitchen Garden.—Stake runner beans on the north side of the rows, unless they run north and south, which is best, in which cases take them on the west side, and hoe up. Sow lettuce; tie a few at a time for immediate use. Sow parsley, endive, and turnips. Plant out celery, and water abundantly; if convenient, shade the trenches for a week after planting.

*Asparagus* to be cut no more after this week; the beds then to be lightly forked over, and covered with a thin coating of rotten dung.

*Celery* to have an abundant supply of

water if the ground is dry, as slow growth is ruin to it, and may cause half the crop to bolt. Continue to plant out, using abundance of rotten dung well worked into the soil of the trenches.

*Cropping* —Sow succession beans, marrow peas, lettuce, Portugal cabbage, cauliflowers, Walcheren brocoli, Stone turnip, and turnip radishes.

*Leeks* to be transplanted from the seed-bed to very rich ground, and to be earthed up as they grow, to blanch the neck of the bulb. The frequent use of sewage water will swell them to a great size, and with improved quality.

*Potatoes* to be hoed between frequently, so long as there is room to work between the rows, after which it must be discontinued, to avoid injury to the haulm. If tempted to dig a portion of a crop for immediate use, take every alternate row ; the disturbance of the ground and the increased growing space will augment the bulk of the tubers in the rows left to grow to maturity.

*Root Crops*, such as parsnip and beet, require now a final thinning; there is no gain from crowded beds. Potatoes to be frequently hoed between ; we have no great faith in the practice of moulding up the rows, but it is everywhere practised, and is evidently not seriously detrimental to the crop. If children can be employed to pick off the blossoms, the weight of the crop will be increased, but the difference will scarcely pay for any other kind of labour.

*Sow* lettuce for succession, broad beans, wrinkled marrow, Emperor, and Advancer peas, radishes, scarlet runners, turnips, Early York, East Ham, and Shilling's Grotto cabbage, and a few rosette coleworts, Walcheren brocoli.

*Winter Greens.*—Plant, during showery weather, brocolis, Brussels sprouts, collards, cauliflowers, endive, celery, cabbages, green kale, savoys, and whatever else is needed to supply the table during autumn and winter, the grand point being to secure enough of each, and somewhat of a reserve of plants to fill up vacancies, and to plant odd plots. Sow Flanders spinach, Dutch turnip, lettuce, horn carrot, radish.

Fruit Garden.—Apple-trees are now recovering from the devastation of caterpillar, and need a careful inspection, pruning knife in hand, to remove spurs and branches that have perished through loss of sap when they were covered with vermin. Tie in espaliers at once, before the shoots get set in a bent position ; use the engine smartly to wall trees and bushes; nail in the wood to be kept on wall-trees, and remove, but not too much at a time, all superfluous wood. We must again object to the too common practice of laying in all the wood that can be got, till the walls are literally felted with young shoots ; one-half of those can never ripen so as to be of any use, and the keeping of an excessive amount of spray defeats its object—the general remark that " we don't know what we may want" being founded in a misapprehension of the subject altogether. We have seen walls lately covered with at least three layers of shoots one over the other, and we have no longer been in a mystery that though the trees grew well, they produced but little fruit. Wall-trees trimmed up now will have time to ripen their wood; if neglected much longer, it will be too late to do justice to them.

*Bush and Pyramid Fruit Trees* are generally in better health than standards, because they get more attention ; and as they are in a somewhat artificial state through close pinching and frequent lifting, they require extra attention. Shorten in at once all rambling and rank growths, pinch in young shoots to the third leaf from the base, tie in espaliers while the wood is pliable, as if they harden out of shape it will be difficult to train them hereafter. Keep down grub, fly, and American blight. The simplest remedy for the last-named pest is a touch of oil by means of a soft brush on the places to which it adheres. The oil will kill any leaves it falls on, but will not hurt the bark.

*Wall-trees* to be nailed in, and the shoots thinned as they grow, that there may be no crowding of unnecessary wood. Shoots that run away with undue vigour to be cut clean out to the base, unless in positions where much needed, in which case shorten them back.

*Strawberries.*—It is most important to obtain early plants from runners, and every means should be taken to root the strongest, and to root them well. A picked lot of the finest for early forcing should be pegged down in small pots filled with firm turfy compost. Runners just rooted, and intended to be used for new plantations, to be taken off immediately, and be planted out in rich light soil, and have a slight shading, to help them for a week or two.

Orchard House.— If the lights can be taken off, remove them altogether now, to give the trees the benefit of full exposure night and day. The fruit will then be improved in flavour, and the young wood in substance, as glass can do them no service now. If the lights cannot be taken off, remove the trees, and place them pretty close together, but so that there is a good

circulation of air amongst them. Use manure-water twice a-week, and pretty strong now. Trees that have been regularly pinched in are now bristling with side-spurs, and the object now in view is to promote the swelling of these by good feeding, and their ultimate ripening by full exposure, and a diminished supply of water when growth is completed. No more pinching after this month.

*Peaches.*—When the fruit is gathered, ply the syringe or hydropult with force, to cleanse the trees and maintain a healthy leaf action for the completion of the seasonal growth. Young trees inclined to grow rank, and out of all proportion, can be very effectually checked by stripping off about half their leaves, and keeping rather dry at their root, but to be frequently syringed, to prevent red spider. Disleafing is the safest and simplest method of dealing with trees in a gross condition, especially if they continue to grow beyond the period when their wood should be ripening.

*Forced Fruits.*—As the crops are gathered, give liquid manure to swell up the spurs for next year's crop; syringe with force to clear the foliage. Crops ripening to have less water, less syringe, more air, and full sunshine.

Flower Garden.—*American Plants* in old beds should be refreshed now with a top-dressing of rotten cow-dung, which will help the new growth. Newish beds are better without animal manure. Remove the trusses of blooms as fast as they lose their colour, and be careful not to break any young shoots at the same time.

*Bedders* to have as little water as possible, as it tends to prevent them rooting deep. Hoe over the beds between the plants, and pay scrupulous attention to pinching and pegging as required, as on this will depend the beauty of the display as the plants come into full bloom. In pegging secure first a supply of shoots to the north side of all the trailing plants, as they will grow all the season more freely on the south side.

*Cineraria Seed* to be sown in pans of light rich soil, with a sprinkling of very fine earth over. Lay over the pans pieces of glass or damp moss or tiles, to prevent evaporation, but keep a watch that the plants are not blanched through keeping the covering on too long. Keep the pans in the shade till the plants are large enough to pot off, which will lessen the trouble of watering, and also the risk of loss either by damp or drought.

*Camellias* need air now night and day, and the swelling of the flower-buds should be the signal to cease watering overhead, which may cause the flower-buds to start into leaves, and spoil the next season's bloom. Plants that want a shift may have it now, but large shifts should never be practised.

*Dahlias* to be tied up betimes, or sudden gusts of wind will tear away the best branches from the base. On hot dry soils mulching is needful, and will prevent need of watering, but in small gardens mulching attracts vermin, and had best not be practised. Those that want a little extra help had best have manure-water.

*Herbaceous Plants.*—Continue to propagate, remembering that pinks, carnations, and picotees come as readily from cuttings as layers, if that method is most convenient.

*Propagate* at once Neapolitan violets by dividing; pansies, by cuttings and layers; pinks, by pipings and cuttings—if the latter, dibble them into pans, and cover with bell-glasses; put pipings in the open ground in a shady place; chrysanthemums by cuttings, for blooming under glass in pots; roses, by cuttings and half-ripe wood; and any summer flowering plants wanted for late blooms under glass; also Iberis sempervirens, the best of all the spring flowers.

*Rhododendrons, Kalmias, and Andromedas* may now be layered for increase; it is the simplest and surest method of propagation, though slow; nevertheless, they are always better on their own roots than grafted, and though many kinds sow themselves in plenty, and produce thickets of seedlings if allowed, there is no dependence to be placed on them for character when at last they come into bloom. Old beds of American plants may be benefited now by top-dressings of cow-dung quite rotten. Recently formed beds should not have it, nevertheless a mulching of some kind, especially amongst Kalmias, will be beneficial. Where moss is plentiful, there is nothing better to strew three or four inches thick over the whole of the soil; it soon sinks to a close peaty layer, and preserves a moist condition of the roots.

*Roses* need abundant supplies of water now, and green-fly must be kept down, or the bloom will be impoverished. As the hurry of the bedding-out is now over, a little time may be found to look over briars intended for budding soon, to cut away weak, ill placed shoots, and shorten in the strong rambling shoots on which buds are to be entered. Generally the knife is used amongst the stocks at the time of budding, which gives them a check and retards the taking of the buds. If cut in now as may

be needful, both to strengthen the shoots to be worked, and make room between rows for the operation, they will break before budding-time, and the sap will flow freely when it is wanted. Buds that remain dormant till the next spring do not generally make such good plants as buds that start away soon after being entered, and make ripe hard shoots before winter. We have found that when the shoots from the buds of the season were very sappy, a gentle lift of the stock by means of a four-tined fork, early in October, gave a check that hastened the ripening, and prevented loss in winter. We mention this now because some propagators prefer dormant buds, because of the risk in winter, whereas pushing buds can be used with equal safety if means are resorted to to check the growth in time. Another matter worthy of mention is that the wild wood should not be cut away severely before entering the buds, as the loss of it checks the flow of sap, and defers the complete junction of the two barks.

*Tritoma uvaria* and varieties require abundance of water now, especially if in pots. Liliums the same; when throwing up their spikes they can scarcely have too much. Ixias and other Cape bulbs in flower need the same treatment; after flowering, lessen the supply, but allow free growth, that they may die down and ripen naturally, during which process let them go quite dry.

Greenhouse.—*Achimenes* need help from liquid manure, to prolong their beauty, and develop the foliage and flowers fully. The best contrivances now in use for displaying them are the open wire baskets humorously designated "crinoline pots;" in these they grow to perfection, probably because of the access of air to the roots.

*Celosia aurea pyramidalis* is now showing flower, and will be benefited with weak liquid manure occasionally. It is one of the most useful of all the novelties for conservatory decoration, and needs the same treatment as cockscombs. Plants required extra fine to have a shift in rich light soil.

*Cinerarias* are generally very mixed as to quality, owing to the too frequent keeping of seedlings that have pleased by their colour, but had no other good quality. But seeing how many really beautiful varieties are now obtainable, it is a positive waste of time and glass room to propagate any seedlings that have not some decidedly good qualities. We name this now, because many gardeners who grow these plants largely for decoration are at this time of year tempted to propagate from whatever old plants they possess, with too little regard for their quality, whereas if a few of the best new ones, or a complete set have to be purchased, the cost is little, and quality is of the first importance in a flower which every one can criticise. When admiring a sheet of Bougainvillea, none of us think about properties; but the most uninformed take note of the form and proportions and colouring of a cineraria, and every second-rate seedling should be thrown on the muck-heap as soon as the bloom is over, so as to reduce the work of propagating to a few of the very best. Those to be kept should either be moulded up in the pots or be planted out on a shady border in rich sandy soil an inch below the level, to induce them to break freely for increase of the stock.

*Climbers* in free growth look best when left a little to themselves, so as to display

"The negligence of nature wide and wild;"

but some tying and training must be done, and the cultivator must have an eye that the rods intended for future flowering are not unduly shaded by disorderly growths. There is a happy medium between training climbers in a severely artificial manner, and leaving them to sprawl about and choke themselves, which it should be the aim of the observant gardener to discover and encourage.

*Fuchsias* should be propagated now in quantity. Specimen plants will require abundance of water, and once a week liquid manure. Fuchsias in the open ground are generally disfigured with a superabundance of sticks, whereas in a good turfy soil, with a moderate amount of rotten dung, they ought to need but little artificial support, and a certain easy drooping habit is proper to their character. Most of the light fuchsias require to be well shaded, or the points of the calyx acquire a green tinge.

*Herbaceous Calceolarias* are now in fine perfection, and we have reason to congratulate the breeders of improved forms on the robust habit and beautiful colours that have been produced. Any choice varieties to be seeded should be secured in duplicate, to keep up the varieties from cuttings, as the plants that furnish seed will probably die. Those to be cut from not to be allowed to ripen a single seed; cut away the flower-stems as soon as the bloom is nearly over, and put them in a pit facing north, with the lights off night and day, and the sun kept off by a thick screen of mats.

*Pelargoniums* in bloom must have some amount of shade, but they are generally shaded too heavily, so that we do not see their true colours. Give plenty of water,

as the least check now will cause the fall of leaves. Plants out of bloom to be set out of doors in the full sun, but not to be cut in for at least a fortnight. This exposure of the plants in their complete state is one of the most important points in their culture; on it depends the ripening of the wood, and the health and beauty of the plants hereafter. When they are cut back, remove them from a sunny to a shady position, and encourage them to break quickly by frequent syringing, but the roots are to be nearly dry.

*Soft-wooded Plants*, such as cinerarias, herbaceous calceolarias, Chinese primulas, pansies, pyrethrums, etc., should be raised from seed now in quantity. If primulas were sown in April for early bloom, it will be as well to sow again for a successional batch. Remember that to grow bad seed is just as much trouble as the best, so that the question of cost of seed should not be considered too closely. Procure the best that can be had from houses known to be above the shabby practice of mixing or misdescribing, and grow them in a good compost from the first. Soft-wooded plants rarely do any good if grown slowly; they need abundant nourishment, and if kept stout and strong rarely suffer from vermin. It is the bad practice of starving seedlings in the seed-pans that creates the principal trouble of getting them clean afterwards.

Orchid House.—Most of the Indian species will now require an abundance of water, and a moist atmosphere. It is their heyday, and if they do not thrive now they never will. Stanhopeas, Dendrobiums, Aerides, Saccolabiums, and Vandas are now especially thirsty, and their wants must be supplied by dipping and syringing.

Stove.—Take cuttings of Euphorbias, and let them dry before inserting in sand. Start another batch of Gesneras. Remove to a cooler atmosphere most of the best subjects that are now in flower. Keep a moist atmosphere among soft-wooded plants of all kinds, and especially begonias and caladiums; in fact, water must be used in abundance about floors and walls.

Pits and Frames.—*Cucumbers* require an abundance of water, both over the foliage and at the root. Put a few cans of water in the pit or in a warm house early in the day, to have it warm and soft for use in the afternoon, then use it and shut up, and if the beds are extra warm, give a little air an hour afterwards.

*Melons* need no shade if the hillocks are of good sound turfy loam, and the plants have water when shut up at night. We never knew scorching to happen except through mismanagement. The general causes of ill-health, are watering with cold hard water, planting in rich light soil, or keeping them too dry while growing. To ripen the fruit dryness is essential, but while the plants are growing they require plenty of water, warmed by being put in the house every morning for use in the evening, and the soil to fill in with as the hillocks are occupied with roots should be tough turfy loam; even clay is preferable to mixtures containing leaf and manure.

*Pines* must have atmospheric moisture to prevent exhaustion by this hot bright weather. Shut up early and syringe, and water the floor of the house early every morning. Give a little air at night about two hours after shutting up to water. Use as little shade as possible to fruiting plants. The temperature may go up to 95° for a maximum.

Greenhouse Plants in Flower.—*Abelia floribunda*, a nearly hardy caprifoliaceous shrub, with rosy-purple blooms. It is worth adding to any collection, and will grow in any good turfy soil.

*Adenandra fragrans*, a useful Cape ruewort, with pink blossoms and a neat shrubby habit, requiring turfy peat and an intermediate house all winter.

*Adenandra uniflora and amœna.*—These useful show subjects are now at their best, and very ornamental. They require no peculiar management beyond good greenhouse treatment, the soil to be turfy loam one-third, and good tough peat two-thirds. To get up good specimens, cuttings should be struck now, so as to insure a free growth during the remainder of the season. Uniflora has pink blossoms, amœna red: both appropriately named. They are rueworts from the Cape.

*Anthyllis tragacanthoides.*—A papilionaceous plant, closely allied to the trefoils, of which there are several species now in bloom. They are not of great value, and one or two will be sufficient in any general collection. Soil, light loam, and a little peat, the pots well drained, and the position airy.

*Aphelexis humilis, macrantha, and purpurea.*—These are three of the best of the genus, and will pay for good culture, as they are good growers, and when in bloom last a long time—so long, indeed, that, like azaleas, people are apt to get tired of them. The soil for all these plants should be sandy loam, turfy peat, and old dung, equal parts. In getting up specimens, success will mainly depend on judicious and regular stopping, so as to induce an abundant growth of side-shoots, and a bushy habit.

*Beaufortia latifolia.*—A fine myrtaceous shrub, requiring the same treatment as a Cape heath. It is a fine object in bloom, and worth a place in a general collection.

*Cæsia vittata* is a tuberous-rooted liliaceous perennial, sometimes found difficult to manage through the mistake of keeping it too dry and cold all winter. Grow it the same as an Agapanthus, with a trifle more warmth, and it will be sure to flower well.

*Clematis odorata.*—This sweet-smelling species is one of the best for a greenhouse, and will bloom best if grown in a raised border consisting of equal parts light turfy loam, peat, and leaf-mould. It is a good species for pot-culture.

*Diosma longifolia and tetragona.*—Two of the best.

*Erica Hibbertiana.*—A fine orange-flowered species, of small growth, which makes a nice change of colour in a collection. It prefers rather more turfy loam and less grit than ericas generally.

*Hardenbergia Comptoniana.*—A fine greenhouse climber, which will run twelve feet in a warm house on a trellis. The purple fabaceous flowers are plentifully produced, and the treatment necessary is the same as that for Kennedyas. Shade while in bloom.

*Kennedya prostrata* is one of the few free-growing climbers that flower well in pots, and if starved almost to death it still blooms, though it may have otherwise a wretched appearance. This is one of the least robust of the tribe, and must be treated as a twiner of very moderate growth to train over a balloon trellis in a pot. The scarlet blossoms are showy, and the habit of the plant easily controlled by ordinary good management.

*Leptodactylon Californicum.*—A pretty low-growing herbaceous plant, with rosy-lilac blossoms; sometimes used as a bedder, but has never been famous.

*Passiflora cerulea.*—When well done, what is there among climbers to beat this old favourite? Though in many places it thrives on an open south wall, it is not generally available for that purpose, but may always be depended on for the rafters or back wall of a cool house, if planted in a good border and cut back every year in March.

## OH! THE VERMIN.

THERE they go by dozens, hundreds, thousands, up the vines, down the pelargoniums, in and out of the cinerarias, all over the primulas, as if all the forms of vegetable life were changing to animal life before the eyes of Mr. Slowcoach, who refuses to believe the Darwinian hypothesis. He thinks it enough to read about the plagues of Egypt without having half of them to assail him, and those the most obnoxious of them all. Is he to give it up, or go on battling as he has done with tobacco smoke, Neal's pastiles, sulphur, and soot, all of which fail to procure relief from the locusts that have begun their march, and threaten not to leave him a leaf alive. He wants to know if, when these plagues have had their way, and there is nothing left for them to destroy, if he himself is to be drowned in the Red Sea with his implements and wheelbarrow, as Pharaoh was with his arms and chariots. He is prepared at last to believe anything. He not only thinks Mr. Darwin right in proclaiming the capacity of a vegetable to change into an animal, but he believes peat, and soil, flower-pots, water, and air, are all producers of insects, and he has become fearful of touching or doing anything lest it should give rise to a fresh outbreak of fly, scale, and spider. He says the poet tells only half the truth in the line, "The dust we tread upon was once alive;" the dust now *is* alive; the vermin come in clouds, they settle upon everything like a living slime; they consume every green leaf; they will soon make an end of every plant committed to his intelligent course of management. He knows one thing, that he is exposed to the east wind, and that is a wind that is always loaded with blight. So he gives as little air as possible, for, says he, "If I can kill all I've got, I'll take care no more get in to annoy me; and if I can't kill them I shall go mad, and there will be an end of it." Sure enough the case is a bad one. There are some tea roses struck for pot culture; their young stems are crowded with Aphis as fat as butter, and here

and there the Aphis is hidden by swarms of ants running to and fro to feast upon their sugary juices. The pelargoniums are yellow, shrivelled, and going fast; the fly has taken all the sap out of them, and death stares them in the face. As for the primulas and cinerarias, they are almost invisible; you can trace where they were by the outlines of the dead leaves, and the crown of every plant is grey with the cast-off skins of the myriad devourers. In the stove the justicias are mottled all over by the depredations of red spider, and in the succulent house scale has settled on the stapelias and cacti, till their original colours are no longer discernible. It is enough to break the man's heart, for his remedies are worse than his diseases. If he uses sulphur or tobacco he is like to kill the plants, for, says he, "they shall have it strong enough;" and he burns it till he can no longer breathe, and then hurries out and slams the door behind him. As to watering and shifting, he asks, with some show of reason, "How am I to do it. I've enough to do with the vermin. Besides, I dread to see things grow, every new shoot is new food for the vermin! so I'll have old, hard, ripe wood, that no fly can pierce and no scale adhere to." So he groans away the best of his days, and if you ask him why he doesn't give air and repot the plants that look so starved, he can only ejaculate, "Oh, the vermin."

Just as he tells his tale about his wretched vines to his neighbour, Mr. Successful, so he goes to him with his complaint of vermin. There are no vermin in his rival's place, owing, no doubt, to sorcery and the difference of aspect; for Mr. Successful is not exposed to the east wind. When there, the other day, he saw a fine row of *Solanum capsicastrum*, all loaded with berries bright as vermilion, each plant a foot high and a foot through, as clean as if modelled in wax and paper. "I can't grow that," says he; "I've tried, but had to burn the plants: they were *all* fly; nothing else visible about them." Mr. Successful says it was the same when he first tried it, but he soon discovered that it required plenty of air, a rich, light soil, plenty of water, and an occasional ducking. This worthy turns a plant upside down with his fingers placed over the soil to keep the ball in the pot, and dipping the head of the plant in water—only water—moves it up and down half a dozen times, and then says, "There, I've made an end of them; they hate water." If this doesn't answer, he uses water heated to 106°, the heat of which kills any that the motion fails to wash off, and he says, although Slowcoach doubts it, that this is the sovereign remedy for fly. If there are too many plants for a man or boy to manage in a reasonable time, a little damp tobacco placed on a few embers of charcoal in a flower pot will soon scatter all the fly, if done on a warm, bright afternoon, when the plants are all dry; and a smart syringing next morning makes the plants as fresh as if never a plague had been near them. "How often do you do it?" asks the unhappy man. "About twice in the season is enough for me," says the rival. "I don't profess to know thoroughly what is meant by fly, and spider, and mildew. I don't have such things; plenty of air, plenty of water, good compost, and repotting whenever required,—these are the secrets of prevention." Such a picture of health as Mr. Successful's houses present ought to make an end of all question as to his truthfulness. He further remarks, that to remove vermin or scale smoking or sulphuring is in itself insufficient. He will have it they all come from the roots of the plants, not directly, but indirectly: for if the circulation of the sap is not kept up vigorously, the fly appears instanter, as if it watched to catch a poor gardener, and punish him for every neglect. But if sulphuring and smoking are necessary, it must be done systematically. He never puts sulphur on the flues; he simply closes the house, throws a peck of unslacked lime into a tub, pours on it four gallons of water, and then sprinkles over it an ounce of sulphur vivum, and leaves it till the morning. In this way, he says, the sulphur cannot burn. Next morning

he syringes twice as much as other people, and is not afraid to give air after syringing, for he will have it that his neighbour cooks what few plants the vermin spare by shutting up and firing. Another of our friend's plain notions is that plants like to be washed in the same way as children; so he uses soap and water freely; his camellias have it always when put in for flowering, and again when removed to the conservatory, where they look as bright as if the leaves were stamped in painted vellum. They ask him how he managed to take first prize with such a plague as *Clianthus Dampieri*, whereas in all the houses round about it turns to spider and disappears. He replies, laconically, "Rich sandy soil and lots of water; keep it going, and it will go!"

Our dolorous friend believes the west wind to be at the bottom of it all; but he thinks he might take Mr. Successful's advice, and give plenty of air, repot all the starvelings, burn a lot of scrubby shrubs that almost refuse to furnish cuttings, and keep every bit of woodwork, glass, and flooring as clean as if he had to spread a dinner in the house for the Queen and Royal Family. "But what about the succulents?" he asks, as he retires. "They are very bad surely; they are alive with scale, and sickening to look upon." Mr. Successful whispers in his ear, "Sweet oil." He hurries off: sweet oil is too much for him; the man is evidently an impostor or a conjuror, and in either case very dangerous company. Sweet oil! Who'll believe it? who'll try it? Not the man who goes home groaning, "Oh, the vermin!" TEE-TO-TUM.

## TO CORRESPONDENTS.

CATALOGUES RECEIVED.—"E. G. Henderson and Son, Wellington Road, St. John's Wood. Spring Catalogue of Bedding and Furnishing Plants." This list is always well worthy the best attention of both gardeners and amateurs, as it contains a summary of the extensive collection of plants in the nursery of this celebrated firm. The present issue is particularly rich in new bedding plants, the novelties are very numerous and unusually good, and therefore demand the careful attention of those who care to be in the front rank in the march of improvement.—"Frederick Boshell, 86, High Street, Borough, S.E., Catalogue of Dahlias." A well-selected and reliable list with a fine lot of novelties, printed on a large sheet in good clear type.—"Richard Read, 35, Regent Circus, Piccadilly, W., Catalogue of Horticultural Engines, Machines, and Syringes." We have before spoken favourably of the instruments manufactured by Mr. Read, and find that they fully bear out our encomiums, for being thoroughly well made, they are very durable.—"Sutton and Sons, Reading, Berks." The sheet lists of bedders, greenhouse seeds for present sowing, and of farm seeds in request at the present season, present to their respective readers the best of the several classes of subjects, enumerated in such a way as to facilitate selection.

FIGS IN VINERIES AND IN POTS.—I have figs on the back wall of my cool vinery, they have been planted two years, and in the spring showed an abundance of fruit which swelled to the size of large nuts, and then fell off, except perhaps two or three of them. I had also a few fig-trees in pots, plunged in my early vinery over a hot water piping, which also showed a quantity of fruit, but they all fell off when they were small; the first year after they were potted I had a large crop which came to maturity in the early vinery. Can you supply me with information on this subject?—*An Old Subscriber*. [Fig trees so seldom go wrong at the root, that we fear you have dealt badly with your trees in the matter of air, heat, water, etc. Do you wet the fruit as it begins to soften? for if you do, the crop will be spoiled. Do you use the syringe over the foliage, and keep a damp atmosphere as the small fruit is swelling, as that is needful? Do you give too much air, and allow the east wind to bite off the fruit? Do you give them weak liquid manure as soon as the fruit is visible? you ought to. Are the trees gross through over good

living, and so mad to grow instead of rational to give fruit? When over well fed, figs are as barren as when starved.

Lily of the Valley.—*M. A.* wishes to know why Lilies of the Valley, which she has had in a flower-pot the last three years, will not flower? She plunges the pot in the ground throughout the year, and the end of February puts it into a hot-bed, the pot is now full of plants and leaves, but no bloom. Also she cannot succeed in getting fine plants of the Neapolitan Violet to bloom early in the spring; the old plants turned out in May make plenty of runners which never root properly by September, and the young plants are to be potted, are they not? [The Lilies of the Valley are starved by being kept so long in the same pot without a change of soil. They should have a shift into a larger pot in September, or, better still, shake them out completely, and repot them in rich, turfy loam. But this is not all you should do. To force them into early bloom, place them on a hot-bed in February, and when they have done blooming keep them in a warm place till their leaves are thoroughly ripe, and then put them out in a sheltered place where there will be no danger of the foliage being torn by wind. You have probably injured the plants much by removing them from the comfort of a hot-bed to some cold windy place out of doors. The reason the Neapolitan Violets do not root is that they are not kept sufficiently moist. Pot the young plants, or better still, plant them out in a cold frame, where they will make fine plants, and bloom satisfactorily, and if a few are wanted in pots, the finest can be selected when in bloom, and if potted carefully will not suffer.]

Failure of Spring Flowers.—Gooseberry Caterpillar.—My tulips and ranunculus beds have not done well this year. I fear it may be from the wireworm. My gardener says the beds want a winter's rest, as they have been used winter and summer for bulbs and bedding plants for ten years. This, I think, is a mistake, as new mould is added every year with manure, and if the earth required rest I tell him he may remove what is in the beds and bring fresh. I ordered a hundred citron colour roots of Turk's Cap ranunculus, and have only about a dozen come up that colour; the others are scarlet, and I find my whites and yellows are mixed with scarlet. I conclude this is the fault of the vendor not of the soil. Is it likely the roots change colour? My tulips seem also to have changed colour; is there any alteration in these bulbs from age? Will the cutting blooms from the Hoya interfere with the blooming the next year, as the blooms seem to come out from the old blooming stalks. I find unsound potatoes, carrots, etc., catch more wireworms than the sound ones. I have been examining my gooseberry trees, and I find no good from planting beans among them. I have several with broad bean stalks growing in the middle of the bush, and yet the bush covered with the caterpillar.—*A. B. S., Torquay.* [Yours is not the only case of failure with tulips this season, though we have, as yet, heard but few complaints. Amongst our lot were many that never grew at all, and we have lately taken them up sound and hard as when planted, and put them all in the reserve ground where they will remain to die or grow two years as they please, without being allowed to flower. The majority will probably be then fine bulbs, and will pay for the ground they occupy. When at the Royal Botanic Gardens on the 30th of April last, the tulips were in full bloom and looking magnificent; but on inspecting the beds we found that great breadths had failed entirely, so that the designs were in some cases all on one side, like a soldier with one tail of his coat off, or a hirsute personage clean shaved on one side of the face (*vide* Barnum's Autobiography). We had a conversation with the experts there, and with them came to the conclusion that in the places where the bulbs had perished, there had probably been a lodgment of water during the winter, which had killed or damaged them. As to the ranunculuses we have heard strange tales of varieties believed to be permanent changing their hues, but we never saw the thing take place in such a way that it could be determined with certainty that there had been no mixing beforehand but a positive change in the colours of the flowers. Show tulips sport very freely, and growers take great interest in noting the various shades of difference in examples of the same variety in the same bed; dahlias again pass through many changes, and sometimes are rarely "caught" in proper form and colouring. Pansies are sometimes very much changed during hot weather, so that a white or yellow ground will become a self, and when genial weather again returns the flowers will be perfect. We could write a mile of printed matter

on this subject, for the query reminds us of many interesting experiences; still we cannot say whether your ranunculuses were mixed by the vendor, or whether they have actually changed. Moderate cutting from Hoya will not interfere with the bloom next year. Thanks for the note on traps for wireworms; it elevates a bad potato to the rank of a valuable auxiliary. We always thought the bean theory bosh. Excuse the term, it is not elegant, but to the purpose. We have the same opinion of furze blossoms, which are now in favour to scare caterpillars from gooseberry trees; that will also prove to be bosh. Lay a cloth under your trees and give them a shaking, and you will catch the marauders wholesale. It is a sad thing, and we have long been wanting to make experiments on the best modes of dealing with gooseberry caterpillar, but our trees will not become infected. Oh that some enemy would fill our trees with the vermin that we might profit thereby!

Wild Double Jonquil Narciss.—In the valley of the Teign the Narcissus pseudo-narcissus is found growing wild in great abundance, and in the same localities in which that occurs the enclosed flower is found growing sparingly; its general habit being much more slender and delicate than the daffodil. Is it a sport from the daffodil, and if not, what is its name?—*N. S.* [This is the Double Jonquil Narciss (not the Double Narciss), which is not a native, but being quite hardy would no doubt prosper in almost any locality, if once established by means of bulbs removed from a garden.]

Summer Pinching of Pear and other Fruit Trees.—I am beginning to cultivate fruit trees, but after reading a great deal about them I am in doubt about summer pinching. Mr. Rivers, at page 5 of the eleventh edition of "The Miniature Fruit Garden," says, speaking of young pyramidal pear trees, "The side-shoots which were topped last August will each put forth three, four, or more shoots. In June, as soon as these have made four leaves, they must be pinched off to three leaves, and if these spurs put forth shoots, which they often do, every shoot must be pinched down to one leaf, all but the leading shoot of each side branch." On arriving at page 8 of the same work, I meet with the following, which appears rather contradictory—namely, "If these pinched shoots," meaning those that have been previously pinched to three leaves, "again push, suffer them to make three leaves, and then pinch them to two leaves." Now I want you to have the goodness to enlighten me upon this point—namely, If (after I have pinched to three leaves) either or all of the three buds belonging to these three leaves put forth a shoot, am I to pinch that shoot to one leaf or to two leaves? In the Floral World and in your Profitable Gardening, you recommend first pinching to three leaves, and then pinching the secondary shoots to three leaves again! Please inform me (through the Floral World) does Mr. Rivers mean that the secondary shoots are to be pinched to one leaf, or does he mean that they are to be pinched to two leaves? Please tell me also your reasons for directing that the secondary shoots be pinched to three leaves.—*A. C.* [This little difficulty may be cleared up in a word. It really does not matter whether the primary or secondary shoots be pinched to two, three, or four leaves each. The first neces ity is pinching; the question then arises, to what extent is the pinching to be carried? With a writer like Mr. Rivers, whose books are read by thousands who have all the needful experience to acquire, there must be a rule given, on which they can rely with safety; and all things considered, Mr. Rivers says pinch first to three leaves, and next to one or two leaves. In "Profitable Gardening" we have said pinch to three leaves; we might have said two or four with almost the same propriety. But suppose we had merely said "pinch close back," then hundreds of people would have cut out the short twigs altogether, and ruined their trees; others would have cut them to within half, a quarter, or even an eighth of an inch of their base, which would be almost as bad as tearing them away. In practice, very few expert growers of bush fruits count the leaves on every shoot they pinch, rather they pinch in such an off-hand way that some shoots have two, others three, and some four or even five leaves, and yet the result is much the same; the pinching checks the flow of the sap, checks the extension of the roots, and induces the tree to make flower buds instead of timber.]

Cordon-Trained Peach.—Have you read a little book by Bréhaut, on the cordon training of fruit trees? If you have, please tell me if his method of training and pruning the peach tree (as the diagonal cordon on the triple system) will succeed on walls in the open air in England. Please also tell me if the first leader (or any one of the three leaders)

will really in such a situation (or even in a peach-house) reach to the top of a twelve feet wall in the space of two years, trained diagonally at 45°. Why, they would have to grow at the rate of seven feet a year! also furnish laterals too without shortening; for you will notice that he says nothing about shortening. What is your opinion?—*A. C.* [It cannot be done at that rate in England. But the system is sound; and as to the shortening, that very often means removing the best wood of the tree.]

The Tomato.—On reading Mr. Cuthill's note at page 217 of "Profitable Gardening," I find that he says that the plants of the tomato are topped and planted out in May. I want to grow tomatoes with only two shoots trained one foot apart up a wall, and to have them covered with fruit from bottom to top. First of all, how am I to get the two shoots? Must I pinch the plant back in May to the first two buds from the bottom? [Yes.] Then to get fruit from bottom to top, must I pinch each shoot again at every second leaf, so as to let the bud at one leaf go off to fruit, and the bud that comes out of the other leaf go upwards to continue the stem, and afterwards to be pinched back at every second leaf as before, and so on until the height of three feet has been attained. I have never yet grown the tomato; and I shall feel greatly obliged if you will give me the explanation which I require.—*A. C., Monmouth.* [Mr. Cuthill explains the case himself at page 218 of "Profitable Gardening," by saying, "I have always stopped my cucumbers in the trellis in the pits at every joint, but never thought of doing it with the tomato." But *A. C.* has hit upon the theory completely. Having pinched out the leader, the two side buds will push, and in one time will be nailed or tied in. From the side buds of these shoots bunches of flower buds will appear, and the points of the shoots are to be nipped out so as to leave only one good leaf to carry the sap to the flower buds. From the base of the leaf there will instantly appear a shoot, let it push till it also shows flower buds, and then pinch out the point. Sometimes two shoots will push from a bud; in this case one must be removed, so as to keep the plant to its two shoots, and those under a system of pinching. Tomatoes grown in pots in the way we once recommended in the Floral World do not need this constant pinching, as their vigour of growth is reduced by the confinement of their roots. Nevertheless, if they are well fed, potted tomatoes may also be pinched, and will bear immensely.]

A Hint to Beginners.—Last August you gave directions in the Floral World on propagating for next season in boxes placed in a greenhouse. At present I have no such house, but I had a slight hot-bed made up early in March for half-hardy annuals, etc.; the heat is gone now. So a fortnight ago I put a lot of geranium cuttings in 60-pots under a bell-glass on the spent hot-bed, covered with a small two-light frame instead of a greenhouse. They are all rooted now, and potted off singly. A second batch of Calceolarias, Cloth of Gold geranium, and fuchsia put under a bell-glass in the same frame last week are looking quite fresh, and better than any I had in my Waltonian for a week during February or March last. They appear as if they would be quite ready to pot off next Monday. Finding this method so successful, I last week put my Waltonian case in an out-building, with a window to the south The case is close to the window, the high or back part inside. [You had better turn it round, with the high or back part to the window. It is so made to shade the cuttings and facilitate the management.] There are three folds of old flannel between the zinc tray and bottom of case to stop cold draughts. I have put a batch of cuttings in pots in the case; these are only covered by the top glasses being kept close down, and there is also a second batch in the case covered with a bell-glass besides the top glasses. All at present look well. So far they have had very little shading, and not a drop of water. Perhaps some of your readers may be like me, have no greenhouse; if so, the above-named plan may be useful. By this time next year I hope to have a house to strike cuttings in; to find a stove suitable is my greatest difficulty. —*Polly.* [If people would do as we advise them, there would be very little spring propagating necessary.]

Currants.—On going through Covent Garden Market, last summer, I was much struck with some very large currants—black, red, and white. They were exposed for sale in small round baskets in the central avenue, and the price, I think, was one shilling per basket. They were intended for dessert. It would be a very great gratification to me to be able to produce currants as large as those, and I do not see why I

should not be able to accomplish it if you will give me a little assistance. Pray let me into the secret of the mode of culture that I must pursue to obtain black currants, red currants, and white currants, as large as those which I have mentioned. On second thoughts, it may possibly be peculiar sorts that grow so large without any special culture. Please name the sorts.—*A Subscriber from the Beginning.* [There are two grand points in the production of those magnificent bunches of currants which make visitors to Covent Garden dissatisfied with what they have at home. In the first place, the varieties are peculiar, and it is their nature to produce large bunches of large berries; in the second place, the growers spare no pains to bring them to perfection, and secure all the high qualities characteristic of the varieties grown. To grow these currants, make the plantation in an open sunny position, on a stiff well-manured loam; plant the trees five feet apart every way, and annually in autumn trench in a dressing of half rotten dung between the rows, and in such a way as not to damage the roots of the trees. While the trees are small, kitchen crops may be grown in the mid spaces; there cannot, in fact, be a better place for cauliflowers and lettuces. At the autumn pruning all the young shoots are cut in to two inches, so that the plantation looks unsightly until the trees begin to grow again. With respect to the sorts, here is a selection of varieties which any respectable nurseryman can supply in the autumn; but if you can get cuttings in July, and strike them on a shady border, under hand-glasses, you may secure trees that will have the vigour of seedlings, though they will not, of course, fruit till the third year. *White:* Blanche Transparent, amber-coloured berries, berries and bunches very large; White Dutch, the next best white. *Red:* Cherry, the largest of all, short bunches; La Fertile, the second best red for size, and the very best for fruitfulness; Knight's Large Red, the third best; the berries very large, but not richly flavoured. *Black:* Naples, very large; Ogdens, the second best black, and the hardiest. As you take an interest in fruits, you should consult the descriptions in the second edition of the "Garden Oracle" for 1864.

Various. — *Amateur.* — If you had sent your address, you might long ago have had advice, but it is, perhaps, too late now to commence a correspondence. What do you think of Christine geranium for centre, Purple King verbena in the four corners, edging variegated Alyssum? Two of the circles, Lord Palmerston geranium, edged with Golden Fleece, two with Stella, edged with Cloth of Gold. These suggestions are made in ignorance of the position of the beds and their surroundings, so decide for yourself on the spot, or send a plan to Stoke Newington.—*H. G., Kircudbright.*—The leaves of the pear trees are affected with fungus, which will probably disappear after heavy rains have fallen. It would be well to syringe the trees and dust them with sulphur, or give them a good splashing with a solution of Gishurst compound. The apple trees are wrong at the root. You do not say what age they are, or in what soil they are growing. You can do little for them now, but it would be some help to remove some of the surface soil, and replace it with a mixture of half fresh loam and rotten dung, well chopped over; then lay the mixture down, and tread it firm. In autumn they must be lifted or root-pruned. If the subsoil of your garden is of an ungenial nature, you had best take a hint from "Profitable Gardening," and grow all the varieties liable to canker in the bush form, which admits of biennial lifting, which is not possible with standard trees.—*Lavender Hill.*—Your ivy will not be injured by running over the wall and hanging down on the other side. The pæonies must be lifted in autumn, and replanted in an open sunny position in good strong loam; the soil is too light for them. If you cannot get good loam, mix together equal parts of clay thoroughly pulverized and rotten dung, and allow half a barrow-load to each plant. It would do you good to see how pæonies flower in our borders at Stoke Newington without any care at all, in a stiff, deep, strong, damp loam.—*Polly.* —Hartley's rough plate glass answers admirably for houses in which a strong light is not needed all winter; but for a house to be used "for general purposes," we prefer twenty-one ounce crown glass, because of the better light all the winter which many subjects in a mixed collection require. If you must have a stove in the house, by all means have Musgrave's slow combustion. The one we have had some years in the "lean-to" (see Floral World, 1863, p. 118) answers so admirably that we intend some day to say another word about it.

THE

# FLORAL WORLD

AND

# GARDEN GUIDE.

JULY, 1864.

## CULTURE OF THE POMEGRANATE.

POMEGRANATE is probably a compound word signifying "grained or kerneled apple." At first thought on the subject any one accustomed to etymological analysis would consider such a derivation satisfactory, but in Bailey, and other authorities who follow him, there is a suggestion of another, in these terms—"q.d. *Pomum granatum* L., or *Granatense*, a kerneled apple, or of Grenada in Spain." But there are not wanting authorities who affirm that instead of the fruit being named from the place, the place has been named from the fruit, Grenada being so-called from being the province in which the grained fruit was first cultivated when it was introduced to Europe from Africa. The capital of the province has a split pomegranate for its arms, which is seen on the gate-posts of the public walks. Grenada is undoubtedly a grand place for the pomegranate; and still further east and south the various species of pomegranates are found abundantly. The best brief history of the pomegranate is to be found in Phillips's "Pomarium Britannicum," from which the facts narrated in Paxton's Magazine, and indeed, in most recent papers on the subject, are derived. The numerous notices of the pomegranate in Scripture prove it to have been held in high repute in ancient times in Syria and Palestine. It was selected as one of the principal sacred symbols, and the Jews still use it in the decoration of their synagogues. The Greeks esteemed the fruit so highly that it was classed among the principal productions of the Elysian fields, and there is a pretty story of Ceres beseeching Jupiter to restore her daughter, Proserpine, in which the pomegranate figures in

a way to show that it was considered fit refreshment for the gods. The tree was introduced to Rome from Carthage in the days of the murderous Sylla. Pliny, in the 21st chapter of his 13th book, gives a description of the tree and its fruit. He enumerates nine varieties (book 23, chap. 6), and says the bark of the sour kind was used by tanners and curriers, and the flowers of other kinds for dyers to dye cloth.

The pomegranate was first cultivated in England in the year 1548, during the reign of Henry VIII.; and Phillips says, "I find it mentioned among the trees that fruited in the orange-house of the unfortunate Charles I." Gerarde raised plants from seed in 1597. Lord Bacon recommended wine made from pomegranates for diseases of the liver; and if wine could not be had, the freshly expressed juice might take its place. The fruit, when in perfection, consists of succulent pulp, pleasantly acid and sweetish, and is used for the same purposes as the orange; but it is said to be far more beneficial in cases of fever and other diseases for which usually oranges are prescribed. The rind of the fruit and the flowers contain a large proportion of a wholesome astringent principle, and are the parts principally used for medicinal purposes. The high reputation of the pomegranate has caused a demand for it wherever it can be cultivated; and nowhere out of its native country has it been so successfully grown as in the West Indies, where the fruit is of the finest quality, and is produced in great abundance. The dwarf red kind is grown in the West India Islands as a hedge plant, and makes a splendid appearance when in flower; it is indeed so beautiful that it ranks high among the ornamental stove plants grown in this country.

Botanical Notes.—Though bearing a name which allies it with the apple and the rest of the rosaceous fruits, the pomegranate is a member of the great and interesting family of the myrtle-blooms, *Myrtaceæ*. The third suborder of that family is called *Myrteæ*, and is appropriated to the true myrtles; and it is in this suborder we find *myrtus*, the myrtle, *Eugenia*, *Iambosa*, *Psidium*, or guava, extensively grown in the West Indies for its delicious fruit; and to pass by from twenty to thirty other genera, *Punica* the pomegranate, which agrees with all the Myrtaceæ in having simple opposite leaves, hermaphrodite regular flowers, calyx adherent to the ovary, corolla with petals equal in number to the lobes of the calyx, and the fruit many-seeded.

Cultivation out of Doors.—The common pomegranate, *Punica granatum*, grows in various parts of the South of Europe in the greatest perfection; a warm climate appearing to be of much more importance to it than any peculiarity of soil. It can only be grown in this country by methods which more or less compensate the plant for the disadvantage under which it is placed in respect of climate. In the South of England, and as far north as the latitude of Northampton, a wall with a south aspect usually suffices both for its preservation during winter, and free flowering in summer. Further north there is considerable risk attending its cultivation out of doors; specimens of good size are indeed to be met with in all parts of Britain, but the further north the greater risk of the destruction of the plants on the occasion of an unusually severe winter. During the winter of 1860-61, many fine pomegranate trees in English gardens were completely destroyed, root and branch.

Another method is to grow them in large tubs or boxes, which are placed in sheltered positions, out of doors, from the end of May till August, and then removed to an orangery or other suitable structure for the remainder of the year. In any case, the more hot sun they have the better. Under the most favourable circumstances the fruit never comes to perfection out of doors in this country. It is a misfortune that the pomegranate is deciduous, which renders it less worthy of being grown in tubs, as when placed under cover for the winter, it is destitute of all beauty and interest.

Many amateurs who have pomegranate trees on their walls fail in securing an annual supply of their beautiful flowers. It is desirable, therefore, to state briefly how the tree should be planted and managed so as to give it the best chance of making repayment for the care bestowed upon it. The position selected should be the hottest wall in the place, and with shelter from the east to counteract the effects of those late spring frosts which do so much damage, not only among rather tender but among quite hardy subjects in our gardens. Whatever the soil or condition of the border under the wall, a station should always be prepared expressly for the pomegranate. If planted with every needful care, and in the best possible soil, the probability is that it will never succeed so well as when planted on a station prepared expressly for it. The first thing then to be done is to take out the soil eighteen inches deep, allowing a superficial breadth of at least four feet right and left for each plant, and three feet forward from the wall. Tread the soil firmly at the bottom of the excavation, and lay down six inches of flints, bricks, or other hard refuse material, and pour a batter of Portland or Roman cement (or common mortar, in which case the excavation must be kept open for a fortnight), to form the whole into a hard pavement sloping towards the general fall of the ground, so as to carry away surplus water. Fill up the trench with a mixture of strong turfy loam and rotten dung, the latter in a proportion of one-fourth of the whole. If the soil of the place is a good loam, or even clay, the addition of rotten manure, and if needful of sharp grit, and getting it well broken and pulverized, will answer every purpose: but if chalk or sand, the soil had better be removed altogether, and a good loamy compost take its place. On hot dry chalk or sand the pomegranate grows very fast at first, but appears soon to become prematurely aged, and strange to say rarely flowers at all. It grows well, lives long, and flowers finely on a rich shallow soil, in which it cannot make deep roots, and where it has the advantage of shelter and reflected heat; hence the mode of preparing the border as above directed. Supposing the tree planted and growing freely, the business of the cultivator will be to train and prune with proper care so as to secure a fair distribution of flowering wood. The flowers are produced on the little twigs formed the same year, therefore it is desirable to encourage the growth of strong buds at as nearly regular distances from each other as possible all over the tree, and suppress such as would tend to fill the tree with weak spray. In April the principal pruning should take place, when all the weak branches of the former year should be removed, and the strong branches be moderately shortened; by this method the whole of the growth will have full exposure to the sunshine,

and there will be a plentiful and uniform production of flowering wood. Beyond these directions it does not seem needful to go, except to say that during very severe winter weather the protection of a mat will do something towards the preservation of a tree which is not constituted to bear the severe trial of an exceedingly low temperature. Where the pomegranates grow well, but refuse to flower, it will usually be found that their roots have penetrated very deep, and so have got away from the action of the summer sun on the soil. In hot climates it matters not how deep they root—the deeper the better—but as we have to economize atmospheric warmth by planting against walls, so we must economize earth-heat by planting on platforms, for in good summers the natural soil is a hot-bed from the end of June to the end of August, in the first twelve inches of depth. In any case, therefore, of pomegranates failing, the best general advice that can be given is, take up the trees, remake the border, and plant again.

Cultivation under Glass.—When the trees are of a fruiting size and age they should be potted into tubs or boxes of the same kind as those used for the growth of orange trees (see Floral World, vol. ii. p. 255), and the soil should be rather tenacious, turfy loam with one-third part rotten dung, and plenty of well-packed drainage material at the bottom. The stuff should be rammed in hard at the time of potting; the best season for which is when the leaves are falling, in autumn, and every year afterwards some of the old soil should be removed, and its place supplied with a rich compost consisting of equal parts turfy loam and rotten dung. The temperature of the greenhouse or conservatory will suit the plants well until the fruit is set, which should be about the first week in August, and they should then go to a vinery, where late crops of muscats are ripening, or to the dry-stove, to swell up and ripen the fruit. In all stages of growth, except when out of leaf, the trees must have plenty of water; and while the fruit is swelling in a high temperature, strong manure water should be given every two or three days. When the leaves are down, let them rest completely, keeping them rather dry, and only as much sheltered as will prevent serious injury by frost. A few degrees of frost will never harm them. When planted out under glass, a flued wall is the best place for them. Occasional crops of ripe fruit of middling quality have been obtained by growing them on garden walls, cased with glass; but when so much expense is incurred, it is better to give them the aid of a house and flue, as there is an end then of all risk in the matter.

Propagation.—The simplest and most certain way to propagate is by laying down a branch of the previous year's growth in May, and fixing it with a strong peg on a little prepared soil, consisting of any light mulchy material, such as manure rotted to powder, moss, peat, or cocoa-nut fibre waste. There is no need of any tongue or incision; the wood is sure to make roots, and the shoot so rooted may be removed the next March, and be set growing at once in a warm house. They are to be removed by a clean cut with a sharp knife, and be at once potted in a mixture of equal parts loam, leaf-mould, and dung rotted to powder. Shift on as required by the increase of their roots, and encourage growth in a greenhouse temperature for two seasons, after which they may be

planted out. In very favourable localities newly-rooted layers may be planted out at once under a warm wall; but two year's greenhouse culture is far preferable, and a saving of time in the end. They may also be increased by means of well-ripened cuttings, taken off in autumn, and potted in equal parts loam and peat. These are to be kept in a pit or greenhouse, and never to be very wet or very dry all winter. In February, plunge them in a bark-bed, or place them in a bed of cocoanut fibre, over a tank, and they will soon form roots, and begin growing at top. When strong enough, cool them down, pot separately, and put them in the greenhouse. With much coaxing and great care as to shading and sprinkling, and avoiding excess of moisture, cuttings of the young blind shoots may be struck under bell-glasses in July without the aid of bottom-heat; but the method is uncertain, which is not the case with those just described. Lastly, cuttings of the roots put in in autumn, and plunged in heat in February, will make good plants. Moderate-sized specimens of the double-flowering kinds are best obtained by grafting on single varieties. For all ordinary ornamental purposes grafted plants are certainly the best.

Species and Varieties.—*Punica granatum*, the common pomegranate, is a tree of vigorous habit, attaining, when favourably situated, to a height of eighteen to twenty-five feet, and producing red flowers and fruit in abundance. There are of this species many varieties, the following being the most useful and in greatest request:—*Albescens*, white flowers (really white and rose), tree less robust than the species; *albescens flore pleno*, double blush; *flavum*, yellow flowers, not very desirable except in a large collection; *rubrum flore pleno*, double red-flowering. None of the varieties grow so vigorously as the species. *P. granatum nana* is very pretty, and is usually grown in the stove; it may, however, be grown in the greenhouse, if proper care is taken to have the wood thoroughly well ripened in autumn.

## FERN-CASES.

There can be no mystery as to the constantly increasing demand for fern-cases, and the spread everywhere of the taste for fern-collecting and fern-cultivating. Among the many fanciful pursuits to which I have devoted myself, I know of none to compare with fern-growing for a maximum of pleasures and advantages, and a minimum of pains and penalties. To manage fern-cases requires constant watchfulness and some amount of skill, unless they happen to be filled with plants of no particular value and interest; and for the very reason that they will not take care of themselves, they are to be recommended as antidotes to *ennui*, and talismans whereby to crowd our wakeful hours with ever-new delights. A period of nineteen months has elapsed since I had a word with you on this subject (see Floral World, vol. v., p. 263), and in the interim new experiences have been gained, and I seem almost to have a new story to tell, and in fact the whole affair seems so new and

fresh that I could believe I had never yet written a line on the subject, though I suppose I have actually written more than any one else—whether good, bad, or indifferent, let others decide. In what I have to say now, I shall speak on my own account, and as if I had no one in the world to share the anxieties and delights of fern-growing with me. I am compelled to this course by the diffidence of my chief friend in the fern department, who, being of a retiring disposition, and above all things dreading to be mentioned publicly (*a la* "not used to public speaking") as a person of talent in this line, insists that I shall keep her name and fame a profound secret, and take to myself, as of my own obtaining, whatever results she may attain to in this most refined and most delightful of all known hobbies. My wi—I should say, my friend, companion, sometimes adviser, and occasional monitor and corrector in fern-culture, outstrips me in patience and every other needful quality in this pursuit, and ferns increase and multiply so fast that it has become a permanent grievance in the household what is to be done with them and where they are to go. My little corner greenhouse has been given up to them, and in place of shelves and collections of fuchsias—for that was *par excellence* my fuchsia-house—there is now a bank of ferns in it, and all I have to do with it is to prepare a basket of compost, and otherwise look on and admire from a reasonable distance, just as people would peep at the Queen's coronet and jewels through a keyhole if they had the chance. I don't know at all what it is all to end in; I can see plainly the ferns are to my flowers what the seed of Jacob were to the Egyptians—they threaten to overrun the land; and I can see them creeping along the line of the privet fence to take possession of the houses at the lower end of the garden, but where, if they ever instal themselves, they will not live long, for such roasting furnaces as those houses are it would be hard to find elsewhere in the county of Middlesex.

Well, to come to facts, I must tell you first, that many of the very choicest stove ferns have been kept here through a very severe winter with no help at all from hot water or any other source of heat, and are now growing superbly. Most of those same ferns have had the help of hot water in the boiler of the case during the previous winters, and it was to test the possibility of keeping them without it, and hence of saving the trouble it occasions to supply the case once or twice daily, that in the winter of 1863 there was no artificial heat used at all. The experiences of the past winter were obtained with two large cases of Miss Maling's pattern.* One of them measures four feet in length by two feet in breadth and height, and is fitted as represented in the sketch which accompanies this. The other is of less dimensions, and is fitted in the ordinary way, the surface being varied with bits of rock and miniature mounds, so as to display to the best advantage the various characters of the ferns. What is of more importance is this, that the small case is filled with cocoa-nut-fibre waste alone, with a substratum of crocks; the large case is filled with fibry peat torn to shreds, with special preparation in some instances for particular plants. The behaviour of the ferns is very different in one case to what it is in the

* These cases are now made by Mr. Gray, Horticultural Builder, 36, Danvers Street, Chelsea, London, S.W.

other. In both their growth is more than satisfactory, yet there is a decided difference. This is a very interesting fact, discoverable only by keeping two or more distinct collections in the two distinct kinds of soil for some time, and noting the difference, if any. In the cocoa-nut the growth is surprisingly luxuriant and rapid. As an example, a plant of *Adiantum cuneatum*, turned out of a four-inch pot this time last year, and put in the case containing cocoa-nut, extended itself before winter so as to cover a breadth of fifteen inches each way; it became, in fact, too large for its domicile, and several small-growing ferns had to be removed to save their lives, for the adiantum threatened to suffocate them. This present spring the adiantum threw up its new fronds with such vigour as almost to lift up the top glass, and the next thing needful was to take it out, reconstruct the rockery, and plant again so as to allow more head room. A very small plant of *Pteris cretica albo lineata*, put in late in the summer of 1862, threw up its fertile fronds so vigorously last year that it became needful to peg them down, and this present spring it has been transferred to the centre of a very large case, principally to give it head room, which it must have when it attains to its full characteristic growth. So much for the bright side of cocoa-nut; or shall I add that it holds moisture tenaciously, never exhibits the slightest trace of any kind of mildew, and has a most pleasing appearance in the fern-case, its nice brown tint showing up the green of the ferns delightfully. On the other side it must be said against the cocoa-nut that the ferns grown in it are somewhat like those plants in our Lord's parable of "the Sower," which sprang up from seeds sown on the rock and among the thorns, and which, therefore, had no power of durance. I will illustrate this by an experiment. I will remove the top glass from each case, and in an hour's time see what effect a little fresh air has upon the ferns. The hour has elapsed: those in the cocoa-nut dust are, in some instances, half dead and their fronds have fallen like so many rags, and others look slightly flagging, and will evidently be the better for a dewing and immediate shutting up. In the other case, the plants that are rooted in fibry peat and loamy mixtures are scarcely any the worse for the breath of air that has blown upon them, there is not one in a collapsed condition, and all are evidently of more robust constitution than those that have suffered so severely. But to make the balance as nearly as possible equal, the peaty soil does not produce so luxuriant and rapid a growth. The ferns come to perfection in it, but at a slower pace, and, in case of any accident, as of a square of glass being broken, or of neglect in watering, the ferns in the peat will suffer less than those in the cocoa-nut dust. It follows, I think, from this that the cocoa-nut dust is invaluable for the growth of seedling ferns and to help on young plants till they are of a size to be transferred to a more substantial soil, but that, when a case is planted in such a way that there is no reasonable prospect of it undergoing any alteration for a year or two, a peaty mixture will be preferable to cocoa-nut in every case, if it can be obtained. Having used the cocoa-nut fibre in ways almost innumerable, I can recommend to fern-growers a mixture of one part good yellow loam with two parts cocoa-nut fibre, the whole thoroughly mixed and almost powdered together. In this mixture any

and every fern will grow luxuriantly, and yet with sufficient substance to endure a few vicissitudes without harm.

I must here tell you of an experiment now in hand, and the result of which is as certain as that the sun will rise in the east to-morrow. I have been so in the habit of potting everything "firm," as I say, when writing on the subject, that I have unconsciously got into a way of potting ferns "firm" also, to their injury and to my own bewilderment, so that for three or four years past I have been wondering why my potted ferns have not grown so well as they used to do. At last it struck me that the finest British ferns are generally found growing in loose, friable, fibry material, retentive of moisture, and more or less resembling felt in mechanical texture. So I potted a lot, one half of them "firm," the other half just pressed in sufficiently to make the stuff hold together, and intermediate in character between a sponge and a pavement, and the loose rooted plants have outstripped the others in luxuriance of growth, and as all are in the open-air the trial is as fair as can be. Depend upon it, the loose spongy elastic nature of the cocoa-nut fibre is one reason why the ferns make such a sudden and luxurious start in it, and the extreme paucity of nourishment in it is probably the reason that though they grow to a great size they have, comparatively speaking, such limited powers of endurance.

The case here represented was planted in the spring of 1863, with two objects in view—first, to create as picturesque an effect as possible, and secondly, to prove the fitness of certain ferns for a certain routine of treatment. It fell to my lot, as one skilful in such things, to construct the mimic archway, and fill it with "pockets" for the reception of small ferns. For that purpose I took two square seed pans, and placed them bottom upwards on the zinc bottom of the case as the abutments, which, of course, when the case was filled with soil, were hidden from view. From the flat foundations of burnt clay, thus provided, I began to build, using small pieces of coke dipped in a batter of Portland, and spending a few hours every day for four days in succession upon the work ere it was completed. In the pockets were inserted specimens of *Cystopteris regia*, *Camptosorus rhizophyllus*, *Asplenium flabellifolium*, *Scolopendrium vulgare var. ramosum*, *polyschides*, and *ramo-marginatum*, *Adiantum hispidulum*, and a few Selaginellas; the latter soon grew so as to smother the whole fabric, forming a rich belt of various tints of blue and green, with the ferns pushing through them. On the right hand side of the arch was planted *Nephrodium exaltata*, one of the most superb of Wardian case ferns, and remarkably distinct with its graceful arching polypodium-like fronds. On the left hand *Nephrodium pectinata*, which is of the same habit of growth, and a very beautiful and interesting fern; nevertheless less beautiful than the other, as it is also less vigorous. A small plant of *Platycerium grande* was then planted in the shell of a cocoa-nut, and suspended by copper wire to the crown of the arch, and this spring its new growth was so vigorous that it had to be removed, and is now flourishing in the greenhouse. Two more notable ferns were introduced, namely—*Pteris flabellata var. crispa*, a very erect and characteristic fern of large growth, quite cheap and common, and one of the best for glass cases of at least two feet in height within. The other was our fine old hardy

friend *Cyrtomium falcatum*, which is worth a place anywhere among ferns, and fortunately it will grow anywhere and is always noble. As for the rest they consisted of various small and comparatively choice subjects, which I shall name as they occur to me—*Pteris scaberula*, very

MISS MALING'S PLANT-CASE, FITTED WITH ROCKERY FOR FERNS.

beautiful in the lace-like divisions and light green hue of its fronds, but has a habit of running about by means of its extending rhizomes, just as if the case belonged to it, and not to you. It is really a gem, and always grows well in peat, cocoa-nut, or any soil of a light

spongy texture. *Doodia lunulata* and *caudata* are of small growth, and serve well with *Lomaria lanceolata* and *L. spicant*, to fill up with green tufts between ferns of very distinct and striking appearance. In the centre of the case, but on the side opposite to the view here given, and hence hidden by the Platycerium, a plant of *Phlebodium sporodocarpum* made a fine effect; it is one of the most distinct and beautiful, and easily managed, of all Wardian case ferns, but it does not like cocoa-nut, and must always have a nice peaty mixture. *Polypodium phegopteris* and *rugulosum*, *Campyloneurum phyllitidis*, *Adiantum formosum*, *pedatum*, and *tenellum*, have all done well in this case, but, strange to say, several nice varieties of *Scolopendrium vulgare* got covered with thrip, and had to be removed, though *a priori*, the damp, shade, and coolness of the case seemed exactly the proper conditions for them.

I had almost forgotten to tell you of one very important point in determining the success of these cases. It is that they should be constructed so as to move about easily, which allows of occasionally turning them quite round and giving those previously farthest from the light a larger share of it for a season. I know not how Mr. Gray makes the cases in respect to legs, for I have not to my certain knowledge ever seen one of his cases. Those made for me by the previous maker were very unsatisfactorily mounted, and I had them fitted by a skilful carpenter with a deep skirting frame all round, and stout legs with large brass castors. The consequence is that they move about at a touch, and my w——, I mean my lady companion in fern-growing—wheels them about with as much ease as Atlas and Hercules* used in classic times to play at marbles with the planets. It is no small matter to be compelled to let a case stand as a fixture when a small shift to vary the light upon it may make all the difference between the life and death of some precious pet, or have the alternative of bringing the whole affair to the ground with a crash. You can only obtain these cases of Gray, that is to say, on Miss Maling's plan, and as one of the most respectable men in the trade, I have no doubt he sends them out respectably; but unless you know for certain what you are to have, order the body only, and let your own carpenter do all the rest, and if any difficulty come to me for a drawing of the frame on which to place it. If spared till next month, I hope to employ a few hours in preparing a full list of all the ferns I have grown in glass cases, and attach to the name of each a few particulars of its history, uses, habits, and requirements.

While writing this paper, a large parcel of ferns for some planting I am now engaged in has come from Mr. Sim, of Foots Cray. He has sent with them, at his own risk, "three superb varieties, well worthy of greenhouse care for a season in order to give them a lift in growth." These are *Polystichum angulare* v. *grandiceps*, the lower lobes rounded, and regularly and deeply toothed, the upper lobes dividing into toothed rosettes or crowns—a very distinct and fine fern; *Lastrea filix-mas* v. *grandiceps*, the pinnæ terminating in toothed crests, and the fronds crowned with curled, crowded, deeply-toothed clustering pinnæ (this will probably rival that superb variety cristata); *Athyrium filix-fœmina*

* Do not forget, to my disparagement, that Hercules did once bear the world upon his shoulders.

v. *grandiceps*, more like double parsley than any fern known, the fronds being of a delicate light green hue, and all terminating in wrinkled crests. These are three fine subjects, which will be in great demand as soon as they become known, and stock can be multiplied to place it at the disposal of all comers—no small task, when you have a barren subject to deal with, or when the spores run back to the normal form of the species.

SHIRLEY HIBBERD.

## THE PLUNGING SYSTEM.

### No. II.

IN choosing subjects for the plunging system, it is very important to bear in mind that a somewhat rigid, upright, or fastigiate habit is preferable to a racemose or spreading habit. So, in training plants for the purpose, upright pyramids and bushes are to be preferred to squat or tabular forms; and these upright bushes are much more easily formed than any other form; for if the proper subjects are chosen, all that is needful is to tie them tolerably close with suitable stakes, and then they can be packed close together in the bed. The last remark puts me in mind of a cautionary remark that is needful. After a certain time, the plants so packed together lose their lower leaves, and are, to a certain extent, the worse for the treatment, and it becomes necessary to remove them, and appropriate to the purpose another set. This, the weak point of the system, is, in fact, its strength, so to speak; for the practitioner is compelled to resort to frequent changes, and the result is a magnificent display at all seasons,—such a display, in fact, as is impossible under any other system. I shall now come to particulars.

A GRAND MIXTURE FOR THE SUMMER.—Last year I had in my jardinet a mixture of plants. It consisted of a monster *Prince of Wales fuchsia* in the centre. This was in a large pot, and its height was six feet. Round the centre plant stood five plants of *Souvenir de Chiswick fuchsia*, five feet high; then a circle of *Gauntlet pelargonium*, four feet high; then a circle of *Lilium lancifolium;* and, as these last were thin in leafage, as all liliums are, the next circle consisted of *Veratrum album*, which is one of the finest of plants for filling in, the leaves being of great size and of remarkable beauty, and when used as in this case, they serve to hide the pots and the stakes, and all the other objectionable details which it would be positively disastrous to allow to be seen. The remainder of the eight feet diameter was made up of bushy plants of *Meteor fuchsia*, and mixed with potted *Perilla nankinensis* and *Bijou geranium*, three or four or more plants of each kind together; and the outside circle or boundary was *Christine geranium*. When all was done, it was still possible to see the legs of the fuchsias and the pelargoniums by a careful inspection of the affair; so, having a good stock of the noble *Aspidistrum luridum variegatum* in pots (another of the useful plants for this work), they were introduced and lodged *on* the pots in the centre; and their huge leaves completely hid the pots and sticks and stems, and made a fine groundwork. It will surprise a beginner in this practice to discover what a vast number of plants is required for a bed or clump of very moderate dimensions; as they are packed so close that the pots touch, and the whole thing is done just as you would pack a basket to make an effect for an hour, or to form a centre-piece at a flower-show. There is but one rule needful to determine how many plants will be required for a given space, and that is, to calculate how many pots of the size to be used the space will accommodate, and that is the number of plants that will be needed. Suppose you

wish now to make a clump of this sort, and have no jardinet and no proper place prepared. All you need do is to mark out a circle (or any other form) on turf or gravel in a suitable position, form a wall all round of burrs or Rosher's edging tiles made to a curve of the right proportion for the design, and you have the foundation instanter. Rosher's tiles are to be had in fifty different patterns, and in curves of all degrees at any time, ready made, and they are the best in existence, for they are not only as hard as the best stone and stand all weathers, but they do not get coated with green confervæ like other substitutes for stone, and they are as cheap as any manufactured article of the same kind now before the public. A wooden boundary a foot high might serve every purpose, but it would want some sort of ornament to give it the appearance of a basket; such, for instance, as a couple of stout cables run all round, and the whole to be painted stone colour, or a warm oak-brown. Now to obtain the plants. At the nurseries quaint, old, and almost valueless plants, of *Gauntlet*, *Mrs. Kendall*, and other pelargoniums, which are forced for cut flowers and allowed to run up five or six feet high, may be had at very little more in cost than the ordinary run of bedding plants. I know that if a thunder-storm or a whirlwind should sweep away at one blow all my great plants, and put me for the moment *hors de combat*, I could go to half a dozen places close at hand and buy up for a mere song a lot of these lanky plants full of bloom and in fit condition to go on blooming for two or three months, and in stocking the beds again with such I should give them all a shift to the next size pots, using very rich compost, nearly all dung, taking care in turning them out not to hurt a fibre; I would not, in fact, remove the crocks but let them root into the fresh soil as they best might. This would set them right for the remainder of the season, and the next spring (if I kept them), I should shake them out and repot them, and give them a start on a dungbed in the house, and make them do duty again, and perhaps take care not to prune them at all. The taller they are for a grand mixture the better; you can always hide their legs with other things, and these old lanky plants bloom wonderfully. I have had to do exactly as I am advising; and I remember once going to a nursery close by and clearing out all the tall overgrown petunias and pelargoniums, and making a magnificent clump with plants that as nursery stock were literally valueless.

A Geranium Pyramid.—At the present time my jardinet is filled with potted geraniums, which form a close, regular pyramid six feet high, terminating in a sharp point, and as regular all round, all through, and from base to summit, as if turned out of a mould. I hope you will not think me boastful in thus speaking of it; I have indeed no reason to boast, because to produce a pyramid of that sort is as easy a matter as planting a bed with a lot of trashy Tom Thumbs purchased at three shillings a dozen at a nursery. It is an even mass of dark horse-shoe foliage and brilliant scarlet flowers, and it illustrates admirably the advantage of the system, for it has been a blaze of bloom since the first week in May, and will hold on to the end of the season if desired. But I shall probably make a change when the asters come into bloom, for I have grown a large stock this season of *Emperor* and *Pœony* asters, and these are all potted singly in five-inch pots, with only one small crock in each pot, and the compost equal parts rotted dung and good loam, so as to secure free growth and fine flowers with limited pot room. If all goes well I shall take out the geraniums and fill the bed close with asters, which will be an agreeable change, and that change will enable me to get the wood of the geraniums well ripened; whereas, if they remain in the bed till the damp autumn weather sets in, being under large trees and very much shaded, they will have a soft pale wood and perhaps winter badly. The asters are supposed to last till the chrysanthemums take their place, but they are sure to be over before any of the chrysanthemums are out, and there

will, therefore, probably be another change, and that a mixture.

The geraniums now in the bed are for the most part five, six, and seven years old. They have been used for training out on a wall until this season, and have every year been potted for the winter, moderately pruned back to shorten the soft shoots, and then tied up to stout stakes to make them occupy as little room as possible, and their place every winter has been against the back wall of the lean-to, where they stand on the floor of the path on empty pots turned upside down. The stock of large training plants had so far increased this spring that I selected the best and potted them carefully so as to last in the same pots for another five, six, or seven years—nay, for the rest of my lifetime for aught I know; for large geraniums can be treated as orchard-house trees, and be kept in the same pots any number of years if annually refreshed by removing a portion of the top soil, and replacing it with a rich mixture. The best of all geraniums for this practice is *Reidii*, which is peculiarly upright in habit, does not readily branch out, and may be grown to any height, even up to twenty feet, in long rods, which put out spurs their whole length, and make a fine display of horseshoe foliage and bright scarlet white-eyed flowers. Since *Hibberd's Pet* has proved a strong grower, it would surpass Reidii, being more profuse in bloom and of much more distinct and striking character; but as I parted with the whole of my stock to Messrs. Carter last year, I must wait to make a fine pyramid of that variety, and go on with Reidii for the sake of the strong, hard, long rods with which my plants are furnished. The central plant in my group is a grand specimen, and positively too good to be so closely surrounded, but it serves its purpose, and the loss of lower furniture will be of no consequence; it will break again at any time if encouraged. It is in a fifteen-inch pot, and being somewhat too tall for the width of the bed to make a six feet pyramid, it is plunged rather deeply, and has beneath it a large seed-pan inverted to prevent entrance of worms, and also to keep the drainage safe. It is surrounded at equal distances by five plants in ten-inch pots, also placed on inverted seed-pans and filled in firm and close with cocoa-nut fibre. Then follow smaller plants all arranged as to height, and some of them propped up on empty pots to make them fit exactly in the general outline, the next row serving to hide the pots completely, so that the eye cannot detect a single shadow of the machinery. The outside row next the clean grey stone edge is all of *Attraction;* the principal mass being *Reidii*, with a few *Queens* to fill up for the sake of their size, happening to have a good stock of them; but Queen, though one of the grandest of strong-growing geraniums, is not one of the best for this purpose, being very diffuse in growth, throwing its strong arms out laterally and holding up its immense trusses of huge scarlet blossoms on long stalks, which generally grow obliquely; whereas for plunging, the more upright the growth and flower-stalks the better. Now let me tell you about the potting of these geraniums, and what I have to say will bear upon the whole case of growing scarlet geraniums in pots for any purpose. These large specimens will probably remain in the same pots for many years, but it is my system with all ordinary specimens of two to four feet high, to pot them every other year only, and by my method I get such plants and such a blaze of bloom as I never see elsewhere; nine-tenths of our amateur growers only make a muddle of geraniums, they do not grow them, and it is quite as easy to make them into trees as to have little bits of plants in five-inch pots. Now for the *modus operandi*. Compost, firm loam of rather stiff texture, two parts; thoroughly rotten dung, one part; sifted lime rubbish of about the size of peas, one part; chop it over well, and have it nearly dry for use. Put in the crocks carefully, over the centre hole one large thick rather convex crock. Against each of the holes in the side of the pot a picked crock of an angular shape: I wish I

could show you what I mean instead of thus vaguely describing it; but suppose a pot broken so that you have pieces consisting partly of the side, partly of the bottom of the pot, that I call an angular piece, and such pieces fit closely to the holes in the sides of large pots, and allow the water to escape freely. Next a layer of large convex crocks, hollow side downwards, and then a few handfuls of small, so as to make a fifth or even a fourth of the entire depth of the pot. Throw in a lot of the roughest and most lumpy of the compost, then more of it as it comes fine and rough together. Then turn out the plant, lay it down on the ground, and gently crumble away nearly all the soil from the roots. Let one person take all the long rods in both hands to prevent any snapping, while you attend to the roots, which you place in position and fill in and *ram hard* with a wooden rammer until the pot is filled to within an inch of the rim. Next drive in a few stout stakes, gather the branches together loosely, and tie so as to keep them safe, and house them as fast as they are potted, and for ten days after give them a sprinkle every morning with the syringe, and keep only moderately moist at the roots till the points of the shoots begin to have a fresh green look; then cease the syringing, give more water at the root and tie out, but rather close, with strong stakes of the proper length. My large plants were all showing bloom in the first week of April, when I turned them out and potted them into their present pots this season, and by the first week in May they were fit for plunging, and have from that time been smothered with bloom; they had no help from bottom-heat. They, in fact, had no heat, except that from the Musgrave's stove, to carry them through the winter; and, for the rest, had the aid of his majesty King Sol only in the lean-to; and in such a glorious spring as that of 1864, sun-heat is quite enough for any kind of geraniums. The smaller plants were all potted at the same time, and in the same compost; and such a lot of *Attraction, Christine, Helen Lindsay, Lord Palmerston, Imperial crimson,* and others, it would be hard to find. They are mostly in seven-inch pots, and to remain in those same pots at least two seasons, and the smaller ones then perhaps to be shaken out, but the larger specimens, I hope never, as long as I live. You must not suppose, by my mention of Lord Palmerston, Christine, and others, that they have any part in the plunging system this season. I have other uses for potted geraniums, and Lord Palmerston is not at all fit for the purpose, being of very bushy habit, and hence better for bedding and ordinary pot-culture than for plunging; in fact, the plunging system requires plants of close habit, the more rigid and columnar the better.

As I shall have more to say on this subject, I will conclude now with an enumeration of a few subjects adapted for use in this method of out-door decoration. *Ivies* of all kinds, the common British *Hedera helix*, and the common Irish *H. canariensis* are invaluable. *H. taurica, Regneriana, Canariensis arborea,* and *Helix marmorata* are also good; in fact, you cannot do wrong in obtaining all the kinds of ivies you can lay your hands on, to grow them on, and train them up for winter use. *Spirea Japonica* will be a fine subject to make a bed or circle of snow-white flowers in May. It may be parted *ad lib.* in autumn, and in five-inch pots makes good specimens. As it is rather tender, it must be kept under glass till quite in bloom, but it does not need heat even to keep it in winter, *Alyssum saxatile,* for its lovely yellow flowers in April, sow now in pans, and as soon as the plants are large enough to handle, plant them singly in five-inch pots in good mixture, with extra dose of sand or grit sifted from sweepings; encourage growth, and winter them out of doors, plunged to the rim in the reserve ground. These may remain in the same pots two seasons. I have some that have not had a shift for three years, and they flowered this spring as finely as ever. But I shall now shake them out and repot. Meantime, I have about a couple of hundred from a sowing last autumn now in five inch pots, which will be useful next spring.

Don't forget *Veratrum album* and *Aspidistra lurida*, already mentioned. They are grand subjects, and may be kept in a pit, as they are both hardy, but ought not to be exposed to all the rude assaults of winter. They are such beautiful plants that I wonder there is any garden without them. Chrysanthemums are superb subjects for an autumn display. My stock were all put into pots of ten, eight, seven, and five inches diameter a month ago; but if you have neglected your plants, pot at once, give them plenty of water, and all will be well, provided *you do not stop them*. No, do not stop them, whatever to the contrary you may read in the books. Choose those that are of stiff strong habits, never mind about incurved flower and florists' properties, colour and habit are everything for this sort of work. Among Large Flowering kinds the following are fine—*Lord Palmerston*, dark rose amaranth; *Prince Albert*, glowing crimson; *Talbot*, rose amaranth, tipped blush; *Aimee Ferière*, silver, white tipped rose; *Annie Salter*, gold yellow; *Cassandra*, white, with rose tips; *Chevalier Domage*, the finest of all the yellows for out-door use, a bold reflexed flower, stands the weather better than *Jardin des Plantes*, which is the best yellow under cover; *Christina*, rosy blush, stands the weather well; *Defiance*, a fine white; *Indostan*, a free flowering dark rose; *Madame Poggi*, chesnut crimson; *Mr. Murray*, first-rate out of doors, a compact reflexed violet rose; *Progne*, crimson carmine, fine if got on early in large pots, and grown strong, if not got on early does not bloom in time to be useful. Pompones: *Berroll* is a superb yellow, blooming very early, has stiff hard florets, and never suffers from weather; but as it is soon over there must be another set to take its place. It is one of my bower anchors for plunging, and I find that seven-inch pots produce specimens as large as is desirable for the purpose; *Alex. Pélé*, salmon bronze, fine, and always sure to bloom in time, a very pretty flower and fine in a mass; *Autumna*, always blooms early, colour russet buff, the flower has no quality, but for colour and a pleasing effect not to be surpassed; *Lilliputian* is like it, and sometimes more showy, at all events a good variety for the purpose, and sure to bloom before the frosts come; *Brilliant*, not to be depended on; last year it tricked me, but generally a fine showy variety, and especially valuable for its crimson colour; *Drin Drin*, still the best yellow for outdoor work; better for plunging than *General Canrobert*, which, however, may generally be relied upon, and is of better quality if you get it in time than Drin Drin; *Florence*, superb for colour, being rich dark cherry, and an abundant bloomer; *Mrs. Turner*, pure white, very hardy and safe; *Adonis*, rose, free and fine; *Cedo Nulli*, white with brown points; *Algeria*, blush white; *Mr. Astie*, a fine anemone yellow, and the hardiest of all pompones; *Mr. Shirley Hibberd*, rose lilac, gold centre, a very pretty anemone and very hardy, in fact, no ordinary frost in November hurts it. These I have proved to be the best after many years of culture of all known chrysanthemums, and I advise those who use chrysanthemums for plunging to begin with these, and then on their own account to try such other varieties as from their colours and habits seem likely to be useful.

S. H.

## EXHIBITIONS OF MAY AND JUNE.

Royal Botanic, May 30th.—The most attractive objects at this magnificent show were the orchids, pelargoniums, azaleas, roses, and fine foliaged plants.

*Azaleas.*—Of the azaleas it may be said that a severely artificial method of training had never before been so perfectly carried out, especially in the examples shown by Messrs. Veitch, Mr.

Turner, Messrs. Lane, Mr. Fraser, and the leading amateur exhibitors. The plants were generally so perfect as to condition, and of such magnitude that to look on a large group was like testing the near relationships of pleasure and pain; the glow of colour was so intense and unbroken, so little leafage to relieve it, and the outlines of the huge pyramids so formal that it may be said that art had attained to a perfect triumph over nature. Yet this perfection of contour and bloom is an evidence of consummate skill, and if skill is to be recognized and encouraged, we must bear with these excessive displays of colour, and turn them to account by new modes of grouping, so as to break up the masses by an intermingling with them of ferns, palms, and other plants, which afford grand breadths of green leafage. The principal exhibitors of azaleas besides the trading firms just mentioned, were Mr. Carson, Mr. Penney, Mr. Page, Mr. Melluish, Mr. Kaile, and Mr. Rhodes. Considering the varieties exhibited without respect to the style of culture and the values of the awards, the most remarkable was Purpurea conspicua, from Mr. Page. The colour of this is deep purplish-crimson, with intense crimson spots on the top petal, the flowers large and well-formed, distinct from all other azaleas. Criterion, Optima, Conqueror, Extrani, Gledstanesi, Prestantissima, Triumphans, Glory of Sunning-hill Murrayana, Broughtoni, Barclayana Variegata, Perryana, and Iveryana were to be seen in nearly all the collections, and are among the finest, safest, and most desirable of all azaleas known. Other fine varieties less generally cultivated were the following:—Empress Eugenie, rich rose, Gem, deepest Lateritia-red, Herbertii, a grand white, has a most accommodating habit for specimen growing, Standard of perfection, rich magenta-rose, Purpurea, rich pinky-puce, with deep crimson spots on the top petal; Illustris nova, a fine salmon, one of the best of this colour; Roi Leopold, salmon-red, rich crimson blotch, remarkably showy; Violacea superba, rich lake, peculiar and attractive for colour, but the flowers rough as compared with some of the best; Alba meliora, a grand white, the large flowers having a delicate gauzy character; Prince Albert, a strong red, like Roi Leopold; Lateritia formosa, soft rose-pink, a very useful shade of colour; Jennerii, fine form, colour rich lake.

*New Azaleas.*—Mr. Fraser sent a few new azaleas, many of which have been many times exhibited. Amongst them the most noticeable were *Duc de Brabant*, rosy-salmon, carmine spots, finely formed, large; *Lorelly*, white, with rose stripes, a superb flower, much like *Hermine*, which appears to be scarcely so good. *Roi des Doubles*, *Deudonne Spae*, *Madame Ambroise Verschaffelt*, *Rubens*, *Perfecta elegans*, *President Clayes*, *Duc de Nassau*, *Variegata superba*, and *Flower of the Day*, the last is one of the most distinct and beautiful of all the new azaleas, white, with rose stripes, greenish-yellow centre.

*Pelargoniums.* — Nurserymen and amateurs were more nearly equal in point of getting up and quality than is usually the case at great shows. Mr. Turner's collections were, of course, magnificent; so were those from Mr. Fraser, Mr. Bailey, Mr. Weir, and Mr. Nye. Mr. Turner's twelve show varieties were Rose Celestial, Candidate, Guillaume Severyns, Empress Eugenie, pure white, rose blotch, remarkable for its fine form; Desdemona, Lord Clyde, scarlet with maroon blotch and fiery margin; Nestor, Viola, Fairest of the Fair, charming white ground, and cherry-coloured blotch; Beadsman, Bertie, Leviathan, crimson-purple, with large dark cloud, lovely form. Mr. Fraser had Fairest of the Fair, Rose Celestial, Etna, a superb variety; Sir Colin Campbell, Peacock, Sanspareil, Desdemona, Osiris, rich crimson, dark blotch, scarlet margin, one of the most gorgeous of the high-coloured varieties, and in this case well done; Festus, Leviathan, Empress Eugenie, Beadsman. Mr. Bailey, gardener to T. Drake, Esq., Shardeloes, had a magnificent set of ten, amongst them the finest Sir Colin Campbell in the show; also Monarch, clear rose, with rich top cloud, fine form; Rose Celestial, Etna, Desdemona, The Belle, a dazzling combination of carmine, black, and white; Sanspareil, Scarlet Floribunda, Lord Clyde, extra fine; Ariel. Mr. Weir, gardener to Mrs. Hodgson, The Elms, Hampstead, sent William Bull, fine form and colour, but the flowers small; Ariel, Eugene Duval, Guido, Prince of Prussia, Mazeppa, The Belle, Sanspareil, Rose Celestial, Aurelia. Mr. Nye, gardener to G. B. Foster, Esq., Clewer Manor, Windsor, had Desdemona, Sanspareil, Flora, Fairest of the Fair, Viola, a grand specimen of this peculiar and refined variety, measuring four feet over, and as evenly bloomed as if cast in a mould; Spotted

Gem, Ariel, Osiris, Rose Celestial, Leviathan.

*Fancy Pelargoniums.*—Fancies were shown in sets of six, and were tolerably even in quality, and mostly well out in bloom. Mr. Turner's six were Roi des Fantaises, Acme, Lady Craven, Delicatum, Modestum, and Ellen Beck. The last is not so well known as it deserves to be; the colour is lilac-carmine, with bright throat and edges, a very lively flower, and fine to contrast with the more delicate fancies. Mr. Fraser had Carminatum, Celestial, Acme, Clara Novello, Delicatum, a fine specimen of this lovely variety; Queen of the Valley. Mr. Bailey's six were Crimson Pet, Clemanthe, Lady Craven, Crystal Beauty, like Delicata, but with half a shade more rose in the top petals, and the flowers larger; Madame Rougiere, Acme. Mr. Weir, gardener to Mrs. Hodgson, sent a poor Bridesmaid, Acme, Madame Sontag, Celestial, Jenny Lind, fine; Attraction.

*New Pelargoniums.*—The best seedling at this show was Hoyle's *John Hoyle*, lower petals intensely rich lake, barred with black veins, top nearly black, with sharp bright carmine edge; the form exquisite. Also from Mr. Hoyle, *Profusion*, bright magenta-rose, blush throat, dark top, fine; *Priam*, lower petals rich lake, deepening to dark cloud, top very dark, carmine edge. Mr. Foster sent *Cicero*, clear light lake, deepening to small lake blotch, dark top, carmine eye; *Mary Hoyle*, salmon flesh, white throat, top maroon, crimson shading to lake, blush edges, fine form, smooth, the second best seedling at this show. Other new varieties from Mr. Forster were *Clio*, scarlet, with black blotch, peculiar and good; *Amazon*, *Queen of Scots*, *Rubens*, *Lady Jane Gray*. Mr. Turner sent *Mrs. Ford*, bright rose; *Duchess of Somerset*, like the last, but with whitish edge; *Diadem*, rich purplish rose, shading to white at the base, top purplish maroon, a grand flower. Mr. Beck sent *Scopas*, which was exhibited last year; *Cardinal*, scarlet, with tinge of violet in the throat, rich dark top, fine; *Coastguard*, lilac blush, deep blotch shading to crimson; *Astarte*, flesh ground, small crimson spots, maroon top shading to crimson, veined and margined flesh; a grand flower; *Isabel*, *Alba formosa*, *Rosa Mundi*, *Director*.

*Roses* were shown in pots in a style which far surpassed all the stereotyped methods of cultivation, the plants being fine, free bushes, very different in contour from the stiff azaleas, and as richly clothed with healthy and wax-like leafage as they were with thumping flowers, most of which were fit to cut for collections of twelve and twenty-four of the very best; a grand accomplishment and a proof of the perfect adaptability of the rose to exhibition purposes when skilfully handled, and by men who abhor hard outlines and forests of sticks. Mr. William Paul took first prize in the nurserymen's class for ten; Messrs. Lane and Son second; Messrs. Paul and Son third. The amateur prizes were taken by Mr. Terry, first; Mr. Cross, third; second prize withheld. In these beautiful collections the varieties were Charles Lawson, Coupe d'Hebe, Comtesse Chabrilland, Souvenir d'un Ami, Souvenir d'Elise Vardon, a charming salmon-coloured Tea; Baronne Prevost, President, fine blush salmon-rose; General Jacqueminot, still a fine variety for specimen culture on account of its thick camellia-like petals, fiery colour, and free habit; Gloire de Dijon, Madame Julie Daran, a magnificent variety of the high-coloured class; Madame Boll, fine for colour, but apt to show an eye; Niphetos, Madame St. Joseph, Jules Margottin, one of the finest roses known; Souvenir de la Reine d'Angleterre, Madame Willermoz, Chenedole, Senateur Vaisse, Beauty of Waltham, Anna Alexieff, Louise Odier, Paul Perras. The last two are much alike; Paul Perras is the largest, and apt to show an eye; Louise Odier is smaller and more compact. Cut roses were admirably shown by Mr. W. Paul and Messrs. Paul and Son.

*Novelties.*—Messrs. E. G. Henderson and Son, of Wellington Road, St. John's Wood, exhibited a superb collection of tricolor geraniums, one of which, *Lucy Grieve*, surpasses in beauty both Mrs. Pollock and Sunset. It has a rich sulphur margin, broad, sharply defined zone of a dull black, overlaid with carmine rose, with sulphur bars breaking in from the inner edge of the zone. Mr. Noble sent two fine new rhododendrons, *Iago*, purplish crimson, and *The Queen*, blush white; both of them superb. Messrs. James Carter and Co. sent a basket filled with specimens of their lovely new *Ornithogalum thyrsoideum*, which produces a sceptre-like spike of large closely packed snow white flowers. Mr. B. S. Williams sent some new varieties of *Aucuba Japonica*, most richly variegated. Messrs. E. G. Henderson sent a new variety of that useful hardy herbaceous plant *Aubrietia*

*deltoidea*, called *grandiflora*, which produces myriads of flowers of a rich rosy purple colour. Messrs. Backhouse, of York, sent a collection of alpine plants in flower, amongst them *Myosotis alpicola*, a charming dwarf species with lovely blue flowers; *Gentiana verna*, intensely bright blue; a new and beautiful *Linaria*, etc., etc.

Royal Horticultural, June 1st.—The average merit of the plants in the arcades rendered this an assemblage of plants for review rather than as a show, grouping and artistic contrasts being impossible. But the lack of general effect was compensated by the abundance and general magnificence of the specimens, and by the addition of the grand show of American plants by Messrs. Waterer and Godfrey, in the great suspension tent 350 feet in length. This was a gorgeous spectacle, and we hope next month to offer a few observations on the varieties exhibited in this, and in the beautiful collection by Mr. John Waterer at the Royal Botanic. Azaleas were not greatly different from those already reported on, as were also roses and pelargoniums.

*Stove and Greenhouse Plants.*—The first prize collection, from Messrs. Veitch formed a central group, all placed on the floor, and most of them towering aloft, as if one had been suddenly transferred to a genuine jungle, with palms and tree ferns rustling overhead. In the centre was a noble Dicksonia antarctica; round it specimens of the following—Ixora Amboinensis, bright reddish-buff; Alocasia macrorhiza variegata, with the proper variegation of this grandest of all variegated plants. Azalea dilecta, rich rose, and gorgeous; Pandanus reflectus, very tropical in character; Ixora alba, almost a pure white, six feet high, and solid with leaf and bloom; Dipladenia crassinoda; Croton pictum, sublimely coloured; C. variegatum, a huge bush glittering with orange and amber; Allamanda Cathartica, fine; Latania Borbonica, Franciscea confertiflora, covered with bloom. The second-prize lot, from Messrs. Lee, contained the grandest plant of Alocasia Loweii yet exhibited, showing eighteen leaves to the spectator without facing, the plant four feet high, and as much through, and the sagitate midrib, and the curious colouring and rich varnish of the leaves, making it very certain that this surpasses A. metallica, sublime as that species is in its colourings and proportions. With this magnificent specimen were associated Oreoponax dactylifolium, Acrophyllum venosum, pretty and interesting; Tetratheca verticillata, finely flowered; Cordyline indivisa, Erica Cavendishii, Cyathea Smithii, Ixora coccinea, and Theophrasta longifolia. Mr. May led off in the amateurs' collections of twelve, all the specimens being magnificent; Mr. Peed second. Mr. Fraser first in the nurserymen's class. In collections of six Mr. H. Chilman first, with fresh-looking plants; Mr. A. Ingram second. Mr. Rhodes first among the nurserymen; Messrs. Jackson second. Amongst these collections were fine examples of Ixora Griffithi, lively orange-red; Aphelexis macrantha purpurea, Leschenhaultia biloba major, a real gentian blue; Hedaroma tulipifera, and its congener Genetylis macrostigia; Pimelia spectabilis and Hendersoni, Epacris miniata grandiflora, a few Polygalas, Statice Holfordi and profusa. Pleroma elegans from Mr. Morse, nearly seven feet high, well bloomed, but rather thin and lanky. The same grower had a splendid example of Rhynchospermum jasminoides, in the form of a huge round dense bush, smothered with its fragrant white blossoms; Stephanotis floribunda from several exhibitors; Phenocoma prolifera from Mr. Fraser, an everlasting, not enough known or grown, and of which Mr. Cutbush made wonderful use last year in his glorious collection, of cut flowers at Alexandra Park; it has Santolina-like leaves, which appear as if sprinkled with silver filings, and the flowers, which expand less than those of Aphelexis, are of a delicious tint of rosy-crimson.

*New Azaleas.*—Mr. Kelk offered prizes for Azaleas, Roses, and Pelargoniums in six-inch pots. Mr. Turner came first in the Azalea class with very pretty plants of *Flower of the Day*, *Duchesse de Nassau*, and *President*. Mr. Turner was also first in the class for three Azaleas sent out in 1862 and 1863, with *Elegantissima*, white striped; *Charles Enke*, and *Advancer*. Mr. Ivery sent *Flag of Truce*, *Elegantissima*, and *Charles Enke*. Among the new Azaleas from Mr. Turner, Messrs. Veitch, and others, were many that have been before exhibited and described. *Salmonea alba cincta*, white, with light salmon-red stripes, good; *Mars*, deep red, finely formed: *President*, extra large, shape perfect, the colour a curious shade of rose-red, the top petal spotted with carmine; *Magnet*, large, light rose-red;

*Sebastopol*, like Mars, but a duller shade of colour, and no better in form; *Etoile de Gand*, most beautifully formed—in fact, a model in that respect; colour pure white, with pale salmon-rose stripe down the centre of each petal, quite different from ordinary stripes, because dividing each flower symmetrically; *Kinghornii*, rich purplish-rose, top carmine; *Virginalis*, white, occasionally striped red, top lightly blotched pale primrose; *Vesuvius*, medium size, fine form, stout, smooth, colour fiery red, with delicate shade of violet on the top petals—this is one of the best of the season.

*Pelargoniums* were nearly the same, as to varieties, as at Regent's Park. The first prizes in both classes for nurserymen went to Mr. Fraser, of Lea Bridge Nursery; Mr. Turner second. Mr. Bailey and Mr. Nye did not exhibit. Mr. Wiggins was the only amateur exhibitor, and he took a second prize with a set of nine good specimens.

*New Pelargoniums.*—As at the Royal Botanic, the best new show Pelargonium was John Hoyle. Also from Mr. Hoyle, *Profusion*, *British Sailor*, rose pink, very dark top, white throat, second-rate; *Florish*, bright coral-red, black blotch on top petals, veined white throat; *Leonidas*, bright coral-red, small spots, the top petals blotched with black, shading to lake; *Violetta*, clear lilac, overlaid with lake veins, top purplish-maroon with rosy edge; *Exhibitor*, lower petals pale rose pink, top rich rose with dark blotch. Mr. Turner sent *Juliet*, blush with small lake spots, top rich crimson, whitish margin; *Blair Athol*, purplish rosy carmine, whitish edges, very promising variety. *Ann Page*, a very promising fancy, lower petals delicate blush with small spots, top rich rose; *Silver Mantle*, delicate pinky rose and white; *Mrs. Dorling*, rosy pink and white. Messrs. Downie, Laird, and Laing sent *Lilac Model*, *Julia Helen*, each petal veined with deep crimson, deepening to a rosy crimson cloud, fine for colour, but wanting otherwise; *Peter Barr*, salmon flesh, with blackish-maroon spots on all the petals; *Emma*, lower petals warm flesh, top deep crimson black blotch, good form; *Earl Russell*, rich lake and cherry-red, top clouded crimson; *Novelty*, rosy-lilac veins on blush ground, top petals with small spots; *Fanny*, lake veins and deep lake spots on rosy-blush ground; *Harry*, cherry-scarlet, with black spots on all the petals.

Crystal Palace, May 28th.—This was a magnificent show, yet lacked a few of the effective features of former years in the picturesque details which are usually so well managed at the Crystal Palace. The plants were arranged on both sides in grand banks, and extended the whole length of the cool end of the nave. All the leading subjects were nearly the same as at the previous exhibitions this season. Orchids, Roses, Azaleas, and Pelargoniums were especially good, and the principal attractions of the day. The best pot roses in the show came from Mr. Turner; and amongst them Victor Verdier and Juno were alone worth the journey to see them, so exquisitely fresh in colour were the flowers, and the whole getting-up so perfect. Mr. William Paul, and Messrs. Paul and Son, did well, and fully sustained their fame in rose growing. As Ericas were exceedingly well shown, we give a few notes of the best amongst them.

*Ericas* were shown in considerable plenty, considering the season had scarcely yet come for them, and in good condition, some of the specimens being absolutely perfect. The principal winners in this class were Mr. Peed, Mr. Rhodes, Mr. Chilman, Mr. Page, and Messrs. Jackson. Mr. Page had a charming Mutabilis, vivid carmine-crimson, shading at the base to pale rose, the tube small, elegantly dependent in bunches. All the Ventricosas were shown; Mr. Peed had V. major in fine condition, the tubes large for the variety, the colour very pure warm flesh, and the tubes wax-like. Eximia superba, from the same, coral-red half the length of the tube, then whitish, changing to green at the base; beautiful. Mr. Rhodes had a charming Wilsoni, the clear wax-like flesh-coloured flowers making a fine contrast to the darker colours near it. The Ventricosa minor here, however, was many degrees inferior to one in Mr. Page's fourth prize lot; it wanted freshness. The best Cavendishii in the show was the one in Mr. Chilman's collection; this was a large bush, one mass of flowers *of a bright clear gold colour*—not a trace of green or pale yellow anywhere perceptible. Let all growers of heaths who happened to see that plant, make up their minds whether it was ever shown better, or so well—that is, for colour—for larger plants are not uncommon. We should like to hear from Mr. Chilman exactly how he treated it, as to shading, etc. In this same collection was an extra fine Ventricosa, also remarkable for its pure strong colour. Mr. Page's plant of Elegans exhibited very

nicely the curious bunchy style and peculiar colour—a bluish rose-pink—of this variety, and the specimen was, moreover, finely grown for size and compactness.

Royal Botanic, June 11th.—This was the great show of the season, comprising the usual great tent filled with plants and flowers, a corridor tent filled with cut flowers, novelties, and fruits, and Mr. John Waterer's exhibition of rhododendrons in a separate tent, where the specimens were all planted out on banks, intersected with gravel walks. To report upon the details would be to repeat much that has been already said, though there were, of course, many subjects not previously exhibited this season, and many never before exhibited. But, as in the preceding notices, most of the more important subjects have been dealt with so as to place before our readers the best species and varieties in each, it will be better for the economizing of space to remain content for the present with this general remark, that the most fastidious of the visitors must have been abundantly satisfied; and, as the place was thronged throughout the day by a most fashionable company, we may fairly say that the exhibition was in every sense a complete success.

## NOTICES OF BOOKS.

*The Usefulness of British Birds.* By Isaac Illsey. London: W. H. Collingridge.—This is very interesting and trustworthy account of the habits of the birds which frequent British gardens. The author does not deny that birds oftentimes do mischief to growing crops, and his defence of their general utility is of a much more common-sense character than many of the defences that have been attempted. It is, in fact, the best book on the subject we have yet seen, and should be distributed freely among gardeners, cottagers, in village schools, and wherever there are folks given to bird-nesting, shooting, trapping, etc., etc.

*Memory Tablets of Garden Work: The Flower Garden.* Edited by William Wardle, Nurseryman and Florist.—This consists of six cards containing directions for the management of the flower garden throughout the year. It is the old story of "dahlias may be planted," etc., etc., etc.; not a word of original matter, not a single practical hint of any kind worth having. We usually give away to our young friends all the good little gardening books that come to us for notice, but having noticed this, we toss it to the waste basket. It is not worth having as a gift.

*The Utilization of Minute Life.* By Dr. T. L. Phipson, F.C.S., etc. Groombridge and Sons.—This is a thoroughly scientific treatise on the insects, molluscs, worms, infusoria, etc., etc., which contribute to the wealth of nations and the comfort or luxury of individuals. Coral-reefs and honeycombs, cochineal, and sea-pearls, are examples of the utilities of creatures of whose histories but little is known, and that little is made the most of by Dr. Phipson in an elegant volume, which will delight all who read it, whether they be simple or subtle, young or old.

*The Rose Book; a Practical Treatise on the Culture of the Rose, etc., etc.* By Shirley Hibberd, F.R.H.S. Groombridge and Sons.—The object of this work is to supply the amateur cultivator with reliable information on every department of rose culture, so that the merest beginner will be enabled to proceed safely in selecting, cultivating, and propagating, and the experienced rosarian know best how to proceed in the improvement of his collection, and in the higher departments of hybridizing, multiplying seedling varieties, etc., etc. There is a general review of all the families of cultivated roses, and chapters on forming the rosarium, cultivating yellow roses, descriptions of all known methods of propagating, and a calendar of operations in the rose garden.

*The Garden Oracle,* 1864.—The new edition just published contains a revised and enlarged descriptive list of new and interesting fruits. Amongst them are many fruits not before described, and some important hints on the cultivation of varieties usually regarded as difficult to manage.

## JULY, 1864.—31 Days.

Phases of the Moon.—New, 4th, 0h. 24m. morn.; First Quarter, 12th, 3h. 51m. morn.; Full, 19th, 6h. 36m. morn.; Last Quarter, 25th, 8h. 46m. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Meetings, Anniversaries, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 3 49 | 8 18 | 1 54 | 5 58 | Very fine throughout | Princess Alice married, 1862 |
| 2 | 3 50 | 8 17 | 2 41 | 6 50 | Slight rain; fine | *Royal Bot. Soc. 3rd Great Show* |
| 3 | 3 50 | 8 17 | 3 36 | 7 33 | Fine throughout | 6th Sunday after Trinity |
| 4 | 3 51 | 8 17 | 4 35 | 8 9 | Very fine; hot and dry | A. Murray, Cambridge, died 1850 |
| 5 | 3 52 | 8 16 | 5 37 | 8 38 | Fine throughout | *Stamford Flower Show* |
| 6 | 3 53 | 8 16 | 6 41 | 9 4 | Fine throughout | *R. H. S. 2nd Great Show* |
| 7 | 3 54 | 8 15 | 7 45 | 9 28 | Fine throughout | *Ipswich Horticultural Show* |
| 8 | 3 55 | 8 14 | 8 48 | 9 49 | Overcast; very fine | *Birmingham Rose Show, 7th & 8th.* |
| 9 | 3 56 | 8 14 | 9 52 | 10 9 | Fine throughout | *Tunbridge Wells Hort. Show* |
| 10 | 3 57 | 8 13 | 10 56 | 10 29 | Fine; hot & dry; cool | 7th Sunday after Trinity |
| 11 | 3 58 | 8 12 | After. | 10 52 | Dry haze; hot; cool | Peace of Villafranca, 1859 |
| 12 | 3 59 | 8 11 | 1 6 | 11 17 | Slight haze; hot; warm | Erasmus died, 1536 |
| 13 | 4 0 | 8 10 | 2 14 | 11 45 | Cloudy; hot; cool | *R. H. S. Strawberry Fête* |
| 14 | 4 1 | 8 9 | 3 22 | Morn. | Fine; cold; Th. 36° | *Northampton Floral Fête* |
| 15 | 4 2 | 8 8 | 4 28 | 0 23 | Fine; hot; Th. 88° | Saint Swithin |
| 16 | 4 3 | 8 7 | 5 29 | 1 7 | Fine; cloudy; fine | Massacre of Cawnpore, 1857. |
| 17 | 4 5 | 8 6 | 6 24 | 2 5 | Cloudy; fine; 5° frost | 8th Sunday after Trinity |
| 18 | 4 6 | 8 5 | 7 11 | 3 12 | Fine throughout | G. White, naturalist, born 1720 |
| 19 | 4 7 | 8 4 | 7 51 | 4 27 | Fine; cold; Th. 33° | Prof. M. Tenore, botanist, d. 1861 |
| 20 | 4 8 | 8 3 | 8 24 | 5 48 | Cloudy; heavy rain | Statue of Sir R. Peel, Cheapside, 1855 |
| 21 | 4 10 | 8 2 | 8 53 | 7 11 | Rain; heavy rain | A. Gorrie d. 1857.—*Kingston Show* |
| 22 | 4 11 | 8 0 | 9 19 | 8 34 | Rain; thun. stm.; fine | Battle of Salamanca, 1811 |
| 23 | 4 12 | 7 59 | 9 45 | 9 55 | Fine; light clds.; cold | Length of Day 15h. 37m. |
| 24 | 4 14 | 7 58 | 10 12 | 11 13 | Fine throughout | 9th Sunday after Trinity |
| 25 | 4 15 | 7 56 | 10 41 | After. | Fine; rain; fine; cold | W. Sharp, engraver, d. 1824 |
| 26 | 4 17 | 7 55 | 11 15 | 1 43 | Fine throughout | T. A Knight d. 1838, aged 80 |
| 27 | 4 18 | 7 53 | 11 54 | 2 50 | Fine throughout | *Royal Oxford Horticultural Show* |
| 28 | 4 19 | 7 52 | Morn. | 3 52 | Fine; hot; fine | *Merthyr Tidfil Show* |
| 29 | 4 21 | 7 50 | 0 38 | 4 46 | Fine; hot; fine; warm | Sir C. Cresswell died, 1863 |
| 30 | 4 22 | 7 49 | 1 31 | 5 31 | Fine; hot & dry; cold | Penn died, 1718 |
| 31 | 4 24 | 7 47 | 2 28 | 6 11 | Fine throughout | 10th Sunday after Trinity |

## THE GARDEN GUIDE FOR JULY.

Kitchen Garden. — *Artichokes* are now coming to table in plenty; that is to say, where they are grown, which is in very few places. As the heads are cut, the plants must have attention. Cut the stems off to the ground, remove dead leaves, fork over the soil, and lay on a heavy dressing of half-rotten dung. If wood ashes are at command, cover the dung with a thin layer: they need not be watered, for at this season the heavens will soon supply them with plenty, and the labour may be saved.

*Asparagus.*—Any more cutting of this crop will ruin the plantations. To many it may seem needless to make this remark, but people are cutting asparagus now, and we must advise them to desist, unless they have made up their minds to the policy of killing the goose, etc. Where the beds

have not had much attention, let them be at once pointed in with a fork, all weeds raked off, and the surface covered with a mulch of half-rotten dung. Manure rotted to powder should never be used as a mulch; there is no strength in it.

*Beans* to be topped as soon as they show flower, and crops ready for use to be topped back a second time to within a leaf or two of the plumpest of the small pods. Earth-up advancing crops.

*Brocoli* must now be got out to furnish a supply during autumn. Manure liberally; and if the planting is done in dry weather, give water as abundantly as possible. Better, however, to get the ground ready, and wait for showers, both to save labour and to give the plants a better start, for a free, natural growth is especially requisite with brocolis and cauliflowers. Transplant from the seed-bed to a piece of rich light soil the plants from the late sowings. Small clubs just appearing on the roots may generally be removed with the thumb-nail, but where clubs are formidable, from the size of the plants, throw the plants aside, and burn them.

*Cauliflower.*—Plant out, and remember that for this crop the soil cannot be too rich; they will scarcely grow well in dung only, if well rotted. Hoe between those coming forward, but do not earth-up the stems, except of such as are loose at the collar.

*Celery* requires a heavy watering where the ground is dry. If the fly has attacked the leaves, pick them off and burn them; generally a few leaves only are touched, and they can be spared. But as no crop will bear to be entirely disleafed, where the grub has got the upper hand it will be in vain to expect much produce.

*Lettuce.*— This useful salad is too much neglected after the early part of the season, through the tendency of the plants to bolt in hot weather. This may be prevented by planting in a rich, cool soil, and giving some mount of shade.

*Potatoes* to be frequently hoed between. A dressing of wood-ashes and guano between the rows of the main crops now will considerably increase the produce, especially on sandy or chalky soils, where disease rarely appears; on moist loams and clays it will be less safe and less necessary. As fast as crops are taken off, trench and manure for brocolis, cauliflowers, and winter greens.

*Sow* last crop of broad beans, Walcheren brocoli, early York and Collard cabbage, kidney beans (dwarfs and runners), lettuce for succession, any early kinds of peas, radishes, turnips, green-curled endive, and round spinach. Keep the hoe in active service between advancing crops.

*Tree Onions* need a little support, as the crop is apt to fall over and be preyed upon by snails. As soon as the onions are as large as walnuts, and look inclined to ripen, snap the stem, but do not break it through; this will assist them to ripen. The top bulbs are the best of all onions for pickling, and those at the root store well for kitchen use.

*Winter Greens* to be got out at every opportunity, and with as little damage as possible to the leaves. It is horrible to see the way in which some people break and bruise the leaves of kale, cabbage, etc., in lifting and transplanting. Winter greens to be got out in plenty now, as peas, potatoes, and other crops are taken off. Collards, Brussels sprouts, and other quick-growing subjects that will mostly be used before Christmas, to be planted in manured ground; but those to stand till next spring, to furnish sprouts, not to be manured, as it renders them less able to withstand severe frosts. Continue to plant brocoli, Brussels sprouts, Scotch kale, and everything else of the kind from the seed-beds.

Fruit Garden. — Put netting over currants, gooseberries, and cherries, to keep the birds from the fruit. To retard or keep hanging currants and gooseberries, cover with mats.

*Raspberries* to have their suckers reduced to three or four to every stool; those left will rise strong, and ripen their wood well; but a forest of spray will be all weak alike, and at the winter pruning there will be a temptation to leave all, because for strength there will be little choice. Never dig between raspberries; it causes them to throw their suckers a long way from the stools; but surface manurings at this time of the year, and no disturbance of the earth, causes strong suckers to rise near home.

*Strawberries* to be potted as soon as rooted, as they make roots faster in pots than in the open ground; and should we have a chilly autumn, a few of the best of the plants can be kept under glass, to ripen their crowns. Lay a few more of the best runners in pots, cut away all weak runners, and supply water liberally to runners and old stools. As soon as rooted in pots, remove to a frame and place upon a bed of some moist material, where they will soon fill the pots with roots. Remove

weak runners, and peg down in pots or on the border a few more of the best.

Orchard House.—*Peaches* ripening off to be kept as cool as possible; hot sunshine and a close air will spoil the flavour and cause the fruit to fall. Where the supply is larger than can be used directly, the fruit may be kept hanging longer by shading it with leaves; a few boughs of privet or fir hung up so as to screen off the sun from the branches on which the fruit hangs, and free ventilation day and night, will retard the final ripening, and prolong the season of supply. Trees from which the whole crop has been gathered to be liberally watered and syringed, to keep the foliage fresh till it has done its work.

Flower Garden.—*Chrysanthemums* require liquid manure now, and frequent sprinkling overhead. Tie out as fast as the side-shoots break, for if they once harden out of shape it is no easy matter to restore them to a proper form. Plants recently struck may be planted out in a bed, where they will require less care as to watering than in pots, and may be taken up in dull weather without losing a leaf. It is not too late now to strike a few pompones to flower under glass, to make the house gay in the autumn.

*Flower Beds* need a slight hoeing before the plants meet, and the subjects that require pegging should be kept regular betimes, and especial care to be taken to get plenty of shoots on the north side of every plant, leaving the south side to take care of itself, which it is pretty sure to do.

*Hardy Herbaceous Plants* of all kinds may be propagated now from seeds and cuttings. See to Antirrhinums, Pansies, Mimulus, Dianthus, Iberis corifolia and sempervirens, Arabis of sorts, especially those with variegated leaves, and Dielytras, though these increase rapidly by parting the roots.

*Rhododendrons.*—In all cases, unless seed is wanted (and generally it is of no use), the dead trusses should be removed without injury to the young shoots. If seeds are allowed to ripen, the growth is checked, and there will be less bloom next year. As to the young growth, generally speaking it is best to let it grow in its own way; there is no shrub so orderly in its habit as the rhododendron; but where the growth in any one direction is irregular, the knife may be used now to cut it back, and it will be best to cut to the old wood in such a way that it will break and fill up any gap caused by the pruning. Water can scarcely be given in too great a quantity now to rhododendrons and kalmias, nevertheless in beds of turfy peat and loam, sunk below the level (they should never be above the level), it is rarely they require artificial watering. As a rule, the removal of the dead blossoms by a dexterous snap of the thumb, easily acquired by practice, is all the attention rhododendrons require in the open air; but we are supposing them to be in beds of good peat or peat and loam chopped up together; if they are in what is called "common garden soil" or stiff clay, it will be a trouble to keep them alive. Old beds may be refreshed by a top-dressing of cow-dung. It should be remembered that American plants thrive best when they get rather thick, as then the roots are screened from the sun. Rhododendrons in pots mostly want a shift now, but it must always be a small one, as too great a shift will be likely to cause the bloom buds to start prematurely, which will result, not in a second bloom, but in a crop of leaves, to the loss of bloom next year.

*Roses* require to be pruned back, and have a mulch and plenty of water to assist the autumn bloom. Buds to be entered on briars with discretion; if either the bud or the shoots to be entered on are in a soft state they will not take; the bark must be firm, or the work cannot be done properly. One night's heavy rain will do more to perfect the stocks and scions than a week of artificial watering. Roses strike from cuttings now with great certainty. The safest way is to make up a hot-bed at once, and the same day put in cuttings of young wood three or four inches long singly in thumb pots. Water the cuttings, place them in a cold frame, and shade with mats. There let them remain for a week, by which time the hot-bed will be sweet and the heat steady, and the cuttings will have formed a callus. Place them on the bed and shut up; give air by degrees, and help them from flagging by frequent sprinklings rather than by heavy waterings. Shoots that have just flowered or that have flowers on them will root with certainty.

*Tall-growing Bedders* need a little care now, to protect them from high winds. A very effectual and expeditious method is to insert strong stakes, and run a few lengths of stout, tarred string amongst them, so as to form a support to the back and front of every row. Small forked branches will serve the same purpose where the plants are not sufficiently regular to be supported with string.

*Greenhouse Herbaceous Plants*, such as cinerarias, primulas, heliotropes, herbaceous calceolarias, etc., must have fre-

quent attention now. Get seedlings pricked out into pans, or singly in thumb pots; shift cuttings and rooted suckers; sow calceolaria and cineraria to succeed the first lot; a moist, cool, shady place will bring them on, and as they gain substance they must have more light and air. Use for all these plants a light rich compost, in a sweet and friable condition.

*Hard-wooded Plants* mostly require shifting, if only to remove a little of the worn-out stuff on the outsides of the balls, and repot them in the same pots. The soil should be lumpy, and with plenty of fibre in it. Take care the drainage is safe; a strong oyster-shell over the hole is a safe way to ensure an outlet for water. After shifting, sprinkle frequently, and give only a little water to the roots.

VINERY.—*Vines* in early houses to be kept rather dry to promote the ripening of the wood, and to have plenty of air. In late houses encourage quick ripening, keeping up the heat, and ventilate well to prevent damp and mildew. Water and mulch the borders of late houses, and by all means abstain from cropping the borders, as the practice is most injurious to the roots of the vines, the best of which are near the surface. Late grapes require artificial heat to ripen them properly. If the ripening is long about the berries will have thick, tough, skins, and will not keep well. Keep the houses dry where grapes are hanging, and those from which the crop has been gathered take off the lights.

ORCHID HOUSE.—*Orchids* require now a free circulation of air to ripen the spring growth. Use as little shading as possible, and keep the air moist by watering the paths and borders in the afternoon, after which shut up.

CONSERVATORY.—Conservatory will require air night and day, unless there are many stove plants, in which case, shut up while the sun is on the house. Use water in plenty, and liquid manure wherever it seems to be required. Free-growing, soft-wooded plants may be assisted now by placing the pots in pans of water, and sprinkling the leaves morning and evening. Liliums and gladioli will now come in, and make a fine show with first-class annuals and fuchsias. Specimen trees and climbers to be stopped and trained in, to assist ripening of the wood.

PITS AND FRAMES.—*Cucumbers* must have steady bottom-heat to produce fine fruit. It is a common fallacy, that when the weather becomes warm the beds may be left to cool down; but it is rarely fine fruit are cut from frames that are never lined after the first heat is out. Keep a moist atmosphere, for cucumbers absorb immensely by their leaves.

## TO CORRESPONDENTS.

VARIOUS.—*Polly.*—Your plant is Amaranthus tricolor; requires the same culture as a balsam or aster. Hurdles of two or three inch mesh will do for peas, but they must be stout. It would be preferable to use them both sides of the row and brace together at top, but one side will do if well stayed with stakes.—*P. T. F.*—The place was intended for a small saddle boiler, with 4-inch iron pipes.—*G. C. M.*—The crushed rose shoot sent appears to be Manetti. Roses of all the kinds used for stocks may be increased by layers now or by cuttings in October. To your question, "How are roses on their own roots or on Manettis to be trained?" we can only answer, "As you please." It is as difficult a question to answer as if you were to say "What shall I have for dinner?" You had better consult the "Rose Book" as to the various forms of roses, and the way to produce them. The roses rooted from cuttings put out last August may be transplanted in November next.—*A. E.*—Roses travel badly by post this time of year. Yours had fallen all to pieces, but appeared to be the old Maiden's Blush, which has a slight pinky tinge in the centre, and a somewhat bluish-green foliage.—*M. M. S.*—Put the Deutzias out of doors till the middle of October, this will cause them to ripen their wood well, and they are then sure to flower freely. You ought not to take them out of their pots. D. gracilis is one of the easiest plants to grow. There are patented processes of hardening stone, but none suitable for use on a small scale.—*J. B. Slogarie.*—Your fern appears to be Asplenium Braziliense, but we ought to see a fertile frond to determine any fern with certainty. We have always described Sedum Sieboldi as hardy, as you will find on referring back, but always advise that it be grown under glass, only because out of doors it has no beauty, and the snails are intensely fond of it. The other subject some day (!)

THE

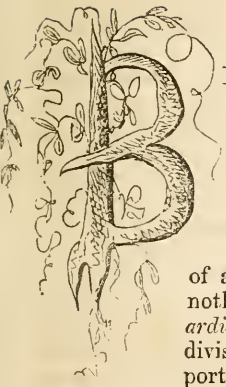
# FLORAL WORLD

AND

# GARDEN GUIDE.

AUGUST, 1864.

## CULTURE OF ARDISIA.



BERRY-BEARING shrubs are not so numerous that we can afford to dispense with any of the number which are tolerably well adapted for the decoration of plant houses, especially in winter and early spring, when flowers are scarce. We have frequently brought subjects of this kind under the notice of our readers, and we now call attention to the Ardisias, which, for those who can grow them, are, in truth, the loveliest of all the berry-bearing shrubs known; there is, in fact, nothing to surpass them. The Ardisia takes its name from *ardis*, a spear-head, in reference to the sharp-pointed divisions of the flower. The genus is one of the most important in the natural order *Ardisiads*, to which it belongs, and of which it is the type, and the species are very numerous and widely scattered, some being found in China, others in the Canaries, Ceylon, Nepaul, and elsewhere, always in warm latitudes, but not always in the tropics.

CULTIVATION.—The greenhouse species, such as *canariensis*, *thyrsiflora*, *pubescens*, *macrocarpa*, and *hymenandra*, are more easily raised from cuttings than seeds, the best cuttings being obtained from half-ripened shoots; and at seasons when these are not attainable, pieces of the roots may be used, being inserted in sandy soil, and placed on a strong bottom-heat. Any of the ordinary light mixtures in which greenhouse plants are potted will do for these; or, if a special compost is required, let it be peat, loam, leaf-mould, and rotten dung equal quantities, the whole well incorporated, and in a sweet, mellow condition. When these species are making new growth, they should be assisted with an increased temperature and frequent syringings, and beyond this they do not require any special care. They may remain several years in the same pots, if annually top-dressed, and when repotted the roots must be reduced, and the plants have the help of extra warmth and

moisture. The proper time to repot is just before they commence their season of growth. The stove species require the same treatment, but in a higher temperature; during winter they ought never to be exposed to a temperature below 50°, and all through the summer should have plenty of air, and a temperature of from 60° to 80°. The species most admired and generally grown, and respecting which, therefore, some special remarks may be made, is—

*Ardisia crenulata.*—This forms a finely habited shrub, rising to a height of ten to fifteen feet; but, as it becomes fruitful at an early age, specimens of two or three feet high are often superbly laden with huge bunches of its fine scarlet berries. The best way to raise a stock by this is to sow the berries in a mixture of equal parts peat and loam, and plunge the pot in a tan-bed, or place it on the tank of a propagating pit, and surround it to the rim with cocoa-nut-fibre waste. As soon as the plants are large enough to handle, pot them separately in thimble or thumb pots, the latter preferable, if there is sufficient room; the soil to be peat, with one-third sand. Place them in heat again and shift on as they require it, and, as soon as put into 48-sized pots, let the compost be equal parts peat, loam, leaf-mould, rotten dung, and silver sand. From this shift we begin to cultivate them as specimens, and generally the handsomest plants will be formed by allowing them to grow as they please; but, if they are to be artificially formed into dense bushes, pinch out the points of the young shoots when they have made half their growth. If not too largely shifted as they grow, they will fruit early, and become thenceforward highly ornamental. As the berries begin to colour the new growth begins above them, and this new growth shows bloom before the berries fall, so that it is but for a short period that the plants are otherwise than ornamental. To prolong the period of their beauty never gather the berries, but place the plants so that, as they fall naturally, none of them will be lost. Plants struck from cuttings of half ripe wood fruit earlier than seedlings, but do not make such handsome or such vigorous-growing specimens. It requires a strong heat to strike them either from stem or root cuttings.

## GREENHOUSE FERNS.

*Polypodium Henchmannii.*—This magnificent fern is one of the most remarkable in the great collection at Kew, where it has stove treatment; but, as it can be grown in a warm greenhouse with the greatest success with only ordinary care, it is well worth a conspicuous position among useful greenhouse ferns. It is a native of Mexico, and according to Lowe (Brit. and Exot. Ferns, i. 93, where it is beautifully figured), was introduced in 1848, and up to the present time always regarded as a scarce fern. The fronds are glabrous, pinnate. The pinnæ being linear-lanceolate and of a peculiar dark bluish-green colour, and having a varnished appearance. The rich ochreous brown of the sori, which are abundantly produced, contrasts most beautifully with the ground colour of the fronds on the underside; and the sori being large

and arranged in regular lines on each side the midrib, give this fern a very distinctive appearance. It has a creeping rhizome form, pieces of which, as well as by spores, it may be propagated.

This noble fern may be grown to specimen size with very little trouble. Give it a soil consisting for the most part of mellow yellow

POLYPODIUM HENCHMANNII.

loam, with small proportions of cocoa-nut fibre and silver-sand added, and rather liberal pot-room, with plenty of drainage and with shade and water, and a temperature of not less than 60° to give it a start, and it will soon develop all its characters and make a fine display. It is apt to be infested by thrip if at all neglected, or if suffered to go too

dry; in this case the best plan is to cut it down and burn all the fronds, and as soon as new growth appears, repot it, and encourage with warmth and moisture.

*Polypodium lachnopodium.*—This is the downy-footed polypody of Jamaica, a true stove-fern, which with liberal treatment may be grown

POLYPODIUM LACHNOPODIUM.

to huge dimensions, the fronds averaging four to six feet in length, and the pinnæ twelve to eighteen inches. The nearly triangular (deltoid) fronds of this lovely fern are much and finely divided; tripinnatifid; the pinnules are lanceolate, the segments hairy, those near the apex entire, the others pinnatifid. The rachis is scaly, and rises from a fawny scaled crown, and no inconsiderable part of the beauty of this

fern consists in the contrast of the bright reddish brown colour of the crown and rachis, with the soft yellowish green fronds. The sori are round, numerous, and small, and the fronds are mostly fertile when mature.

To grow this fern to perfection, give it a light turfy soil, consisting

POLYPODIUM LONGIPES.

for the most part of tough peat torn to pieces of the size of the fist, two parts mixed with one part cocoa-nut fibre refuse, and one part loam from rotted turf, with a small allowance of fine siftings of broken pots and sharp sand; with plenty of pot room, effectual drainage, and abundance of water, this fern will make a very conspicuous figure in

the stove, and be found of the greatest value for exhibition. The only trade catalogue in which we have yet met with it is that of Mr. R. Sim, of Foot's Cray, Kent.

*Polypodium longipes* (syn. *Drynaria longipes, Chrysopteris longipes, Polypodium alternifolium*, etc.) This is one of the most distinct and beautiful of the exotic species of simply pinnated polypodies. It is a native of the hottest parts of the East Indies, and though requiring the stove in winter, during the summer may be placed in the conservatory, as its leathery fronds, when once formed and matured, have great powers of endurance, and rarely suffer except from damp, so long as it is under glass. But as it loves heat, it may be kept in the stove the whole year round, and will be much finer in consequence. The fronds are simply pinnate, the segments broad, strap-shaped, and acuminate, and from six to ten inches in length, of a dark green colour. The sori are large, somewhat irregularly scattered, though generally forming two rows on each side the midrib or rachis; the latter, with the stipes, being pale green.

It has a creeping rhizome, and may be increased by dividing that, and also by spores, which are most likely to germinate on the surface of a mass of powdered stone and tile kept constantly moist. In growing this fern, which Mr. Lowe truly describes as, when well grown, "representing a miniature forest," great care must be taken to prevent injury by damp. The pot must be extra well drained, and the drainage covered with lumps of turfy peat. Fill up quite to the rim with a mixture of equal parts turfy peat, silky yellow loam, silver sand, and potsherds broken to the size of peas, with all the dust. By filling up to the rim the rhizoma is protected from the destructive influence of damp, and at the first potting it will be necessary to peg the rhizoma out firmly to keep the fronds in a perpendicular position, and prevent any strain while the plant forms new roots. If the soil at any time gets too dry, through the plant being so high in the pot, immerse it, and let it soak for half an hour. If kept too wet or too cold, this fern soon suffers from mildew, and the extremities of the fronds decay.

## FLOWER SHOWS IN JUNE.

Alexandra Park, June 22.—Alexandra Park has a very different appearance now to what it had this time last year, when the *habitués* of flower shows were literally startled by the grandeur of the exhibition which had been extemporized, as it were, out of nothing, for the show was held within one or two days of the company obtaining full legal possession of the property. On the present occasion the tents were so designed that once under canvas the whole show could be inspected by covered ways throughout; and the outline of each tent was picturesquely adapted to afford accommodation for plants on both sides of the canvas, the convex outlines one way becoming concave the other, so that there was an absence of sameness, and the whole affair was fresh and new.

*Stove and Greenhouse Plants* were contributed in immense numbers. Mr. B. S. Williams, of Holloway, poured in the treasures of his two establishments so profusely as to give one an idea that he had obtained a monopoly of the products of the tropical forests. Amongst Mr. Williams's

contributions were many magnificent tree ferns, Alocasias, Caladiums, Yuccas, etc. Especially noticeable were the following:—Agave Schidigeri, smothered with grey fibres; a very noble and curious species; Beaucarnea glauca, a fine Yucca-like plant, with narrow glaucous leaves, admirably adapted for specimen culture; Yucca quadricolor, each leaf marked with a broad central creamy-yellow stripe. Messrs. A. Henderson and Co., of Edgeware-road, had a fine collection, comprising Aralia Sieboldii variegata, one of the noblest of variegated plants; Mussænda frondosa, with its pretty little yellow flowers and snow-white bracts. Messrs. Lee, who also contributed largely, had Cordyline indivisa, Ananassa sativa variegata, a superb specimen, richly coloured; Imatophyllum cyrtanthiflora, with clusters of small drooping orange-red flowers, not so effective as miniata. In a collection from Mr. Wheeler, Roelia ciliata, a Nemophila-like shrub with blue flowers, made a pleasing change from the usual routine; and in this same collection there was a plant of Erica Parmentieriana rosea admirably done. The amateur exhibitors in this class won loud praises from all good judges of skill in cultivation. Mr. Thomas Baines, gardener to H. Micholl, Esq., of Bowden, Cheshire, came up with a set of ten, the grandeur of which startled some of the London growers, and won first prize with them most deservedly. One of his best plants was Croton variegata longifolia, a sort of vegetable waterfall, the long whip-like leaves drooping all round having a very distinct and striking appearance. Cyathea medullaris, fine; Cordyline indivisa, Alocasia metallica, the best in the show; Croton variegata, superb; Rhopala corcovadense, Yucca variegata, Gleichenia speluncea, Rhopala imperialis. Mr. Taylor, second; and in his lot Littæa juncea, well done, the old leaves as green as the new ones; also a fine Cycas revoluta. Mr. Donald, of Leyton, third; in his lot a splendid Diffenbachia maculata, very clean, and richly spotted; Alocasia macrorhiza, good; Caladium Wightii, etc. Mr. Young sent the best six Caladiums in the show; they were Bellemeyii, Argyrea, Picturatum, Bicolor splendens, Chantinii, Rubricaule; they were admirably placed, and deserved to make an impression.

*Ferns.*—Mr. Williams took first prize in the nurserymen's class for exotic ferns. They consisted of Polystichum ordinatum, Platycerium grande, Todea Africana, Cibotium Schiedii and princeps, Gleichenia semi-vestita, Cyathea Smithii and grande, Gleichenia dichotoma, Acrophorus hispidus, Dicksonia antartica. The best collection of hardy ferns came from Mr. Williams, and it comprised numerous sports of well-known British species. Lastrea f. m. cristata made a superb appearance; it is certainly one of the finest hardy ferns we have. Athyrium f. f. corymbiferum, less tasselled than usual, but very fresh; Scolopendrium vulgare digitatum, subcornutum, cristatum, and laceratum, all noble varieties, and superbly grown; a fine Allosorus crispus, and a few sportive Polystichums, etc.

*Gloxinias* were not plentiful, and in but middling condition. The first prize was well won by Mr. W. Young, gardener to R. Barclay, Esq., with a very fresh and well-grown collection. The varieties were Princess Alice, Garibaldi, Madame S. Brunelli, Magnet, Wilsoni, Ambulator (?), Blair Athol, Wonderful, Duke of Wellington, Mars cerulea. Mr. House, gardener to J. Gay, Esq., Highgate, had a set comprising a few very stale specimens, with others quite fresh and good. The best were Roi Ferdinand, Robert Fortune, Liesmayer, Tarragona, Charles Heckii, and a seedling of the erect kind, rich purple shading to white lip, the throat whitish, with spots.

*Achimenes* were more plentiful, and were generally good. Mr. Young had a very nice ten, comprising Longiflora alba, Edmund Bossiere, Longiflora major, a fine purple; Chiritii, not well out; Dentonii, fine; Sir Trcherne Thomas, fine; Grandiflora, Carl Wolfurth, Coccinea, and Am-

broise Verschaffelt. Mr. Bartholomew, gardener to the late R. Marshall, Esq., Muswell Hill, sent Sir Treherne Thomas, Magnifica, fine; Ambroise Verschaffelt, Grandiflora, Dazzle, small scarlet, very effective; Longiflora alba, Carl Wolfurth, Longiflora rosea, fine; Longiflora major, not out; Edmund Bossiere. Mr. Pullen, gardener to G. R. Smith, Esq., Colney Hatch, had a nice collection, comprising Carl Wolfurth, Edmund Bossiere, Dr. Hopf, Georgiana discolor, Longiflora major, Longiflora alba, Grandiflora, Ambroise Verschaffelt, Hendersonii.

*Carnations, Picotees, and Pinks*, from several exhibitors, were so completely eclipsed by those from Mr. Turner, of Slough, that it was a difficult task to allow the eye, even for a moment, to rest on any flowers but his, which were remarkably well grown, and as remarkably well dressed. In a collection of Carnations from Mr. Hooper, of Bath, we noticed one called Brunette, a fine flower, bold, stout, and well formed, heavily striped, rich, rosy-purple on rosy-blush ground. Mr. Turner's box contained John Beet, Meteor, Earl Stamford, John Bayley, Favourite, Prince of Denmark, Prince Albert, Miss Eaton, Flora's Garland, this is a superb variety, and should be in every collection; Lord Rancliffe, Rose of Castile, extra fine; Cradley Pet, Fanny Gardener, Regulator, Lord Lewisham, Mr. Martin, Mayor of Nottingham, Earl of Leicester, Squire Trow, Rising Sun, Merrimac, Young Milton, Africana, Rose of Sharon. Mr. Turner's Picotees were—Mr. Varley, heavy crimson edge; Advance, finely edged but thin; Miss Williams, fine; Sarah Ann, Eliza, a delicate shade of colour and very pleasing, but very faulty in the edging; Mary, a very fine edge; Jemima, not first-rate; Mrs. Dodwell, a superb heavy edge; Sheriff of Oxford, Finis, Miss Sewell. Mr. Turner's Pinks were—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, Christabel, New Criterion. Other exhibitors in each of these classes were Mr. Hooper, of Bath, Mr. Waymouth, and Mr Kingston.

*Geraniums.*—Mr. Cattling, of Finchley, took first prize for six scarlets, all grown rather flat: they were Aurora, not good; Vivid, magnificent for bloom and freshness of leafage, but too flat; Scarlet Globe, very fine; Cerise Unique, superb; Brilliant, Tom Thumb, the last so well done as to make me for the moment regret I ever said a word against the little General. Second, Mr. Pettit, gardener to G. Pounceby, Esq., with fine plants, rather too flat; Rubens, not at all effective; Admiration, grand; Brilliant, ditto; Princess of Prussia; Tintoret, like Rubens, and a shade brighter under canvas; James Kemble. Also second, Mr. T. Duke, gardener to T. Duckworth, Esq., Finchley; the plants small but fine; in fact, very fine in contour, evenness of bloom, and freshness: they were, Countess Poligny, Tintoret, Aurora, this was not good anywhere in the show, yet it is a thoroughly good variety; Tom Thumb, Brilliant, Reubens. Third, Mr. M'Elroy, gardener to W. J. Lancaster, Esq., Stamford Hill, with smaller plants than any, but as well grown as any in the tent, and of a nice size for conservatory decoration: they were Rose Rendatler, pale pinky-rose, large flowers and good trusses, a very fine variety; Francois Desbois, Roi d'Italie, a superb variety, and exceedingly well done; Angelina Griseau, Judy, Madame Vaucher. Strange to say, though the last was as well grown as any, it seemed to spoil the whole set; another scarlet or rose colour in its place would have made an immense difference; or perhaps if it had been in front instead of at the back it would have fitted in better, for the eye prefers to see white against scarlet, to scarlet against white, and that white not a snow-white, and with the dingy hue of the tent canvas beyond it. Fourth, Mr. E. Carter, gardener to J. Ewart, Esq., Finchley. The varieties were Monsieur Martin, fine;

Henri de Bloxart (?), pale salmon-rose; Queen of England, one of the fine old scarlet horseshoe varieties; Tintoret, Princess of Prussia, Mlle Matthew Vincent (?). Can anybody put these names to rights? they are printed as written by Mr. Carter, and the responsibility of their accuracy is his, not mine.

*Fuchsias* were very fresh, and generally well out. Mr. Turner had a nice lot, consisting of Madame Cornelissen, Rose of Castile, Schiller, Smith's Conspicua (quite a favourite this season), Comet, a fine bold dark flower; Minnie Banks, somewhat ineffective through a certain indecisiveness of colour, but free and nicely habited, and in this case very well done. Mr. Bartholomew, gardener to the late R. Marshall, Esq., had a fine, fresh, well-bloomed half-dozen, very badly placed, so that it was impossible to see their beauty to advantage; they were, Prince Imperial, White Lady, Rose of Castile, Prince of Orange, fine; Schiller, Tristram Shandy, still one of the best. Messrs. Hayes, of Edmonton, put up some nice small plants in good condition: amongst them were Lord Elgin, fine; Senator, noticeable for its long tubular corolla.

*Miscellaneous.* — Messrs. Veitch made a sensation by sending a small forest of *Lilium auratum*, the grandest of all known lilies, excepting only the Victoria regia, and a lily too that everybody can grow. It is a curious illustration of the fallibilities of botanical nomenclature, that Sir W. Hooker named this species at its first introduction to the country, *Lilium uniflora*, supposing it to produce but one flower at a time, but here was a sample amongst Messrs. Veitch's plants with *eight* blooms, and all of them superb. Among other novelties from Messrs. Veitch occurred the lovely *Gymnogramma Pearcii*, *Eranthemum Cooperii* and *tuberculatum*, also a fine *Eranthemum* with richly variegated leaves, a new *Lomaria* with hard once-pinnated fronds, *Dracena Cooperi*, a *variegated Camellia Japonica*, a green-leaved *Aucuba* called *longiflora*, the pretty *Retinospora squarrosa*, and a few other interesting plants. Mr. Baines, gardener to H. Micholl, Esq., Bowden, Cheshire, sent a few interesting subjects in addition to his stove and greenhouse plants. The best amongst his curiosities was an 18-inch pan of *Dionæa muscipula*, or Venus's Flytrap, in a gloriously fresh and vigorous condition. It must be said, however, that the pan consisted of plants in small pots packed close together, with moss for surfacing to hide the pots. Equally interesting was an 18-inch pan of *Sarracenia purpurea*, the plants grown in the pan, and in fine condition as to freshness, and the pan closely covered with short green pitchers. Mr. Townsend, St. Mary's Nursery, had three new varieties of *Clematis lanuginosa*, namely *violacea*, rich purple, like a large edition of Pleroma elegans; *atropurpurea*, brownish-purple, rather loose; *venosa*, small, slaty purple, and pretty.

Scottish Pansy Society, June 8. — The twentieth annual competition of this society took place in the City Hall, Glasgow. Owing to the severe frosts which occurred a few weeks previously, the number of exhibitors was not so great as usual. Nevertheless, the exhibition was well worth seeing. Messrs. Downie, Laird, and Laing, of Edinburgh and London, were successful in carrying off the prize for the best bloom in the room, with Lavinia (white ground); and it was really a fine bloom, pure, smooth, and well shaped—almost everything in fact that is wanted in a pansy. Mr. M'Nab, of Inglis Green, near Edinburgh, obtained a certificate of merit for a yellow-ground seedling named John Downie, a well-proportioned flower of good substance, belting somewhat like C. W. R. Ramsay, blotch dense and well defined; a most distinct variety. Miss E. Cochran (white ground) was shown in good style in several stands. Perfection (yellow ground) and George Wilson (yellow ground) stood out prominently from their compeers. Francis Low (yellow ground) was also very fine. Selfs were fairly represented by Alexander M'Nab and Miss

Muir in the dark class, and Cherub was the only one worth mentioning amongst the light selfs.

Twenty-four blooms (dissimilar), nurserymen only: 1st, Messrs. Downie, Laird, and Laing, with Miss E. Cochran, Ladyburn Beauty, Francis Low, Princess of Prussia, Invincible, 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, and Miss Muir; 2nd, Thomas Nicol, Burghmuir Head.

Eighteen blooms (dissimilar), gardeners and amateurs: 1st, Lewis Sinclair, gardener to A. M'Nab, Esq, Inglis Green, with John Downie, Prince of Wales, Lavinia, Prince Imperial, John Elston, Eclat, Lord Clyde, Lady L. Dundas, Cherub, F. Low, Mary Lamb, Attraction, Princess of Prussia, Perfection, A. M'Nab, Miss E. Cochran, Mrs. G. Potts, and Queen of Whites.

Twelve blooms (dissimilar), gardeners and amateurs: 1st, John Ingram, Cathcart, with Rev. H. H. Dombrain, Alice Downie, Lavinia, Prince Imperial, Miss E. Cochran, Perfection, Cherub, Milton, F. Low, Othello, C. W. R. Ramsay, and Countess of Rosslyn.

Six blooms (gardeners and amateurs): 1st, John Ingram, with Rev. H. H. Dombrain, Miss E. Cochran, Glory, Lavinia, Cherub, and Countess of Rosslyn.

Six blooms (amateurs only): 1st, William Wilson, Cathcart, with Rev. H. H. Dombrain, Cupid, Perfection, Cherub, Beautiful Star, and Lady L. Dundas.

Twelve blooms (open to all): 1st, Messrs. Downie, Laird, and Laing, with Princess of Prussia, Serena, Lavinia, Chancellor, Lady L. Dundas, A. M'Nab, Cherub, Prince of Wales, George Wilson, Mary Lamb, Miss Muir, and Princess of Wales.

Single blooms (nurserymen and gardeners): best self, Downie, Laird, and Laing, with Miss Muir; best yellow ground, do. with Perfection; best white ground, do. with Lavinia; best in the room, do. with Lavinia. Amateurs; best dark self, James Fargie, Dunse, with A. M'Nab; best light ground, do. with Lady L. Dundas; best yellow self, W. Wilson, Cathcart, with Cherub; best yellow ground, do. with Perfection.

Crystal Palace Rose Show, June 25.—At this exhibition there were many noble collections of roses, as there were also many in very poor condition — the flowers falling to pieces, and the outside edges bleached with the heat and drought, proving that, though good roses may be found in plenty under the worst circumstances, this has not been a good rose season: it has been too hot, too dry, too windy; the flowers have not had the substance nor the power of endurance which so delights us in a cool moist season. The winning collections, of course, comprised the finest flowers, and happily there were many collections that compelled people to linger and admire, so that at some points the crowd pressed very hard, and the most robust and persevering of the visitors had the treat almost to themselves. In fact, the best collections were taken possession of by the crowd the moment the barriers were removed, and that even before the judges had finished their work, so that those excellent personages had to take refuge within the ropes, and finish their labours amid the distractions of an applauding crowd.

*Messrs. Paul and Son's First Prize Ninety-six.* — Celestine (G.), Peter Lawson, Comtesse de Chabrilland, Triomphe d'Alencon, Reynold's Hole, *Hamlet* (new), Paul Perras (H. B.), Olivier Delhomme, Gloire de Mousseuses (M.), Duc de Cazes, Victor Verdier, Senateur Vaisse, Jean Goujon, Prince Camille de Rohan, Auguste Mie, La Ville de St. Denis, Celine Forestier (N.), John Waterer, La Brilliante, Beaute de Francaise, Louise Odier (B.), Anna Alexieff, Prince Leon, Monte Christo, Madame Julia Daran, Lælia, Madame C. Crapelet, John Hopper, General Jacqueminot, Comte de Nanteuil, Mathurin Regnier, Madame Boll,

Madame Valembourg, Lord Canning, Mdlle. Bonnaire, Louis XIV., Alba rosea (T.), General Castellane, Madame Vidot, La Fontaine, Triomphe de Guillot fils (T.), Francois Lacharme, Madame Domage, Vicomte Vigier, Belle de Bourg-la-Reine, Vainqueur de Goliath, Dupetit Thouars (B.), Madame Vigneron, Madame Cambaceres, Mareschal Vaillant, William Griffith, Madame Furtado, Madame Falcot, Alphonse Damaizin, Souvenir d'un Ami (T.), Beauty of Waltham, Model of Perfection, Charles Lefebvre, Emile Dulac, Anna de Diesbach, Madame W. Paul, Gloire de Vitry, Madame Clemence Joigneaux, Baron Gonella, Admiral Gravina, Triomphe de Rennes (N.), Baron de Rothschild, Catherine Guillot, Marie Portemer, Virginal, Eugene Bourcier, La Reine, Jules Margottin, Gloire de Santhenay, Francoise Louvat, Baronne de Noirmont (B.), Lamarque (N.), Madame Eugenie Verdier, Archimedes (T.), Souvenir de la Reine d'Angleterre, Duchess of Orleans, Souvenir de Comte Cavour, Caroline de Sansal, Madame Charles Wood, Madame Hector Jacquin, Louise de Savoie (T.), Lord Clyde, Baronne de Heckeren, Maurice Bernardin, Baronne Prevost, Madame Villermoz (T.), Madame Caillat, Madame Rivers, Professor Koch. Mr. Mitchell took the second prize in this class, Mr. W. Paul third, Mr. Cant fourth, Mr. Keynes fifth.

As on former occasions, Mr. Hedge was a hero among the amateurs, taking nearly all the first prizes in the higher classes; at all events, 1st for 36, 1st for 24, and 1st for 28. As a guide to the selection of varieties where small numbers have special interest, I subjoin

*Mr. Hedge's First Prize Thirty-six.*—Devoniensis (T.), Gloire de Santhenay, Madame Vidot, Madame Domage, Madame Charles Wood, Comtesse de Chabrilland, Madame Boll, Gloire de Mousseuses (M.), Souvenir de Braves, Jules Margottin, ragged; Orderic Vital, loose and ragged; Pauline Lansezeur, Souvenir d'un Ami, in perfection; Charles Lawson (H. B.), Caroline de Sansal, Paul Ricaut (H. B.), Triomphe de Rennes (N.), superb, the colour clear yellow, rather deeper than usual; Madame C. Crapelet, Lamarque (N.), loose, but with seven fine buds; General Jacqueminot, Madame Bravy, La Brillante, small and thin; Gloire de Dijon, fine; Anna de Diesbach, La Boule d'Or (T.), fine in colour, and more golden than usual; Lord Raglan, Adam (T.), John Hopper, bleached on the edges; Madame Rivers, in perfection; Eugene Appert, small, and in this instance not very telling in colour.

The second prize in the class for thirty-six went to Mr. W. Ingle, gardener to C. G. Round, Esq., Colchester, amongst whose flowers the following were notable:—Baronne Prevost, Duchess of Norfolk, Madame Rivers, Madame Crapelet, Comte de Paris (T.), Alfred de Rougemont, Souvenir de la Malmaison (B.), Jules Margottin, Madame Damaizin (T.), Madame Boll, showing an eye; William Griffith, ragged; Prince Leone, apparently roasted—this once famous rose has been seldom well shown of late years; Madame Masson, a pancake; Madame Boutin, fine; Imperatrice Eugenie, Madame Domage, quite gone; Madame Vidot, President Lincoln, Charles Lefebvre, Paul Perras (H. B.), Celius Forestier (N.), Beauty of Waltham, Lord Raglan, fine; Comtesse de Chabrilland, Colonel de Rougemont, very large, loose, not nice; Senateur Vaisse, very large, the best of all in this collection; Gloire de Dijon (T.), John Hopper, Devoniensis (T.), Pauline Lansezeur, Jean Goujon, Victor Verdier, Madame Pierson, Paul Dupuy, Madame Knorr, too much open to show its exquisite form.

*Mr. Hedge's First Prize Twenty-four.*—These were better put up than the thirty-six, and apparently by another hand. Cynthia (G.), very flat; Lord Raglan, Madame Vidot, Senateur Vaisse, Celine Forestier (N.), Madame Domage, Souvenir d'un Ami (T.), with four fine buds attached; Madame Charles Wood, Adam (T.), Professor Koch, Rubens

(T.), Charles Lawson (H. B.), Enfant de Lyons, John Hopper, Gloire de Dijon, Souvenir de Rousseau, very flat and rough, as if it had been trodden under foot, outside purplish-crimson, shading to fiery-crimson centre, fine for colour; Louise Darzins, General Jacqueminot, Gloire de Mousseuses, Paul Ricaut (H. B.), Caroline de Sansal, Madame Boll, L'Enfant Trouve, fine; Comtesse Cecile de Chabrillant.

*New Roses.*—There were two fine collections of new roses of 1862 and 1863: Mr. W. Paul first; Messrs. Paul and Son second. Mr. W. Paul brought forward all his own recently distributed seedlings in a way which afforded every possible facility for comparing them; and we scarcely need say that the varieties exhibited proclaimed their merits in unmistakable characters. First we had *Princess of Wales*, the best perhaps of all the recently produced English seedlings, fine in every quality of form, size, substance, and colour: a grand subject destined to contribute largely to the gaiety of the gardens when it has attained to the full popularity it deserves. Next *Lord Macaulay*, *Mrs. W. Paul*, and *Beauty of Waltham*. Other new roses from Mr. Paul were *Deuil de Prince Albert*, *Annie Leroy*, *Paul Feval*, *L'Esmeralda*, *Le tour de Courcy*, *Triomphe de Caen*, *Gustavus*, *Rousseau*, *Baronne Adolphe de Rothschild*, fine; *Duc de Bassano*, very fine; *Reynolds Hole*, *Le Rhone*, *Madame Adele Jougart*, *Prince Camille de Rohan*, a grand dark rose; *Emotion*, *Mareschal Vaillant*, *Eugene Boureier*, *La Brillante*, *Madame de Claudine d'Offay*, *Madame Charles Wood*, *Souvenir de Lady Eardley*, *President Lincoln*, *Souvenir de Charles Montalbert*, *Jean Goujon*, *Robusta*, *Francois Lacharme*, *Mdlle. Emain*, three of these together, it is a superb rose; *Monte Christo*, and a seedling in the style of President Lincoln, and decidedly better as here shown, a full finely-formed stout flower, rich and dark, and more decisive in character than the variety to which it approaches nearest in resemblance: the name of this is *Dr. Lindley*. Of Messrs. Paul and Son's new roses, I took note of one called *Hamlet*. It is a dark rose in the style of Lord Clyde, and apparently a slight advance on that noble variety. It is a genuine English seedling, as I am assured by Mr. G. Paul, jun., who superintends all the exhibiting for the firm, and they have the whole of the stock of it at the Cheshunt nurseries.

## ROSE GOSSIP.—No. VIII.

AN AMATEUR'S IMPRESSIONS OF THE CRYSTAL PALACE ROSE SHOW.

No place is so suitable for a rose show on a grand scale as the Crystal Palace. The surrounding accessories are so in keeping with the refined character of the exhibition, and there are so many artistic objects for the eye to turn to if wearied with the sameness of the floral display, that the spectacle is full of interest even to those who are not connoisseurs or cultivators. Besides, there is greater space for moving round the tables, or for escaping from the crush, than is to be met with elsewhere; a consideration of no mean importance in these days of huge hoops and voluminous skirts with which our belles delight to adorn themselves on sight-seeing occasions, to the manifest discomfiture of the coarser order of the creation.

The more I see of rose-shows the more I am convinced of their inutility for the guidance of amateurs, who may be seen hovering round the tables, note-book in hand, laying up for themselves stores of future disappointment. Prize-taking is no test of the worth of plants, nor are prize flowers always suitable for general cultivation. The show of the 25th June afforded no grounds for modifying this opinion, nor, as far as the roses were concerned, did it strike me as

being equal to others that have been held at the same place. The day happened rather unfortunately for catching the flowers in condition. Glaring sunshine, high winds, cold nights, and driving showers are not the best atmospheric elements for developing the beauties of the queen of flowers, and such alternations have constituted the staple of the weather since the heats of May. Another feature of the show that struck me was the number of blooms overgrown and out of character, scattered liberally among the boxes. Some kinds, models of form when moderately developed, were scarcely to be recognized from mere monstrosity. Indeed, monstrosity appears to be considered the paramount excellence by judges of the present day, and, consequently, more sterling properties are sacrificed to obtain it by exhibitors. This is admittedly a sensational age. We have sensation novels, dramas, dress, etc., and, to be in the fashion, it would appear to be necessary to have sensation roses. For my own part I would raise a humble protest against roses with discs like a captain's biscuit, and profiles about as deep, especially when accompanied with petals ragged, and few and far between, and colour dull and undecided. As an illustration of this abuse of size, I may mention a cluster of "L'enfant Trouvè" in one of Mr. Cant's collections, which reminded me rather of a bunch of some fungus than of beautiful flowers, yet the same kind was excellently shown by Mr. Hedge. The latter gentleman's specimens, by the way, were better set up and more neatly arranged than, perhaps, any others at the show. Another drawback to the completeness of the spectacle was too great a sameness in the varieties exhibited; many old favourites of unsurpassed merit being "conspicuous from their absence." Of course in collections, representing probably the produce of a million of plants from some of the first rose grounds in the country, and which in a line would have extended, perhaps, the eighth part of a mile, many individual blooms were as fine as could be seen. The following kinds were generally well exhibited, and in good condition. Beginning with the darkest tints, *Prince C. de Rohan*, *Vicomte Vigier*, *Alfred de Rougemont*, *Monte Christo*, *Mrs. W. Paul*, *Admiral Gravina*, *Souvenir de Comte Cavour*, and *Duc de Cazes*, deserve remark. There was also a fine bloom of *Vainquer de Goliath* in Mr. Fraser's boxes, and in the same collection, I think, one of *Deuil de Prince Albert*, a very distinct and remarkable rose. Both of these last will do near town if my own experiments are to be depended upon as guides to others.

In the various shades of crimson, red, and scarlet, there was an extensive range of superior varieties, the best of which, as I noted them, appeared to be *Charles Lefebvre*, *Duc de Rohan*, *Baron Adolphe de Rothschild*, *Duc de Bassano*, *Senateur de Vaisse*, *Souvenir de Lady Eardley* (by no means double enough, but colour fine), *Jean Goujon* (a tremendous grower), the veteran *General Jacqueminot*, *Francois Lacharme*, *Beauty of Waltham*, *Baron de Rothschild*, *Princess of Wales* (Mr. W. Paul's), *Wilhelm Pfitzer*, *Marechal Vaillant*, *La Brillante*, *Maurice Bernardin*, *Olivier Delhomme* (four too much alike, La Brillante the best grower), *Madame C. Wood*, *Madame Boutin*, and *Triomphe de Caen*, the most vivid colour, perhaps, of the whole section.

The *crême de la crême* of the light crimson and rose-coloured class, were *Jules Margottin* (as usual unsurpassed) *Madame Clemence Joigneaux*, a companion, in free and robust growth, to *Domage* and *Cambaceres*, *John Hopper*, *Pauline Villot*, *Madame Knorr*, *Anna Alexieff*, *Victor Verdier*, *Prince Imperial*, Bourbons *Baronne Gonella* and *Catherine Guillot*. I do not include *Col. de Rougemont* and others of that type; they are usually such coarse growers. Of the somewhat lighter tints, *Chabrilland* was far from good; there were a fine bloom of *Alice Levoy*, and several of *Duchesse d'Orleans*, *Mrs. Rivers*, *La Tour du Crouy* or *de Croucy*, *Malmaison*, *Devoniensis*, and *Madame Villermoz*.

The Noisettes *Triomphe de Rennes* and *Celine Forestier*—I have been told this is really an old rose named Lysias [such is the case, Ed.]—with

a few blooms of *Cloth of Gold*, and T. *Madame Faleot*, were the most important representatives of the yellow class save two half-opened specimens of that *rara avis* among roses, the *yellow Provence*, and a cluster of *Narcisse* in Mr. Fraser's stands, the best sample of that kind upon the tables; that admirable kind, *Gloire de Dijon*, was very meagrely represented, which may be accounted for by its first bloom having generally gone by—at least it was so with mine.

By the time I had made these observations the constantly increasing company rendered examination, much less criticism, difficult, if not impossible, and navigation amidst the vortex of silks and muslins extremely perilous. Such ejaculations as, "May I trouble you to raise your foot?" "Will you be so kind? The-enk you," became so frequent as to result in a very tolerable imitation, on my part, of the "goose step;" so, extricating myself as well as possible, I was fain to restore exhausted nature with a copious libation of "Bass," and a cigar in the open air.

For the information of suburban rosarians, I may as well just specify such of the newer kinds enumerated above as succeed with me, within the four-mile radius, and which, consequently, are likely to thrive anywhere if properly treated. Every instruction to this end that the inexperienced can desire, will be found in Mr. Hibberd's new work, "The Rose-Book," perhaps the best work on the subject that has yet appeared; no rosarian's library will be complete without it. *Charles Lefebvre, Madame Clemence Joigneaux. John Hopper, Vicomte Vigier, Madame C. Wood, Triomphe de Caen, Duc de Rohan*, and Bourbons *Catherine Guillot* and *Emotion*.

It is not a grateful office to find fault with judges' awards. In Class 10, however, I think they were open to objection; the terms of the schedule, moreover, were unfortunately vague. The class was described as being for the roses of 1862-63, meaning obviously the *last* two batches of new varieties—viz., those introduced in the autumns of 1862-63, and let out in the spring of 1863 64 respectively. In consequence of the latitude allowed by this uncertainty of description, some of the stands contained kinds that had been in cultivation two full seasons, and which were common in the general stands—such as, *Charles Lefebvre, Prince C. de Rohan*, etc., and even *Reynold's Hole*, shown, if I mistake not, in 1861. If the object of this section of prizes be to encourage liberal experiment in new and untried varieties, it must inevitably fail unless the rewards are given to those who exhibit most examples of the very latest kinds, irrespective of other considerations. It is manifestly easier to exhibit specimens where the budded quarters of brier and Manetti are at command for cutting blooms, than from a few French stools sent over in the autumn, and severely cut back for propagating purposes, or from the young spring grafted plants so propagated. In the interests of fair play, and for the encouragement of growers who import largely every season, the chief means by which we obtain sterling additions to our lists, it would be better in future to constitute the *last season's varieties only* a distinct class. Looking at the stands in this class from this point of view, I thought Mr. Fraser's should have been equal first, or only second at least, to Mr. William Paul's, whose own fine seedlings doubtless gave him an advantage.

I would further venture a remark upon "disbudding," one of the means by which monstrous roses are produced. It is not fair to competitors who do not practise it; it is not fair to purchasers who are deceived by it as to the true character of the kinds they buy. It is akin to chrysanthemum dressing and other tricky practices, not redounding to the credit of floriculture; nor ought teas grown *under glass* to be allowed to compete with those grown in the ordinary manner in the open air.

*Homerton.* W. D. Prior.

# OUR PUBLIC GARDENS.

The progress of decorative horticulture is in no way more agreeably exemplified than in the wonderful changes wrought in the aspects of our public gardens during the past few years. The man who wishes to know in what direction public amusements are advancing, cannot do better than make a trip to Kew, St. James's, Hyde, Regent's, Victoria, or Battersea Parks just now, to be convinced that the poorest denizen of the great metropolis has at command a source of the most exalting of pleasures, at no other expense than that of conveyance to the show; and as public gardens are on the increase, we shall hope for the day when there will be a sufficient number in various parts of London, to place within walking distance of every section of its population an annual feast of green leaves and flowers. The exquisitely designed bedding patterns adopted by Mr. Massey, the able superintendent of the flower-beds at Hyde Park, are not only a credit to him, but to the metropolis. It is not long since in a walk through the parks, the only flowers we saw were Virginian stock and African marigolds, and miserable examples *they* were both of culture and adaptation. Now, London has its mosaics, ribbons, Berlin-wool shadings, and all the rest of the simple and intricate examples of flower grouping, so that people who are disgusted with the admixture of floral elegancies with tight-rope dancing, and the morbid excitement arising out of the probability that a certain man or woman may be killed in the presence of a gaping crowd, may enjoy the better part of the entertainment in one of the public parks, free from the excitements provided for morbid appetites, and from temptations to excess and folly. In almost every direction now, the few people who remain in London may participate in rural pleasures. The two gardens at the Temple, where Mr. Broome and Mr. Dale, who labour incessantly to keep up the gaiety of their grounds in spite of smoke and drought, are really beautiful.

If we look about us in any of the leading midland and northern towns, we shall find that the same happy changes are being effected. The borders that a few years ago were given up to stunted lilacs, dead leaves, and mouldiness, are now treated as worthy of a better garniture; and drinking fountains, public seats, and many other sources of comfort, are provided for the weary pedestrian. To what shall we attribute this great change in the aspects of public grounds? Generally to the advance of intellect and morals, the decline of every species of debasing amusements, the progress of education, and the diffusion amongst all classes of the people of a better order of literature; amongst which let cheap newspapers have their proper place. Shall we not say, too, that gardening periodicals have done much to foster the germs of a pure taste, and encourage pursuits of an elevating and refining nature? Certainly they have; and if their pages are not so crowded with reports of new discoveries, descriptions of new inventions, and criticisms on plants of questionable value, as some of the gardening fraternity would have them; they nevertheless tend, by affording an arena for the discussion of principles, and the display of the results occasionally attained by inquiry and experiment, to the education of the masses and the improvement of the moral and intellectual tone of society at large.

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Earwig Traps.—The prevailing practice of placing garden-pots on the tops of dahlia stakes to entrap the earwig, so injurious to the blossom of that plant, to me appears highly discordant with good taste, and yet these unsightly objects are exhibited in almost every garden and pleasure-ground from the time of planting the dahlia to the end of the season. Permit me to suggest as an improvement, that the pot be placed erect on the ground behind the plant close to its stem, with a small quantity of wool inside, or anything else that would afford warmth and concealment to the insect, which feeds in the night and secretes itself during the day; or, in place of the pot, a small piece of woollen cloth may be put between the stem of the plant and the stake, or a bundle composed of half a dozen bean-stalks, five or six inches long, may be placed between the plant and the stake, or amongst the branches. Indeed, almost anything that would afford concealment to the insect, and at the same time not look untidy, would answer: of whatever material the trap is, it should be frequently examined, and the insect shaken out and destroyed. I may also mention that the caterpillar, which feeds upon the dahlia blooms, and secretes itself during the day between the stake and plant and in the bloom, may be entrapped by placing the old blossoms about the plant in the above manner. Major.

## AUGUST, 1864.—31 Days.

Phases of the Moon.—New, 2nd, 2h. 34m. after.; First Quarter, 10th, 5h. 57m. after; Full, 17th, 1h. 37m. after; Last Quarter, 24th, 6h. 4m. 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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Anniversaries, Meetings, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 4 25 | 7 46 | 3 29 | 6 42 | Slight haze; fine; rain | Chev. de Lanark born, 1744 |
| 2 | 4 27 | 7 44 | 4 32 | 7 9 | Cloudy; fine; mild | Battle of Blenheim, 1732 |
| 3 | 4 28 | 7 42 | 5 36 | 7 33 | Fine; cloudy; hot; fine | Day breaks, 1h. 37m. |
| 4 | 4 30 | 7 41 | 6 38 | 7 54 | Fine; clds. in strata; rain | Sardinians capitulate, 1848 |
| 5 | 4 31 | 7 39 | 7 41 | 8 16 | Fine; boisterous; rain | *Calthorpe Cottagers' Show* |
| 6 | 4 33 | 7 37 | 8 46 | 8 37 | Rain; cloudy, fine | Prince Alfred born, 1844 |
| 7 | 4 35 | 7 35 | 9 50 | 8 57 | Cloudy; fine; hot; warm | 11TH SUNDAY AFTER TRINITY |
| 8 | 4 36 | 7 34 | 10 54 | 9 21 | Cloudy and fine; fine | Canning died, 1827 |
| 9 | 4 38 | 7 32 | 11 59 | 9 47 | Overcast; hot; fine | Day breaks 2h. 4m. |
| 10 | 4 39 | 7 30 | After. | 10 20 | Fine; hot; cloudy | *Northleach & Cotswold Hort. Show* |
| 11 | 4 41 | 7 28 | 2 11 | 11 0 | Light clouds and fine | Dog days end |
| 12 | 4 42 | 7 26 | 3 13 | 11 50 | Light clouds; fine | Grouse shooting begins |
| 13 | 4 44 | 7 24 | 4 11 | Morn. | Slight dry haze; fine | Francis Blaikie died, 1857 |
| 14 | 4 46 | 7 22 | 4 59 | 0 50 | Cloudy; fine; cloudy | 12TH SUNDAY AFTER TRINITY |
| 15 | 4 47 | 7 20 | 5 42 | 2 0 | Fine; cldy.; fine cldy. | Duncan Montgomery died, 1857 |
| 16 | 4 49 | 7 18 | 6 20 | 3 18 | Overcast; showery; rain | Bomarsund taken, 1854 |
| 17 | 4 50 | 7 16 | 6 51 | 4 41 | Cldy.; fine; slight rain | Frederick the Great died, 1786 |
| 18 | 4 52 | 7 14 | 7 18 | 6 6 | Overcast; fine; cold | Length of day, 14h. 22m. |
| 19 | 4 53 | 7 12 | 7 47 | 7 29 | Rain; showery; lightng. | Cardinal Stuart died, 1807 |
| 20 | 4 55 | 7 10 | 8 15 | 8 51 | Cldy; shwry; fine; cold | *Portobello Horticultural Show* |
| 21 | 4 57 | 7 8 | 8 44 | 10 11 | Fine; cloudy; fine | 13TH SUNDAY AFTER TRINITY |
| 22 | 4 58 | 7 6 | 9 17 | 11 28 | Densely clouded; fine | Battle of Bosworth, 1485 |
| 23 | 5 3 | 7 4 | 9 55 | After. | Fine throughout | Mexico annexed, 1846 |
| 24 | 5 1 | 7 2 | 10 39 | 1 44 | Fine; cloudy; fine | *Burton-upon-Trent Hort. Show* |
| 25 | 5 0 | 6 59 | 11 27 | 2 42 | Fine; thunder; showers | Revolution at Brussels, 1830 |
| 26 | 5 5 | 6 57 | Morn. | 3 30 | Fine; shrs; heavy rain | Baths and washhouses estab., 1846 |
| 27 | 5 6 | 6 55 | 0 24 | 4 8 | Fine; showers; wind | Mr. W M. Errington, gdnr. d. 1860. |
| 28 | 5 8 | 6 53 | 1 22 | 4 45 | Fine; white clouds; | 14TH SUNDAY AFTER TRINITY |
| 29 | 5 9 | 6 51 | 2 24 | 5 12 | Fine cloudy; fine; | Louis Philippe died, 1850. |
| 30 | 5 11 | 6 49 | 3 27 | 5 38 | Fine; rain at night | Twilight ends, 3h. 0m. |
| 31 | 5 13 | 6 46 | 4 30 | 6 0 | Wind and rain; cloudy | *Leicestershire Horticultural Show* |

Probable Weather, August, 1864.—Although we have had an unusually dry summer, we do not anticipate any heavy rains at present to make up arrears, though the arrears will probably be paid two or three months hence. From 1st to 7th, variable, with light showers and smart gales; wind generally westerly; 8th to 20th, fine and hot, wind N.W. to N.E. Thence to end of month variable again, but fine weather; predominating wind N.E. to S.E.

## THE GARDEN GUIDE FOR AUGUST.

Kitchen Garden.—*Kitchen Garden* requires now a general clearance of plots that have borne peas, beans, etc., to burn all the dry haulm and weedy stubble, and fork over and put on manure if necessary; all winter crops will be better in ground well dug, even if not manured, than with a scratching of the surface. Where there is

much demand for potting composts, the kitchen garden will supply useful material for the muck-pit, which is a more economical method in the long run than the burning of rubbish, though the latter is a clean and quick way to get rid of it, and the ashes are useful. Save all the soot that can be got to make a puddle for dipping the roots of broccolis, cabbages, etc., when planting out from the seed-bed, and store away at once all pea-sticks worth keeping, to preserve tidiness and prevent waste.

*Celery* is now all put out for culture in trenches, and must have abundance of water during dry weather. But there may still be left a quantity of plants in the bed requiring removal, and it will be good economy to plant these out in the same way as winter greens, from four to six inches apart, on the level ground, with or without manure, as may be convenient. For all culinary purposes this will be as useful in winter as celery from trenches, and so much more hardy, that if early frosts should injure the remainder of the crop of blanched celery, this lot of small plants will remain uninjured, and will come in useful for soups, etc.

*Celery* to be earthed up with care after heavy rain, or a good watering; take care the mould does not get into the hearts.

*Cauliflowers* to be sown on raised beds of fine rich earth; when they have their first rough leaves, to be taken up and potted in thumb pots in good fuchsia compost, and the pots plunged in a bed of coal-ashes. As soon as the pots are full of roots, to be shifted to 60's, and in these to be wintered in frames, the pots plunged to the rim to prevent frost touching their roots. This may seem a dandified way of treating cauliflowers; we can only say that experience has taught us that it pays better in the end than any other method for a crop to plant out early in the spring.

*Muck Pit.*—There will for several weeks be vast accumulations of rubbish by removal of pea, bean, and potato haulm, and other materials for manure. By this time the muck-pits are generally full of grass mowings and other summer sweepings; but the economical gardener will never waste a scrap of anything that can be rotted into compost, and room must be made now for the extra supplies. It is a common thing to see rubbish thrust into holes full of water, in order that it may rot the quicker, the parties forgetting that water washes out all the goodness of the material. It would be better to accumulate vegetable refuse in one large heap, to undergo fermentation and decay without the help of adventitious moisture; and if any offensive smell results, throw a layer of earth over the heap. Common mould is the best of all deodorizers.

*Sow* horn carrot on dry sandy borders for supply in early spring, endive for spring use, lettuce to stand the winter, Tripoli and Strasbourgh onions to stand the winter, turnips, Flanders spinach, collards, prickly spinach, radishes, parsnep chervil, Early York, Battersea, Shilling's Queen, and Rosewort cabbage, Early Horn carrot, green curled endive.

*Winter Greens* lately planted are now doing well. Breadths that were planted early and close now require every other plant to be removed, and there will be room for this now that summer crops are being cleared off. For every kind of green to be used between this time and Christmas manure liberally, but for those to stand till spring do not manure at all.

Fruit Garden.—*Bush Fruits* require attention now that the crop is gathered. Thin the present year's growth, tie and nail all the bushes on fences and wires, and give the trees their final shape for fruiting next year. Thin out the new canes of raspberry stools, so as to leave only three or four of the strongest to each. As soon as the fruit is off, cut the old canes to the ground, and tie out the new ones that the wood may get hard and ripe. If manure is plentiful, mulch the raspberries at once, but do not disturb the surface more than may be necessary to remove weeds.

*Fruit Trees* that are still making young wood must not be stopped, or it will cause them to throw out useless side-shoots, and the less the knife is used among them now the better. Espaliers must be tied and nailed before the young wood gets too hard to be brought into regular order without injury.

*Strawberries.*—Plant out the first lot of well-rooted runners in ground well manured, and shade for a week and keep well watered; these will at once form good crowns, and bear well next season. Lay more runners, always removing them as soon as rooted, as they do better for being on their own feet early, and distress the parent stool less. Now is the best time in the whole year to make new beds, to insure good bearing next year. If rooted runners are plentiful, take the best only, and destroy all the weak ones; but any varieties it is thought desirable to propagate to the utmost, sort the runners as to sizes, planting the forwardest and strongest in beds to bear, and the late weaker ones in separate beds for stock; these latter will probably not bear till the

year after next, and then will be strong plants. Strawberries to fruit in pots next year ought by this time to be strong, and in need of a shift. The soil should be strong loam, well chopped over with rotten dung, and the plants to be potted firm.

Orchard House.—*Potted Trees* must have every necessary attention now to complete their growth and ripen their wood. No more pinching, and the pruning of useless growths to be deferred till the sap is down. Peaches and nectarines to be put in a position where they will be roasted with sun-heat, as near a hot wall or fence. The lights of the peach-house should be off for a month at least, and any training neglected, to be done at once, that the wood may ripen perfectly.

Vinery. — *Vines* for early forcing should now be thoroughly cleaned up, and if possible the lights removed to harden the wood ; any way, all ventilators should be open night and day. Vines ripening crops to be kept rather dry, and with a free circulation of air. Vines in pots to be ripened off, and the pots laid on their sides, to check the growth and put the roots to rest.

Flower Garden.—*Bedding Plants* to be propagated without delay for next year. To save trouble, both now and during winter, select a few strong plants of verbenas, tropæolums, petunias, and lobelias, and pot them in large pots, with one-third of drainage in the pots, and shut them up in a frame and keep shaded for a week ; then let them be exposed to all weathers till the probability of frost requires them to be housed. Keep these to force for cuttings next spring, so as to be free of the necessity of propagating any of them now. The whole stock of geraniums and calceolarias for next year's bedding should be struck this season—geraniums at once in the open ground, without shade ; calceolarias in a moist shady pit. Save seed of Cineraria maritima, if you want anything new in the way of silver edgings. Cerastium may be left out all winter, so no need to propagate that now. If thought desirable to propagate verbenas now, in order to have an early bloom next year, take the points of growing shoots about three inches in length, and strike in pans of sand, and from these shift — not into pots — but into shallow boxes of any convenient form and size, in which they will winter better, and occasion less trouble in watering, etc., etc.

*Carnations, Picotees, and Pinks* to be propagated largely now from layers and pipings, both easy and certain methods. We confess that we prefer to take cuttings about half a dozen joints long, remove only as many leaves as will leave a clear stem to fix them in cutting pans filled with half loam and half sand, and put bell-glasses over. By this method the plants may be cut as freely as verbenas after the bloom is over, and in three or four weeks the cuttings are all well rooted. Pinks already rooted to be planted out.

*Chrysanthemums* require special attention now ; pompones to be topped for the last time ; large flowering kinds not to be stopped any more, all to have sticks and ties if needful ; and plants intended for exhibition to have the surface mould removed from the pots, and a mulch of sheep or deer's dung, or fat half-rotten dung from a cucumber bed. For decorating the house late in the year a few pompones may yet be struck as cuttings, but they must be shifted on in pots, for if turned out at this late period there will be no certainty of a bloom.

*Dahlias* want a heavy mulch after the ground has been lightly forked. This is said to harbour vermin, but practically its few disadvantages are balanced by the superior health of the plants and the beauty of the flowers, and the labour of watering is got rid of. As for earwigs they always go upwards, and may be trapped with certainty.

*Evergreen Shrubs* may now be moved with a better chance of success, whether they be large or small : aucubas, laurels, Portugal laurels, lauristinus, arbor vitas, etc., have all done growing; their wood is hard, and if lifted now will make fresh roots while the surface soil is in the best condition of warmth and moisture of any period of the year. Where new gardens are being laid out, the gain of three months upon the ordinary planting season is no small matter, as it enables the planter to get the chief operations finished at a time when the men enjoy the work, and the proprietor is enabled also to enjoy the result, and all to the advantage of the plants. Layers and cuttings of hardy shrubs put down now, and left till April or May, may then be removed, and planted in nursery rows with good roots.

*Geraniums* should be propagated at once by cuttings put in the open ground in a sunny place, or singly in thumb pots in frame or on a moist bed in a house facing south. If this work is postponed, the plants will be more difficult to keep through the winter. If quantity is an object, every two joints, one joint in and one out, will make a good plant ; but one joint will do very well of any variety it is necessary to

cut hard, as to form roots a joint in the soil is not necessary, as the internodes will root nearly as soon as the joints.

*Herbaceous Plants* may be divided now, and many may be raised from seed for next year. All the low-growing tufted plants, such as Aubrietia purpurea, Arabis, etc., may be parted, so that each little tuft has a few fibres; if shaded and kept watered for a week they will soon make new roots, and form nice tufts to remove from the reserve ground to the borders and beds in early spring. It is not too late to put in cuttings of that best of all the spring flowers, Iberis sempervirens. We have destroyed our whole stock of common white arabis, in order to substitute this for it; the flowers are produced so much more abundantly, are so much more beautiful, and the plants are green and lively all winter. See to this and other such things, and make a list of all you have.

*Hollyhocks* are now coming into full beauty, and must have every attention necessary to keep them so. See that they are loosely but safely tied to their stakes, as a smart gale will sometimes snap off the best spikes. As they are quite as much infested with earwigs as dahlias, the intending exhibitor must set traps. Plenty of water will help them to open the top buds well, and all choice kinds on which it is desirable to have a few good blossoms to the last should be disbudded. Take off first every other bud all the way up, then remove a few more on the side farthest from the walk, or on what may be called the backs of the plants, and then go over them again and remove a few buds wherever they are crowded; finally, top the stems to uniform heights, if the plants form a compartment of themselves: when they are scattered about there is no occasion to top them, and are to be propagated from cuttings as soon as they can be got from the stool. Cuttings from the stems are of no use to amateurs, and should never be used by anybody, except to increase kinds in great demand.

*Lilies and Liliums.*—Though all *lilies* are *liliums*, there is an accepted distinction between these terms which it is useful to recognize in calendarial directions. All border lilies that have done blooming should be taken up, the offsets removed, and the large roots for flowering next year be planted again directly where they are to bloom, and with a shovelful of rotten dung or some sound fresh compost added for every clump. Plant the offsets also at once in the reserve ground. This is the proper way to manage all border lilies. Choice liliums in pots to have abundance of water until done blooming; after that the supply of water to be diminished, but not hastily; and as soon as the foliage shows signs of decay lay the pots on their sides on a sunny shelf in a greenhouse, to make sure of ripening the bulbs: let them remain in the pots a month, and then shake them out and repot them.

*Pansies* to be propagated from cuttings of young wood; the old rotten stems are quite unfit for the purpose. Keep the cuttings shaded, and sprinkle frequently, but the soil of the cutting pans only moderately moist. Beds to be planted to stand over winter should now be deeply dug and manured, which will tend to reduce wireworm, as they will be turned up in the process and be destroyed. After the beds are made ready, set traps for vermin, and persevere to get the ground clean, as the losses in winter often arise through the eating away of the roots by marauders.

*Saving Seed.* — Many choice border plants are now ripening their seeds, and whatever is required must be secured in time. Generally it is safest to gather the seed before it is dead ripe, as in many cases the pods open, and the seed is scattered and lost. Cut off bunches with a portion of stem attached, and spread them on cloths, under cover, to dry for a day or two, and then put them in the full sun to harden. A shelf in a greenhouse is the best place, because there is less fear of them being scattered by wind. Label all seeds when gathered, to prevent mistakes, and of all hardy subjects sow a portion at once, and keep the rest till spring.

Greenhouse. — *Agapanthus* to have abundance of water while throwing up flower-spikes, and until the bloom is over, then to be shaken out and parted, the strongest crowns selected for next year's bloom. Pot these singly in small pots, removing with a sharp knife any of the straggling roots that cannot be got into the pots. The soil should be sandy loam, rotten dung, and peat, equal quantities. Shut them up, and reshift as soon as the pots are full of roots.

*Aphelexis, Pimelia, Ixoras, etc.*, now going out of bloom, to be cut back freely, and put in a shady place, where sprinkle their tops frequently, and keep their roots rather dry till they break, when to be repotted. In repotting, use the compost rough and lumpy for all except young plants.

*Fuchsias* to be propagated now in quantity for next year's supply. The smallest cuttings make the best plants, and there is no need to cut to a joint. A mild bottom-heat will hasten the formation of roots; but it is not needful, as if

shut up in a cold frame, and kept shaded and regularly sprinkled, they will be well rooted in a fortnight. It is a saving of time in the end to put all cuttings singly in pots at this time of year, as they can be allowed to fill the first pots with roots, so as to grow strong from their first start. In preparing pots for the cuttings, use smallest sixties or thumbs; put a mixture of turf and old dung over the crocks, and fill up with half sand and half leaf, in which the cuttings will root as quickly as in sand alone at this season, and have something to live upon while filling the pots with roots. This is the best method for amateurs, who are much away from home, as the single cuttings require less care than when dibbled into sand only in shallow pans.

*Hardy Shrubs* of all kinds may now be propagated by layers or cuttings, the latter preferable, and the smaller the better if the shoots are firm. Aucubas, Laurels, Lauristinus, Grieslinia, box, ivy, holly, etc., etc., may be increased indefinitely by putting in small cuttings of this season's growth in sandy soil, in a shady place, and keeping them watered in dry weather. Any rather tender subjects struck in this way should be potted in September to keep in frames all winter, but generally they may remain where first put in till the following spring. As Irish ivy makes a grand edging to great beds, the hint may be useful that now is the time to propagate it for such a purpose next year.

Greenhouse.—*Greenhouse Plants*, especially hard-wooded kinds, will be benefited by a few weeks' exposure in the open air, to ripen their seasonal growth, and give them a stocky habit. This will afford opportunity for a general cleaning and painting of sashes, stages, walls, etc., and to clear out vermin from odd corners and old wood-work. Houses containing all ordinary kinds of stock to have air on day and night; but most soft-wooded plants in flower will enjoy to be shut up for an hour after watering, and then to have a little air again.

*Gesnera zebrina* to flower in winter will require a shift. The compost to be equal parts hazelly loam, fibry peat, and leaf-mould. Keep shaded and warm after shifting, and syringe frequently.

*Hyacinths and other Spring Bulbs* for an early bloom will have to be potted shortly, and preparations must at once be made to secure plenty of good turfy compost in a sweet and friable condition. We have tried several kinds of tall hyacinth pots, and found them in no way superior to pots of the ordinary make.

*Pelargoniums*, as they go out of bloom to be cut down, and placed in a warm, sheltered, and rather shady place for a week, then to be put in the full sun, and kept rather dry at the root, with occasional sprinklings of the stems and leaves till they break, and then to be repotted back into small pots with sound lumpy turf to make their new roots in.

*Pelargoniums* that have been cut down and made new shoots an inch long must be repotted. Don't shake the earth off so as to destroy the ball entirely, but remove the outside and trim in the roots slightly, so as to get them into small pots. Those potted a month ago now want a shift. Take care to have a sound compost; the use of light sandy composts has much to do with the long joints and weak flower-stems we notice at the shows.

*Refresh* all specimen plants in pots that are not to be shifted, by removing the top soil, and adding a dressing of new material —sheep's dung for those that can stand it, rotten dung from a cucumber pit for Camellias, Allamandas, Stephanotis, Dipladenia, etc.

Stove.—*Stove Plants* must be prepared betimes for the winter by gradually withholding water from such as have completed their growth, and exposing as much as possible to air and sunshine all hard-wooded plants, that the growth of the season may be completely ripened. Those intended for early bloom next season to be shifted at once to their blooming pots; let the soil be *fresh*, and the shifts not greater than the plants can reasonably fill up, and have time to ripen their wood.

Orchid House.—*Orchids* must have every necessary assistance to ripen their pseudo bulbs. They may have more light and air, and less moisture, but must be kept plump, and those that continue to grow all winter to be kept going steadily, but without excitement.

Pits and Frames.—*Auriculas* require repotting, to remove offsets, and secure a good bloom next season. The soil should be full of fibre, and in a sweet and fresh condition. Put the offsets in thumbs, singly, in a sandy mixture, and shut them up close for a week; this is better than inserting them round the sides of pots, as they can be allowed to fill the thumbs with roots, and then have a good shift at once.

*Cucumbers* for winter fruiting must be reared at once, and cuttings are preferable to seed, as the plants have a shorter habit, and are more fruitful. Take very small cuttings from the ends of newly-made shoots, put them singly in small 60's, and

shut up over a gentle bottom-heat. As we are not now using dung heat, we shall put a small frame over a heap of grass mowings, mixed with dry litter, which will afford enough heat to start them, and keep them going till new beds are made up. But beware of grass mowings alone, unless cooking and not growing is the object. One-half dry litter, and the other half mowings shaken over, will produce a steady, lasting heat, of great value at this time of year when it is not generally convenient or desirable to have dung wheeled in.

*Melons* need a brisk bottom-heat to ripen the fruit, and to be kept rather dry. Those swelling fruit to be encouraged with a lining, and a moderate amount of atmospheric moisture. Keep the vines regularly trained, so that the leaves are exposed to light, as wherever they are at all crowded, the fruit will be found to damp off.

*Pines* to be encouraged with heat and moisture. Young stock to be aired freely, to get them strong; fruiting plants to be refreshed by frequent sprinkling of the beds and plunging material; as they begin to ripen, keep them drier. As soon as fruit is cut, earth up the stools, and give extra heat. Plants now coming into fruit to be pushed on, so as to ripen at the end of September and beginning of October, when most of the summer fruits are scarce.

*Pines* swelling their fruit to have frequent supplies of liquid manure, and abundance of atmospheric moisture. Young plants to stand the winter, for fruiting early next year, had best be removed from those swelling fruit, so as to keep them drier and more freely ventilated.

GREENHOUSE PLANTS IN FLOWER.

*Adamia versicolor.*—A pretty blue-flowered greenhouse evergreen shrub of the order of Saxifrages, easily grown in peat and loam.

*Abronia pulchella and mellifera.*—These nyctagineous plants are deserving of greater cultivation than they have in our gardens, as they are well adapted to plant out on mounds and rockeries, where they trail and flower in a style resembling the verbena. The first-named produces pink flowers, the second orange. The best for bedding out is *A. umbellata*, with pink flowers. They are of no use in rich soil, and should always be grown in a mixture of peat and leaf, with a little sand.

*Acmadenia tetragonia.*—A useful rue-wort, allied to Diosma, from the Cape, botanically distinguished by the anthers having glands. The flowers are white, and the plant shrubby and neat. Grow it in turfy peat, or well-rotted meadow turf, and a fifth part sand.

*Acronychia Cunninghami.*—A magnificent tree, from Moreton Bay, resembling the orange in the sweet scent of its white blossoms, and related to it botanically. It is one of the best subjects for specimen culture, and may be wintered in a temperature averaging not lower than 40°. Soil, sandy loam and peat; no manure to touch the roots, but, to give extra vigour, may be top-dressed with rotten dung in May.

*Actinotus helianthi.*—This New Holland sunflower is a greenhouse herbaceous perennial, not in very high repute. It is useful, however, now, as the houses contain but few flowers of similar form and colour. It is an umbelliferous, not a composite plant. Soil, loam and peat; and warm greenhouse temperature all the winter.

*Adenandra fragrans.*—A great favourite for the conservatory, and one of the best of the genus. It is a rutaceous shrub from the Cape, requiring the same treatment as a Cape heath.

*Adesmia viscosa.*—This fine fabaceous shrub is of slender habit and free growth, and may be trained up a trellis on a back wall to a height of twelve or fifteen feet, which it will cover with its yellow blossoms. A free border of turfy loam and peat suits it best; and, like the others of its class, is very nearly hardy.

*Aloe depressa, distans, and saponaria.*—The first has orange-coloured, and the other two red flowers, and they are among the best of the genus for greenhouse culture; and though in a mixed collection we should never expect to see many of this tribe, a few give variety; and if they rarely bloom, their distinct forms are always interesting. These, and other allied succulents, such as Gasterias, Haworthias, etc., with Mesembryanthemums and Cacti, are all easily grown and propagated; and to ensure a plentiful bloom they must have perfect rest all winter, and be liberally grown all summer. The pots should be drained with extra care; the soil one-half broken bricks and nodules of old mortar; the other half to be equal quantities of turf, peat, rotten dung, and sharp sand, or finest siftings from gravel. When in free growth, and enjoying plenty of sun-heat, assist them with liquid manure.

*Alona obtusa and rostrata.* — These pretty Chilian shrubs produce their large blue flowers in plenty now, and are useful for their colour and gay appearance. The

proper soil for this tribe is tough turfy peat, with nodules of old chippy cow-dung. Cuttings root at any time during the summer, in sand.

*Aloysia citriodora* (the Sweet-scented Verbena) requires the same treatment as heliotrope, and like it is a good test of safe minimum temperature in winter, as it is the first of greenhouse plants to suffer from frost. Save old plants, and in May turn them out in open borders, where they will be acceptable for their perfume, and will grow like gooseberry bushes.

*Alstræmeria aurea.* — These dashing flowers are now in full perfection, and may be prolonged for some time by removing the plants to a cool shady place out of doors. It is not generally known that this species is quite hardy, and will thrive well in a sheltered place in the open border, in damp loam.

*Amellus lychnitis.* — An asteraceous shrub of no very great interest or beauty; it produces starry violet flowers, and if frequently stopped in spring makes a tolerably neat-looking plant.

*Amphicoma arguta.*—A beautiful evergreen greenhouse plant of the family of Bignoniads, and when in bloom resembling a pentstemon. A light rich soil suits it; the flowers are lilac.

*Anacampseros arachnoides, polyphylla, and varians.*—These are house-leeks, and the prettiest of the race for small collections. Treat as we recommend above for aloes; give them a back shelf near the glass in a warm lean-to, or a suspended shelf in a span as high up as possible.

*Anagallis linifolia* (the flax-leaved pimpernel) is a greenhouse biennial, which must be kept on from cuttings the same as the rest of the most valued species of anagallis. The blue flowers of this species are among the most beautiful of the tribe, which is deservedly a favourite, though of late years getting out of fashion.

*Androcymbium melanthoides.*—An interesting bulbous-rooted, white-flowering plant of the natural order melanthaceæ, and virulently poisonous. The protection of a frame is sufficient during winter, and the soil to be equal parts peat and loam.

*Andromeda speciosa.*—The autumn flowering kinds are less prized than those that bloom in spring. But this is a beauty, and should be found in all good conservatory collections.

*Anomatheca cruenta.*—These pretty Ixia-like bulbs are among the easiest of all the tribe to manage, and being nearly hardy, a very ordinary amount of care would enable any gardener to get up a stock for a bed or border, with a few pot bulbs to begin with. Any good light loamy soil will suit them.

*Anthericium hirsutum.*—This liliaceous plant is worth growing, and has the best effect in a large clump on a greenhouse rockery or bed. Any good sandy loam will suit it; and to be kept just safe from frost all winter.

*Babiana villosa.* — This pretty little purple-flowered Cape bulb requires to be grown in sandy loam and peat, and kept quite dry in the pots when at rest, to be repotted when beginning to grow naturally.

*Bæckia diosmæfolia.*—An elegant myrtaceous shrub, with white flowers, requiring treatment intermediate between that of a myrtle and a Cape heath—that is to say, a sound compost of half loam and half peat, with a little very rotten manure, plenty of light and air, and to be kept just safe from frost all winter.

*Calothamnus clavata* belongs to the second sub-tribe of myrtaceæ, *Leptospermæ*, and the sub-tribe *melaleucea*. It is a New Holland shrub, requiring good greenhouse culture; the scarlet flowers are attractive, and the plant one of considerable usefulness. Soil, equal parts of peat, turfy loam, very rotten dung, and sand.

*Convolvulus scoparius and tiliaceus.*—Short branching species, running two or three feet only, and admirably adapted for pot culture in a sunny greenhouse. The first has white flowers, the second purple. Any light rich soil will suit them.

*Crassula bibractea, flicaulis, and tetragona* —These house-leeks require the same treatment as recommended for aloes, mesembryanthemums, etc.; the slightest touch of frost in winter will destroy them wholesale; otherwise they are free-growing plants, and easily managed.

*Hakea illicifolia.* — An interesting greenhouse evergreen New Holland protaceous shrub, with white flowers, rather difficult to manage, though very nearly hardy. The soil should be two parts peat, half part loam, another half part broken freestone, sand, and charcoal, or, which we prefer, equal parts turfy peat, loam from rotted turves, and potsherds broken almost to dust. Put the plants out in a shady place after flowering for about a month.

*Lagerstræmia rosea.*—There is another of these worth growing, L. Indica alba, with white flowers. They belong to the family of Loosestrifes, and are evergreen greenhouse shrubs, requiring warm greenhouse treatment all winter. Soil, peat and loam; plenty of water while growing; prune after flowering, and keep dryish all winter.

*Mesembryanthemum albonitum ond bidentatum.*—These are greenhouse shrubby

kinds, the first with white, the second with yellow flowers. They require the usual treatment of greenhouse succulents. The most effective way of displaying a collection of these plants is to construct a rockery in a sunny lean-to, and plant them out. They grow finely in a bulk of soil of about half rubbly material, with a compost of peat, loam, old dung, and small broken bricks, to start them in at their first spring growth. They grow and flower freely in pots; their real beauties are best seen when they are grouped in collections, and encouraged to attain to a luxuriant growth.

*Mimulus roseus.*—A pretty, half-hardy herbaceous species from California, which can be treated as an annual or perennial, and will pay to grow in quantity, as a frame will keep it all winter.

*Mirbelia dilitata.*—A fabaceous shrub from New Holland, bearing yellow pea-shaped blossoms in abundance, and useful now that few of this class of plants are in bloom. Treat the same as Chorozema, with extra care as to the drainage of the pots, as it is impatient of stagnant moisture.

*Nivenia spathulata and lagopus.*—Beautiful proteaceous shrubs from the Cape, bearing purple flowers, and requiring cool greenhouse culture. Soil, peat and loam, with a liberal admixture of sand. The first is a small shrub, the second grows to a height of five or six feet.

*Nymphæa biradiata and reniformis.*—Two beautiful greenhouse water lilies, requiring plenty of root room, and a soil of strong loam. In spring the soil should be renewed; and if a run of fresh tepid water can be kept up during the early part of the season, the bloom and growth will be magnificent. The water should be almost wholly drawn off before winter.

*Sempervivum arboreum, cæspitosum, and tortuosum.* — These are beautiful species; the first of large growth, and makes a fine specimen. Treat the same as other succulents.

*Senecio argutus, elegans pl. albus, and cineraroides.*—The second of these is the well-known bedding kind, of which the one named is a white variety, eminently adapted for pot culture. S. argutus and cineraroides are yellow-flowered greenhouse evergreens from Mexico, and showy subjects when well grown. None of these call for special remark; they are not particular as to soil and treatment, and the only matter of great moment is to guard against damp in winter by surfacing the soil in the pots with sand, and administering water carefully. Of the bedding Senecios there are now some improved dwarf varieties of free-blooming habit, much superior to the old form of this favourite. We have seen one lately with flowers of a lavender blue, another vivid carmine; and the private grower may obtain several distinct strains by selecting from seedling plants, and keeping the best on from cuttings.

*Senecio speciosus and venustus.*—Two useful greenhouse evergreen groundsels, the first with scarlet, the second purple flowers. The first is a good subject for a small suspended basket, as if stopped early it spreads freely, and may be trained over to form a pendant mass of herbaceous growth, loaded with flowers. If in a sunny aspect, venustus is a most beautiful shrubby species, requiring a good compost of a peaty nature, and to be kept moderately dry all winter.

*Septas umbella.* — A Cape succulent, with white flowers, requiring the usual treatment of the greenhouse species of houseleeks. Soil, sandy loam and brick rubbish; liquid manure in summer; kept dry all winter, at a temperature never lower than 40°.

## TO CORRESPONDENTS.

Roses.—*Commelina*—Microphylla roses are very delicate in constitution, and if you wish to bloom them well it will be advisable to plant them on a warm, dry, elevated border, against a wall facing south, early in November, or at the same season put them into pots. For the present they should not be disturbed; but if you are an adept at budding, by all means enter a few buds of microphyllas or short brier stocks, and make some neat little standards for pot culture. It flowers better this way than on its own roots. Small greenhouses may be kept safe from frost by means of Joyce's patent stoves. Let us know what is to be the size of the house and we will advise you.—*R. Simpson.* To get a good autumn bloom you ought to soak the perpetuals well with strong manure

water. In the "Rose Book" are the fullest directions on propagating in summer and autumn. You may propagate all your good roses by taking cuttings now. For a belt round rhododendrons there is no rose so good as the common China.

CLIMATE OF TORQUAY.—"I have a Bottle-brush with thirty trusses of flowers upon it; a Habrothamnus throwing up shoots from the old root, and Indian shot doing well, all of which were left out the whole of last winter without any protection.—*A.B.S.*"

VARIOUS.—*S. H.*—Black Hamburgh grape vines showing bloom *now* will pretty well take care of themselves if kept freely watered and well ventilated. You may brush your hand lightly over the blossoms when the pollen is visible to assist in setting the crop, which is very late for plants in pots. Your Camellias have wanted water, and take revenge by throwing off their leaves. Cuttings of the young wood of passion flowers will root quickly now in sand under a bell-glass.—*A. B.*—Use a solution double the strength advised for mineralizing tiffany. But the best way to prepare posts before fixing is to char the ends, or dip them into boiling tar.—*Farringdon.*—The mimosas are among the most elegant of stove evergreens, easy enough to grow where there is sufficient heat, but a plague and a vexation in cool greenhouses, where, if they can be got through the winter safely, they never grow as they ought. Your seedling plants must be separately potted at once into five-inch pots, using for the purpose equal parts mellow loam, and turfy peat, and silver sand, and be placed in a moist heat of at least 80° to make a good growth this season. During winter they must have a temperature never lower than 50°.—*Polly.*—It is not a common occurrence for Dielytra spectabilis to produce seed, yet the seed is not at all a rarity. At page 203 of the second volume of the FLORAL WORLD is a figure of the seed from a sample sent us in 1859 by P. H. Gosse, Esq. We believe that *all* the back numbers of the FLORAL WORLD are now to be had, many of them having been reprinted. It is next to impossible to advise you about the staging, etc., etc., not knowing whether you are building a lean-to or span. And in all cases it is difficult to advise on such matters, because peoples' fancies influence them as much as considerations of utility, etc., etc. The best place for a Musgrave stove is in the centre of the house with a pipe direct from it to the open air.—*A.B.S.*—Your cucumber with leaf growing midway between the blossom and the stalk is certainly a curiosity; tufts of leaves surrounding the point have frequently been seen. It is no doubt quite possible for a cucumber to throw out leaves its whole length. We had a jargonelle pear last year completely smothered with leaves set in circles round it midway between stalk and flower, and the cucumber is an analogous case, both being true fruits.—*C.E.C.T.*—Your plant is probably Bupleurum rotundifolium, but the specimen sent is insufficient for a positive identification. It is a strange thing that so many correspondents send scraps of plants that almost require a microscope to determine their relationship to the vegetable kingdom.—*S.E.D.*—You shall have the lists desired long before the time arrives for planting. We defer them for the present because of the pressure of other matters that will not keep. Unless the space allotted for grass is very large use turf rather than seed for the sake of immediate effect.—*H.N.*—We have never seen Riddle's slow-combustion stove. By referring back you will find many notes on heating small houses and in due time the subject will be dealt with again. At present summer subjects press upon us.—*A.B.S.*—It is not an insect but a fungus, and a very beautiful fungus, too, that infests your anemones. We should imagine that the beds want draining; is it so?—*W.C., Tewkesbury.*—The berries sent indicate that the roots of the vines are probably in a very rich damp border and making too rank a growth. If so it is also probable that they did not rest completely last winter. Your best course now is to give more air than usual; let a breeze blow through the house.

THE

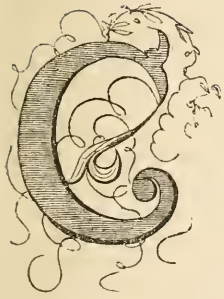
# FLORAL WORLD

AND

# GARDEN GUIDE.

SEPTEMBER, 1864.

## THE NEW LILIUMS.



COMPARATIVELY few of what are for a season known as "New Plants" ever find their way into private gardens; very many, indeed, have but a brief season in places confessedly devoted to novelties and curiosities. But there are every year some interesting and beautiful novelties eminently adapted for general use, and none more so than those plants which are highly ornamental and only need a moderate amount of shelter from the rigours of our climate. It is the nearly hardy novelty that first attracts public attention, provided it have claims on other grounds to be received with favour; and hence we find the introductions from Japan, Northern China, Australia, New Zealand, and the mountain lands of India, enjoying a far higher degree of popularity than those brought from tropical jungles and torrid swamps, though climatal peculiarities alone prevent a full application as a basis of comparison of the motto *cæteris paribus*. Glancing at the issues of the "Garden Oracle" for 1863-64, we cannot find a single example among the many new plants described which can be considered to have attained to anything like the popularity of *Lilium auratum*. The first exhibition of this Lilium at the London shows caused considerable excitement amongst cultivators, but the exhibitions during the present season have far surpassed in beauty all that was ever anticipated of this noble species by the most sanguine of its admirers. In the "Garden Oracle" of 1863 it is described as "about a foot and a half high, bearing numerous lance-shaped leaves, and terminated by a large erect flower of great beauty, measuring fully seven and a half inches across." At the Metropolitan exhibitions during the past season we have seen plants from Messrs. Veitch with six to eight blossoms each, all proceeding from the same stem, and all fully expanded at the same time, a

spectacle so grand, and yet, from the absence of gaudy colours, so quiet and chaste, that one may search far and wide among tender as well as among hardy plants to find anything that deserves to be compared with it. Certainly Lilium lancifolium, and even L. giganteum, are quite outdone by the queen-like beauty of L. auratum, the noblest of its race at present known.

In the excellent catalogue of bulbs just received from Messrs. Cutbush and Son, of Highgate, we observe that imported flowering bulbs of Lilium auratum are offered at from one and a half to three guineas each, and offsets at from five to seven shillings each. It has now become, therefore, a poor man's plant, and it may be good news to many of our readers to hear that it is perfectly hardy. We know two instances of plants remaining out all last winter, protected by cones of coal-ashes, and throwing up enormous flower-spikes, which a few weeks since were magnificent beyond all possibility of description, the flowers measuring ten to twelve inches in diameter, and eight to twelve being open on the same stem at the same time. But we refrain from advising any of our readers to leave this plant out the whole of the winter until they are well supplied with bulbs to take place of any in case of loss. The best way to deal with the bulbs will be to pot them as soon as obtained in equal parts silky yellow loam and turfy peat, with one-fourth part silver-sand added. The pots should be well drained. Keep them in a frame or pit with the lights off till the occurrence of frost renders covering necessary. Thenceforward during the winter keep them well aired and safe from frost, and always moderately moist. The greatest care should be taken not to force them into hasty growth by means of artificial heat in spring. At the end of April carefully plant them out, without injuring their tender roots, in a deep bed of equal parts turfy peat and yellow loam, or in a good mixture containing a good proportion of nodules of turf from peat or loam and leaf-mould. From the beginning of May to the time the flowers expand, the plants should have abundance of water. They may be taken up before winter, the offsets removed, and the large bulbs be potted separately as before.

*Lilium giganteum* is as hardy as any of our common border lilies, and will only attain to its fullest dimensions when planted out in rich turfy loam, and abundantly supplied with water all the summer long. In the catalogue just referred to, we see that bulbs are offered at from five to twenty-one shillings each, though it seems but the other day that bulbs of a flowering size were realizing five to seven guineas each. A stock of this noble lily may be got up in the course of a few years from seed. This should be sown on a bed of peat out of doors, and be left undisturbed two seasons; the seedlings will then begin to appear, and some more will appear the third year. They must be grown liberally, especially as to the supply of water during the summer, and in due time will well repay the care bestowed upon them.

*L. Fortuni*, with grassy leaves and orange-coloured flowers, appears not yet to have found a place in trade lists, and the stock is still we suppose in the hands of Mr. Standish. Still more desirable as a marketable commodity is the fine *L. Nilgherrense*, the yellowish sweet-scented flowers of which are very attractive. In the course of time

these will no doubt be added to the lists of species available for ornamental purposes to swell the ranks of a family which, considering its good qualities and ready compliance with the commonest rules of horticultural practice, can scarcely be too numerous.

All the hardy border lilies should now be planted, and this is also the best time to lift old stools and part them and plant again, but of course with fresh soil and manure, instead of the soil they have exhausted. As all the liliums have soft, juicy bulbs, they should never be exposed to the atmosphere, and should be kept out of the ground as brief a space of time as possible.

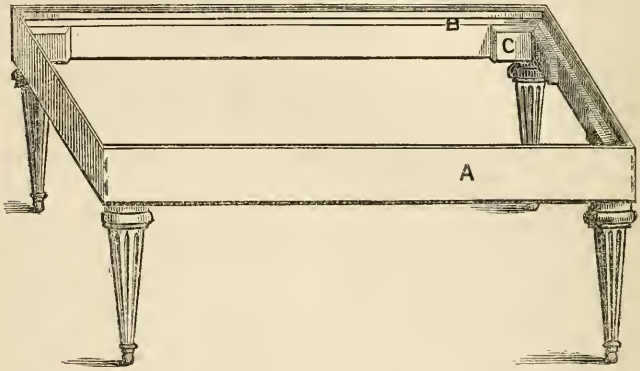
## FERN CASES.

Reflecting on all I have written about fern cases, it has just occurred to me that though the form adopted by Miss Maling is undoubtedly the best that has ever been offered to the public for general use, it is still far from perfect. I am not about to undo a word I have said in praise of these cases; you cannot get anything better, no, nor anything so good; they combine utility with beauty so completely that to hint at any imperfection seems as bad as valuing the feathers in an angel's wings. But to afford amusement to fern-growers possessed of original inventive faculties, let me indicate a few imperfections of these cases, and leave it to the inventive geniuses to discover, if they can, the means of improvement. In the first place, then, if you should happen ever to get the soil too wet, how are you to get it dry again? You must wait until the surplus moisture is removed by the slow process of evaporation. If Miss Maling the inventor, or Mr. Gray the manufacturer, were to discuss this point with me, I know what they would say, "You ought not to make the soil too wet; besides, in stocking the case there ought to be a layer of drainage material at the bottom, and over that a layer of charcoal." Yes, but still *if I do* make the soil too wet, there is no way to get the surplus water out, and evaporation is a mode of relief which might as well not be mentioned, because all the ferns may die before the surplus water is removed by that process. It would not be worth while to introduce a question of this sort as respects this particular invention were it not true that the whole subject of fern cases is touched thereby. It so happens that one of our cases has been too damp for some time past, owing to the head fern-grower having plied the syringe too regularly and plentifully during the present summer, and if it were possible to draw off the water by means of a tap, there would be a great and immediate gain to the health of the ferns. It is no use to think of siphons or any round-about methods; the boiler must be kept regularly filled so as to create sufficient evaporation to restore the soil to a reasonably moist condition. Let those who make fern cases think of this as one of the first necessities—an escape for whatever moisture may percolate through the drainage.

I speak of filling the boiler with water, and again I am reminded of the

need for some improvement. There is a small perforation in the side of the case into which a funnel made for the purpose may be fitted. To pour in water is a slow and tedious operation, and the little that is sure to trickle down the woodwork, leaves an unsightly stain. Suppose the side of the case in which the perforation occurs to be moveable, we should take it away, have easy access to the boiler, there would be a saving of time and an escape from the spoiling of a breadth of good mahogany.

Several correspondents have asked for a hint about putting these cases on better feet than they have in the first instance. I am indebted to the skill of my carpenter for the excellent manner in which mine are mounted, and I very much regret I cannot furnish a better drawing than the one annexed, for it gives no idea of the respectable appearance




which the case has when so mounted. The frame figured is one on which stands a case measuring three feet long, two feet high, and eighteen inches wide. The frame consists of a skirting-board, A, with neatly-moulded top edge, six inches in depth, mounted on four neat but strong legs, which are fitted with good brass castors, all wooden and iron castors being rubbish. From the ground to the top edge of the skirting-board the measurement is seventeen inches. The case does not stand *on* this frame, but *in* it, that is to say, it rests on the half-inch ledge, B, which extends all round inside, and which is added to at the corners by the blocks, C, which are placed there to add to the strength of the frame. The advantage of this mode of mounting is not in appearance only, though that is of some importance in an article intended for the adornment of a chamber. One important advantage is the ease with which the case can be moved about: an immoveable case is almost a nuisance. The engraver has forgotten to add the castors.

There is another improvement of a minor kind which we have adopted, and that is, making all parts of the case as moveable as the front, by means of hooks and eyes. It is easily done. Take out the screws by which the back and the sides are kept together, and fit the corners with hooks and eyes, the same as those which hold the front glass in its place. If you want to make any alteration at the back, turn the case round, and the glass side can be taken out in an instant.

The screwing process takes a quarter of an hour, and you may break one of the glasses with the screwdriver.

You will remember that in the July number, page 146, I mentioned that one of my cases is filled with cocoa-nut dust alone, and that during the past winter there was no artificial heat used. But I forgot to say that on two occasions the temperature was so low that the fronds of the ferns were all frozen as stiff as wires, and powdered with a coating of hoar frost, in precisely the same way as plants in a greenhouse are when the frost has actually caught them. "Of course, there were many losses," I hear you ejaculate. No, there were very few, and as I shall show presently, some of the rarest and most beautiful of stove and greenhouse ferns can bear one or two or perhaps more degrees of frost without suffering seriously.

I shall now endeavour to fulfil my promise of enumerating all the ferns I have grown in glass cases, but I find that if I add a few particulars of the history, uses, habits, and requirements of each, the record will extend to hundreds of pages. I shall, therefore, abstain from particulars of history, etc., etc., and compress into the smallest space possible such few practical observations as occur to my memory in respect of the behaviour of each, and the treatment required to make the best of them in closed cases.

ADIANTUM.—All the species of Adiantum are adapted for Wardian cases, whether or not supplied with artificial heat; in a warm case their growth is rapid and luxurious, but as they are all nearly hardy, heat is not essential to their well-doing. They require a turfy light soil, and only moderate ventilation.

1. *A. assimile* is like *A. cuneatum*; *A. affine* is like *A. formosum*. They soon form fine plants, which, when too large for the case, may be close cut down, the roots parted, and be planted again either in cases or pots, and they will soon reclothe themselves with their elegant fronds.

2. *A. capillus-veneris*, the British maidenhair, is quite at home in a cool case, but grows faster with the help of hot water. It is mentioned in Dr. Deakin's delightful "Flora of the Colosseum" as growing abundantly on that magnificent ruin, and the plants I have at the present time were obtained by dividing a tuft brought from the Colosseum, and kindly presented to me by my excellent friend, Mr. Summers. We find it answer admirably as a basket fern, and some examples in cocoa-nut shells are exquisitely beautiful, the growth extending beyond the edge of the receptacle, and almost hiding the vessel which carries it with its exquisitely delicate light green leafage. The basket in which it is grown should be well drained, the soil should be turfy peat, broken very small, three parts, silver-sand one part, and hearthstone or bath brick or freestone, broken to the size of hazelnuts and less; when planted, sprinkle nodules of soft stone all over the surface of the soil for the rhizomes to creep over. It answers well to grow in a pan under a bell-glass by itself. It then requires very little air, and must be protected from sunshine.

3. *A. cuneatum*, the finest of the genus for cases, but as it grows with immense rapidity, it must be taken out and parted at least once a-year. One of our plants, which was turned out of a thumb pot into the centre of a case this time last year, now covers a space measuring eighteen inches square, and is a glorious spectacle. Any light turfy soil suits it, and in cocoa-nut dust alone it grows finely. It seeds freely in the case, and is soon surrounded by its little progeny.

4. *A. formosum* is the most imposing of this series, the large fronds having great distinctness and character. It requires a firm, sandy compost and plenty of room, hence is

not adapted for small cases, or to grow in cocoa-nut dust alone.

5. *A. hispidulum*, of diminutive habit and slow growth. It has a peculiar bluish tinge, and answers well to fill in between larger ferns with such subjects as Doodias, Lomaria spicant, etc., etc.

6. *A. pedatum*, very distinct, and of free growth, not at all particular about conditions.

7. *A. reniforme*. I received from Mr. Sim two years ago a scrap of rhizome from a newly-imported parcel of this fern. It was planted in a case kept at about 70°, and covered with a small bell-glass. It grew slowly, but surely, and soon made a plant. It was found to require to be covered with a bell-glass for about six months, after being first planted, by which time it was well established. Another plant has been tried in a cool case, and though it lives, it makes no progress, whereas, in the case kept constantly supplied with hot water, the original is doing well, and forms now a very pretty patch, with kidney-shaped fronds, each the size of a shilling. I think, if it had more decidedly tropical treatment, the fronds would come as large as represented by Lowe.

8. *A. tinctum*. I met with this three years ago at Messrs. Veitch's nursery, Chelsea, and Mr. James Veitch kindly compelled me to take a plant away with me. It is an exquisitely beautiful species, and thrives amazingly in a cool case in cocoa-nut waste alone. In general character it may be considered a large edition of capillus-veneris, having all the rare grace of that species, but in all its proportions it is double the size. The young fronds are richly tinted with purplish rose colour, which they lose as they acquire maturity, but as young fronds are constantly rising, the plant has always a lively and peculiar appearance.

9. *A. setulosum*, a very distinct and lovely fern of somewhat diminutive growth, well adapted for suspension. If planted in a perforated receptacle, such as a cocoa-nut shell pierced with holes, the rhizome soon throws out crowns at the perforations, and the receptacle becomes completely covered with its elegant and abundant growth. For a figure of this fern, grown as above described, see FLORAL WORLD, vol. ii., p. 281.

10. *A. tenerum* is of the same general character as A. cuneatum, but so much larger that it is quite unfit for ordinary fern cases, except when very young. In cases of great size it is one of the best for a conspicuous position, and as easily grown in any case fern. Young plants may be grown for one season in ordinary cases, and must then be removed.

11. *Asplenium bulbiferum*.—This fine fern grows with rampant luxuriance in the case, needing but little ventilation, and not at all impatient of neglect. When the handsome fronds are covered with little viviparous plants, it is a very attractive object. It soon, however, becomes too large for the case to hold it.

12. *A. fabianum* has dark green once-divided peculiarly graceful attenuated fronds, which arch over on all sides equally in the fashion of a long-leaved grass. These fronds bear viviparous plants freely, and these fall off and root themselves all round the plant, so that it soon becomes surrounded with progeny. My best plant of this has been in the same case three years, and was last winter without any aid from artificial heat, and was once so much frozen as to be quite covered with hoar frost, and without the least injury.

13. *A. rhizophorum* is of similar habit to A. fabianum, but the fronds are of a light yellowish green, somewhat broader and more dense for half their length; they then become very attenuated or tailed, and each one arches over, and produces a viviparous plant at its extreme point, which it generally manages to plant about six inches distant from its own crown. If a frond does not plant its baby properly, lay a stone on it, so as to press the point to the soil, and the plant will soon take root, the young one may then be removed from the frond which produced it.

14. *A. viviparum* grew luxuriantly in the original case in pure cocoa-nut dust, and was one of the gems of the

collection. Unfortunately, the frost in the winter killed it, which is the more surprising because some ferns reputed to be much more tender, as, for example, Pleopeltis membranacea and Rhipidopteris peltata, both of which survived the freezing, and are now in grand condition. Asplenium viviparum is one of the most elegant and distinct of case ferns, and should be secured at the first start, for it is not at all particular about the treatment it has, short of actual roasting or freezing.

15. *A. fragrans.*—The triangular light green arching fronds are pleasing, and it is a good fern for beginners, but there is nothing remarkable about its appearance. It requires rather liberal ventilation.

16. *A. Belangeri.*—The finely divided arching fronds of a rich deep green colour, dotted here and there with young plants, render this a perfect gem. It requires warmth, and wanting that, soon goes wrong. It is, therefore, quite unfit for cases that are neglected, but in those carefully kept, and regularly supplied with hot water, it is one of the most useful ferns known.

17. *A. flabellifolium.*—A charming little species, that runs about rockwork like a wild strawberry, though a thousand times prettier. The fronds are long and whip-like, once-divided, the divisions being sometimes in pairs, and sometimes alternate. The colour is a pretty tone of pale green, and the surface shines as if varnished. Each frond terminates in a miniature plant, which takes root immediately if it touches some moist surface; and the quickest way to increase the stock is to peg them down. We have this pretty fern growing fifty different ways, and the best way of all is in a case suspended in a perforated pot or cocoa-nut shell, from which the fronds dangle like ringlets.

18. *A. marinum* is a fine fern for beginners, being cheap, easily managed, and very distinct and handsome. It loves the close, damp atmosphere of a case not often ventilated, and soon forms a cluster of crowns, and acquires a most luxuriant appearance. Mr. Sim sent me, two years ago, a variety called *erecta*, which produces taller and more erect fronds than the species. Mr. Sim's plant is now in the centre of a vase, under a glass lantern, and is a very beautiful object.

19. *A. angustifolium* makes a very good centre-piece for beginners, but is not choice enough for those who have made any progress in the management of fern-cases. In the cool fern-house it is a grand species, but in the case never attains its proper grandeur.

20. *A. Michauxii.*—A very nice fern when young, but soon grows too large for a case. The fronds are beautifully divided, and they die off a rich purple colour. S. H.

(*To be continued.*)

## FLOWER SHOWS IN JULY.

Royal Botanic Gardens, July 2.—This brought the season to a close at the Royal Botanic with the finest show of the season, lovely weather, and a brilliant company. The show was rich, full, choice in character, thoroughly refined, and most instructive and entertaining in all its more important details. Orchids were plentifully shown, and were mostly in fine condition. In the departments for stove and greenhouse plants, and nursery novelties, interesting examples of new or rare forms of vegetation literally abounded. The fruit and cut flowers filled the long corridor tent leading to Mr. John Waterer's exhibition of rhododendrons.

*Stove and Greenhouse Plants.*—The two leading amateur exhibitors were Mr. Whitebread, gardener to H. Colyer, Esq., Dartford — extra gold medal for sixteen plants, and Mr. F. Gilbert, gardener to E. L. M'Murdo, Esq., Castle Down House, Hastings—large gold medal for six-

teen. Mr. Whitebread had Polygala Dalmaisianum, superbly done; Gompholobium splendens, the flowers at their best for colour and quality; Pimelea mirabilis, fine; Kalosanthes coccinea, Vinca alba, Azalea Gem, Ixora coccinea; Stephanotis floribunda, a noble plant, in perfect condition; Vinca rosea, Erica Cavendishii, Allamanda Cathartica, Epacris miniata splendens, Pleroma elegans, Rondeletia speciosa, and a huge red Azalea. Mr. Gilbert had Aphelexis macrantha purpurea and rosea, in beautiful condition; Allamanda grandiflora, dense and full; A. Cathartica, a more useful species and a deeper yellow than grandiflora; Rhyncospermum jasminoides, Stephanotis floribunda, a splendid Polygala Dalmaisiana, completely solid with bloom, Polygala cordifolia, a fine species, colour lively purplish-rose, very effective; Erica depressa and Cavendishii, Kalosanthes coccinea superba. In Mr. May's noble group, Allamanda Cathartica and Ixora salicifolia were magnificent. The last named is a fine species with long, narrow, rather leathery, drooping leaves, and intense orange-salmon coloured flowers. In the collections of ten, Mr. Peed came first with a charming lot, all well-known subjects, Allamanda grandiflora and Ixora alba and coccinea being the most attractive. Mr. Fraser, of Lea Bridge Road, sent a superb collection, among which the most noticeable were Allamanda Schotti, certainly the grandest species, though rather shy; Statice imbricata, soft bluish-lilac, a good species; Ixora Javanica floribunda, strong scarlet, inclining to salmon, very showy; Allamanda cathartica, Vinca ocellata, as easily grown as a calceolaria; Pleroma elegans, superb.

Plants with remarkable foliage were exceedingly abundant, and contributed greatly to the high character and real grandeur of this show. Most noticeable among them were the collections of huge tropical ferns and palms from Mr. B. S. Williams of Holloway, Mr. Bull of Chelsea, Messrs. Lee of Hammersmith, and Messrs. Jackson of Kingston. Messrs. Lee's group consisted of Latania rubra, Oreoponax dactyliferum, with its bold and distinct outlines; Cordyline indivisa, a magnificent example; Neottopteris australis, Yucca aloifolia variegata, the noble Theophrastus imperialis, and others. Mr. Martin, gardener to J. W. Taylor, Esq., River House, Stoke Newington, sent a nice group, comprising a huge specimen of the useful and quite hardy Aspidistra lurida variegata; Cyathea Cooperi, a very graceful fern; Maranta zebrina, Pandanus javanicus var., Maranta vittata, Chæmerops humilis, and others. Mr. Baines, gardener to H. Micholls, Esq., had Croton longifolia variegata, a remarkably massive yet graceful specimen, richly coloured; Alocasia metallica, Gleichenia speluncea, Croton variegata, etc. Mr. Young, gardener to R. Barclay, Esq., sent a superb Caladium Chantinii, a Diffenbachia, Calathea (syn. Maranta) zebrina, Thrinax elegans, and a grand Caladium Bellemeyii. Mr. Fairbairn, gardener to the Duke of Northumberland, Sion House, sent the scarce Rhopala Jonghii, also Latania Borbonica, Caladium Chantinii, Ananassa variegata, Anthurium acaule, and Caladium atropurpureum. The fine foliage plants from Messrs. A. Henderson and Co., Pine Apple Place, Edgeware Road, were remarkable for size and beauty; Croton angustifolia, a grand specimen; Alocasia macrorhiza, superb; Croton variegata.

*New Geraniums.*—From Messrs. Smith, of Dulwich, *Excellent*, a bold strong-growing scarlet, previously reported on. From Mr. Bull, *Provost*, light red, beautifully formed, immense trusses; this is a superb variety for either bedding or pot culture. *Achilles*, leafage in the style of Punch, flowers scarlet, intensely bright, trusses rather small; good. *Myron*, like Madame Vaucher. *Faust*, like Achilles, and apparently a shade better. *Clipper*, fine form, one of the finest of the new scarlets. From Mr. Hally, of Blackheath, *Enamel*, a neat-habited horseshoe, with salmon-coloured flowers. *Venus*, bright light scarlet with white eye, small trusses, dull zone. *James Sherman*, a tricolor, dull green centre, broad pale creamy-

sulphur margin, pale carmine zone, bright scarlet flowers; this has a weak and washy look; if cancelled, there will be no harm done. *Red Riding Hood*, bright scarlet, dull zone; this has about it a peculiar glitter, and no doubt will become a favourite. Mr. William Paul is known to have become possessed of the improved and unnamed seedlings of the late Mr. Donald Beaton, and those interested in zonate geraniums have naturally enough been looking out for any gems that might come out of the batch. On the present occasion there were several exhibited, and amongst them some glorious additions to our lists. *Donald Beaton*, leaf like Punch, immense truss of light scarlet, flowers well formed; this is a superb variety. *Mrs. William Paul*, like Rose Queen. *Beaton's Indian Yellow*, this is the geranium of which it is said in one of the journals that Mr. Beaton had secured a genuine yellow tint. It has a neatly-zoned leaf, and the flowers, which are poor in form, are of a peculiar shade of orange-scarlet inclining to salmon. I cannot see any yellow in it, but it is certainly a very distinct variety, and would have a remarkable effect as a bedder if used skilfully. *Beauty of Waltham*, a thorough bedder in every character, foliage dull green with dull zone, trusses large, colour red-scarlet. *Amy Hogg*, crimson-red, deeper and a more bluish tinge than Trentham Rose; in form half a nosegay, immense trusses; this is a really grand geranium. *Salamander*, large deep scarlet, white eye, large trusses. From Messrs. Saltmarsh and Son, Chelmsford, *Little Treasure*, dwarf habit, dark green leaf with dark green zone, small trusses of lively scarlet flowers, as good in form and substance as Attraction; this will no doubt be a first-rate bedder. From Mr. B. S. Williams, *Golden Nugget*, pale greenish-yellow leaves, small scarlet flowers. *Annie Williams*, like Mrs. Milford, but a more decided green tinge. From Mr. Windsor, gardener to Lord Dufferin, *Highgate Rival*, previously reported on. *Fair Ellen*, pale pink, like Bull's Eve, and perhaps as good, certainly not better. The best were Clipper, Achilles, Donald Beaton, Beauty of Waltham, Amy Hogg, and Highgate Rival.

## BEDDING AND BEDDERS IN 1864.

Long-continued drought and a more than average amount of solar light and heat have rendered 1864 one of the "remarkable" seasons. The reader may, perhaps, have already noticed, in the perusal of summaries on the "weather of the past year," that every season is remarkable in some way or other. It is certain, however, that the summer now drawing to a close has been unusually hot, bright, and dry, and corresponding with these conditions, decorative plants in the open air have been respectively good, bad, and indifferent. Upon the whole, however, the season has been propitious to the flower garden, and especially propitious to the parterre. The great public gardens in and near the metropolis were never so gay before, and though in many the grass disappeared before the end of July, or was preserved in anything like a verdant condition only by excessive watering, bedding displays have compensated by their magnificence, and many of the more interesting and noble decorative plants that have no distinct relations to the "bedding system" have attained to a perfection rarely seen in our times and in this fickle climate. For one part of the result we are indebted to the sunshine, which has been almost continuous from dawn till sunset since the middle of April to the present time. The earth has been warm, and no doubt would have been much warmer if moderately supplied with rain. For the other part of the result we are to own our indebtedness to the march of improvement. Two distinct points are recognizable in the modern practice of the masters of bedding: first, the increased reliance placed in subjects that may

be relied on whether the season should prove hot or cold, wet or dry; secondly, the increased use of "foliage bedders," that is, of plants which produce an effect by their leaves alone, and the flowers of which are not usually produced in the open air, or if produced are of no value. The frequent disappointments consequent on the uncertainties of our climate have well nigh obliterated from the lists many subjects that have been held in considerable favour. Petunias are now almost wholly dispensed with, and we consider that man needlessly rash and venturesome who relies for his principal effects on a class of plants so susceptible of adverse atmospheric influences. Verbenas will never be thrust out of our gardens in the same determined manner that petunias have been got rid of, for when all goes merrily with them, they are the most perfect of all bedding plants. But verbenas are used more sparingly year by year, and the experiences of the present season will tend to increase the amount of caution which has been exercised in the selection and use of verbenas already. As for the odds and ends of the bedding list that, previous to the year 1860, made so many features of interest, they are nearly all swept away. Leptodactylon Californicum, Agathæa cœlestis, Bouvardias, Anagallis, Heliotropes, Mimulus, Senecios, and many other truly beautiful subjects, have of late been used so sparingly as in no way to contribute to the main features of a grand display, though there are certain services they will always render, and for which they may always be relied on, to give variety and interest to spots removed from the geometric parterres yet requiring to be decorated and perfumed. As one after another of the old favourites has passed into comparative obscurity, zonale geraniums have been acquiring increased popularity; these are now so varied in habit and colour that with geraniums alone a skilful artist can produce almost any effect that may be required in accordance with the principles of taste which regulate these matters. In all the great gardens geraniums have constituted the principal decorative features of 1864. This has been fortunate, for the season has suited geraniums to perfection, and it has not well suited anything else. From this time forth the changes and improvements in bedding will be all in the same direction, and the breeders of geraniums will facilitate the movement by providing new materials for bedding effects.

But the most gratifying circumstance in connection with bedding improvements is the purer taste displayed in the combination of colours. We ventured to predict in the May No. of this year's FLORAL WORLD, that the vulgar combinations of red and yellow which had made bedders and bedding obnoxious to persons of cultivated taste would not be seen again at the Crystal Palace, or any of the public gardens and parks. Events have justified our "forecast," and everywhere this season the laws of colour have been better respected than heretofore.

Let us now enumerate a few of the best combinations that have attracted our attention during our various visits to public and private gardens this season. At the Crystal Palace the beds skirting the semicircular block immediately in front of the principal entrance from the garden is the place where the highest tone of promenade colouring is usually maintained. This season the planting of the beds next the main walk is as follows:—

The oblongs have a central line of Cottage Maid, on each side of that Flower of the Day, and for edging Purple King verbena. The circles have a centre of Christine, then Calceolaria aurea floribunda, and outside band of Lobelia Paxtoniana. There are in all twenty oblong and twenty circular beds, but a series of ten each can be viewed at once from either end of the space marked off by the cross walks, and the effect is very rich and harmonious. On the inner side of this block, the Araucaria beds are, as of old, in circles of Cerastium and Lobelia. Of the latter there are two kinds, one is the so-called "speciosa" of gardens, the other a new

one raised by Mr. Gordon, and called *Blue King*, the colour of which is clear azure, and hence some shades lighter than the older kind. The circles round the pedestals are severally planted with Trentham Rose, edged with Alma; Christine, edged with Flower of the Day; and Crystal Palace Scarlet, edged with Flower of the Day. It is the alternation of these strong red and rose shades with the silver and blue circles on the Araucaria mounds, that renders the colouring here so simply grand and effective.

In the chain patterns in the panels at either end of the grand terrace, Christine is largely used to tone down the scarlet of Crystal Palace geranium, so as to admit, without offence to sensitive eyes, the next most telling of all promenade colours, that of Calceolaria aurea floribunda. In the blocks next the semicircle, the large ovals consist of Crystal Palace with only *one* row of Aurea floribunda, and edging of Alyssum; in the small circles, Christine with *one* row of Aurea, edged with variegated Alyssum, which also forms the connecting links of the chain. In the panels at each end next the wings of the building there are four large corner blocks, consisting of Cottage Maid centre, next Gaines's Yellow calceolaria, next Christine, and outside all Flower of the Day. Thus the calceolarias play their part, as of old, in the terrace panels without violating the perfect harmony which should prevail there. Let all amateurs study this colouring on the spot, and observe how small a proportion of yellow or orange is needful in a grand scheme, and in any case its principal use is to light up the pattern and bring out its lineaments, rather than contribute any of its principal features. In gravel, grass, and the leaves of geraniums, we have already so much yellow that, irrespective of its peculiar effect on the eye, it is the colour which demands the greatest amount of caution to use it advantageously. In the small circular beds next the main cross walk, are some exquisitely beautiful examples of foliage colouring. A centre of Perilla, one row of Centaurea ragusina, "two" rows of Golden Chain, margin of Blue Lobelia; this is fine. Again, centre of Centaurea ragusina, two rows of Amaranthus melancholius, one row Cloth of Gold, outside band of rosy-flowered Mesembryanthemum. Again, centre of Baron Ricasoli, two rows Golden Chain, one row Blackheath Beauty, one row Silver Queen, margin of blue Lobelia. Again, St. Clair geranium, one row Beaton's Black Dwarf (a dwarf nosegay geranium, with flowers of a deep crimson), one row Gold Leaf, outside margin Blue King Lobelia.

On the Rose Mount there are some very novel and agreeable effects, and amongst them early in the season one which our amateur friends may find worthy of imitation. This is a mixture of Delphinium formosum with Scarlet geranium. While the Delphinium lasts, there can be nothing more grand and pleasing; and as it is but seldom we see true blue in combination with scarlet, the precise method of effecting the combination must be stated. The bed intended to be appropriated in this manner must be planted with strong plants of the Delphinium early in the autumn. These must be in rows eighteen inches apart every way. As early as possible next May the bed must be planted with strong old dwarf plants of scarlet geraniums, the sort used here is Crystal Palace, but Cottage Maid, Tom Thumb, or Attraction would do. The geraniums are in single rows between the rows of Delphinium, but instead of being eighteen inches apart in the row as they are, must be not further apart than one foot. If the Delphiniums are allowed to flower in their own way, the bed will be a ragged affair, but if the flower-stalks are pegged down so as to allow them to rise a foot high, the result will be a glorious combination of blue and scarlet for five or six weeks, and by that time the geraniums will begin to hide the Delphiniums, and the bed will be as good as any other, as a mass of scarlet. Among other combinations of good character in circular beds on the Rose Mount, we may name the following:—Cloth

of Gold and Blue King Lobelia mixed; this is lovely, but Cloth of Gold and Lobelia Delicata mixed is not good. Lord Palmerston edged with Gold Leaf. Lobelia Blue King and Gazania splendens mixed. Tropæolum elegans and one outside row of Flower of the Day; this is very fine. Comte de Morny, with one row of Cloth of Gold. Verbena Melindres and Ivy-leaf Geranium mixed, and edged with Gold Ivy-leaf. Verbena Imperatrice Elizabeth and Scarlet Ivy-leaf mixed, and edged with Gold Ivy-leaf. Cybister, edged with one row Cloth of Gold. Golden Chain and Blackheath Beauty, a row of each alternating all through, and edged with one row Golden Chain. Œnothera prostata and Nierembergia gracilis mixed. Blue King Lobelia, mixed with variegated Alyssum. Lady Plymouth and Verbena Melindres mixed, edging Golden Chain. Lady Mary Fox, and Convolvulus Mauritanica for edging. Dandy and blue Lobelia mixed, fine. Brilliant, edged with Baron Hugel, a blazing red. Trentham Rose, edged with Purple King Verbena. At the corners of the six walks leading up to the Rose Mount, are fine examples of the way to plant large beds, which are open to inspection from every point of view. They are as follows:—Centre Christine, next two rows of Lady Mary Fox, a hybrid geranium producing abundance of large flowers of a bright violet-tinted carmine colour, then one row Flower of the Day, and for margin two rows of Lobelia Delicatum, the flowers of which are light blue, with large white eye. Cottage Maid, two rows Gaines's Yellow Calceolarias, two of Christine, one row Tropæolum elegans for margin. Fothergillii, two rows Crystal Palace, two rows Purple King Verbena for margin. Perilla Nankinensis, one row Gaines's Yellow, two rows Crystal Palace, two rows Prince of Orange Calceolaria, margin Blue Lobelia. Calceolaria amplexicaulis, next two rows Cerise Unique, margin of Gnaphalium lanatum, Delphinium, and Cottage Maid, with edging of Flower of the Day.

Victoria Park.—The magnificent display of bedding plants at this place this season far surpasses all Mr. Prestoe's former efforts, and happily, in all the grand designs, verbenas and petunias have been used but sparingly. We cannot make room for many particulars respecting the planting, but we select a few examples, and advise all who can pay a visit to do so, for, with the exception of Battersea Park, it is the grandest of all the exhibitions of the kind near London. On the turf skirting the Avenue are some neat scrolls planted ribbon fashion. These are only wide enough for three rows of plants, and are as follows:—One row of Purple King in the centre, on one side a row of Verbena Mars, on the other Geant des Batailles. Centre Snowflake, on one side Ocean Pearl, on the other Brilliant de Vaisse. Verbena Snowflake, on one side Purple King, on the other Lord Raglan. Another scroll wider than the rest has for centre Verbena Imperatrice Elizabeth, on each side a row of Dandy Geranium, with Amaranthus melancholicus, plant and plant, and margin of Dandy alone. In the walk from Hanover Gate, a ribbon consisting of front row Variegated Alyssum, second row Perilla, third Trentham Rose, fourth Dahlia alba nana floribunda; this is very bright and pleasing. In front of this ribbon occurs a design consisting of a large narrow scroll and a series of beds; the scroll is Purple King one row, and on each side one row of Cerastium. All the beds are in strong colours, and the simple and chaste colouring of the scroll affords a delightful relief. On the walk from Grove Road Gate there is a fine ribbon, consisting of Amaranthus melancholicus, Tropæolum Eclipse, Commander-in-Chief Geranium, Calceolaria aurantia floribunda (one shade darker in colour than Aurea floribunda), Trentham Rose, and Perilla. At the upper end of this walk occurs the grandest of the geometric schemes, the planting of which must be seen to be properly appreciated, but as a lesson in colour, two oblong beds deserve special notice. In one of these there are five large circular clumps of Christine, filled in solid to the margin with Calceolaria aurea floribunda. In the other there are four circular

clumps of Calceolaria Sparkler, filled in with Calceolaria angustifolia. A pair of beds of Petunia magna coccinea are tolerably good, and the best examples of petunias we have seen out of doors this season. On the left of this scheme is a triangular grass plot, with a series of beds; one of them is of just the right kind for a conspicuous position in a private garden. It is a circle with a central clump of Attraction, and round it six radial divisions, two of them Christine, two Perilla, and two Calceolaria aurantia floribunda. At Shore Place are two mounds with scroll work on the slopes. One has loop-lines of Cerastium connecting circles of Little David, on a groundwork of Blue Lobelia, the top line all around Attraction. The other mound has loops of Brilliant connecting circles of Perilla, on a groundwork of Lobelia Paxtoniana.

Battersea Park is decorated in a costly style, Mrs. Pollock Geranium and other of the choicest subjects being used very freely, and in the part called the sub-tropical garden, Tree-ferns, Caladiums, Begonias, Cannas, Palms, India-rubber plants, Papyrus, and other subjects commonly cultivated in the stove, are planted out profusely, producing a rich and varied scene, the artistic beauty of which is quite in keeping with the high character and costliness of the subjects employed. The road from West Lodge, leading towards Chelsea Bridge, is adorned with numerous geometric patterns, and amongst the subjects used, Coleus nigricans, with nearly jet black foliage, is turned to good account; in one case a bed seven yards in diameter is filled with it, and edged with Centaurea ragusina, affording a delightful relief to the glare of colour produced by the surrounding beds. A circular bed forming the centre of a group has a centre of Coleus Verschaffelti, next a circle of Christine, for the sake of its dull green leaves, the blossoms being all removed; next a circle of Mrs. Pollock Geranium, and marginal band of Blue Lobelia. In several parts of the sub-tropical garden "foliage beds" are used on a grand scale, and amongst the best examples are some large beds of Coleus Verschaffelti, edged with Centaurea ragusina, and in other cases C. gymnocarpa; the result is a breadth and richness of colour which defies description. A bed of Canna limbata, which flowered finely last year, was left untouched, in order to test the possibility of leaving these plants in the ground all winter. The bed was covered with a foot depth of straw, which was changed twice after heavy rains. In May the Cannas grew freely, had a little protection from frost, and are now blooming in a very satisfactory manner. Last winter was comparatively severe, and the experiment is eminently interesting.

## HALF-AN-HOUR WITH THE PLATYCERIUMS.

Every man has, or ought to have, a hobby. Mine is my little fernery; and many are the pleasant half hours I spend there. It is quite a relief, after the toil and anxiety of the hours of labour, to turn into the fern-houses, and, forgetting the petty trials and annoyances of the day, examine the pets, and see how each is progressing. I am not satisfied with buying a plant, and then simply watching its gradual development. No, that is not the way to get the greatest amount of pleasure out of your plants. I must learn their history, trace out their affinities, ascertain how and when they were introduced, find out something about the native habitat of each species—how it grows naturally, what the climate and the soil of the home from which it came; I must seek to know the place of its home and birth, its geographical range, the variations which are found in each species. In fact, I must work out the biography of each individual plant which finds a foster-father in me, or I am not satisfied. This is my hobby,

and gives no end of pleasure. If I can communicate a part of that pleasure to others, my pen will not be used in vain. Each plant in my fernery has a tale of its own; and as I walk through with the few friends who are favoured with a passport admitting them to that *sanctum sanctorum*, I am wont to babble of these things.

Every plant I have cultivated possesses, as I have said, a story of its own; but you say, How did I learn that story? Well, perhaps I ought, first of all, to tell you that. Nobody has yet taken in hand the task of writing the biography of each individual fern we grow, and therefore I confess I have not learnt it from books. Still, from books, periodicals, and other publications, I have gleaned much of interest. To this I have to add what I have learned from experience, and what I have been able to gather from friends of congenial tastes. Circumstances have so far favoured me in my hobby, that I think I may safely say there is no colony belonging to Great Britain in which I have not got one or more correspondents with tastes congenial to my own. I have been a bit of a traveller myself; and as birds of a feather will flock together, I have made the acquaintance of very many others who have penetrated into countries far beyond my reach. When these fortunate fellows fall in my way, they have to undergo a severe cross-examination with regard to the ferns they have seen in their wanderings, and I am not satisfied till I have obtained every fact they can give me with regard to them. More than this, I beg or buy all the native specimens of ferns I can get hold of, or I persuade my correspondents to put a frond, or at any rate a pinnule or two, of any fern they find, into each of their letters, and so I have obtained no inconsiderable herbarium. The specimens are often not very bright ones to look at, but they afford an immense amount of amusement to me. May I not hope they will to you also? Moreover, in the long winter evenings I bring my microscope to bear upon the minute portions of my pets. The venation (or, to speak plainly, the arrangement of the veins), upon which so much depends with regard to their nomenclature and arrangement, can be seen distinctly with a pocket lens; or if the fronds be very opaque, can be made visible by means which I need not now stop to describe. But there are many things which the pocket lens cannot make clear. The spore cases of every fern are worth examining carefully, much more carefully than they have usually been; and there are very great differences even in the individual spores of species, which we look upon as being nearly allied, and which only a tolerably strong magnifying power can make manifest. Then, again, the beauty of the minute scales and hairs which clothe the fronds of some ferns are extremely interesting microscopic objects; as, for instance, the stellate hairs of *Platycerium* and *Elaphoglossum*, the branching hairs upon several species of *Trichomanes* and *Hymenophyllum*, and the scales upon *Polypodium plebejum*, and the several species of *Lepecistus*. Like every true lover of ferns, I have visited the collection in the Royal Botanic Gardens of Kew, and have for an hour or two been almost overwhelmed with the riches they possess in this way. Though I have often felt as though I could go half out of my mind with pleasure while there, yet it sometimes had a bad effect on me afterwards, causing me to feel the insignificance of my own otherwise much-prized little collection. I should strongly advise any one who heartily loves ferns *not* to go to Kew, he is so likely to be tempted to break the tenth commandment; and it is the duty of every Christian to keep out of the way of temptation. If he is quite sure he is morally strong enough to resist this influence, he will find a visit to those national gardens the greatest treat he can have. There are other gardens in the country which will offer him great attractions. Only to mention one or two, I may whisper the name of Mr. Sim, of Foot's Cray — what a treat I had there!—and of Messrs. Backhouse and

Son, of York: shall I ever forget your filmy ferns and your picturesque fern-house? Never, "while memory holds her sway in this distracted globe."

You will think I have described the state of my own mind instead of the globe, unless I at once give up these generalizations. Where, then, among the ferns shall I begin? what genus first select? It matters but little. Suppose we take that one whose name appears first on this rambling paper — *Platycerium*. The elk's-horn fern let it be, then, for one species at least is sure to be found in every fernery, no matter how small. Everybody who possesses one species must long to obtain the others, for they are very distinct, and each has a character peculiarly its own. The name Platycerium is a very appropriate one; it means a *broad horn*, and gives a tolerable idea of the appearance the fronds present. *P. alcicorne*, which we all know as the elk's-horn fern, was the first species introduced; it was imported more than fifty years ago, at a time when so many other Australian plants were finding their way into our gardens. It is found not only in Australia, but also in the East Indian islands; we may therefore expect, that although it may be successfully grown in a cool greenhouse, yet it will not object to a little extra heat. This is just the fact. This, like all the other Platyceriums, grows naturally upon the trunks of trees. You can, of course, grow it in a pot like any ordinary fern; but if you wish to see it exhibiting its natural habit, you should humour its whim, and fastening it upon a bit of mossy, rough, bark-covered wood, hang it perpendicularly against the wall. The roundish overlapping leaves, which, for want of a better name, botanists have called *sterile fronds*, and which, in our vocabulary, are called "pot-lids" (though fronds of the other form thrown out from them are frequently destitute of fructification in this species), cover the roots, and keep them moist and cool, while by their decay they furnish material for them to feed upon, new fronds being continually added upon the surface of the old ones. The fertile fronds, forking like a horn, project and hang downwards. This and *P. stemaria* may be increased by division, but none of the other species can be so propagated. In fact, these two make young plants among the sessile (stalkless) fronds which overlap the roots.

*P. stemaria*, which I have just mentioned, was introduced some twenty years after the other species named; it is still comparatively scarce, although it has been so long in the country, and can be propagated pretty freely in the way described. It is a native of West Africa. A friend of mine, writing from Fernando Po, says, "There is hardly a tree to be seen in the forests here which does not bear several plants of P. stemaria—some of the trees are almost covered with it along the trunks—and yet I have not been able to detect the slightest variation from the normal form of the species, although, since I received your last letter I have looked carefully for them. It sometimes grows in enormous masses." This is quite a stove plant—cannot, in fact, be overdone in the way of heat, and thoroughly revels in the hot steam from an expansion box. That is the position which a plant of mine occupied, and quite surprised me by the rapidity of its growth; the humid heat seemed to delight the plant. And this was how I cultivated it, or to be more correct, this is what I did to it at first, and then I left it to itself; it required no further attention. I got a bit of an old elm branch, cut right through, about fifteen inches long and eight inches in diameter; this I had hollowed out, so that only a ring of wood was left; then I had a hole made through from one side, put a piece of board on the bottom, and the receptacle for my plant was perfect. I had a wee bit of P. stemaria growing in a pot, I knocked it out, and drew the roots carefully through the hole at the side of the hollow block, and then filled up the space with peat and leaf-mould. The plant I hung up in the steam, as before-mentioned, intending

to remove it as soon as it was thoroughly established, but it grew so rapidly, so heartily enjoyed itself, that I could not find it in my heart to remove it. The sessile leaves spread over the surface of the block, their lobed summits bowing gracefully forward, its fertile fronds dark green, broad, and luxuriant. In the course of time the steam caused the block of wood to decay; but I did not mind the extra trouble that caused me; I had had the pleasure of watching this pet's development for several years; and who that truly loves a plant grudges the labour he bestows upon it? No plant ever grew better, even in the humid atmosphere along the banks of the Niger, where the yellow fever holds his despotic court.

*P. grande*, a really noble plant, was introduced soon after the species last mentioned. It is a native of the warmest parts of Australia, and of some of the islands of the Malayan archipelago. It should be grown as recommended for the other species; and one thing I have noticed is, that it should be cultivated with its back to a wall; it never succeeds so well if there be strong light coming in behind it. The species we have mentioned increase in interest and beauty in the order they have been spoken of. P. grande is much finer than P. stemaria, and that species than the elk's-horn fern; but we have still two more to speak of which will be vastly more striking than P. grande. These are *P. Wallickii* and *P. biforme*. They are both natives of the East Indies, and attain a size much beyond that of either of the other kinds. I had the opportunity, a few years ago, of seeing some enormous masses of these which had been imported by Mr. Low, of Clapton, from Moulmein. One of these, which unfortunately died on the journey, would have made a good load for a couple of men; some of the smaller pieces were, however, fortunately, alive. The fronds of these will attain a length of five or six feet, probably even more. Seedlings of both of these have been raised in this country, and we may hope some day to see them forming a feature in every stove where there is space enough to grow them.

Unlike most of our ferns, there is no confusion whatever about the names of the Platyceriums; they are called by the same names in every garden in which you find them. They were originally included in the genus *Acrostichum* (with *Elaphoglossum*, *Hymenodium*, *Gymnopteris*, *Pœcilopteris*, *Olfersia*, *Stenosemia*, and a whole host of others bearing amorphous sori); but that name is now confined to a single species having a very wide geographical distribution — *Acrostichum aureum*. Of this noble plant I shall not speak now; there is too much to be said about it; so I will keep it in mind for another time.

## CULTIVATION OF HYACINTHS.

Select clean, healthy-looking bulbs, not large (unless the sort produces large roots), but well-ripened, heavy roots. It must be borne in mind that many varieties having small-sized roots very frequently give the best spikes of bloom, and must not be discarded.

Procure them early, and do not select from those exposed in shop windows or in open baskets; this treatment sadly detracts from the bulb. Our system for years has been to keep them in bags, as imported, and we have found that the bloom is not deteriorated (although retarded) even if planted in December.

The best compost is well-seasoned turfy loam, well broken, but not sifted, mixed with a large proportion of thoroughly decayed manure and silver-sand; but if this is not at hand, take any good garden soil, and a good proportion of well-decayed vegetable refuse or manure from an old hotbed, to which add silver or

road sand—in fact, anything to keep the soil porous. Avoid all soils that run together hard.

Any sized pot will do: we use for general purposes 6-inch or 32's. In potting, place a large crock or pot-sherd at the bottom for drainage, filling up the pot with the compost. Clear the bulb from all offsets and loose parts, and press it into the soil, leaving the apex of the bulb above the surface. Have previously prepared a level plot of ground, having a hard bottom of coal ashes, to prevent worms getting into the pots; stand them on this, and give a good watering, to settle the soil. After the surface has become moderately dry, place a small pot over the crown of the bulb, to prevent the plunging material coming in contact with the bulb; then cover the whole with fine coal ashes, old tan, sand, or any other like material, to the depth of six inches. Let them remain four or six weeks, so as to get the pots well filled with roots before the foliage starts into growth, as this is one of the most essential points.

The time for potting should be regulated according to the use required, but a succession of bloom may be had from Christmas to the end of April, by commencing the second week in September, and continuing every fortnight to the end of December.

After the pots are removed from the bed of ashes they should be cleaned from all impurities, and gradually inured to light, and introduced into the forcing pit. Give them an abundance of water, and keep as near the glass as possible. If not required for early purposes, they may be placed on shelves in a cool greenhouse, frame, or window-sill, but protected from frost.

When grown in water, use Tye's registered hyacinth bottles. Fill the glasses with water (not from a spring, unless exposed to the air some hours previously), and place the bulb so that the base just touches the water. Then put them in a dark closet for three or four weeks, until the roots have grown some three or four inches; after which gradually inure to light, and fill up the glasses with water. A few pieces of charcoal will help to keep the water pure, which it is not necessary to change, unless it becomes offensive. Keep the leaves clean. The best position is in a cool room, as near the window as possible. October is the best month for placing hyacinths in water. — *W. Cutbush and Son's Bulb Catalogue for* 1864.

A SELECTION OF HYACINTHS.

*Twenty-four very choice for pot culture.*—White: La Candeur, Bridal Bouquet, Madame Van der Hoop, Mont Blanc, Orondates. Blue: Argus, Baron Von Tuyll, Grand Lilas, Couronne de Celle, Charles Dickens, Mimosa. Blush and Lilac: Pasquin, Elfrida, Tubiflora, Grandeur à Merveille, L'Unique, Keizer Ferdinand. Red: L'Etincellante, Cosmos, Lord Wellington, Lady Sale, Norma, Von Schiller. Yellow: Anna Carolina. Black: Prince Albert.

*Twelve very choice for pots and glasses.* — White: Grand Vainquer, Grand Blanche. Blush: Seraphine. Lilac: Grand Lilas, L'Unique. Blue: Charles Dickens, Grand Vedette, Porcelain Sceptre, Prins Van Saxe Weimar. Red: Duchess of Richmond, Robert Steiger, Princess Royal.

*Twelve superb new varieties.* — Reine des Jacinthes, rosy-carmine. Pellissier, lively crimson. Duc de Malakoff, flesh, with rose stripe. Paix de l'Europe, pure white. Sir Bulwer Lytton, superb double creamy-white. Koh-i-noor, reddish-pink, magnificent when well done. Snowball, pure white, the finest-formed of all hyacinths. Miss Burdett Coutts, creamy-blush. Florence Nightingale, pale pink-carmine stripes. Milton, crimson. Ida, the best of all the yellows. Blackbird, the best black.

*Twelve best cheap varieties, for pots, glasses, or beds.*—White: La Tour d'Auvergne, Victoria Regina. Red: Bouquet Tendre, Waterloo, Amy, Mons. Feasch. Blue: Blocksberg, Prins Van Saxe Weimar, Bleu Mourant, Nimrod. Black: Prince Albert. Yellow: Koning van Holland.

## SEPTEMBER, 1864.—30 Days.

Phases of the Moon.—New, 1st, 6h. 8m. morn.; First Quarter, 9th, 5h. 50m. morn; Full, 15th, 9h. 9m. after; Last Quarter, 22nd, 6h. 54m. after.; New, 30th, 10h. 43m. after.

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 rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Anniversaries, Meetings, etc. |
|---|---|---|---|---|---|---|---|
| | | h. m. | h. m. | Morn. | After. | | |
| 1 | 5 | 14 | 6 44 | 5 33 | 6 22 | Fine throughout | Partridge shooting begins |
| 2 | 5 | 16 | 6 42 | 6 37 | 6 43 | Fine; showery; rain | Massacre at Paris, 1792 |
| 3 | 5 | 17 | 6 40 | 7 41 | 7 4 | Fine; cloudy; rain | Cromwell died, 1658 |
| 4 | 5 | 19 | 6 37 | 8 46 | 7 27 | Clear; fine; lightning | 15th Sunday after Trinity |
| 5 | 5 | 21 | 6 35 | 9 50 | 7 53 | Clear; rain; showers | *Tower Hamlets Dahlia Show* |
| 6 | 5 | 22 | 6 33 | 10 55 | 8 23 | Clear; W. wind; rain | *Kildare Hort. at Show at Naas* |
| 7 | 5 | 24 | 6 31 | 11 59 | 8 59 | Fine; windy; dry; windy | Buffon born, 1707 |
| 8 | 5 | 25 | 6 28 | After. | 9 43 | Fine; cloudy; rain | *Ipswich Horticultural Show* |
| 9 | 5 | 27 | 6 26 | 1 58 | 10 37 | Rain; lightning | *Bishop Auckland Floral Fête* |
| 10 | 5 | 29 | 6 24 | 2 49 | 11 40 | Clds; wht. clds.; lightng. | Dr. Thomas Nuttall died, 1859 |
| 11 | 5 | 30 | 6 22 | 3 35 | Morn. | Clear; fine; dry air | 16th Sunday after Trinity |
| 12 | 5 | 32 | 6 19 | 4 13 | 0 52 | Cloudy; very fine | William Murray, Esq., died, 1847 |
| 13 | 5 | 33 | 6 17 | 4 44 | 2 10 | Fine throughout | General Wolfe killed, 1759 |
| 14 | 5 | 35 | 6 15 | 5 16 | 3 32 | Overcast; fine; cloudy | *Royal Oxfordshire Hort. Show* |
| 15 | 5 | 37 | 6 12 | 5 44 | 4 57 | Overcast and fine | Mr. Hugh Low, sen., died, 1863 |
| 16 | 5 | 38 | 6 10 | 6 13 | 6 20 | Drizzle; fine; cold | James II. died, 1701 |
| 17 | 5 | 40 | 6 8 | 6 41 | 7 43 | Clear; fine; wht. clds. | *Southern Hort. Soc. of Edin. Show* |
| 18 | 5 | 41 | 6 5 | 7 14 | 9 4 | Overcast; fine | 17th Sunday after Trinity |
| 19 | 5 | 43 | 6 3 | 7 52 | 10 20 | Cloudy; wind; rain | Battle of Poictiers, 1356 |
| 20 | 5 | 45 | 6 1 | 8 35 | 11 29 | Rain; fine | Battle of the Alma, 1854 |
| 21 | 5 | 46 | 5 59 | 9 23 | After. | Fine; low clds.; rain | St. Matthew |
| 22 | 5 | 48 | 5 56 | 10 18 | 1 24 | Cloudy; wndy.; shwry. | P. S. Pallas, naturalist, born, 1741 |
| 23 | 5 | 50 | 5 54 | 11 17 | 2 9 | Heavy dew; wind; frost | Charles I. dethroned, 1640 |
| 24 | 5 | 51 | 5 52 | Morn. | 2 45 | Overcast; showery; fine | *R.H.S. Grape Show at Chiswick* |
| 25 | 5 | 53 | 5 49 | 0 18 | 3 14 | Clear; fine; frosty | 18th Sunday after Trinity |
| 26 | 5 | 54 | 5 47 | 1 21 | 3 41 | Fine; frosty | Dr. Boott, botanist, born, 1792 |
| 27 | 5 | 56 | 5 45 | 2 22 | 4 5 | Fine; mild at night | Robert Glendinning born, 1805 |
| 28 | 5 | 58 | 5 42 | 3 26 | 4 28 | Heavy rain; fine; frost | Twilight ends 7h. 37m. |
| 29 | 5 | 59 | 5 40 | 4 28 | 4 48 | Fog; fine; cold, th. 25° | Michaelmas Day |
| 30 | 6 | 1 | 5 38 | 5 32 | 5 9 | Dense fog; fine; rain | Whitefield died, 1770 |

Probable Weather.—A cold and generally ungenial month. First few days fine, with easterly wind; thence to end much rain and many changes; temperature below the average.

## THE GARDEN GUIDE FOR SEPTEMBER.

Kitchen Garden. — *Cabbage* to be planted out for spring supply on ground well manured. Collards planted close will now be getting crowded, so draw for use as soon as possible every other one, and ply the hoe between them.

*Capsicums and Tomatoes* may be gathered before they are ripe if needful, and

ripened by laying them on a shelf in a warm greenhouse.

*Cauliflower* of the last sowing to be pricked out under hand glasses, and a few to be potted in 60-sized pots to push on for extra early supply, as they can be planted out early in spring on a warm well-manured border, and have the shelter of old lights, on inverted pots or thatched hurdles, in case of late morning frosts.

*Endive* to be planted out on warm well-manured borders, to stand the winter.

*Lettuces* required for use in winter to be planted out, a portion in frames, and another portion on a warm sloping border. The cabbage kinds will bear frost with the least injury. Some forward plants of cos put out now on a rich warm border will come into use late in the autumn.

*Mint* to be potted for spring forcing. There is in almost every family a demand for mint before it can be supplied, and the only way to make sure of it is to pot it; then it will be an easy matter to push it on as wanted.

*Onions* to be taken up while the weather is dry, and well ripened for storing. Those from autumn sowing will now want thinning, and the thinnings may be planted on a warm rich border to made large bulbs next season, or for use during winter.

*Parsley* sown in July to be thinned, and the thinnings planted if needful. Remove all the plants that show single leaves, and in transplanting save only those that show handsomely-curled leaves.

*Potatoes* left in the ground after this time will spoil faster than they grow; get them up and stored, and should you intend to follow the practice of autumn planting, throw out all the middling-sized greenish tubers, and plant them at once, seven inches deep.

Orchard House. — *Orchard House Trees* to have small supplies of water, and full exposure to the sun, near a wall or fence facing south, where the heat will be reflected on them, and they will ripen their wood well. Any trees that are in a green and sappy state may be laid on their sides and be sprinkled over their tops every morning. This will check growth, without distressing them, and help to coax them into rest. Get ready for repotting, planting out any that are to be turned out of the house, etc., as when November comes there will be extra pressure of work, and many important jobs of planting and potting may be delayed to the injury of next season's produce, unless pots, compost, etc., etc., are got ready in good time. All fruit trees that were forced, especially cherries, peaches, and nectarines, should now be quite at rest, and leafless. To make an end of their season, shake the remaining leaves off, and give them their winter pruning, and repot any that require it. Those not repotted to have the top soil of the pots removed, and its place supplied with fresh turfy soil and rotten dung heaped up round the stem of the tree.

*Peaches* to have as much air as possible, therefore remove any subjects that require to be kept closer, in order to admit a thorough draught among the trees, and if the lights can be taken off all the better. If the wood is not well ripened now, it never will be, and advantage must be taken of fine weather to make sure of it.

Vinery.—*Vines* must be got ripe in the wood now, if they are not so already, or all sorts of evils will befall them. Cut off the ends of any shoots that are green; and any that continue to grow too luxuriantly may be checked by removing all or part of their leaves, at the same time keeping their roots as dry as possible. All superfluous shoots to be removed as soon as possible, and the vines in the early house to be pruned at once, and the border covered to keep it dry and warm; wooden shutters are sometimes used, but we prefer straw hurdles.

Flower Garden.—*Annuals* to stand the winter to be sown now on poor hard ground, or in pans filled with poor soil. The sorts to sow now are Candytufts, Nemophilas, Collinsias, Escholtzias, Erysimum, Clarkias, Convolvulus minor, Godetia, Larkspur, Lupinus, Poppy, and Schizanthus.

*Bedders* to have every necessary attention to keep them in proper order. If seeds are allowed to ripen, the plants will begin to decline in bloom, so remove them promptly, and serve a twofold purpose thereby. Take cuttings of geraniums in plenty, and, to save further trouble, put them in pots or boxes as they are to remain for the winter. Use plenty of drainage, and a poor sandy compost now, in order to check growth and harden the wood. Bedding plants struck in the open ground must be potted forthwith; in all cases a poor sandy soil and plenty of drainage must be used, especially if the plants are to be kept in pits or other places where they will be exposed to a low temperature during hard weather. Take up all choice plants now that it is intended to keep through the winter, and pot them; if left in the ground any longer, they will be likely to die after potting.

*Bulbs* to be procured at once, and potted or planted as required. Bulbs to be planted in borders now occupied with flowers may be started in reserve beds, on moss or leaf-

mould, or in clumps in rich sandy compost. When the borders are cleared they can be transplanted without injury to the roots, and the bloom will be finer than by delaying the planting till the end of October or November. Crocuses that have got mixed may be treated in the same way. Remove them at once to a reserve bed of rich sandy soil; there let them bloom, and *then* separate them, and plant while in flower in the places they are to occupy permanently. Bulbs to be potted in successional batches, so as to prolong the blooming season. Pot the early blooming Gladioli, Sparaxis, Ixias, Narcissus bulbocodium, Jonquils, and Tritonia aurea in a mixture of peat, leaf-mould, and turfy yellow loam, equal parts.

*Tomatoes* will ripen well while th is weather lasts, but in case of a change to chilly weather it should be borne in mind that when the fruit is fully grown it may be ripened on a shelf in the greenhouse, if cut with some portion of stem attached.

*Chrysanthemums* require plenty of water, and twice a week manure water, but not a drop of the latter to touch the leaves. See to any tying that has been neglected. Pot up at once those grown in the open ground for the purpose, or if to be moved to make beds and ribbons, clear the ground, dig it over, and plant them in the places where they are to bloom at once, or make all ready and move them as soon as there are signs of rain. Plants potted up from the open ground to be kept shaded and frequently sprinkled till they recover. Of course they must be lifted with good balls, and be potted firm, with plenty of drainage. Thin the buds of the plants grown for cut blooms. Most of the large incurved varieties give the best blooms from the top buds.

*Flowering Shrubs* to be forced for the conservatory should now be thought of, to get them potted up and plunged ready to be taken in to force. Plants that have made good growth in the open ground are best for this work, such as Lilacs, Kalmias, Daphnes, Andromedas, Polygala chamæbuxus, Ledum latifolius, Rhodora canadense, double-flowering plums and cherries, Azaleas of the nudiflora section, Weigelias, etc. Get them into as small pots as possible without doing any serious harm to their roots, and plunge in a bed of cocoanut waste, in a sheltered position, till required to go to the forcing house.

*Pansies* to be propagated now in quantity for planting out in October, and to pot for early blooming in pits in spring. Those lately struck to be planted out in beds of turfy loam, with a liberal admixture of sand and charred rubbish, but very little animal manure.

*Planting* may be proceeded with from this time to the end of November, beginning with evergreens, and getting them into their places, and meanwhile preparing the stations for deciduous trees, fruits, etc. Whenever it is possible to prepare the ground, some time before planting it, it should be done; and where orchards and shrubberies are to be planted in November, the soil should now be trenched up and made ready, even to manuring, if required. It is much against the prosperity of the trees to be planted in soil only recently turned over, and before there has been time for the atmosphere and sunshine to act upon it.

*Revise* all named plants while there are blooms or fruits to determine if they are tallied correctly. To keep plants correctly tallied will do more to familiarize the mind with their several characters and excellencies than any amount of book study; in fact, every garden is a book where—not he who runs—but he who stoops may read, and everything of real interest should have a tally correctly written. This is especially useful in regard to rock plants, coniferous trees, and roses.

*Roses* budded this season require now to be looked over, the wild growth cut in slightly, the ties loosened, and any wild buds starting below the work to be rubbed off. Roses struck from cuttings to be potted off as soon as rooted into 60-sized pots, and be put on a gentle dung-heat, to promote the filling of the pots with roots. Roses layered in the open ground may be removed and potted; in fact it is better to winter all roses on their own roots in pots the first season after striking them, if there are conveniences for doing so. Roses lately budded to have the ties loosened. Where buds have failed, others may be inserted either on the stems of young stocks or on suitable shoots lower down than those previously worked. Prune pillar roses, so as to remove a moderate amount of both old and young wood; that left to be its full length, and at such regular distances that there will be good symmetrical heads next season. Short cuttings of chinas and perpetuals will root now in the open ground under glasses.

Greenhouse.—If tender pot plants are not at once housed, they may very soon not be worth housing. There is nothing more to be gained in the way of hardening; in fact, a little sun-heat under glass will ripen the wood of plants that are still in a sappy condition much more effectually now than sunshine out of doors, besides the

safety of glass for whatever is worth keeping. Refrain from using fires as long as possible, but if any special reason requires it, let no rules without reason interfere; set the fires going, dry the house, and have a change of air while there is no fear of a chill. By good management much may be done now with sun-heat. Plants recently potted and housed must be frequently sprinkled, and kept a little close to encourage root action. Do not keep them very wet at the roots; in fact, after the first watering when potted, let them go nearly dry at the root before watering again, but sprinkle frequently, and as the lower leaves wither remove them. Keep the houses clean and dry, so as to allow of as much ventilation as possible among hard-wooded plants. If the weather is mild, and wind westerly, give air at night to Camellias, Azaleas, Heaths, Epacrises, and other subjects of like habit and hardiness.

*Calceolarias* may be propagated now in quantity; they need no bottom-heat. Take short stubby side-shoots, dibble them into a mixture of leaf, very rotten dung, and about a fourth part sand. They strike quickly, and make fine strong plants in cocoa-nut waste well rotted; so if the plunge-bed can be cleared out, the rotten cocoa-waste will be the best stuff that can be used for them.

*Cinerarias, Primulas, Calceolarias*, of the herbaceous class, and other soft-wooded plants now growing freely, should be carefully looked over to see that they are in a fit state for housing as required. Some will want a shift; some will be found infested with fly, etc. None of these things should suffer for want of water, as it will spoil their looks by causing the leaves to turn yellow.

*Fuchsias* may be kept in bloom late by the aid of weak manure water and a close warm house. The shading may be removed, and the pots have a sprinkling of fresh sheep or deer dung as a top-dressing. Gather ripe berries of any varieties from which seed is required; bruise the berries with sand, and expose the mixture of pulp and sand to the sun till quite dry; then store it in chip boxes till spring, when sow sand and seeds together. Raisers of seedlings who can keep the young plants in the stove all winter may sow at once in a mixture of three parts leaf and one of sandy loam, and start in a gentle heat.

*Gladioli* to have very little water now the bloom is declining; when the soil in the pots is nearly dry, lay the pots on their sides in the full sun, to promote their ripening. Those in beds will take care of themselves till time to take them up.

*Hard-wooded Plants* must be kept well aired and in full sunshine, to ripen the wood and give them strength to pass the winter in an ordinary greenhouse temperature. Heaths, Epacrises, Pimelias, etc., to have free ventilation, and the rank shoots pinched in, to preserve uniformity of growth.

*Intermediate Stocks* to be potted in thumbs singly, and kept shaded till they make fresh roots. Sow Queens, Intermediates, and Bromptons; the soil to be a sound turfy loam, without dung; manure will make them too sappy to stand the winter well, but a poor soil will be likely to cause a large proportion of single flowers.

*Liliums* to be treated the same as recommended for gladioli. Give water till the leaves begin to fade, then lay them on their sides.

*Mildew* will show itself in all close damp places now, and do incalculable mischief if not checked. Sulphur dustings are the best remedy, but fresh air and cleanliness will do much to prevent it.

*Winter Flowers* must be thought of now or never. Give a few Begonias a shift, and push them on for flowering; look to Euphorbia fulgens and splendens, Poinsettia pulcherrima, Achimenes picta, Lily of the Valley, and pot up from the borders Dielytra spectabilis in plenty; it is one of the best things to force, and though "common," exquisitely beautiful.

Orchid House.—*Orchids* generally should have less moisture as the days shorten. The majority of growers keep them too damp and too warm all winter, but they should now be prepared to pass the winter at as low a temperature as will be safe, and in as dormant a state as possible. Fires will be useful now on dull days to dry the house, and allow of the admission of air. Young plants of Aerides, Dendrobium, Vanda, Cattleya, and Saccolabium to be kept growing in the warmest compartment.

Pits and Frames.—*Auriculas* to be housed for the winter, and watered very sparingly. Look over the stock in removing them to the frames; see if the slugs are hidden in the hole next the crocks; and if the surface of the soil in the pots has moss or liverworts growing on it, you may be sure there is something the matter with the drainage, which see to at once.

*Cucumbers* are mostly beginning to fail now, or will be shortly, so those who want a succession of fruit must be on the alert. Sow or strike cuttings, the latter

to be preferred, and get ready to make up new beds. Old plants still in vigour must have the help of linings, and be covered with mats at night. Beware of mildew, which if it once appears remove the affected leaves and give the plants a sprinkling of sulphur.

*Melons.*—If any difficulty in getting the fruit to ripen, the following plan may be adopted :—Cut the fruit with as much stalk attached as possible ; place them on shallow cups or any convenient vessels, with about a glass of wine in the vessel, and the stalk of the fruit dipping into it. The hottest part of a lean-to house will be the proper place to ripen them off ; the wine will be absorbed, and the flavour of the flesh improved ; and a few days' sunshine will ripen them perfectly.

*Mushrooms.*—Prepare the bed for winter supply. The first thing to be done is to collect plenty of short unfermented dung, or if only long dung can be had, pick out the long straw and lay it in small heaps to ferment gently, and turn it every three or four days till it produces only a gentle heat, then make up the bed. A dry dark shed is as good a place as any, but a better crop and a larger supply may be insured where the beds can be made over a warm chamber.

*Pines.*—Repot the young stock struck during the summer, and plunge in a brisk heat ; suckers on old stools to be taken off and potted singly, and plunged at once ; they will root immediately. Give as much air as possible while fine weather continues. Pines ripening their fruit must be kept warm, and have less water. Be careful how you give water now, and keep up the heat in the succession pit.

Greenhouse Plants in Flower.—*Adesmia viscosa.*—An interesting fabaceous shrub with yellow flowers, and the habit inclined to be trailing. Treat the same as the last named.

*Angophora cordifolia.*—A blue-flowering myrtaceous shrub from New Holland, requiring the same treatment as any of the tenderer species of myrtle.

*Anisomeles furcata.*—A pretty evergreen under-shrub, with blue labiate blossoms, easily grown and interesting.

*Arctotis decumbens.*—This genus has long been neglected, though deserving every attention. It would pay any of the trade now to collect them, and determine their several values for bedding, etc., for which we feel convinced there are many most suitable. They are all worth pot culture, and we believe that A. grandiflora will hereafter supersede Gazania splendens. Seed of several species is entered in the catalogue, and that will be the easiest way of getting up a stock of the kinds that can be got that way.

*Bæckia virgata.*—A pretty myrtaceous New Holland shrub, with white flowers, requiring the usual treatment of New Holland plants.

*Banksia ericifolia and speciosa.*—Interesting New Holland plants, worthy of a place in every greenhouse. They belong to the natural order of Proteads, and both have yellow flowers. The grower of these is strongly advised to have nothing to do with grafted plants ; they can all be obtained on their own roots by any one who can propagate ericas, and by the same method. Grow in sandy peat, with a fifth part turfy loam. Young plants are apt to damp off at the collar, and in potting it is necessary to put half an inch of silver-sand on the top of the soil in the pots.

*Banksia verticillata.*—The Banksias are all fine plants, and a few of them should be found in every good collection. They belong to the order of Proteads, from which we derive many of our most valuable conservatory plants. The smaller species require to be grown in peat only, the more robust need the addition of about a third of turfy loam. They can all be propagated from cuttings, but it is a tedious job, and should be undertaken only by those who can propagate ericas and epacrises. The species now under notice grows to a height of twelve feet, and bears yellow flowers.

*Bignonia jasminoides and venusta.*—The first is white flowered and a capital subject for the rafters of a greenhouse, for people who can wait with patience for a good thing. Planted out in a free border of loam, in a cool stove or greenhouse, and the wood well ripened every year, it may always be depended upon for abundance of bloom. The flowers are produced on the previous year's wood. Venusta is a beautiful orange-flowered species for pot culture in the stove.

*Billardiera scandens* (Sollya scandens).—This fine evergreen climber is now in full beauty with its purple blossoms. Soil, loam and peat ; winter temperature, 45°. The other most desirable species are longiflora, crimson, paviflora, blue, and mutabilis.

*Borbonia cordata.*—This is one of the smallest of the genus, and one of the prettiest. It grows two feet high, forms a neat shrub, and produces its yellow fabaceous flowers in plenty. Treat the same as Hovea and Templetonia. Soil, peat and loam, plenty of drainage; winter temperature 45°.

*Dionæa muscipula.*—This is a good subject to test a gardener's skill, and is likely

to do best in the hands of a grower of orchids and filmy ferns. It is a most interesting plant, and in its way really beautiful; at all events, it will always have a peculiar interest as a subject demanding more than ordinary care. The best contrivance in which to grow it is a large double-rimmed pot from the West Kent Pottery at Chiselhurst. These pots are made expressly for bell-glasses, and are shallow, to suit plants of the kind. The soil should be chopped sphagnum, peat, and small potsherds, equal parts, and the pot must be kept in a pan, between which and the pot there must be a stuffing of moss, which is to be kept constantly moist. The propagating-house or a warm corner of the fernery is the best place for it.

*Gesnera breviflora, discolor, and Douglasii.*—Where houses are required to be always gay, a few Gesneras should be started for succession every month in the year. Of course the main planting should be early in the spring, and each batch should have its season of rest.

*Grielum laciniatum.*—An almost unknown greenhouse herbaceous plant from the Cape. The genus belongs to Rosacea, and has yellow flowers. There are three species in cultivation, namely, humifusum, laciniatum, and tenuifolium, all plants of dwarf habit, and with hoary leaves and stems.

*Grindelia coronopifolia.*—A pretty Mexican composite with yellow flowers. It forms a neat evergreen greenhouse shrub, if grown in peat and loam, and frequently pinched in to make it bushy during the early part of the growing season. There are four other species worth having, namely, Duvallii, inuloides, Lambertii, and spatulata; they all grow eighteen to twenty-four inches high.

*Jacksonia grandiflora.*—This is about the best of a tribe which is not very attractive. The yellow papilionaceous blossoms are attractive, but we have so many similar things in blossom, that none of the Jacksonias can be considered desiderata.

*Mesembryanthemum floribundum.*—We have had some plants of this in pots suspended from the rafters of a warm lean-to, where they have been covered with bundles of pink flowers since the end of April last, and look now as if they would bloom till Christmas. It is the best of all for a small collection.

*Nivenia spicata.*—This pretty Protead has been in bloom since the 1st of July, and every one admires its neat purple flowers. Treat the same as Cape Ericas. Cuttings root pretty easily in May, but they require considerable coaxing to make plants of them. Ordinary greenhouse temperature will keep any of this genus during the winter.

*Oyedæa buphthalmoides.*—A Peruvian composite with yellow flowers, not of great value, and with no special beauty to recommend it, but interesting to the botanist.

*Ricinus rutilans.*—This fine reddish-stalked species makes a grand specimen plant for the conservatory, with liberal culture from the first, and should now be very showy. This a biennial species, and this is a good time to sow for next year; the plants to have stove treatment all winter.

*Senecio mikanæ.*—This is a very beautiful ivy-leaved twiner, useful for baskets and pillars, but it is very shy of bloom, and when it does bloom not any more handsome than at other times. Every gardener should have it, as it is a most interesting plant. It is a favourite window plant in Germany.

## TO CORRESPONDENTS.

MEMORY TABLETS OF GARDEN WORK.—To the Editor of the FLORAL WORLD.—Sir,—In reference to your notice of "Memory Tablets of Garden Work—the Flower Garden," in the FLORAL WORLD for July, I beg to state that they were, for the most part, written for me by the late Mr. Plant, editor of the *Florists' Journal*, and author of the "New Gardeners' Dictionary," who was also a practical gardener. Mr. Plant went out to Africa in connection with a scientific expedition under Sir John Hooker, and, I regret to learn, has since died at the Cape. Had he been living, he would have made the necessary additions to adapt these floral calendars to the present purpose. A practical gardener on a somewhat extensive scale, and a very intelligent member of his profession, Mr. Wardle was as competent as most to edit a work of this kind, and he has done so to the satisfaction of a goodly number of purchasers, the notice to the contrary in the FLORAL WORLD notwithstanding. In another form, the little work (or Mr. Plant's portion of it) has circulated to the extent of upwards of

100,000 copies.—I am, sir, yours obediently, *The Publisher of "Memory Tablets of Garden Work,"* Queen's Head Passage, Paternoster Row.

A Flower for Sun and Shade.—It is so difficult to find any plants that will blossom abundantly under trees, that having accidentally discovered one to which sun or thick shade appears alike indifferent, I enclose a blossom and some of the seed. It is a kind of American groundsel, perfectly hardy, seeds itself, and continues in brilliant bloom from May till cut off by the frost. Last year I observed two of the plants coming up in my garden, which had at one time been a "botanical" one, and therefore contains seeds of many curious plants. One of these plants of groundsel was in the sun, the other close to the stem of a tree, in complete shade. Observing that this one bloomed as well, and longer than the other, I told my gardener to plant patches of it under some of the trees, which he did; and this year parts of my garden which hitherto were quite bare of flowers, have been bright with the yellow blossoms. The spray I enclose was gathered from under a large elm, where it has never had a ray of sun, and hardly a drop of water, as the elm keeps the ground beneath it so dry. In your next number, be so kind as to state what the advantage is of boxes which you recommend for keeping plants in winter, and for striking cuttings. I have a greenhouse warmed in winter, and pits which are *not*. Would boxes be of any great use to me, and why? Also, how should they be made? I did not begin taking the Floral World till after your first paper on the subject.—*A. B.*, Bath, Aug. 11. [The plant is Tagetes lucida, a half-hardy perennial, from South America. All the species of Tagetes are suitable for shady banks, and are very showy. T. pumila, a very dwarf annual, makes very neat masses; T. signata and T. tenuifolia are of larger growth, and also annuals. Any kind of boxes do for cuttings. The advantages of using boxes are—economy of space, a given number of plants in boxes occupying not much more than the space required by half the number in pots; economy of time, as all the trouble of potting is saved; and increased safety, as the body of soil being large, there is less fear of loss by want of water, etc. Old boxes that are a nuisance in the lumber-room answer well for plants; the most convenient size is one foot wide, eighteen inches long, and six inches deep. If made for the purpose, they should be of inch deal, and with a false bottom, as represented in Floral World, Feb. 1862. The partitions may be dispensed with.

Ferns from the Cape of Good Hope, etc.—A correspondent sends us a series of fern fronds, neatly mounted and severally labelled "Seedling from Jamaica," "Seedling from Cape of Good Hope," etc. It is a strange thing that the fronds are *all* of examples of Lastrea dilatata, a common British fern. No doubt, our correspondent has noticed a great sameness among these seedlings; as they get older they will be found to be identical, and of the species to which we now refer them. But how comes this? Were the Cape and Jamaica spores dead, and did the Lastreas come up through the use of peat soil already containing spores of L. dilatata; or were spores of dilatata supplied instead of Cape and Jamaica species? Of course we cannot answer, though we may properly ask such questions. In all cases where fern-growers sow foreign spores, it will be well first to bake the peat in an oven before using it. This will destroy the spores of British ferns.

Various.—*F. A. N.*—We really cannot now present you with a design for a rustic house. We can, however, strongly recommend Mr. Curry, of Brook Street, Upper Clapton, as a very proper person to supply one ready made, if it is your intention to purchase, and not to build one. The best book on bees is Taylor's "Bee-Keeper's Manual," published by Messrs. Groombridge and Sons, price 4s. —*R. G. G.*—Your flowers were shrivelled up, and indeterminable. Cut down the clematis in March next.—*S. W. B.*—The "Rose Book" is not out of print. If your bookseller repeats that story, send direct to Messrs. Groombridge, and have it through the post; the price is 5s. If you follow the instructions therein given, you may have yellow roses in any quantity.—*S. S. S.*—The great circle is a fine feature in your plan. Pray do not spoil it by introducing any complicated flower-beds; its simplicity is its best recommendation. In the long beds following the sweep of the walk would be a good place for Caraganas, Kœlreuterias, Rose acacias, and other trees of interesting habit—all, of course, standards. If you put planes and limes there, as you propose, you will drag it down instanter to merest commonplace.

THE

# FLORAL WORLD

AND

# GARDEN GUIDE.

OCTOBER, 1864.

## ROSES IN 1864.

ROSES of recent introduction are not only, for the most part, superior to the varieties hitherto held to be the best, but so much in advance of the average quality of those they superseded, that since 1859 the catalogues have been almost wholly revolutionized, at least, in the section devoted to hybrid perpetuals. The roses that then held sway are nowhere to be found, except in old gardens; a certain few, however, of the old types still maintain their ancient prestige in the estimation of rosarians, and these survivors of many changes but too plainly testify that it is not fashion, but merit, that has secured the acceptation of the novelties. 1862 was the great year in modern times for new roses, and a large proportion of those then introduced are among the best roses we now possess. 1863 added its quota to the lists, but 1864 nearly equals 1862 in the number and general excellence of the new roses. It is interesting to notice too, that as roses come in batches chronologically, so they come in batches as respects colour and other qualities; but probably this circumstance is to be considered accidental, and to attempt to connect it with any law might be simply to give reins to the fancy. Certain it is, however, that as in 1862 seedlings of the General Jacqueminot type abounded, and in 1863 those of the Madame Crapelet type were nearly as numerous, so in 1864 our attention is called to consider the respective merits of a number of roses, more or less related to Victor Trouillard or Louis XIV., as types. It is scarcely metaphorical language to say that during the past three years new roses have rushed upon us like a flood, and the impetuosity of their descent has carried out of sight, and in some cases out of mind also, many varieties that previously were in the highest repute. We have before us, at the present moment, the excellent catalogues of roses published respectively by Mr. Cranston, of King's Acre, Hereford,

and Messrs. Wood and Son, of Maresfield, Sussex, and the first glance at the pages of these interesting works reveals to us whole batches of new names, and we search in vain for many of the names that were not long since held in high repute. Probably not less than a hundred varieties of hybrid perpetuals have gone out of cultivation, or at least have been removed from the lists, during the past five years. This is a rapid rate of change for such a subject as the rose, for it requires the experience of at least two seasons, and generally three, to determine the actual value of a new variety, so that, *prima facie*, we may believe the novelties to have been, for the most part, possessed of qualities such as compel their acceptance, and determine their popularity.

We have seen, at various times, and under various circumstances, most of the new roses, the names of which are printed in large type in the catalogues, and amongst them there are some veritable gems. We seem to have among these some deep crimson and purple roses of much better form than is usual with dark-coloured varieties, and probably we shall find a few as perfect in their properties as the best of the rose-colcured class, in which, hitherto, we have had to seek almost exclusively for perfect roses. In the section of purple, crimson, and violet colours, there are offered the following: —*Abbé Raynaud*, *Amiral La Peyrouse*, *Andre Leroy d'Angers*, *Eugene Verdier*, *H. Laurentius*, *Joseph Durand*, *Maréchal Suchet*, *Senateur Reveil*. We select these first, because we think the most interesting accomplishment of the present season, as regards the distribution of new roses, will be found amongst those of the darkest shades of colour. Of these eight we fully anticipate that at least five will become favourites—it is possible all may, for there is not a downright bad rose amongst them. The five on which we fix our choice are the following: *Abbé Raynaud*, dark violet, with crimson tinge on the edges of the petals, at present thin, but appearing only to require another season's growth to bring out its qualities; *Amiral La Peyrouse*, deep purple crimson, stout petals, the flower full and compact, not large, but refined; *Andre Leroy d'Angers*, purplish crimson, large thick petals, the colour indescribably rich, but the flower rather too light, showing an eye when full out; *Joseph Durand*, violet crimson, wanting substance; *Maréchal Suchet* (*Guillot fils*), deep crimson, with curious purple shade, the petals large, stout, smooth, the flower beautifully formed, the best of this series.

In the section of what are usually denominated "high coloured roses," and of which the General has been generally regarded as the type, there are a few novelties of some importance. *Baronne Pelletan de Kinkelin*, vivid crimson, large, full, and lasting, is a good rose, but does not greatly differ from several that have good places in the lists; *Claude Melnotte*, deep rich crimson, is of average goodness; *John Nasmyth*, vivid crimson, veined with purple, beautifully cupped, is certain to be a favourite, and will no doubt be shown in all good collections at next year's exhibitions; *John Standish* is already pretty well known as a fine crimson rose, well worthy of its honourable name; *King's Acre* is an English seedling, raised by Mr. Cranston, the colour vermillion rose, of intense brightness, and so fine in form, petal, and every other necessary quality, that it must be considered the best of

the high-coloured roses of 1864; *Leopold Hausburgh* is another, which every genuine rose amateur must have, the colour is carmine, with a soft purple shade, large, very double, if grown strong a thumping rose, but at present rather shy, and of about the same value, consequently, as that very shy but surpassingly beautiful rose, Louis XIV.; *Madame Ducamp* will be useful for its colour, a glowing shade of scarlet crimson, but there are many in cultivation already quite as good; *Madame Victor Verdier* has been shown in superb condition, the colour a clear, lively, rosy crimson, likely, we think, to rank equal with King's Acre and Maréchal Suchet; *Paul de la Meilleray*, crimson shaded with purple, must undoubtedly come into the list of the very best of the novelties, it is globular in form, thoroughly double, distinct in every character, and a good grower, and apparently as free in habit as any hybrid perpetual known; *Princess of Wales*, sent out by Mr. William Paul, promises to take the lead with Jules Margottin, General Jacqueminot, and a few others that are first thought of in an enumeration of the aristocracy of roses: it is not only massive and distinct for purposes of exhibition, but has an iron constitution, and justifies itself as a genuine English rose.

Among reds and various shades of rose colour there are also a few gems. *Alpaide de Rotalier* is a distinct and lovely rose, the colour silvery pink, the flowers large and well formed, and the habit free and robust. *Alphonse Belin* is probably neither different nor better than some old roses. *Bernard Palissy* has been one of the favourites among new roses at exhibitions this season, and scarcely needs recommendation. The colour is clear pinky rose, the flowers expand rather too much, but their smoothness and substance are greatly in favour of placing it with the best. *Centifolia rosea* is a gem of the first water, the colour lively, cherry pink, quite novel and distinct, the flowers large, cupped, remarkably symmetrical, and produced in such abundance that the plants are smothered with them. *Duchesse de Morny*, a large, finely cupped, reddish rose-coloured flower, has a fine carriage and substance. *George Peel*, bright rose, blooming in clusters, will be found to lack the qualities needful for exhibition, but will probably be a very useful garden rose, and like *Red Rover* well suited for pillars. *Gloire du Sacre Cœur*, pinky fresh shading to deep rose has been very good, as shown in single blooms, but we have not seen it growing, and know nothing of its habit. *Kate Hausburgh* was well shown at the Royal Horticultural early in the season, the plants loaded with cupped flowers of true rose colour; it is a question, however, if there is anything distinct or really new in any of its qualities. *La Reine de la Pape* has very much of Bourbon blood in it, and will be chiefly useful for autumn flowers; it is of average merit. *Louis Van Houtte* is one of the best of the series, it is a good grower, has a fine foliage, the flowers very highly coloured rose, red tending to carmine, the form globular and elegantly cupped; this will be a favourite at the shows next season. But here comes a glorious novelty, *Madame Derreux Douville*, a rose of medium size, a model of symmetry, beating in this respect Madame Vidot and Prince Leon, the colour deep, rosy pink, and the habit all that can be desired. *Madame Soupert* may prove to be excellent, at present we can only say that we have seen one bloom which was

charmingly built, very double and compact, and the colour a similar tone of flesh to Caroline de Sansal. Here let us halt. There remain for characterization some day the following:—*Docteur Vingtrinier*, crimson scarlet, *Gabriel Pegronny*, deep rose, and hitherto very promising; *George Prince*, red shading to rose; *J. F. Lombard*, crimson, well shown on several occasions this season; *J. Durand*, crimson; *J. Field*, crimson shaded white; *Le Mont d'Or*, pale rose; *Leopold I., Roi des Belges; Louise Damaizin; Madame Dombrain; Madame Macker; Maréchal Canrobert*, dark red; *Maréchal Forey*, crimson, and very promising, having been frequently exhibited and always well. *Pavillon de Pregny*, white and rose; *Pierre Notting*, dark red; *Senateur Reveil*, crimson shaded purple; *Simon Oppenheim*, deep crimson; *Souvenir de Maréchal Serrurier*, deep purple; *Triomphe de Villecresnes*, red; *Vicomtesse Douglas*, pink; *Hamlet* (Paul and Son), *Dr. Lindley* (W. Paul.)

Among the new Bourbons we can recommend *Baronne Daumesnil*, rosy crimson, cupped, full, stout; *Madame Josephine Guyet*, violet crimson, globular, cupped, small, but exquisitely formed; *Rev. H. Dombrain*, carmine, cupped, large, stout, a noble flower. *Madame de Stella* and *Madame Dore* are probably as good as any, but we cannot speak so certainly respecting them as of those to which we have assigned distinct characters. Respecting roses less new than those of 1864, but which are as yet not generally known, we shall offer some remarks next month, and at the same time cast up accounts as before with new and old varieties with a view to a fresh selection.

## FLOWER SHOWS FOR AUGUST AND SEPTEMBER.

Royal Horticultural Society, Aug. 6.—To do real justice to this show is a rather difficult matter; in fact, we do not feel quite sure that it ought to be spoken of as a show at all. There were about a dozen yards of table space occupied with autumn flowers in the arcade on the western side of the conservatory, and as a show it was so pitifully small as to be ridiculous. Yet as the few contributions sent were of a high order of merit, it would be an injustice to the exhibitors to pass it by as if only worthy of contempt. Those few exhibitors had put themselves to much trouble, and had sent objects worthy of the admiration of crowds, and they had for their pains a few worthless certificates, and the admiration of some fifty visitors, some of whom were working men's wives with babies in their arms, and it is to be hoped that the wives and the babies were alike gratified with the entertainment. The management is fast attaining to its highest triumphs, and when it has completely banished horticulture from Kensington, there will no doubt be the fullest possible scope for croquet in summer and skating in winter, and fashionable dawdling at all seasons.

Among the subjects that gave character to the show was a collection of stove and greenhouse plants from Messrs. A. Henderson and Co., of Pineapple Place, Edgware Road, comprising numerous interesting objects, most of which have been noticed in previous reports. From Mr. G. Smith, of Tollington Nursery, came Geranium *Princess*, the flowers finely formed with broad petals, the colour purplish-rose; also *Prime Minister*, a good scarlet. From Messrs. F. and H. Smith, of Dulwich, Fuchsias *Curiosity* and *Blue Beard*, which did

not appear to be very distinct or meritorious. Mr. Salter, of Hammersmith, sent Geranium *Beauté de Surennes*, a grand addition to the class of which Christine has been hitherto the type. The petals are broad and heart-shaped, so that they overlap at the margin, but not in the centre of the flower; the colour fresh rosy-pink, the top petals softening to white at the base. The trusses are on stiff, strong foot-stalks, and the leafage is distinct from all others of the class. From Mr. Norford, of Brompton, Verbena *Purple Prince*, which in habit appears to resemble Purple King, but differs in having a rich crimson shade. If this proves to be a bedder, it will be invaluable.

Pentstemons.—Messrs. Downie, Laird, and Laing, put up some excellent spikes, which, being placed in gingerbeer bottles, were not at all inviting. *Nemesis* is carmine-crimson, with white throat; *Mrs. Moore*, rosy-purple with white striped throat; *Delicatum*, rose-red, white throat, a fine variety; *Royal Scarlet*, rich crimson-scarlet with pencilled throat, extra good; *Mrs. E. Clarke*, large, the limb expanded, the colour soft carmine, the throat deeply pencilled. Mr. Keynes of Salisbury, sent some good Verbenas: *Pilot*, the flowers large, colour crimson, lemon eye; *Queen of Queens*, strong shade of carmine, pale lemon eye, fine; *Lady Folkstone*, rich rose-pink, greenish eye, not good; *Huntsman*, colour of Stella Geranium, with very distinct and pure yellow eye, better than Pilot, and like it; *Negro*, very rich crimson-purple, fine in colour, otherwise only second-rate; *Commotion*, a curious and quite new shade of salmon blended with carmine, grey eye, perhaps the best in the collection, certainly a fine verbena; *Royal Dwarf*, a strong tint of rose-red, large indistinct white eye; *Mrs. Dodds*, warm flesh, rosy-pink centre, green eye, of no value; *Mr. Gladstone*, large, smooth, rich carmine-crimson, large circular grey eye; *Coquette*, clear lilac, greenish-yellow eye. The best of these were Commotion, Huntsman, Coquette, Mr. Gladstone, Queen of Queens.

Seedling Dahlias were sufficiently numerous to constitute a feature of this miniature exhibition. Mr. Keynes sent *Queen of Primroses*, large, rather flat, very regularly and neatly quilled, the colour clear bright primrose-yellow, a very fine dahlia; *George Wheeler*, rich deep crimson, shaded lilac, large, well formed; *Tippy Bob*, pale lilac ground, the base and back of the florets deeply stained purplish-crimson, coarse but showy; *Champion*, rich crimson, with purplish shade on the older florets, blackish shade towards the centre, medium size, exquisitely formed; *President*, large, gold yellow, deepening to buff in the centre, rather flat and coarse, but a good dahlia; *Bird of Passage*, blush ground, strongly tipped with purplish-rose, flat and coarse; *Hercules*, a huge and coarse flower, ground deep buff, richly striped and flaked carmine, a curiosity; *Matilda*, large, coarse, pale, impure straw-yellow, changing to washy buff; *Mrs. Reid*, the counterpart of Hercules, ground brownish-buff, deeply striped and flaked purplish-crimson, coarse, but showy; *Queen of Sports*, whitish ground, striped and flaked purplish-crimson, in the way of Carnation, a fine flower; *The Hon. Mrs. Fox Strangways*, a curious shade of sanguineous red, quite second-rate; *Annie Weeks*, pale lilac, or rosy-lilac self, likely to prove first-rate, but changeable; this seems to need another season's growing. Mr. Legge, of Edmonton, sent *Victory*, glowing crimson, a commonplace flower; *Mr. Golding*, finely formed, buff; *Marvellous*, deep maroon, light tips, fine; *Glory*, blush, tipped and striped lilac, deepening to crimson, coarse; *Ellen*, pale gold, low crown; *Crimson Perfection*, small, neat, a fine crimson; *Excellent*, like Mrs. Reid, but more inclined to yellow. Mr. Collier, of Bethnal Green, sent *Annie*, crimson-lake with light stripes, very flat, very distinct in colour; *Princess Alexandra*, yellow-buff ground, striped and flaked crimson-red. There were a few exhibitions of established dahlias. Mr. Keynes sent a nice twenty-four. Messrs. Minchin and Son, of Hook Norton, Oxon, sent a good collection

of Verbenas. There were a few moderately good Gladioli. Mr. Treen, of Rugby, sent a lot of twelve, which were disqualified, because there were no names attached. Messrs. Paul and Son sent a fine twenty-four.

Hollyhocks.—Messrs. Minchin and Son sent collections of superb hollyhocks; the twenty-four comprised Argentine, Purple Standard, Excelsior, Majestic, William Dean, Rev. J. Dix, Joshua Clarke, Miss Burrell, R. B. Ullett, Beauty of Mitford, Princess of Wales, Stanstead Rival, Lord Loughborough, Invincible, Emmeline, Excelsior, Pericles, Queen Victoria, Compacta, Gem of Yellows, Mrs. Chater, Royal White, Erebus.

Crystal Palace, Sept. 7 and 8. —The Crystal Palace, within and without, never looked more charming than on this occasion. Having looked over the gardens of the Royal Horticultural Society the day previous, and noticed the general decline of floral colouring, we were not a little surprised to find the grounds at Sydenham in the full tone of their summer splendour, not the smallest shadow of autumnal decadence being anywhere perceptible. The fruit and flower show was a real show in the Crystal Palace style, and hence a blessed relief from the Kensington sham. It occupied the whole length of the nave, with the exception, of course, of the water basins at either end, and a great space allowed for promenading in front of the orchestra. It was not a bright day, or probably the number of visitors would have been augmented considerably beyond the 10,555 who were present during the day; but that is a respectable total, and it probably comprised a larger proportion of gardeners than usual, for everywhere the merits of the various subjects were discussed with energy and ability, and those who sent things worth seeing had honours awarded over and above the prize money, for after all what reward can be so sweet to a cultivator as the approbation of a crowd 10,000 strong, a very large proportion of whom are capable of intelligent criticism?

Grapes were as attractive to sightseers as to cultivators, and although among the new grapes there were none that are likely to create any excitement, there never was a better show of grapes, and Black Hamburghs, which abounded, were everywhere so fine, that we must consider this the most generally useful of all dessert grapes known, and 1864 as one of the best seasons for its growth and ripening. For boxes of not less than twelve pounds weight, the first prize went to Mr. Meredith for a box beautifully filled with Black Hamburghs—hugh bunches as black as ink, and with a delicious bloom upon them, the weight not stated, but at a guess not less than thirty pounds. Second, Mr. A. Henderson, of Trentham. Mr. Henderson's basket was very artistically filled with bunches of Lady Downes, weight not stated. Equal second, Mr. Wills, gardener to Sir P. Grey Egerton, M.P., Tarporley. Mr. Wills had Lady Downes, the weight twenty-eight pounds, the sample absolutely perfect. Third, Mr. A. M'Kay, Woburn, Beds. Extra prize to Mr. C. F. Harrison, of Weybridge, for a superb box of White Muscats; also extra to Mr. J. Monk, gardener to Mr. Alderman Sidney, Southgate for superb Black Hamburghs.

For the largest bunch of grapes of any kind, the first prize went properly enough to Mr. Meredith, for a bunch of white grapes weighing 8½ lbs. This was a seedling called *Child of Hale*, to all appearance bred from White Tokay. The bunch was of course of immense size, triangular, irregular, confused in outline, rather small berry, the colour greenish-amber. It is as shown on this occasion an ill-looking grape; respecting its flavour we know nothing at present, not having seen it early enough to taste a berry. Second, Mr. Dwerrihouse, with a seedling white grape, not named. It was a handsome bunch, well shouldered and tapering, berries medium size, colour clear amber, weight not stated, but probably about 5 lbs. This is an inviting grape of the Sweetwater strain. Messrs. Lane and Son were third, with Muscat

Hamburgh, weighing 2 lb. 3 oz. Mr. A. Henderson sent a bunch of Marchioness of Hastings, which is only worth growing for the sake of obtaining large bunches; it is otherwise worthless. The bunch weighed 4 lb. 14 oz., but being unripe was disqualified. There was a handsome bunch of Muscat of Alexandria from Mr. Westcott, the weight 2 lb. 12 oz., but it was unripe.

In the class for three bunches of white grapes, Mr. Dwerrihouse, of Hickfield, was first with a seedling not named. The bunches were large, tapering, broadly shouldered, the berries medium size, nearly globular, the colour greyish-amber, bunch and berry remarkably handsome. Mr. Budd second with Muscat of Alexandria; Mr. J. Wills third with Trebbiano. Messrs. Lane and Son contributed three fine bunches of Buckland Sweetwater to this class. In the corresponding class for black grapes, Mr. Meredith came first with three bunches of Black Hamburgh weighing 11 lb. 4 oz. These were marvellous for size of berry, symmetry of bunch, and perfection of colour.

Pines were not plentiful. It is evident that the culture of the pine-apple is not on the increase in this country, for they have been getting more and more scarce at exhibitions during the past ten or fifteen years.

Collections of Fruit were in nearly all cases very tastefully put up, and comprised good examples of good varieties. In the class for eight dishes, the first prize went to Mr. A. Henderson, of Trentham, for a collection consisting of three bunches of Black Hamburgh, and three of Trebbiano grapes. Moor Park apricots, Victoria plums, Violette Hâtive peaches, very fine; Elruge nectarines, a fine Cashmere melon, and Ripley Queen pine. Second prize to Mr. Dawson, gardener to Earl Cowper—fine Admirable peaches, Morello cherries, Williams's Bon Chrétien pears, excellent black grapes; a very uneven lot. Third, Mr. G. Jones, gardener to Lady B. Mill, Romsey, with Brunswick figs, Royal George peaches, Bailey's Green flesh melon, Red Roman nectarines, Washington plums, Ripley Queen pine, three bunches of Muscat of Alexandria, and three of Black Hamburgh. Orchard-house trees were admirably shown by Mr. Fraser, of Lea Bridge Road; but it detracted much from their beauty to see dozens of peaches laying on the soil in the pots instead of hanging on the branches, owing to their having been shaken off on the journey. To see orchard-house trees in perfection we must visit the places where they are well grown.

Peaches were all good; even those that obtained no honours beyond being admired by the thousands who attended the show, were of such excellence that except in such a season as the present, which is *par excellence* a peach season, many of them would have been considered unsurpassable for size, colour, and those other qualities of which the palate is arbiter. Mr. J. Cross, of The Grange, Alresford, Hants, took first prize with Barrington, superb for size and colour. The same exhibitor took second prize with Vanguard, which differs but slightly from Noblesse. Third, Mr. Spivey, Hallingford Gardens, Bishops Stortford, with Monstreuse de Done, a very handsome fruit, pale creamy ground, richly mottled crimson, suture shallow.

Nectarines were of course as plentiful and as good as the peaches, and generally they were larger and more highly coloured than usual. The first prize went to Mr. Fraser, of Lea Bridge Road, for a dish of Murrey of remarkable quality; second, Mr. A. Henderson, with Violette Hâtive; third, Mr. J. Woodward, with very large fruits of Pitmaston Orange. White Roman, unripe, were shown by Mr. R. Inman, gardener to J. Lintot, Esq., Forest Hill; fine Downton, very deeply coloured, from Mr. J. Westcott, Dulwich, and Mr. Reid, Sydenham Hill; Old, or Scarlet Newington, from Mr. Deengey; Stanwick, from trees grown in pots, from Mr. Wilson, of Weybridge.

Figs were shown in plenty, and were really of first-class excellence throughout. First for two dishes, Mr. J. Enstone, Wear House, Exeter, with Brown Turkey and Brunswick;

second, Mr. Deengey, with Brown Turkey and Brown Ischia.

Cherries were shown in groups of two dishes of fifty each, and at such a late period of the season there were of course but few varieties. Mr. Dawson, gardener to Earl Cowper, Panshanger, Herts, first with fine Morellos, and Belle Magnifique. Mr. Dawson also sent a dish of Florence. Second, Mr. J. Holder, of Reading, with Morello and Flemish, and by the way the latter were true Flemish; very often Kentish are put for them, and *vice versa*. Third, Mr. T. Bailey, of Shardeloes, with Morello and Bigarreau, the latter past their best. There was a good dish of Late Duke from Mr. Simmonds, gardener to J. Smith, Esq., Micklcham.

Plums were shown in three dishes of ten each; they were exceedingly good and plentiful. First, Mr. T. Bailey, with Jefferson, Prince of Wales, and Washington, size and colour carrying the day here rather than flavour, the first of the three being the only genuine dessert plum. Second, Mr. J. Woodward, with fine samples of Denyer's Victoria, Jefferson, and Nectarine; the last is a large and handsome plum not often met with; it is not in high repute for the dessert, but is first-rate for culinary purposes. Third, Mr. Kaile, gardener to Earl Lovelace, with Victoria, Jefferson, and Washington. Fourth, Mr. J. Drewett, with Jefferson, Pond's Seedling, and Kirke's.

Dessert Apples seemed to be generally selected for size and colour, and exhibitors are not to be blamed for leaning to qualities that tell directly, in place of those which are only to be got at by the *experimentum crucis*. Six dishes of twelve each, first prize to Messrs. G. and J. Lane, Nurseries. St. Mary Cray. The varieties were Colonel Vaughan, Red Astrachan, exquisitely coloured; Maynard's Bearer, Cellini, Fearn's Pippin, and King Pippin. Second, Dr. Cooper, The Limes, Slough, with Cellini, Ribston, Blenheim, Red Astrachan, Devonshire Quarrenden, and Cox's Orange Pippin. Third, Mr. Webb, of Calcot Gardens, Reading, with Red Astrachan, Fearn's, Devonshire Quarrenden, Old Nonsuch (beautiful specimens), Sweet Julian, and Cox's Orange. Fourth, Mr. Betteridge, Newton Hall, Steventon, with Kerry Pippin, Devonshire Quarrenden, Scarlet Nonpareil, King Pippin, Ribston, and Fearn's.

Kitchen Apples had been generally selected for size, which is an important quality, for small kitchen apples, like small potatoes, are likely to be wasted by the cooks, and in any case give much trouble. First, Messrs. Lane, of St. Mary Cray, with Blenheim, Alexander, Catshead, Summer Tambour, French Codlin, Keswick Codlin. Second, Mr. Mortimer, gardener to Alfred Smee, Esq., Vallington, Surrey, with Lord Suffield, a fine fruit; Cellini, Lord Derby, New Hawthornden, Blenheim, Spring Grove Codlin, an excellent apple for early use. Third, Mr. Wren, gardener to E. Purser, Esq., Carshalton, with Gloria Mundi, Tower of Glammis, Hoary Morning; these had on them the peculiar hoar-frost-like bloom from which the name is derived, and the gardeners were busy in rubbing it off for each other's edification, reminding lookers-on of Mr. Dickens's description of the Yankee who followed about to stroke his bear-skin cloak the wrong way; Hollandbury, Golden Noble. Fourth, Mr. Webb, Calcott Gardens, Reading, with Alexander, Blenheim, White Calville, Cellini, Hollandbury, Kentish Fillbasket.

Three dishes of Pears: First, Mr. J. Wilson, gardener to Sir R. Howard, Craven Cottage, Fulham, with Fondante Van Mons, finely coloured, Fondante d'Automne, and Williams's Bon Chrétien. Second, Mr. Fraser, of Lea Bridge Nurseries, with splendid fruit grown in 8-inch and 10-inch pots; they were Louise Bonne of Jersey, Glout Morceau (not ripe), Beurré d'Amanlis. Third, Mr. Nicholl's, Hammersmith—Williams's Bon Chrétien, Louise Bonne of Jersey, and Marie Louise.

Single dishes of Pears for weight were all good samples, but none of those indescribable monsters were present which usually create a sensation at autumn shows. First,

Mr. Dwerrihouse, with Calebasse Grosse, weight not stated. Second, Mr. O. Goldsmith, with Uvedale's St. Germain, weight 10½lb. Third, the same, with Catillac, weight of twelve fruit 7½lb. Fourth, Mr. C. F. Harrison, of Weybridge, with Beurré Clairgeau, fine examples, weight not stated. Other large pears were Pius IX., from Mr. Grover, of Hammersmith; Beurré Bosc, from Mr. Deengey; Beurré Hardy, six fruits, weighing 4lb. 2¾oz., from Mr. J. Woodward.

Pears for Flavour. one dish. First, Mr. Wilson, of Weybridge, with Louise Bonne of Jersey, grown in pots, protected in orchard houses without artificial heat, and then set out to ripen the fruit; they were very handsome. Second, Mr. Heather, with Williams's Bon Chrétien.

Melons were not numerous. First for scarlet flesh, Mr. Young, gardener to H. Stone, Esq., Lee Park, with a fine Scarlet Gem. Second, Mr. Blair, Needham Market, Scarlet Gem. Third, Mr. Godfrey, Ware Park Mill, Herts, Scarlet Gem. Green flesh: First, Mr. Bailey, with Bailey's Green flesh, large netted, handsome. Second, Mr. Rust, gardener to Lord Sullivan, Fulham, with Bromham Hall. Third, Mr. Beech, gardener to J. Alcock, Esq., Epsom, with Griegson's Green flesh, a large globular netted fruit.

Gladioli.—Here Mr. Standish, of Ascot, shone in all his glory, and made the noblest display of flowers of any of the heroes of the day. Eight stands ranged in line, all filled with Gladioli, set up with their own foliage, and grouped so as to show their colours and tints to the best advantage; it was a glorious treat; and of course Mr. Standish took the first prize in the class for collections. Samuel Waymouth, Elegantissima, Comet, Oriana, Imperatrice, Eugenie, fine colour, but rather poor in form and substance; G. Stephenson, a rare shade of purple-crimson, superb; Mrs. Moore, Geraldine, superbly painted; Merchant of Venice, Orantia, Penelope, Seraph, Rembrandt, Calypso, Bob, Mrs. Duffield, Una, Roscius, Goliath, Lady of the Lake, Dr. Hogg, extraordinary colouring, deep vermillion-crimson with violet shade; Cleopatra, General Jackson, curious shades of salmon and buff; Florence Nightingale, Mr. C. Kean, Mr. Marnock, California, very fine; Minerva, Paul Bedford, a bold self; Aureliana, Sulphurea, Duke of Newcastle, Amazon, remarkable for form and colour; Euterpe, Rosalinda, Pandora, Jeanette, Telegram, extra fine; Leander, Carisbrook, a rare shade of buff on the lower segment, flower flame-like; Eleanor Norman, Mr. Standish, Othello, The Caliph, The Cardinal, fine form; Madame Haquin, Gazelle, rare shades of salmon and buff; Madame Leselle, Ganymede. Messrs. Kelway and Son, of Langport, and Messrs. Paul and Son, of Cheshunt, also exhibited good but small collections. In the class for twenty-four, Messrs. Kelway took first prize, Mr. Standish second.

Asters were the best we have seen this season—large, full, refined, and generally very skilfully put up. First, for twenty-four German quilled, Mr. Sandford, gardener to J. T. Thomasset, Esq., Walthamstow; Second, Mr. Betteridge, Newton Hill, Steventon; Third, Mr. Jennings, Shipton-on-Stour; Fourth, Mr. Jennings. Twenty-four French, these are the most showy, and many of the flowers have incurved florets resembling the most perfect show chrysanthemums: First, Mr. C. Sandford; Second, Mr. Ward, gardener to F. G. Wilson, Esq., Leyton; Third, Mr. Sandford; extra, Mr. C. Wyatt, of Epsom, with thumping flowers in perfection of form and colour. Messrs. Paul and Son exhibited in this class some splendid examples, as did also Mr. Jabez Chater, of Cambridge.

Hollyhocks.—The greater part of the hollyhocks shown were in single blooms, and the display was magnificent. Mr. May. of Hope Nurseries, Bedale, Yorkshire, came up with as grand a collection as was ever seen at a southern exhibition; perfect far beyond all the southerners could produce in such a season as the present. Mr. May was rightly placed first in the class for twenty-four; the

Rev. E. Hawke, of Gainsborough, second; Messrs. Minchin and Son, third. Mr. Porter, of Copt Hall, Essex, contributed some noble blooms in this class.

Verbenas were admirably shown. Mr. C. J. Perry, of Castle Bromwich, first, with Nemesis, L'Avenir de Ballant, Madame H. Stenger, Wonderful, Queen of Pinks, Startler, fine; Black Prince, fine; Cato, Modesty, Mauve Queen, Seedling, lively magenta-pink, thin, large, probably first-rate, but, being rather exhausted, not seen to advantage; George Tye, Foxhunter, Ruby King, Geant des Batailles, Magnificent, Alexandra, Beauty, Sylph, King of Blues, colour slaty-lavender; Seedling, clear warm flesh, deepening to red at the edges and the centre, a fine truss, pips flat and substantial; Annihilator, fine; Model, Rose Imperial. Messrs. Minchin and Son also exhibited some good collections.

Dahlias made a grand display, and there was a really severe contest both by nurserymen and amateur cultivators. We did not expect to see so many noble blooms after a season so adverse to growth, and so favourable to vermin. In the class for forty-eight the awards were, first, Mr. C. Turner; second, Mr. Keynes; third, Mr. Walker.

Mr. C. Turner's 1st Prize Forty-eight: Hugh Miller, Purity, Golden Admiration, Mirfield Beauty, Warrior, Count Cavour, Lord Clyde, Miss Herbert, Bob Ridley, Emma, Chieftain, Lady D. Pennant, Imperial, Cygnet, George Douglas (not good), Mrs. Church, British Triumph, Perfection, Earl Shaftesbury, Willie Austen, Umpire, Princess (Fellowes), Madge Wildfire, Chelsea Hero, Commander, General Jackson, Charles Turner, Leah, Lord Derby, Mrs. Coleman, Miss Roberts, Chairman, Nestor, Lord Palmerston, George Eliot, Flower of the Day (Turner), Andrew Dodds, Charlotte Dorling, Model, Volunteer (not in its proper colour), Triomphe de Pecq, Prince of Prussia, Sydney Herbert, Enchantress, Lord Cardigan (not good), Miss Henshaw, Favourite, Lady Popham.

In the class for twenty-four the awards were, first, Mr. Keynes: second, Mr. Turner; third, Mr. Walker.

Mr. Keynes' 1st Prize Twenty-four: Baron Taunton, Surety, Mrs. Wyndham, Cleopatra, Primrose Perfection, Pauline, George Wheeler, Jenny Austen, Willie Austen, Peri, John Wyatt, Miss Herbert, Golden Drop, Miss Henshaw, Edward Spary, Norfolk Hero, Criterion, Favourite, Hugh Miller, Charlotte Dorling, Andrew Dodds, Purple King (Rawlings), Golden Gem, Donald Beaton.

The fancies made a very attractive feature both to mere sightseers and to amateurs, for the selections comprised all the more remarkable of the striped and tipped varieties, and the difficult and sportive kinds were generally true to their proper characters, and in a brilliant condition of colouring. The prizes in the trade class for twelve were taken by Mr. Keynes first, Mr. Turner second, Mr. Walker third. The amateurs' class for twelve, first and second Mr. Sladden; third, Mr. C. J. Perry.

Mr. Keynes' 1st Prize Twelve Fancies:—Octoroon, Countess of Bective, Striped Perfection, Lady Paxton, Queen Mab, Angelina, Mrs. Wickham, Regularity, Sam Bartlett, Pauline, Garibaldi, Formidable.

Mr. Sladden's 1st Prize Twelve Fancies:—Sam Bartlett, Madame L. Sherrington, Fancy Queen, Cleopatra, Oliver Twist, Queen Mab, Mary Lauder, Prince of Wales, Summertide, Norah Creina, Lady Paxton, Gem. The 2nd Prize Twelve were Queen Mab, Garibaldi, Mr. C. Kean, Lady Paxton, Madame L. Sherrington, Leopard, Dursley Gem, Oliver Twist, Sam Bartlett, Cleopatra, Mary Lauder, Fancy Queen.

Mr. W. Paul, of Waltham Cross, sent some pot grapes to show that they might be well grown with only the occasional aid of protection by glass. These were put under glass in the middle of April, and on the day of the show they were strong rods, rather heavily laden with good-sized bunches, which wanted ten to fourteen days' assistance of glass to ripen.

## BRITISH POLYPODIES.

Close beside my garden-house, where I enjoy an occasional quiet hour, listening to blackbirds, thrushes, robins, nightingales, and other birds that abound at Stoke Newington in the several seasons of the year, when they make the garden melodious, I have what is ordinarily denominated a rockery. This was constructed to answer several purposes. It serves as a screen to shut out from view the houses, pits, and sheds which lie beyond, and which were somewhat of an eyesore previous to its construction, for the hard work done here necessitates an occasional litter and display of mats, poles, and various forms of confusion and gawkiness. It serves this purpose completely, for it makes a distinct termination to the ornamental portion of the ground, and is the limit of the walk down for visitors. Those who go beyond must risk it. Another purpose served by it is to shut in my retreat, and to insure for it privacy, so that I can pursue my literary labours there, and it is in that nook I write most of my gardening books and papers during the summer, and as far into the autumn as it is possible to sit in a wigwam, open on one side to the heavenly breezes, and to the possibility of rheumatics and toothache, if the indulgence is carried too far during ungenial weather. The third and most important purpose of the structure is to serve as a *nidus* (that is, you know, the classic term for "nest"), for various ferns, succulents, and miscellaneous herbaceous plants that need to be grown in elevated positions or damp, shady hollows—for plants of any kind, in fact, that are appropriate to a ruin. It was constructed in May last, and took the place of a bank, on which was planted a selection of coniferous trees. It needs mention here, because in it, or on it, I planted some time in June last all the species and many varieties of British Polypodies, and though the summer of 1864 was not favourable to newly-planted ferns, all my pets in this rockery have done well, and when I take a survey of the scene, I am inclined to be somewhat astonished at the luxuriance of the plants, and their perfectly happy state in a spot so near to the great smoke cloud that perpetually enshrouds the great metropolis. I shall hope some day to figure this rockery in continuation of the series of sketches from my garden, but in the meautime will endeavour to give an idea of the scheme. There is a walk down the garden with grass on each side; this walk is at last interrupted by a central circular bed of rhododendrons, and hence the walk parts both ways, and forms a circle uniting again beyond the bed, and there on the left hand is the "summer-house," where I am now sitting to prepare the present number of the Floral World. The short walk into the summer-house has a corresponding short walk on the opposite side, but that walk leads into an irregular rockery, consisting of a series of bays and ins and outs, the view across, which is interrupted by some large old trunks of trees, in which various suitable subjects are planted, and again right opposite the entrance to the wigwam, the view is bounded by a privet hedge, against which the higher parts of the bank, rising from the bays, terminate. The main walk, which has these two features on the left and right of it, passes at this point between two semicircular walks about six feet high, formed entirely of burrs, and filled in with soil, and at each end of these walls they are spanned by arches. In the gap between the wall and the summer-house are some fine tree stumps planted with grasses; below these, rough banks and rockeries planted with ferns; and thus it is only by means of a few peep-holes in the artificial ruin that I can get a view of the lower part of the garden, which is thus practically screened from view by the ruin, and the trees, and the ferns. The walls are in the fashion of a bastion, and present four faces for plants; in all the sunny positions there are sedums, sempervivums, and mesembryanthe-

mums, etc.; in the shady places ferns; and generally the plants are put into "pockets," or hollows left for the purpose in the original construction, or since added by "tiddivating" the bastion with burrs and cement.

It is generally understood that the more delicate species of Polypodies will not thrive in the open air near London. I have grown nearly all in this garden during the past seven years, but never till now had a complete collection. *P. vulgare* grows as freely here as in Wanstead forest, where it is one of the commonest weeds, and is generally found on the stems of pollard alders, making its roots in leaf-mould and bark. Here it is planted in patches on the summit of the bastion, and on a few ledges lower down, and the tufts are now in the full splendour of their ripe spores. When planting those tufts, I made for them a foot depth of peat, then laid the patches on the peat, and covered them three or four inches deep with cocoa-nut fibre. The new fronds pushed through, the watering caused the fibre to settle down and cake about the rhizomes, and now the rhizomes lay on it, which is their proper position, but one which should not be allowed them in the first instance in such a case as I am now describing, because the hot sun, acting on them before they made new roots, would have crippled them terribly. The object of covering them with the fibre was to keep them moist, and, that object being accomplished, it was a natural result of the tendency of the material to settle down by degrees into a peaty layer, that in the course of time the rhizomes which were covered would at last appear on the surface, and, this being already accomplished, the plants have been properly comforted and are now in a natural position. All the other polypodies are in shady sheltered positions, and the secret of their present luxurious condition, after one of the driest summers known, is that they were regularly wetted twice a day from the day of planting until the rain came in earnest three weeks ago. They will probably not be watered again, except by rain, until next summer. They have made their growth, and will take care of themselves. But there may be, and doubtless is, another reason for their well-doing. For every one of them a pocket was carefully prepared, and they were each planted in a soil suitable to their nature, and, in some cases, they were shaded for a week or two with a tile or a flower-pot, held in its place with a few pegs, and they were also assisted by placing about their tender crowns tufts of loose moss. All these precautions were necessary, for, during the height of the past summer, the burning sun scorched every spot it reached, if only for an hour, and for a long period east winds prevailed, and there is nothing so exhaustive to plants susceptible of drought as an east wind; and, moreover, the new rockery had a certain dryness peculiar to itself, so that, though well soaked by a shower from the engine, it would be quite dry an hour or two afterwards.

I would make this paper very brief, but I think it better to incur the risk of being prolix rather than pass over such little details as I have so far named, because it is by attention to these little details that success is attained, and those who despise small things in gardening must be content with chickweed and dandelions. They cannot have many subjects worthy of admiration. I shall now take a few species in hand on the same plan as in former papers, and deal with them according to the best of my knowledge of their habits and capabilities.

*Polypodium phegopteris.*—This is the "mountain polypody," or "beech fern." *Rhizome* slender, dark coloured, creeping, producing black fibrous roots. *Stipes* long, oftentimes longer than the frond, erect, pale green, slightly scaly near its junction with the rhizome. *Fronds* ovate-triangular, tapering to a longish point, pale green, pinnate below, pinnatifid above. *Pinnæ* deeply pinnatifid, becoming entire near the apex, linear acuminate, usually opposite, sometimes alternate, the lower pairs lanceolate, sessile, attached by the midrib, the remainder

united to the rachis by their whole width; *lobes* oblong, *sori* circular, almost marginal, *spore cases* pale brown.

This pretty fern is of very delicate appearance and constitution, and needs shelter, not only because of the susceptibility of its fronds to the exhaustive effects of sunshine and wind, but the fronds being elevated on long stalks (stipes), it is easily broken, and its beauty is soon entirely destroyed by rough usage. It is, however, very hardy, as might be predicated, from the fact that it is found in Iceland and Kamtschatka, as well as in all parts of the British Isles, and in Algeria, the Altai, and North-western America. It is usually met with in very damp, mountainous districts, near waterfalls, springs, and runnels, where it is more or less constantly bathed with dewy moisture. Good turfy peat answers admirably for it under all circumstances of cultivation, and in planting or potting, the surface soil should be a mixture of one part peat and two parts broken flower-pots, or freestone about the size of hazel nuts. In any case the plant must be well drained, because, as frequent sprinklings are necessary, there must be means of escape for surplus water, or the plant will soon perish. When grown in a pot, the best place for it is a cool, shady part of the fern-house, or a cold frame placed to face due north. Mr. Moore ("Handbook of British Ferns"*) recommends placing the plant so that it can enjoy the spray of an imitation waterfall, which may be accomplished "by suspending a small vessel of water, furnished with a coarse worsted thread siphon;" from which falls a succession of water drops, which dripping on a stone near the plant, keeps it constantly sprinkled. I have been enabled to dispense with the imitation of a waterfall, and yet grow it well in the rockery by a careful arrangement of conditions. A shady nook opening into the mass of earth which is filled in between the walls, was hollowed out with the trowel so as to make a space about a foot square and a foot deep. Four inches of small broken bricks were first thrown in, then fibry peat to nearly fill the receptacle. A portion of rhizome with rising fronds was then removed by means of the knife from a good specimen in a pot. This was carefully placed on the bed, and kept in its proper position by means of a few wooden pegs, and then filled in so as to nearly cover the rhizome with a mixture of broken tile and sandy peat. A little loose moss was then put over the fronds and rhizome, and the plant was sprinkled by means of the syringe twice a day, and it had in addition a considerable share of moisture both from the soil within the walls, and by the trickling down them at the general watering with the engine. The success has been complete. Those who treat it in this way will not be disappointed; if denied its proper share of moisture, however, it is sure to perish.

*Polypodium dryopteris.*—The oak fern, or smooth three-branched polybody. *Rhizome* creeping, slender, dark-coloured, and producing black fibrous roots. *Venation* circiunate, the three branches of each frond rolled up separately. *Stipes* longer than the fronds when mature in established plants, but the first season after dividing and planting usually shorter, so that the plant has a tufted appearance, very brittle and wiry in texture, a few scales at the base. *Fronds* vivid bluish green in colour, smooth, deltoid, pentangular in outline, three-branched, the branches triangular, stalked, the lateral ones set at an obtuse angle. *Branches* pinnate at the base, pinnatifid above. Pinnæ usually opposite. *Pinnules* oblong, obtuse, *sori* spread over the whole frond, circular and ranged in a series on each side the mid-vein, *spore cases* small, dark brown.

This is one of the loveliest of all known ferns, and one of the most delicate of the species indigenous to this country. It may be identified by its peculiar colour, even when mixed up with all kinds of mossy and other tufty herbage; when met with in mountainous districts, and when planted out on a rockery, its fresh,

* Published by Groombridge and Sons. This is the best pocket volume on the British ferns among hundreds. In fact, compared with it, all other small books on the subject are worthless.

lively, delicate appearance will always attract attention and admiration. It is widely spread in various parts of England, Scotland, and Wales, but is scarce in Ireland. It also occurs in various parts of Europe and America,

POLYPODIUM PHEGOPTERIS.

and as a proof of its hardiness, it is found in Siberia, Kamtschatka, Labrador, and Greenland. It is very easily grown, and is of free accommodating habit, requiring silky yellow loam or tough fibry peat, or a mixture of equal parts common garden loam and cocoa nut fibre, well broken and blended together. I have several examples in my rockery, and they are all in elevated shady positions, and have during the summer abundance of water, being so placed as to receive the tricklings from above when the walls are wetted with the engine. It makes a charming cushion of delicate verdure if planted on a broad flat ledge, with about six inches of suitable soil.

If multiplication is an object, a plant may be cut into as many pieces as there are fronds, reserving to each frond as much of the rhizome and root fibres as possible. When grown in pots it is very apt to get broken, and to prevent that the pots must be placed apart from others, so that the plants will not be crowded.

P. dryopteris is the most beautiful of all the British polypodies, and unfortunately, like all the rest, except P. vulgare, is deciduous. It is of the utmost importance that deciduous ferns should be correctly tallied to prevent the destruction of their roots in winter, when the pots containing them, or the stations on which they are planted, appear to be unoccupied. Age is of importance in the full development of their beauties, and, if properly planted in the first instance, the specimens will continue to improve in appearance for several years.

*(To be continued.)*

POLYPODIUM DRYOPTERIS.

## OCTOBER, 1864.—31 Days.

Phases of the Moon.—First Quarter, 8th, 3h. 37m. after.; Full, 15th, 4h. 15m. morn; Last Quarter, 22nd, 11h. 28m. morn.; New, 30th, 3h. 28m. 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. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Anniversaries, Meetings, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 6 3 | 5 36 | 6 37 | 5 32 | Clear; heavy rain; fine | Cambridge Michaelmas term begins |
| 2 | 6 4 | 5 33 | 7 41 | 5 57 | Overcast; fine at night | 19th Sunday after Trinity |
| 3 | 6 6 | 5 31 | 8 47 | 6 26 | Densely clouded; windy | Treaty of Limerick, 1691 |
| 4 | 6 7 | 5 29 | 9 51 | 7 0 | Densely overcast; fine | Length of day, 11h. 22m. |
| 5 | 6 9 | 5 27 | 10 54 | 7 42 | Slight haze; drizzle; frost | John Smith, bot. and gard., b. 1798 |
| 6 | 6 11 | 5 24 | 11 52 | 8 31 | Earthquake, 3 A.M.; fine | Mr. Curtis, au. "Farm Insects," d. |
| 7 | 6 12 | 5 22 | After. | 9 31 | Hazy; fine; showers | Revolution of Geneva, 1846 [1860 |
| 8 | 6 14 | 5 20 | 1 30 | 10 37 | Slight haze; cld.; showrs. | Eddystone lighthouse finished, 1759 |
| 9 | 6 16 | 5 18 | 2 9 | 11 50 | Overcast; hazy; lightng. | 20th Sunday after Trinity |
| 10 | 6 18 | 5 16 | 2 43 | Morn. | Fine; cloudy; boistrs. | William Purdie, Esq., died, 1857 |
| 11 | 6 19 | 5 13 | 3 12 | 1 8 | Cloudy; windy; fine cld. | *Central Hort. Dale on Tobacco* |
| 12 | 6 21 | 5 11 | 3 41 | 2 28 | Fine; cloudy; rain | Battle of Warsaw, 1794 |
| 13 | 6 23 | 5 9 | 4 8 | 3 50 | Showers; rainbow 3 P.M. | Day breaks, 4h. 29m. |
| 14 | 6 24 | 5 7 | 4 37 | 5 11 | Fine throughout | Twilight ends 7h. 1m. |
| 15 | 6 26 | 5 5 | 5 8 | 6 32 | Rain; foggy; fine | Murat executed, 1815 |
| 16 | 6 28 | 5 2 | 5 44 | 7 52 | Fine; cloud; rain; fine | 21st Sunday after Trinity |
| 17 | 6 29 | 5 0 | 6 25 | 9 8 | Drizzle; clear; cool | Daniel Meek died, 1847 |
| 18 | 6 31 | 4 58 | 7 14 | 10 14 | Cloudy; fine | St. Luke the Evangelist |
| 19 | 6 33 | 4 56 | 8 6 | 11 13 | Cloud; wind; rain; fine | *R.H.S. Fruit and Vegetable Show* |
| 20 | 6 35 | 4 54 | 9 5 | After. | Overcast; shower; fine | Battle of Navarino, 1827 |
| 21 | 6 36 | 4 52 | 10 6 | 0 44 | Fog; haze; very fine | Nelson died, 1805 |
| 22 | 6 38 | 4 50 | 11 10 | 1 17 | Fine throughout | Day breaks, 4h. 45m. |
| 23 | 6 40 | 4 48 | Morn. | 1 44 | Slight fog; fine; frost | 22nd Sunday after Trinity |
| 24 | 6 42 | 4 46 | 0 12 | 2 8 | Dense fog; fog; fine | Twilight ends, 6h. 40m. |
| 25 | 6 43 | 4 44 | 1 15 | 2 32 | Fine throughout | Charge of Balaclava, 1854 |
| 26 | 6 45 | 4 42 | 2 18 | 2 53 | Fine; fog; fine; frost | Marshal Soult died, 1851 |
| 27 | 6 47 | 4 40 | 3 22 | 3 14 | Fog; fine; foggy | Servetus executed, 1553 |
| 28 | 6 49 | 4 38 | 4 27 | 3 36 | Overcast; rain; fog | St. Simon and St. Jude |
| 29 | 6 51 | 4 36 | 5 31 | 4 0 | Rain; showers; fine | Bristol riots, 1831 |
| 30 | 6 52 | 4 34 | 6 36 | 4 28 | Fine; cloudy; rain; fine | 23rd Sunday after Trinity |
| 31 | 6 54 | 4 33 | 7 43 | 5 1 | Clear; boisterous; rain | W. Billington, arboricult., d. 1861. |

Probable Weather in October.—We promised, for last month, abundance of rain, with a generally low temperature. We have happily had abundance of rain, but with a high temperature. Next month is likely to be genial, with occasional returns of summer weather. From the 1st to the 20th bright and warm, with occasional light showers; wind S.W. to N.W.. Thence to the end, the wind going round towards N.E., with some indications of storm, and occasional frost.

## THE GARDEN GUIDE FOR OCTOBER.

Kitchen Garden.—If the advice we have given has been followed, all vacant plots will by this time have been dug over, and left as rough as possible, to be mellowed by the weather. Now is the time for the cultivator to plan his system of cropping, so as to take full advantage of the benefits of a proper system of rotation, and according to the shape that system is to assume should be the

preparations made during autumn and winter. Practical gardeners very well understand the importance of rotation. Grow cabbage on the same spot all the year round, and every year, and the ground will get so sick of cabbage, and so full of the weevil that causes ambury or club, that the produce will at last be insufficient to pay the cost of carrying it to the kitchen. But there is no occasion to follow an elaborate system; it will suffice to let the crops on the same piece follow each other, so that there shall be a thorough change in the families. Thus, after potatoes, which do best without manure, plant a crop that needs heavy manuring, as brocoli or cauliflower, preparing the soil meanwhile by deep trenching, and laying it up for the full influence of winter frost, and (forget it not) for autumn sunshine, for the very light fertilizes by assisting in the decomposition of organic and disintegration of inorganic substances. Lands that lie high and dry may be heavily manured now, and left rough, to be sown with early peas, salads, spinach, and other vegetables to come on quick in the spring of the year. Ground subject to be flooded should not be manured till spring, or the goodness will all be washed away. Ground intended to be drained should be drained *now*, that benefit may be derived from the improvement at once. Wherever *Equisetum* or rushes grow, the cultivator may be sure there is need for drainage, and that the work will soon pay for itself in increased production. This is a better time than that usually adopted for sowing speculative crops. On lands that lay high and dry, and are in good tilth, sow Mazagan beans, and Dillistones and Daniel O'Rourke peas. We believe Advancer pea, a very early marrow, would have as good a chance of passing through the winter safely as any of the early kinds of the Emperor class, on which we have always hitherto relied for first crops. To those who do not mind the risk of a shilling's-worth of seed, and have positions suitable for sowing now, we say, try Advancer, and hereafter let us know the result. Lay down broccolis *with their heads to the north*. Keep plots of cabbage filled by transplanting from late sowings. Take up carrots, and store only the *sound roots*, and those to be stored *dry*. Potatoes are never good if stored in the damp; better give them all away, than store them as some people do, to sodden in wet, which renders them unpalatable and unwholesome. Plant chives, which never fail to furnish an onion flavouring for soups. Plant also potato onion (a profitable crop), garlic, shallots, and tree onion—the last-named excellent for pickling. We never knew the frost hurt any of these, and we have planted generally at this season, and often on very wet soils.

*Asparagus* to be cut down to the surface of the ground, be well cleaned, and covered with four inches of half-rotten dung. The spade must never be used either on the beds or in the alleys.

*Cabbage* to be hoed between, to destroy the weeds which have abounded since the autumn rains commenced. Plant out the main spring crop, and earth up the collards. Those last sown to be pricked out to strengthen on four-feet beds.

*Cauliflowers* to be planted out under frames and hand-lights, and some potted as previously directed. If there are many plants still left in the seed-bed, prick them out on a warm slope, or make up a raised bed for them, so that they can have the protection of mats or hoops during sharp weather.

*Rhubarb* to be forced may now be taken up, and laid on one side until it is time to put in the boxes, or whatever other position it is to occupy when forced. We think the practice of blanching rhubarb very objectionable, as it destroys both colour and flavour.

*Root Crops.*—In storing potatoes, be sure they are dry first; if taken up in wet weather, spread them out in a shed or outhouse, but do not expose them to the light more than can be helped. Parsnips keep best in the ground, to be dug as wanted. Beet to be taken up at once; cut off the leaves an inch above the crown, and avoid bruising or cutting the roots; carrots treat the same; store both in sand or dry earth. Earth up cardoons; take up scorzonera and salsafy, and preserve in sand.

*Winter Greens* can scarcely be overdone on the ground, though they may be in the pot. As there is now much ground vacant, another hunt of the seed-bed will show some plants worth moving to plant out; if they do not make great hearts, they will nevertheless be useful in the spring; and as the weather is very favourable, use up all that can be found, and encourage them by manuring the ground before planting. Collards, savoys, kale, and York cabbage will all pay even now, if plants of any size are to be had. Brussels sprouts are now coming into use; take off first the top cabbage when it is nicely buttoned; the sprouts will soon after swell to a proper size, and are to be cut before they open out their leaves.

Fruit Garden.—*Fruit Trees* that are making gross shoots may often be com-

pelled to direct their energies to better results by some disturbance of their roots. We have had, before now, to heel over a whole plantation of plums when a warm autumn and moist weather set them growing again late in the season. Of course, large trees must not be so dealt with; but they are more obedient to the wish of the cultivator, and rarely grow too much when in a good bearing state. Make stations ready at once for all trees to be planted. A deep hole opened at the time of planting is mere mockery; the ground should be deeply stirred now, and left in a very rough condition; but the holes should not be made till wanted, as by that time they might happen to be full of water. It is a good plan, when about to purchase trees, to go to the nursery while they are in leaf, and mark all the trees selected with the purchaser's name. We ought not to have to say anything more at present about drainage; but the fact is, so many fruit plantations are everywhere to be found in a miserable condition through the wet state of the soil all winter, that we must repeat the advice to growers of fruit of all kinds. If the heaviest rain does not soon soak away from your fruit borders, and leave the soil so that you can soon after walk on it without sticking to it, then your first business should be to drain, drain, drain! Let no fruit hang after this date; those not ripe must ripen in-doors; it is too much risk to leave them out any longer.

*Orchard Trees* may be better pruned now than later in the season, as the dead and dying branches can be better discerned while the trees are still in leaf than when they are quite bare. There is no mystery as to the pruning of standard trees. Never lop off large branches, if it can be avoided; their removal is a positive injury to the tree; never cut carelessly, or allow a bough to snap off when half sawn through. Remove a branch where two cross each othe; remove those that screen the boughs below them from the sun; keep the heads of the trees open, so that every part is equally exposed to air and light; and remember all through that bearing trees very seldom grow too vigorously, or make wood where it is not wanted, and the less use of the knife and saw the better.

*Unfruitful Trees* may be improved by commencing at once to root-prune, manure, or drain the soil. The nature of the cure must depend upon the cause of barrenness. If the trees have attained a bearing age, and are over-luxuriant, root-prune by this simple method:—Open the soil three parts round each tree, at a distance from the stem of from two to four feet, according to the size of the tree. The roots must be cut back to a general average of two, or three, or four feet, except the part where the soil was not opened, where the roots will remain, of course, their original length. The roots cut back to be carefully laid out near the surface, and a little fresh soil used in filling in. Next season open the soil on the side left undisturbed the year before, and there cut the roots to the same distance as before, and so on annually or biennially, according to the growth they make. Old trees that have borne for many years, and are getting weak, to have the surface soil thinly pared off, and a layer of new soil laid down over the roots, and above that a layer of dung only slightly rotted.

*Figs* carrying a second crop are often a cause of some anxiety. The larger the fruit, the less likely is it to survive the winter, and the best way to save some is to remove all that were larger than peas, and then mat up the trees loosely, so that there will be a circulation of air amongst the wood to keep it hard, yet so that in the event of cutting winds they will have a fair amount of shelter.

Vinery.—Where fruit is to hang some time, all decaying berries must be cut out from time to time, and the atmosphere kept dry. Cut away all the sappy and softer ends of the rods, without respect to the system of pruning adopted: this will cause the remaining buds on the rods to swell nicely, and promote their ripening. Vines that are indisposed to go to rest may be assisted by a removal of their leaves, and getting the border as dry as possible.

Flower Garden.—*American Plants* may be moved now better than at any other period of the year. Whoever plants these must be sure, in the first instance, that the soil is suitable. Many of the natural loams about London suit them admirably; and, on the other hand, there are many otherwise good loams in which they will not grow at all. It is only to be determined by experience on the spot; and where there is any doubt, the only safe course is to cart in peat from the nearest source of supply in the district. We use a mixture of yellow loam and peat from Wanstead—equal parts—and prefer it to all other soils for fine-rooted plants. Pontic rhododendrons and their varieties are the least particular about soil of any of the race. Some of the best hybrids will grow in any leafy mixture with plenty of sand. Mr. Standish has one—and a beauty it is

—named the Gem, which grows best in pure sand. Clay or chalk will never do for any of the race, but loamy turf and leaf-mould are of great service, either to increase the bulk of peat where it is an expensive article, or to take its place entirely where it is difficult to obtain it. In any case, American plants must have a soil in which their fine hair-like roots can run, and quite free from salts of lime, which poison them; good fibry peat is the only material in which any great variety can be grown, and that is abundant in almost every part of the country. As they never root deep, an excavation of two feet deep is plenty in the making of a bed.

*Bulbs* of all kinds to be planted in beds and borders. Pot hyacinths in succession, so as to prolong the season of blooming.

*Carnations and Picotees* not yet rooted from layers must be taken off the stools and planted under hand-glasses; those with a few root fibres may be potted; having begun to root, they will soon gain strength. Border cloves may be propagated to any extent from cuttings in spring.

*Chrysanthemums* to be attended to, so that they may have a fair chance of making a good bloom. Give them clear liquid manure, and stake them securely, as their blossoms, being heavy, often weigh down the stems, or cause frail sticks to snap with a gale of wind. Do not house any, so long as they are safe from frosts, except any that require forwarding to get them in bloom by a certain date. Artificial heat will do wonders to bring them out quickly; we have known them submitted to a temperature of 80° or 90° at this time of year; but it should never be resorted to if it can be avoided, for it has some prejudicial effect on the colours of the flowers.

*Deciduous Trees* may be planted now *ad lib.* No occasion to wait for the falling of the leaf; never mind if they are as green as in July, take them up, and dispose of them as required; the shift will do them more good than harm. Fruit-trees, roses, forest trees, ornamental shrubs, and all such things, may be ordered in from the nurseries, and planted at once; and from this date every day gained is a real gain for the future well-doing of the trees, which will begin to make roots directly, for the ground is *now warm*, but from this time will get cooler every day, and the longer planting is delayed the longer will the trees require to make more new roots, on which their vigour next season will depend. Never plant while the ground is in a sodden state; if it does not crumble freely, wait a bit; meanwhile lay the trees in by the heels, to prevent injury to their roots by sunshine and drying winds.

*Evergreen Shrubs* will move now better than in spring; the earth is warm and the air moist, and they will make fresh roots at once. This is the best time of the whole year to make alterations in shrubberies and wildernesses. Not the least occasion to wait for trees to be quite at rest before moving them; the fact is, if they are still growing, and are to be lifted, the sooner they are lifted the better, if only to put a stop to their activities. Hollies will move now with safety, as will aucubas, laurels, thuias, and all kinds of conifers.

*Florists' Flowers.*—Pansies to be protected against slugs, and the ground trod firm between them. Auriculas to be kept moderately moist, and every pot in which the soil has any moss or liverworts to be considered defective in the drainage, and rectified forthwith. Carnations to be smoked, if any fly about them, and to have full exposure to all weathers for the present. Pelargoniums to be kept quiet; let them grow slowly, and use fire heat only to dry the house in foggy or damp weather. Cinerarias in large pots to have weak liquid manure water; those in small pots to be shifted on, and to be fumigated directly fly is seen about them. Primulas to have a shift, if they have filled their pots with roots. Tulip beds to be made ready for planting.

*Planting.* — Extraordinary pains are taken to keep the root balls of trees intact in the process of transplanting, which we are firmly convinced are needless. In fact, we would always prefer to shake the earth off the roots entirely, sooner then plant any tree with a complete ball. The reasons why, we cannot make room for in this space, but the reminder may be useful to planters who, from past experience, have doubts about the value of keeping masses of earth about the roots in transplanting. When stripped bare, and every fibre exposed, a tree must be planted with much more care than when lifted with a ball by a machine, and dropped into a hole, and that extra care is a gain and an argument for the better practice.

*Spring Flowers.*—The following are all exquisitely beautiful, and if not in the possession of the cultivator, should be secured at once: —Iberis sempervivum, snow white, and magnificent in large tufts on rockwork. Iberis corriæfolia, large white flowers, and remarkably handsome foliage. Aubrietia purpurea and grandifolia, Alyssum saxatile, showy yellow,

impatient of wet, quite hardy elevated on rockwork, and worth growing in pots. Arabis alpina: this, an old favourite, we are getting rid of (though not without some reluctance), as it is quite superseded by the evergreen iberis, so far as effect is concerned. Common coltsfoot: useful to cover banks for the sake of its flowers in February; it will flourish in the darkest of town gardens in a mixture of good loam and chalk. Double wallflowers: we only grow two varieties now—the tall double yellow and the dwarf double yellow; and we generally have a lot of each potted to perfume the sitting-room; they should be taken up now and potted, and put in a pit. Hepaticas, primroses, polyanthuses, and violets, must have a place among the best of spring flowers—in fact, the garden will be dreary without them. Of bulbs, secure and plant a good assortment of jonquils, snowdrops, crocuses, Narcissus, early tulips, hyacinths, dog's-tooth violets, etc.

Greenhouse.—*Ericas* can be better wintered in a pit than in the greenhouse. It is certainly best to let them taste as little as possible of fire-heat, though they must be kept safe from frost. A damp, still air, especially if a little warmed to suit the growth of soft-wooded plants, is most injurious to these nearly hardy and free-natured plants. Water only on fine days, and then as early as possible; keep the plants hardy, and if they get three or four degrees of frost on them, they will take no harm if kept dark till thawed. The result of such treatment will be short joints and a fine bloom.

*Fuchsias* may be kept in bloom till very late in the season by keeping them rather close; plants going out of bloom, and which are to be grown another season, should be put out of doors to harden them, and left unpruned till they have tasted a very slight frost; then cut them in slightly, and house in any moderately dry place, either light or dark, till they begin to break in the spring.

*Revise* the whole stock of plants in pots as opportunities offer; to remove worms from pots, renew the drainage where it has got stopped up, and otherwise prepare for the casualties of winter. Greenhouse plants that have been standing out must now be housed, and those to be forced must be repotted, if needful.

*Strawberries* to fruit in pots and troughs ought now to have plump crowns, and be quite at rest, the pots full of roots and free from worms. Now lay them on their sides on coal ashes under a fence or wall, and by means of a few hurdles, or some other rough contrivance, shelter them from rain, and there leave them till taken in to force. Runners well rooted may be planted now in beds, to bear next season. Plantations made at this late period should be of carefully-sorted plants—the best only of the runners that have rooted farthest away from the parent stools, and these to be taken up with good balls, and planted in the beds directly.

*Verbenas and Petunias* from autumn cuttings are best kept with cinerarias and primulas, as the same treatment will serve for all, and they will require fumigating more frequently than other plants. All these things should be grown very slowly now, as the worst times for them are yet to come. Give plenty of air.

Pits and Frames.—*Plants in Frames* will soon be infested with mildew now, if kept close or damp. Though nothing should go dust dry, it will be best always to defer watering till the weather is clear and bright, and then water well the first thing in the morning, that the pots and plunge material may be somewhat dry before night; one good watering will go a long distance now. During keen north-east winds—not very prevalent at this season—soft-wooded plants suffer severely if kept very dry, and at the same time they will not then bear so much exposure as at other times. Keep the plants clean by removing dead leaves, and cutting off the soft tops of any green shoots of geraniums, etc., which show signs of mildew.

*Cucumbers* to fruit during winter will now be showing signs of fertility, in which they must not be too much encouraged, unless the plants are strong. If allowed to bear too early, they will soon cease to bear, and the fruit will be small and inferior. Keep them carefully trained; take the leaders up their full length before stopping, then stop every side-shoot at the second joint. Pinch off the young fruit till the plants are in a robust state, with plenty of large healthy leaves; if fit to begin bearing, thin the crop moderately. Encourage root action by top-dressing with a mixture of leaf-mould and rotten dung. The usual advice to set the blossoms we consider fallacious; there will be just as good a crop without any such waste of time.

*Forcing* to be prepared for according to the demand for asparagus, sea-kale, rhubarb, etc. Take up all the roots that are to be used in the first batch, and lay them in by the heels; the roots force better if taken up some little while beforehand, especially for the earliest supplies, for which the plants are still in a some-

what active state, and needing to be artificially rested.

*Mignonette* sown now in pots of rich light soil, started with a little bottom-heat, as on a bed of leaves or nearly worn-out dung, and kept in a pit all winter, will bloom early next spring, and a few may be forced. It requires but little skill, indeed, to flower mignonette at any period of the year; but at this season one important caution must be given, and that is, to grow the winter stock in pots extra well drained, and never to wet the leaves of the plants.

*Mushroom Beds* to be spawned now according to directions recently given. It will be loss of time to hurry the operation by inserting the spawn while the heat is too high. The safe temperature is 50°; if the bed is a few degrees above that, wait a few days without disturbing it, for any disturbance will give a fresh start to the fermentation, and run up again to a high pitch; and, besides, the more solid the bed the better, so long as it is not quite as hard as a brick. It is a pity this delicious esculent is not more commonly grown. Every amateur should have a mushroom bed; the whole culture is nearly as simple and certain as growing mustard and cress, and it is a very pleasant way of getting manure for nothing, for the dung is useful afterwards, and will more than pay for its small cost.

*Pines* to have less moisture both to fruiting and growing plants. Give air every day, if possible, and keep the beds in a sweet and sound condition. Fruits ripening require a temperature never less than 60° at night; the day temperature to depend on the amount of light; on dull days, 70°, bright days, 80°.

Greenhouse Plants in Flower.—*Adesmia viscosa.*—A pea-flowered greenhouse climber, with yellow flowers, now going out of bloom. It is not of much value.

*Billbergia purpurea.*—One of a most useful tribe of stove plants, allied to Bromelia. Propagate by suckers and divisions, and grow in loam and peat, with a little cow-dung.

*Billbergia purpurea rosea.*—A beautiful bromeliaceous stove plant, now in full bloom, and will continue so for some time in a moderate temperature. There are many fine species, all worth cultivating in the stove. The soil should be peat, sandy loam, and old cow-dung; one-fourth of the latter to the bulk of the other two ingredients.

*Blandfordia intermedia.*—One of the latest blooming species of this charming family of Ixia-like bulbs. Grow in loam and peat. It requires the temperature of a warm greenhouse all winter, and to be kept growing after having bloomed till it shows a tendency to die down; then let them rest in the pots.

*Browallia speciosa.*—A very showy greenhouse annual, with purple flowers. Sow in mild heat in March, and grow in pots under glass all the summer. The best of the other species are Jamesonii, grandiflora, and demissa.

*Chironia linoides.*—A charming gentian-wort from the Cape. The red flowers are produced from the middle of August to the middle of November. It is an old-fashioned plant, and almost forgotten, but with others of the genus, such as serpylifolia, tretragona, and floribunda, worth a place in any greenhouse.

*Datura lutea.*—A late-blooming species, with fine yellow flowers. It is strictly an evergreen, though it becomes deciduous when kept in too cold a house all winter. This is a race among which gardeners may find species as worthy of introduction amongst conservatory plants as any in the whole vegetable kingdom. What shall we say of D. suaveolens, with its immense trumpet-shaped snow-white blooms, emitting a most delicious fragrance, or of bicolor or candida, or this late-blooming lutea? To do justice to their beauties would require pages of eulogy. It must suffice, therefore, to state that lutea will run upwards of twenty feet, and produce myriads of blossoms when its season comes, with scarcely any management at all.

*Disporum flavum.* — A greenhouse melanth, nearly hardy, which may be kept in a pit or frame when not in flower, propagated by division in spring, or by seeds sown in peat or leaf-mould. Soil, leaf-mould only, or fibry peat and loam.

*Drimia altissima and lanceolata.*—Pretty greenhouse bulbous plants from the Cape; treat the same as Ixias; well worth attention.

*Dumasia pubescens.*—A fine evergreen twiner, from Nepaul, requiring greenhouse treatment, but not to be exposed to a lower temperature than 45° in winter; better at an average of 55°. May be grown from seeds sown in a hotbed in March, or from cuttings of young side-shoots at the end of April. It seldom attains to a greater height than seven or eight feet. Would probably go farther and fare worse in the stove.

*Dyckia altissima.*—A pretty greenhouse succulent of very striking character, and now bearing its orange flowers.

*Witsenia corymbosa.*—A pretty purple-flowered herbaceous Irid from the Cape, well known, and a general favourite. Easily raised from seed sown on heat the first week in May, and may also be increased by division; soil, fibry peat, sandy loam, and leaf-mould. *W. Maura* is a nice specimen to flower in December.

*Xanthoxylon piperitum.*—A stove tree from Japan, which we suspect would do as well in a greenhouse, though we never so tried it. The white flowers are produced from September to November, and the tree is always an interesting object. Good turfy loam, with a fourth sand, is the best soil for it.

## TO CORRESPONDENTS.

Shrivelled Grapes.—*H. C. P.*—The fault of your grapes is, that at a certain stage their growth is arrested, and they then become unsightly. We have no hesitation in tracing the cause to the roots of the vines, and the remedy will be found in a renewal of the roots, and an improvement of their condition. It is highly probable that the vines are in a damp, cold border, and that, in consequence, the roots are not able to keep pace with the demands upon them by the leaves of the vine; and thus, the supply of sap being restricted, it is impossible for the fruit to swell to proper dimensions. Knowing nothing of the circumstances in which the vines are placed, we can only remark upon the case in this general way, and advise our correspondent to consider how to place the roots in a condition more likely to favour the full development and ripening of the crop.

Roses.—*A. B.*—We do not advocate transplanting roses annually under every variety of circumstances. Where it is desirable to have large trees on lawns, etc., etc., the roses must be left alone for several years in succession. But to secure fine flowers, and keep the trees regularly renewing their wood, they must be occasionally transplanted, and every alternate year will suffice. Experience has, however, long since convinced us that roses may be moved occasionally, without in the least degree impairing their vigour; and where the soil is poor, this is the only safe practice for insuring blooms of good quality.—*Bob.*—If you want to *make sure* of first prizes, you must constantly cut flowers from maiden plants. In these few words we have communicated a great secret. We leave you to make the best of it, and wish you every success. You see now that your objection to the "bother" of propagating is foolish. To keep up a succession of young plants you must either propagate or buy. Study the "Rose Book," and you will save twenty pounds a-year by propagating according to the directions therein given.

Lemon-Thyme for Garden Embroidery.—Allow me to recommend Lemon-Thyme as a very valuable material for garden embroidery. It has been much admired in my garden this year, retaining its bright green hue all the summer, and giving a delightful perfume of spike-nard while it was enriched with its purple flowers. The spaces which it fills are edged and dotted with different crocuses which it shows up well in the early spring.—*M. B., Upper Norwood.*

Roses, Phloxes, and Pinks.—Will you be so kind as to give me a list of six new white roses of this and last year; also a list of six phloxes, quite distinct sorts, and six distinct varieties of pinks, all for exhibiting. I am happy to tell you that I took Mr. Prior's advice, and travelled from Leicester to Waltham Cross to see Mr. W. Paul's roses. I should like such a treat often. Mr. Paul kindly put me in the care of his foreman, with orders for him to show me anything that I wished to see, and for me to take my own time, which is much pleasanter than being hurried over one's favourite hobby, so I enjoyed my treat very much. I intend going annually to bring new roses back with me, as I did on this my first visit, viz., Princess of Wales, Madame Victor Verdier, Marechal Suchet, Admiral la Peyrouse, C. Lefebvre, and Madame W. Paul. I have budded from them and they are doing well.—*J. B., Leicester.* ["Six new white roses of this and last year!" When you get a little further initiated in rose lore, you will discover that white roses are as scarce as white elephants; and to order them by the half-dozen is almost as bold a game as ordering half-a-dozen earthquakes. Louise Darzins is a good white hybrid perpetual recently introduced. Pavillon de Pregny has some white in its composition. Octavie Fontaine is a

charming white Bourbon, but it cannot now be spoken of as a new rose. *Six distinct and fine phloxes:* Alphonse Dufoy Castellane, Mrs. Mitchell, Souvenir de M. Pirole, Hector Rouillard, Kumph, Madame Berniaux. *Six pinks:* Admiral Dundas, Apollo, Figaro, Lady Downes, Miss Trotter, Inimitable.

Planting a New Garden.—I have purchased a lot of ground in the southern suburbs of Edinburgh, extending to a little more than three-fourths of an acre; it is on the side of a hill sloping to the south, and is sheltered by large trees in the neighbouring lots. There are two terraces with a drop of 4 feet each, which, with a 3-foot parapet, gives two south walls of 7 feet high, the one about 80 feet long, and the other 153 feet. Now, I want your advice as to the sorts of fruit-trees to plant on the lower wall of 153 feet—distinguishing riders from those that are to be permanent—bearing in mind that our great difficulty in this northern climate is the late spring frosts coming after warm weather in March. I prefer good crops of good fruits to novelties and curiosities which bear two or at most three fruit in a season. If at same time you would give me the names of roses to plant against the upper terrace of 80 feet, you would add to the obligation. In my present garden, and in the immediate neighbourhood, I find tea roses do admirably, especially if watered in spring. There is another wall, with west exposure, 167 feet long, which will also have fruit-trees, regarding which I would like suggestions. The wall facing the east, 154 feet, and that facing north, also 154 feet, will be so shaded by plantations, that nothing but ivy or currants would do, except at first, when the trees are young. I should mention that we are quite free from all annoyance from town smoke. I am getting the turf pared from the whole surface, and getting it rotted, which, I presume, will make the best soil for the borders, and will leave sufficient depth of soil for grass, which I purpose to have sown. There will be a span-roof greenhouse on the upper terrace, connected by a lean-to with a glass door in the dining-room.—*S. E. D.*

[Now let us begin at the beginning, and, at the risk of repeating what you must have read over and over again in the Floral World, advise you to make your borders thoroughly, as upon this will depend the health and productiveness of the fruit-trees you propose to plant. Don't be deceived into supposing, that because your borders lie on the slope, that drainage will be unnecessary. If there is no drainage, it may be found, after a few years, that there are hollows under the surface, retaining the water, which coming in contact with the roots, will produce canker, and hasten premature decay. To avoid all danger from this cause, let there be a deep drain 2 ft. 6 in. or 3 ft. deep, cut at the distance of 6 or 7 ft. from the wall. At the bottom lay a row of drain-pipes, and fill up to a foot from the surface with brick rubbish, large stones, or any rough material that may be most convenient to get at. A very gradual rise from the outlet to the upper end will be sufficient to ensure the escape of the water. Over the brick rubbish, or other material, lay a thin turf to prevent the mixing of the mould with the drainage, then fill up with the mould out of the cutting. If the natural soil is a good loam, it will answer perfectly for your trees, the more retentive the better; let it be well broken up to the depth of 15 inches, and well mixed with one-third of its quantity thoroughly well-rotted manure. The most workmanlike plan will be to throw the soil into a ridge from the wall on one side and the drain on the other, then cast in your manure, and mix the whole well together, still preserving the ridge, retaining it in that form till you are ready to plant. For small trees, you need not anywhere more than the 15 inches in depth of soil, because the nearer the roots are kept to the surface, the more likely will they be to produce short-jointed and well-ripened shoots, which are indispensable to productiveness. When you are ready to plant, having your trees selected and brought home, level your soil, making your border three or four inches higher at the wall side than on the drain side, so that there may be no chance whatever of water stagnating there. We have been supposing all along that your soil is good loam; if your soil is light and shingly, we would say remove it altogether, and fill up with the soil, in the proportions we have been recommending, or the rotted turf you are preparing, which will require no manure, as the fibre of which it should be full will stand in the stead of it. Bear in mind, if your trees are to be robust, productive, and lasting, they must have good strong soil, while in light soil they will be feeble and short-lived. The same preparation will exactly suit all your borders, only in the

case of roses, two or three feet in width will be sufficient. Do we understand you to propose to sow the surface of your fruit-tree borders with grass after they are planted? Don't do that, if you have an eye to their future well-doing, and if you could possibly manage, the trees would go on all the better if you could avoid putting any sort of crop into the border, as the digging and other manipulations necessary to the culture of the crops, would damage the roots of the trees, which will all be upon or near the surface. It may seem a waste of ground, but you will be an ultimate gainer. In giving a list of fruit-trees, we shall confine ourselves to a small selection of such as we can recommend with entire confidence, and such as will not ordinarily fail you. For south wall —Peaches: Early Anne, Acton Scott, Barrington, Noblesse (excellent), Violet Hative (excellent), Red Magdalen. Nectarines: Downton, Elruge (splendid), Newington Early, Tawny, Violette Hative. Your wall, 153 ft., will take 19 riders at 8 ft. apart, and 18 dwarf-trained trees planted exactly between them. By this mode of planting you will cover the entire surface of your wall in three years, and as the dwarf trees require it, you can cut away the riders. Plums for west wall—20 riders, 19 dwarfs, say pears 19, plums 20. Plums: Green Gage, Reine Claude de Bavay (fine), Jefferson (great bearer, fine), Kirkes (very fine), Peach-plum (very rich), Orleans, Standard of England, Denyer's Victoria (great bearer), Washington. You may with advantage plant a Reine Claude de Bavay and a Peach-plum on your south wall. Pears: Beurre d'Amanlis, Easter Beurre, Beurre Rance, Bon Chretien, Williams, Duchess d'Angouleme, Forelle, Louis Bonne of Jersey (exquisite), Marie Louise, Passe Colmar. Roses: Chenedole and Coup d'Hebe (two splendid hybrid Chinas), Felicité Perpetue (a fine evergreen). Hybrid perpetual, all making good climbers—Auguste Mie, General Jacqueminot, Gloire de Santhenay, Jules Margottin, Lord Raglan, Madame Furtado (exquisite), Madame Knorr (fine), Senateur Vaisse, William Griffiths. Strong-growing Bourbons—Souvenir d'Malmaison, Acidalie. Three hardy free-growing teas—Gloire de Dijon, Devoniensis, Sombreuil.]

Various.—*X. Y. Z.*—Your outhouse with western aspect may, no doubt, be made very useful as a plant-house. At all events, the aspect need be no impediment to its appropriation.—*A. B.*—Sour soil usually produces a surface of liverworts, and acquires a dark colour, and emits an unpleasant smell. Variegated balm is best propagated in spring; with proper care it may be done in the open ground, as described in our paper on instantaneous bedding in the "Garden Oracle" of 1863, and in which also the propagation of Cerastium by the same method was advised.—*Thorn.*—Now is the best time to pot a few of the Arum roots.—*Minnie* may consult "Profitable Gardening" for information on the culture of asparagus. It is well to manure the soil for cabbage worts planted in autumn for use at the end of the year; but for those to stand till spring, manure should not be applied, unless the ground is really in a poor condition. Definite rules cannot be given; hence a little ambiguity sometimes in the directions.—*T. T. H.*—We should gladly enter into the detail of the dwarfing process were it really applicable to the majority of private gardens. We can well understand the delightful appearance of the beds when you saw them, but the question is how did they look the whole season through? Plants starved down to a diminutive size will generally flower superbly for a short season, and then either perish or begin to grow and refuse to make another bloom the whole season through. Could you not obtain from the proprietor or gardener some information? Soil and situation have much to do with such cases.—*N. J. H.*—Cestrum aurantiacum is of easy culture where there is sufficient heat, but it must have warmth, and hence we do not think it will answer as a window-plant. If grown freely from the first, it is sure to flower well at last. You might start Achimenes in the heated case, but you ought not to begin till the middle of March; then you would have all the summer before you after removing them, and you could keep them in the case till they were considerably advanced. Try Meteor, Sir Treherne Thomas, and Ambroise Verschaffelt, and let us hear of the result. For practical advice on the subject, see Floral World, April, 1863.

THE

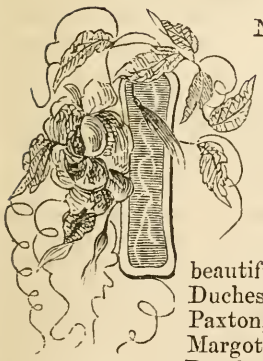
# FLORAL WORLD

AND

# GARDEN GUIDE.

NOVEMBER, 1864.

## ROSES FOR PRESENT PLANTING.



IN the communication from our correspondent at Pinner, preference is given to autumn as the season for planting roses, and after all that may be said about planting in spring and summer, we gladly confirm the opinion expressed in the interesting paper from Pinner, and advise our friends who want roses to purchase and plant without delay. Looking over our own roses previously to sitting down to write this (Oct. 24), we find abundance of beautiful blooms on the following: William Griffiths, Duchesse d'Orleans, Triomphe d'Alençon, Sir Joseph Paxton, Madame Domage, Madame Cambaceres, Jules Margottin, Comte de Nanteuil, Madame Pierson, Bourbon Queen (this is a perfect bouquet, the trees being smothered with delicate flowers, which in this cool weather emit a most agreeable perfume), Clement Marot, Pierre de St. Cyr (on this the blooms hang down, owing to the weakness of the shoots, and hence are not seen to advantage), La Ville de St. Denis, Auguste Mie, Victor Emmanuel, Octavie Fontaine, Empress Eugenie, Charles Robin, Armosa, Emotion, Modele de Perfection, Jules Margottin, La Biche, Aimée Vibert, and Marquis Balbiano. Not a bloom can be found now on any of our plants of Anna Alexieff, General Jacqueminot, Geant des Batailles, or even Gloire de Rosomène. But nothing is to be said against these for their present condition; they have made a grand display during the summer, and have bloomed profusely and finely almost without intermission from the end of May to the end of August, and then, as if exhausted by drought, they made an end of their display for the season. It has been a good season for roses spite of drought and the piercing east winds in spring. In our visits to nurseries of late we have observed that roses have made free growth, though the growth being late is at present in

many cases less ripe than usual at this time of year, and, generally speaking, there is no mildew. In our own garden we have but one mildewed rose, and that happens to be a standard Countess Lacepede, which is not badly affected.

One great advantage of autumn planting is, that strong plants are used. It is impossible to use any other; no one would be mad enough at this time of year to plant small plants from pots; open-ground plants are those in request, and the demand is likely to be such that we advise all who know the value of straight stems, stout wood, and well-formed heads, to go to the nurseries and pick for themselves, and to do this at once, even if the ground is not yet ready for the roses. They can be lifted and sent home when wanted; but to secure a good selection, it is well to look after them before the leaves are down, while, in fact, many are still in bloom, and before the seasonal rush begins, which is sure to clear off the best in all the classes.

We have carefully looked over the catalogues, and made selections adapted to the wants of various classes of rose growers, according to the promise made last month. If space permitted, we should like to offer a few observations here and there, as ideas might be suggested by the names and characters of the roses; but it is essential that we occupy as little space as possible because of other subjects that demand attention, and we therefore subjoin the lists without further note or comment.

### One Hundred Hybrid Perpetuals—(Old and New).

*Light.*—Duchesse d'Orleans, Duchesse de Magenta, Louise Darzins, Louise Magnan, Madame Alfred de Rougement, Madame de Canrobert, Madame Rivers, Madame Vidot, Madlle. Bonnaire, Virginal, Emotion, Comtesse d'Orleans.

*Rose and Red (including pink and rose shades).*—Alpaide de Rotalier, Alphonse Belin, Alphonse Karr, Anna Alexieff, Anna de Diesbach, Beauty of Waltham, Belle de Bourg la Reine, Colonel de Rougement, Comte de Nanteuil, Comtesse de Chabrillant, Comtesse de Courcy, Emile Dulac, General Washington, Jules Margottin, Kate Hausburg, La Duchesse de Morny, La Reine, Lælia, Louise Peyronny, Madame Boll, Madame Derreux Douville, Madame Eugene Verdier, Madame Hector Jacquin, Madame Knorr, Madame Victor Verdier, Paul Delarmeilleray, Pavillon de Pregny, Princess Alice, Souvenir de Reine d'Angleterre, Triomphe de Villecresnes, Vainqueur de Solferino, Wilhelm Pfitzer, William Griffith, Baron Gonella, Modele de Perfection, Madlle. Haiman, Madame de Cambaceres, Madame Laffay.

*Crimson (including vermilion and carmine shades).*—Alphonse Damaizin, Amiral la Peyrouse, Baron Adolphe de Rothschild, Baronne Pelletan de Kinkelin, Bernard Palissy, Charles Lefebvre, Christian Puttner, Duc de Rohan, Francoise Lacharme, Gabriel de Peyronny, Geant des Batailles, General Jacqueminot, Gloire de Santhenay, John Hopper, John Nasmyth, King's Acre, Le Baron de Rothschild, Le Rhone, Lord Herbert, Lord Raglan, Lord Macaulay, Madame Charles Wood, Madame Furtado, Madame Julie Daran, Maurice Bernardin, Mrs. William Paul, Pauline Lansezeur, Peter Lawson, Princess of Wales, Victor Verdier, William Paul, Souvenir de Montceau, Souvenir de M. Rousseau.

*Dark (including purple and maroon shades of crimson, etc.)*—Abbé

Reynaud, Alex. Dumas, Alfred de Rougemont, Amiral Gravina, Beaute Francais, Deuil de Prince Albert, Duc de Cazes, Empereur de Maroc, Eugene Verdier, Lord Clyde, Maréchal Souchet, Monte Christo, Olivier Delhomme, President Lincoln, Prince Camille de Rohan.

### One Hundred varieties of Hybrid Perpetuals.

The following are all old varieties, selected for quality and cheapness; for the best fifty take those marked *†, and for the best twenty-five those marked †:—

*Light (including shades of lilac, lavender, and blush and white).*—Alex. Belfroy, Berceau Imperial, Caroline de Sansal, Clement Marot, Duchesse d'Orleans†, Imperatrice Eugenie, Louise Darzins, Madame Rivers†, Madame Standish*†, Queen of Denmark, Virginal, Madlle. Therese Appert, Marguerite Appert, Comtesse d'Orleans.

*Rose and Red (including shades of pink and purple in which red predominates).*—Alex. Fontaine*†, Alphonse Karr*†, Anna Alexieff*†, Anna de Diesbach†, Auguste Mie, Baronne Prevost†, Baronne Hallez, Belle de Bourg la Reine, Colouel de Rougemont†, Comte de Nanteuil, Comtesse de Chabrillant*†, Duchesse d'Alençon, Duchess of Sutherland, Francois Premier, Gloire de Chatillon, Gloire de Vitry, John Waterer, Jules Margottin†, L'Eblouissante, La Reine*†, La Ville de St. Denis†, Lælia*†, Louise Peyronny*†, Madame Boll, Madame C. Crapelet*†, Madame Domage†, Madame Eugene Verdier, Madame Hector Jacquin, Madame Knorr†, Madame Vigneron, Madame Vidot†, Mathurin Regnier, Monsieur de Montigny, Oderic Vital, Parmentier*†, Prince Imperial, Senateur Vaisse*†, Souvenir de Lady Eardley*†, Souvenir de Reine d'Angleterre†, Victor Verdier†, William Griffith†, Catherine Guillot*†, L'Avenir, Louise Odier, Modele de Perfection, Baronne de Heckeren, Celine Touvais. La Fontaine, Madame de Cambaceres, Madame Laffay†, Madame Pierson*†.

*Crimson (including vermilion and carmine shades).*—Duchess of Norfolk*†, Eugene Lebrun, Geant des Batailles†, General Jacqueminot†, Gloire de Santenay†, Jean Bart, La Brilliante*†, Lion des Combats, Lord Raglan†, Paul Dupuy, Pauline Lansezeur*†, Prince Leon†, Souvenir de Montceau*†, Triomphe d'Amiens, Triomphe l'Exposition*†, Triomple des Beaux Arts, Vainqueur de Solferino*†, Vicomte Vigier†, William Jesse, Enfant de Mont Carmel, General Simpson, Jacques Lafitte*†, Ornement des Jardins*†.

*Dark (including purple and maroon shades of crimson, etc.)*—Amiral Gravina, Dominique Daran, Duc de Cazes, Empereur de Maroc*†, Madame Pauline Villot*†, Mrs. Elliot, Souvenir de Leveson Gower*†, Dr. Juillard, Princesse Mathilde*†, Francis Arago†, Gustave Coraux, Jean Baptiste*†.

### Thirty Select Teas.

The best twelve marked thus *.

Abricote, Adam, Bougere*, Canary, Comte de Paris*, Comtesse Ouvaroff, Devoniensis*, Elize Sauvage, Eugene Desgaches, Gloire de Bordeaux, Gloire de Dijon*, Goubault, Homer*, La Boule d'Or*, Louise de Savoie, Madame Damaizin*, Madame Falcot*, Madame de St. Joseph*, Madame Halphin, Madame Villermoz*, Marquise de

Foucault, Narcisse, Niphetos,* President, Rubens, Safrano, Souvenir d'Elise Vardon, Souvenir d'un Ami*, Triomphe de Guillot fils, Vicomtesse de Cazes.

A Selection of One Hundred Varieties of Roses, comprising the best in all Classes excepting Hybrid Perpetuals and Teas.

The most useful fifty marked thus *.

SUMMER ROSES.

*Provence.*—Common*, White*, De Meaux.

*Moss.*—Alice Leroy, Baronne de Wassenaer*, Celina, Common*, Crested, Gloire de Mousseuses*, John Cranston*, Laneii, Luxembourg, Princess Alice, Princess Adelaide, White Bath*.

*Damask.*—La Ville de Bruxelles*, Madame Hardy*, Madame Soetmans.

*Alba.*—Felicite*, La Seduisante, Madame Legras, Queen of Denmark.

*Gallica.*—Adele Prevost, Boula de Nantueil*, Blanchefleur*, Duchess of Buccleugh*, Grandidissima, Kean, Œillet Parfait*, Ohl*, Perles des Panaches, Reine des Francais, Transon Goubault*, D'Aguesseau.

*Hybrid China, Bourbon, and Noisette.*—Beauty of Billard, Blairii No. 2*, Brennus*, Charles Duval*, Charles Lawson, Chenedole*, Coupe d'Hebe*, Frederic the Second, Fulgens*, General Jacqueminot, Juno*, Madame Plantier*, Madeline, Paul Perras*, Paul Ricaut*, Vivid*.

*Austrian.*—Harrisonii*, Persian yellow.

*Boursault.*—Amadis, Gracilis.

*Ayrshire.*—Queen of the Belgians, Ruga.

*Sempervirens.*—Félicité, Myrianthes, Leopoldine d'Orleans.

*Hybrid Climbing.*—Laure Davoust, Madame d'Arblay.

*Macartney.*—Maria Leonida.

*Microphylla.*—Rubra plena, Rugosa.

*Perpetual Moss.*—Madame E. Ory*, Salet.*

AUTUMN ROSES.

*Bourbon.*—Acidalie*, Aurora du Guide*, Adelaide Bougere, Docteur Lepreste*, Blanche Lafitte, Camille de Chateaubourg, Dupetit Thouars*, Empress Eugenie*, Leon Oursel*, Prince Albert*, Queen*, Reveil, Sir J. Paxton*, Souvenir de Malmaison*, Victor Emmanuel, Armosa*, Bouquet de Flore, Pierre de St. Cyr*.

*Noisette.*—Aimée Vibert*, Celine Forestier*, Cloth of Gold, Desprez à fleur jeune*, Lamarque*, Ophirie*, Solfaterre, Triomphe de Rennes, Fellenberg*, La Biche.

*China.*—Cramoisie Supérieure*, Elise Flory, Fabvier, Madame Bereau, Mrs. Bosanquet*.

## ROYAL HORTICULTURAL SOCIETY'S FRUIT AND VEGETABLE SHOW, Oct. 19, 20, 21.

This was a small but highly interesting exhibition. Two long tables in the conservatory and the arcade adjoining on the western side were occupied with a beautiful display of fruits and vegetables, the choicer subjects in the former class being located in the conservatory, which presented a beautiful scene. The arrangement of subjects was according to established routine; there were no trophies, no attempts at "sensational" effects, yet every department of pomology was fairly represented, and the visitors consisted for the most part of practical horticulturists, amateur and professional.

Grapes. — The most interesting contribution to this class was the collection of pot vines from Messrs. H. Lane and Son, of Great Berkhampstead. These made a grand feature on the table appropriated to grapes. These were all compactly trained, and loaded with fine bunches, showing in every feature the evidence of most skilful cultivation. In the class for three bunches of *Black Grapes*, there was a spirited competition, and Messrs. H. Lane and Son took first place with magnificent samples of Black Hamburgh. Mr. J. W. Potts, gardener to M. Philips, Esq., Stratford-on-Avon, took second place with Barbarossa, the three bunches weighing 12¾ lb., and in beautiful condition as to symmetry and colour. Equal second, Mr. W. Mead, gardener to R. Currie, Esq., Farnborough, with Muscat Hamburgh, weight 7 lb. 3 oz. In this class Miss Mary Plinke, F.R.H.S., of 2, Addington Terrace, Kensington, exhibited three bunches of Black Frontignan grown on an open wall. These were excellent examples of outdoor grapes, the bunches large, slightly shouldered, the berries tolerably uniform in size, small, but in perfection as to colour. *White Grapes* were also well shown; first, Mr. W. Mead, with Muscat of Alexandria, 11 lb. 13 ozs.; these bunches were particularly handsome, uniform, and faultless in colour. Second, Mr. A. Ingram, gardener to J. J. Blandy, Esq., Highgrove, Reading, fine bunches of the same. Third, Mr. J. Pottle, gardener to B. D. Colvin, Esq., Woodbridge, with the same variety, the bunches fine in quality of berry, but not handsome. In this class Messrs. Lane and Son exhibited Buckland Sweetwater. These were rather small, loose bunches; the berries small, round, on long peduncles; the colour a not very pleasing pale amber.

In the Miscellaneous Class, Messrs. H. Lane and Son exhibited a fine collection of cut grapes, which was deservedly awarded a first place. In this collection there were fine examples of West's St. Peter's, the berries below the average size, but remarkably uniform, the colour and bloom exquisitely beautiful. Golden Hamburgh, bunches rather loose, berries large, and in that exact degree of ripeness at which the colour begins to change from greenish-yellow to clear pale amber. Black Hamburgh, the best of all black grapes, superb in size of bunch and berry, and black as death with ripeness. Black Morocco, a not very valuable grape, though difficult to grow to exhibition standard: these were grand bunches, as well ripened as the Black Hamburghs. Lady Downes, the most beautiful of all black grapes, as it is also one of the very best. Dutch Hamburgh: this is a very distinct grape, and no judge of fruit need confound it with Black Hamburgh, unless he had first taken a "Dutchman's draught," and then the blunder would be pardonable. This never attains to the uniform blackness of most other grapes of the class; there is invariably some trace of purplish-red next the peduncles, and the berries are hammered. Black Prince, slightly shouldered, long bunches, berries large, uniform, deeply coloured, and with a beautiful

bloom. Muscat Hamburgh, fine in bunch and berry. Bowood Muscat, long loose bunches, far inferior in appearance to the samples of Muscat of Alexandria on the table. Esperione: this was a true sample, the bunches large, shouldered, berries large, round, uniform, deeply coloured, and covered with a fine bloom; a very handsome black grape. There was also an interesting collection of grapes from the society's vinery at Chiswick.

Pines.—Mr. B. Mobbs, gardener to W. B. Tyringham, Esq., Newport Pagnel, was placed second for a nice Queen, weighing about 3 lb., and this was the only Queen exhibited. In the class for any except Queens, Mr. T. Ingram, gardener to her Majesty, Frogmore, first with a very fine Cayenne, weight not stated; second, Mr. J. Jefferson, gardener to W. J. Gurnside, Esq., Worksop, with a Black Jamaica, weight 6 lb. 9 oz.; third, Mr. Ford, gardener to W. E. Hubbard, Esq., St. Leonards Lodge, Sussex, with a fine Providence. Though few in number, the pines shown were all good, and in excellent condition as to ripeness.

Apples were generally of good size and finely coloured, and amongst them were some remarkably fine specimens. The dishes of *Six dessert varieties of Apples* were the most attractive and interesting class. First, Mr. S. Ford, gardener to W. E. Hubbard, Esq., near Horsham, with Ribston, Adams's Pearmain, Red Pearmain, Scarlet Nonpareil, Blenheim Orange, and Cornish Gilliflower. Second, Mr. T. Ingram, gardener to her Majesty at Frogmore, with Cox's Orange Pippin, Fearn's Pippin, Frogmore Nonpareil; this is of medium size, oblate, eye open, with long segments, and set in a shallow basin, thin stalk deeply inserted, skin canary-yellow. Equal second, Messrs. Lane, of Foot's Cray, Kent, with Ribston, Bull's Golden Reinette, Cornish Gilliflower, Summer Nonpareil, King of the Pippins, Blenheim Orange. Third, Mr. Buster, of Goring, near Worthing, with Golden Reinette, Carel's Seedling, King of the Pippins, Cellini, and Court Pendu Plat. *Three varieties:* First, Mr. S. Ford, with Golden Reinette, King Pippin, Blenheim Orange. Second, Mr. W. Hall, gardener to Captain Tyrrell, R.N., Ealing, with Blenheim Orange, Ribston, and Count Pendu Plat. *Kitchen Apples, three dishes:* First, Mr. G. Scrymger, with Emperor Alexander, Yorkshire Greening, and Blenheim Orange. Second, Mr. Lee, gardener to Viscount Combermere, with Flower of Kent, Blenheim Orange, and Mere de Menage. This last is a rather scarce but very valuable and most beautiful apple; it is large and rather conical, the eye is sunk in an angular basin, stalk very deeply inserted, skin yellow on shady side, elsewhere rich purplish-red, sometimes deepening to nearly black; six fruit in this collection weighed 6 lb. 10 ozs. Equal second, Messrs. Lane, of St. Mary Cray, with Waltham Abbey Seedling, Blenheim Orange, and Gloria mundi. Third, Mr. J. Sayers, gardener to E. Ellis, Esq., Clay Hill, Enfield, with Gravenstein, Mère de Menage, and Gloria mundi. Equal third, Mr. Moffat, gardener to Viscount Maynard, Dunmow, with Dumelow's Seedling, New Hawthornden, and Blenheim Orange. There was a collection of about eighty varieties of apples from the society's garden at Chiswick, all nicely put up and carefully labelled.

Pears.—In the class for *Six dishes of Dessert Pears:* First, Mr. T. Ingram, with fine samples of Beurré Diel, Van Mons Leon Le Clerc, Beurré Clairgeau, British Queen—this fine pear is well adapted for exhibition, and was in this instance admirably shown; Chaumontel. Second, Mr. G. Scrymger, gardener to R. Palmer, Esq., Holme Park, Reading, with Marie Louise, Beurré Rance, Vicar of Winkfield, Beurré Diel, Glou Morceau, and Beurré Bosc. *Three dishes:* First, Mr. Sage, gardener to Earl Brownlow, Ashridge, Great Berkhampstead, with Beurré Rance, Glou Morceau, and Duchesse d'Angoulême. Second, Mr. S. Ford, with Thompson's, Marie Louise, and Glou Morceau. Equal third, Mr. Lee, gardener to Field Marshal Viscount Combermere, Whitchurch, Salop; and Mr. Wilcocks, gardener to M. Aynsley, Esq. *Kit-*

*chen Pears, three dishes:* First, Mr. H. Bentley, gardener to Lord St. Leonards, Thames Ditton, with Beurré Langelier, Catillac, and Beurré Rance. Second, Charles Hadden, Esq., Rossway, near Great Berkhampstead, with Black Worcester, Uvedale's St. Germain, and Catillac. Third, Mr. J. Masters, West Hill, Highgate, Uvedale's St. Germain, Easter Beurré, and Marie Louise. The Society exhibited a collection of 72 varieties of pears from the garden at Chiswick.

Plums.—First, Mr. Mobbs, with Coe's Golden Drop; second, Mr. Sayers, with Ickworth's Imperatrice; third, Mr. Beasley, with Blue Imperatrice.

Peaches.—Salway was the only variety shown, and of this there were three splendid dishes; it is a grand fruit, and invaluable for a late supply, as it may be had till nearly Christmas. First, Mr. Ingram; second, Mr. J. Ward.

Miscellaneous and Novelties. —A very pretty collection came from Mr. A. Ingram, gardener to J. J. Blandy, Esq., comprising fruit of Eugenia Ugni, Black Prince strawberry, and quinces. We much regretted that this collection received only a second-class certificate; it was worth a first. Mr. Ford sent fruit of Cydonia Japonica, the pretty flowering shrub usually known as Pyrus Japonica, but which is not a pear, but a true quince; also a dish of the pretty Wax apple. Mr. Rogerson sent a fine dish of Lee's Perpetual fig; Mr. Sayers sent Brown Turkey. Morello cherries were shown by Mr. J. Williams and Mr. Potts. Some well-ripened oranges came from Mr. Potts; from Mr. J. Williams, citrons and medlars; from Mr. Stivey, Mr. Ford, and Mr. T. Ingram, red currants; from Mr. Ford only, white currants; from Mr. T. Ingram, fine bunches of grapes from the great Black Hamburgh vine at Cumberland Lodge. The best melon was Meredith's Hybrid, shown by Mr. J. B. Whiting. Mr. John Steevens, gardener to T. E. Williams, Esq., Malvern Hall, sent a dish of pears called *Pitmaston Duchesse d'Angoulême.* This is a seedling raised in 1841, by John Williams Esq., of Pitmaston, from Glou Morceau, crossed with Duchesse d'Angoulême. The tree is described to be of vigorous habit, and an abundant bearer. Fruit large, obovate, uneven, bossed and occasionally slightly constricted; eye small, open, set in a shallow basin, stalk stout, an inch and a quarter long, obliquely inserted; skin pale yellowish-green; flesh very juicy, melting, sweet, and with a grateful bouquet. This fine pear appears to partake of the character of both its parents, and in external appearance resembles Glou Morceau more than the other. Mr. May, of Hope Nurseries, Bedale, Yorkshire, sent dishes of three seedling apples, but as they were not named we reserve description. Mr. Ingram sent from Frogmore a seedling Pompone Chrysanthemum called *Alice.* The flowers are small, the colour orange-yellow deepening to orange centre, quality second-rate.

Vegetables and Roots. — Excellent examples of Walcheren broccoli came from Mr. Whiting and Mr. Ford; those of the first named were large, compact, and as white as snow. Brussels sprouts of fine quality from Mr. Scrymger; White Stone turnips from Mr. Ford, Mr. Drewett, and Mr. Sayers. Mr. Ford sent a basket of cabbages called Early Dwarf York; this is a diminutive cabbage, which comes quick, occupies little room, makes close oval-shaped hearts as big as one's fist, and is in some respects superior to collards. Endive good from Mr. Masters and Mr. Young. Dwarf green curled savoy from Mr. Young, excellent. From the same, a mammoth gourd weighing 123 lb. Mr. Potts sent a beautiful dish of aubergines. Tomatoes of middling quality from Mr. E. Morris. Mr. Salter sent fruit of *Lycopersicon pyriforme,* or pear-shaped tomato. This was labelled "Cherry Tomato, *Lycopersicon cerasiforme;*" the latter, however, differs from this in having a round fruit which is green when ripe: these were a beautiful red colour. The same tomato was shown by Mr. Hibberd at the Central Horticultural on the 11th inst. Celery was second-rate; peas execrable. Scorzonera, good roots from

Mr. Whiting and Mr. Drewett. Salsafy well shown by Mr. Drewett and Mr. G. Morris. Carrots from Mr. Whiting and Mr. Veitch, the latter sent Belgian white. Onions of fine quality from Mr. Whiting, Mr. Scrymger, and Mr. Masters. Remarkably fine mushrooms from Mr. Young, who attributes his success in part to the excellent qualities of the milltrack spawn supplied by Messrs. Cutbush and Sons, of Highgate. These were not of large size, but were beautifully fresh and clean, with a fine velvety appearance, and the gills delicately tinged with rosy pink.

There was a large and interesting show of potatoes. Mr. J. Veitch first for cattle potatoes, the variety being the celebrated Chardine, an ugly white potato which grows to an immense size, and is found of great service as cattle food. Mr. H. Bentley first for the best large table potato, the variety Lemon Kidney, a very handsome and excellent potato.

*Six Kidneys:* Firs, Mr. Moffat, with Flesh-skin, Imperial, Fluke, Royal Ashleaf, Prince of Wales, and Lemon Kidney. *Six Round:* First, Mr. Moffat, with Daintree's Early, Devonshire Red, Pheasant's Eye, Fransell's Seedling, Painted Lady; second, Mr. Ford, with Late Forty-fold, Red Robin, Forty-fold, York Regent, Nonesuch, Red Regent. Mr. W. Hand, of Newcastle, Staffordshire, sent samples of a seedling potato, not named; it has the appearance of being good in quality, and bears some resemblance to Lapstone, the skin rough, the eyes inconspicuous. It is described by the raiser as the result of a very careful selection from a stock of seedlings grown for several years in succession, and proved to be prolific, free from disease, and possessed of every good quality.

## ROSE GOSSIP.—No. IX.

### THE NEW VARIETIES FOR 1865.

By the time the November number of the Floral World is in the hands of its numerous readers, the French rosarians will have commenced their annual importation of new varieties, nine-tenths of which may be pronounced at once unworthy of, or unsuitable for, cultivation. Nearly seventy sorts are announced for introduction the ensuing season, if the enterprise of English nurserymen can be induced to buy them, or the insatiate thirst for novelty of our florists be excited to demand them.

The following are translations of the Mons. C. Verdier's list:—

HYBRID PERPETUALS TO BE SENT OUT Nov. 1, 1864:—

1. *Duchesse de Caylies* (C. Verdier, fils).—Shrubby, vigorous, very thorny, fine foliage, full, and very perfect form, clear brilliant carmine.

2. *Duc de Wellington* (Granger).—Shrubby, vigorous, with stout wood, leaves large and fine green, flowers four inches or more in diameter, lively velvety red, shaded with black, fiery in the centre.

3. *Reubens* (C. Verdier).—Shrubby, flower medium, half full, red velvety garnet, glowing. The issuer of the list here translated states it to be the most brilliant colour he knows. I should say have nothing to do with flowers described as "nearly full," or "medium size," which usually mean in England loose and little.

MICROPHYLLA.

4. *Triomphe de la Guillotiere* (Guillot, père).—Shrubby, vigorous, flower large, full, clear rose, opening well.

TEA.

5. *Madame Charles* (Damaizin).—Shrubby, very vigorous, and free flowering; flower large, full, well made, saffron yellow, salmon in the centre.

BOURBONS.

6. *Adrienne de Cardoville* (Guillot,

fils).—Flower medium, very full, form perfect, opening well; delicate or "tender" rose.

7. *Madame Collet* (Linbaud).—Shrubby, sufficiently vigorous, flower medium, of a rosy white, very free flowering, good for the border.

8. *Madame Vachey* (Ducher).—Flower small or medium, imbricated rosy white centre, "Aurora coloured" (yellowish, I suppose, is meant), passing to pure white.

9. *Marguerite Bonnet* (Linbaud).—Shrubby, very vigorous, flower large, full, imbricated, flesh white, foliage of Louise Odier, and the colour of Souvenir de la Malmaison.

10. *Michel Bonnet* (Guillot, père).—Flower middle or large, very full, of a lively rose, very vigorous.

11. *Souvenir de Louis Gaudin* (Trouillard).—Medium full, well formed; fine red purple, shaded with black, very free flowering.

12. *Prince Napoleon* (Pernet).—Shrubby, vigorous, flower very large, almost full; lively rose, flowering abundantly.

HYBRID PERPETUALS.

13. *Abbé Berleze* (Guillot, fils).—Shrubby, very vigorous, flower large, very full, well made; colour varying from lively cherry-red to rosy carmine.

14. *Achille Gonod* (Gonod).—Shrubby, very vigorous, flower very large; full, lively carmine red, flowering in corymbs; raised from "Jules Margottin."

15. *Auguste Rivière* (E. Verdier).—Shrubby, vigorous, flower large, full, globular; fine lively red carmine, reverse of petals paler, "embroidered," whitish upon the edges. Does "embroidered" mean veined? or what else?

16. *Baptiste Desportes* (Trouillard).—Shrubby, vigorous, flower medium, full; lively scarlet, very free flowering. Seedling of "Geant des Batailles."

17. *Belle Normande* (Oger).—Shrubby, very vigorous, globular; tender rose, clouded silver; fixed sport from "La Reine."

18. *Belle Rose* (Touvais).—Shrubby, very vigorous, flower very large, very full, globular, opening well, fine form; clear rose, very fresh.

19. *Captain Rognat* (Guillot, père).—Shrubby, vigorous, flower large, cupped, very full; brilliant red.

20. *Charles Margottin* (Margottin).—Shrubby, very vigorous, flower very large, well made, and full; petals of large circumference, well rounded, glowing carmine, brilliant fiery centre. From "Jules Margottin."

21. *Charlotte Corday* (E. Verdier).—Shrubby, very vigorous, flower large, full; purple-red, reverse of petals whitish.

22. *Comtesse de Paris* (E. Verdier).—Shrubby, vigorous, flower very large, fine lively "currant" rose, embroidered white.

23. *Constant Lusseau* (Trouillard).—Flower medium, full, fine clear red passing to violet. Seedling from "Geant de Batailles."

24. *Dennis Helye* (Gautreau).—Shrubby, very vigorous, flower very large, full, lively carmine rose, very fresh colour.

25. *Docteur Andry* (E. Verdier).—Very large, full, imbricated, deep red, and very brilliant carmine.

26. *Charles Wood* (Portemer, fils).—Shrubby, vigorous, flower large, full, very finely formed; very deep red, tinted blackish.

27. *Duchesse Medina Coeli* (Marest).—Shrubby, vigorous, flower large, full; of a deep blood-red purple.

28. *General Mirandol* (Oger).—Shrubby, very vigorous, large, full, globular; purple, velvety red.

29. *Général d'Hautpoul* (E. Verdier).—Shrubby, vigorous, flower large, full, globular; in corymbs of five to ten flowers; lively reddish scarlet, some petals in the centre striped with a white line.

30. *John G. Veitch* (Leveque).—Shrubby, very vigorous, flower very large, full, perfect form; fine lively carmine red.

31. *John Keynes* (E. Verdier).—Shrubby, very vigorous, flower very large, full; lively red scarlet, clouded maroon.

32. *Jean Rozenkrantz* (Portemer, fils).—Shrubby, very vigorous, flower

full, fine form; coral red, very brilliant.

33. *Jules Lavay* (Damaizin). — Shrubby, very vigorous, and very perpetual; flower full, very well made; very free flowering; of a fine lively satin rosy flesh; very fresh.

34. *L'Abbé Lauray* (Trouillard). —Shrubby, vigorous, large, very full, well made; bright clouded rose. Seedling of "Géant des Batailles."

35. *L'Abondante* (E. Verdier).— Shrubby, vigorous, very free flowering; flower large, full, globular, in clusters of from three to ten flowers; fine lively red, clouded fiery, with a whitish veining, reverse of petals silvery.

36. *Madame Andre Leroy* (Trouillard). — Shrubby, vigorous, large, well shaped, rosy salmon.

37. *Madame Ambroise Verschaffelt* (E. Verdier). — Shrubby, vigorous, nearly without spines, flower large, full, well made, delicate rose, strongly veined, whitish.

38. *Mons. Boncenne* (Linbaud).— Shrubby, very vigorous, flower large, very full, cupped; purple, velvety black.

39. *Madame Chas. Verdier* (Lacharme).—Shrubby, very vigorous, flower very large, full, well formed, very fine carriage, fine rose, vermilion, magnificent.

40. *Mons. Pontbriant* (Damaizin). —Shrubby, very vigorous, very large, well made, brownish crimson, shaded carmine.

41. *Madame Elisa Vilmorin* (Leveque).—Shrubby, very vigorous, flower very large, full; fine deep red vermilion, clouded brown; very free flowering.

42. *Madame Fresnoy* (Pernet).— Shrubby, vigorous, flowers very large, form perfect, carries itself well; fine lively rose.

43. *Madame Herman Stenger* (Gonod).—Shrubby, vigorous; flower large, full, with petals large in circumference, cupped in the centre; fine rose, lightly lilaced, clouded saffron in the centre.

44. *Madame Jas. Gros* (Baumann).—Shrubby, vigorous, flower large, full, well formed; clear lively carmine, petals lightly bordered with whitish rose.

45. *Madame Moreau* (Gonod).— Shrubby, very vigorous, flower very large, holds itself well, petals large in circumference, and short in the centre; lively rose, clouded violet.

46. *Madame Rousset* (Guillot, fils).—Shrubby, very vigorous, large, in form of a cup; superb delicate rose reflexed with silver.

47. *Madlle. Amelie Halphin* (Margottin).—Shrubby, very vigorous; flower large, full, well made; fine lively carmine rose.

48. *Madlle. Loide de Falloux* (Trouillard). — Shrubby, vigorous, flower large, full, well formed, white tinted rose.

49. *Madlle. Portier* (Guillot, père). —Shrubby, vigorous, flower medium, or large, full, delicate rose.

50. *Marguerite de St. Amand* (de Sansal).—Shrubby, vigorous flower, large, full, well made, flesh rose, blooming continuously.

51. *Marie Boissée* (Oger).— Shrubby, very vigorous, and free flowering; flower medium, in form of a cup, of a light white in the centre in opening, passing to pure white.

52. *Marie Perrachon* (Ducher).— Moderately vigorous, flower full, well imbricated, cupped, deep violet purple, flowering well, seedling of Géant des Batailles.

53. *Mesdames Chevandiers* (Pernet). — Shrubby, vigorous, flower large, full, colour of lees of wine, slaty, flowering constantly.

54. *Mons. Moreau* (Guillot, père). —Shrubby, vigorous, flower medium or large, full, of a fine red purple.

55. *Rosa Mundi* (Ducher). — Shrubby, very vigorous, very large, well made, globular, virgin rose. Does this mean blush?

56. *Rushton Radclyffe* (E. Verdier). —Shrubby, vigorous, large, very full, perfectly imbricated, of a fine red cerise, clear and lively.

57. *Semiramis* (Touvais). — Shrubby, vigorous, flower large, globular, good shape, tender flesh rose.

58. *Souvenir de Bernardin St. Pierre* (Guillot, fils).—Shrubby, vigorous, large, full, well shaped, imbricated, changing from crimson

velvety red to red slate, centre clouded.

59. *Souvenir de William Wood* (E. Verdier).—Shrubby, vigorous, large, full, very deep blackish purple, fiery clouding.

60. *Souvenir d'une Mère* (Touvais).—Shrubby, very vigorous, very large, full, expanded, delicate rose, bright cherry centre.

61. *Triomphe de la Terre des Roses* (Guillot, père)—Flower very large, full, fine violet rose, good perpetual.

62. *Triomphe des Français* (Pernet). — Shrubby, vigorous, large, nearly full, flowering in panicles from eight to ten flowers; fine reddish lively crimson.

63. *Vase d'Election* (Ducher).—Moderately vigorous, flower very full, cupped, clear rose, peduncles strong, good carriage.

64. *Xavier Olibo* (Lacharme).—Shrubby, vigorous, flower large, full, well made, velvety black, shaded amaranth, and very fiery.

65. *Wm. Bell* (E. Verdier).—Shrubby, very vigorous, flower very large, very full, globular, well made, lively cherry red.

PERPETUAL NOISETTES AND BOURBONS.

66. *Baronne de Maynard* (Lacharme). — Shrubby, vigorous, medium, well shaped, pure white.

67. *Madame Gustav*, Bonnet (Lacharme). — Shrubby, vigorous, medium, full, virgin white, shaded rosy carmine, very floriferous.

PERPETUAL MOSS.

68. *James Veitch* (E. Verdier).—Shrubby, vigorous, flower medium or full, in corymbs of three to eight blooms, deep violet slate, shaded rosy carmine, very perpetual.

Fearing to monopolize too much space, I must defer criticism on these as well as upon Mr. Wm. Paul's new seedlings, to be sent out in May, 1865, and of which it is quite refreshing to read the descriptions after the monotony of the above list.

*Homerton*, 1864. W. D. Prior.

## BRITISH POLYPODIES.

(*Continued from page* 225.)

*Polypodium Robertianum.*—This is well known by Smith's name as *P. calcareum;* it is the limestone polypody. *Rhizome* creeping, branched, nearly as thick as a lead pencil, dark brown, scaly, and covered with dark coloured fibres. *Stipes* longer than the frond, stoutish, stiff, brittle, pale green, with a few scales at the base. *Fronds* dull greyish green, firm, and covered with glands, which give them a mealy aspect, bipinnate. *Pinnæ* opposite, the lowest pair largest, short stalked, the next pair short or sessile, the upper all sessile, becoming less and less divided towards the point. *Pinnules* of lower pinnæ longer on the under-side, of the rest nearly equal. *Sori* scattered over the fronds, small, circular, submarginal. *Spore-cases.* pale brown.

This fern is by no means one of the most beautiful of this interesting genus, but it is nevertheless indispensable in even a limited collection, for it has a distinct and interesting character, and may be known by its grey mealy appearance, and its general resemblance in outline to P. dryopteris, from which it differs chiefly in its more robust and leafy appearance, as well as by its colour. It is usually met with in limestone districts, where it mostly haunts damp fissures and hollows in which there is a collection of ancient debris, and it is frequently associated with some interesting mosses. It is tolerably plentiful, especially in the northern parts of England and in Wales. In Europe it has many localities, and it is a native also of the Himalaya, of various parts of North America and Canada.

It is very amenable to cultivation, and bears exposure well; in fact, it rivals P. vulgare in this respect, and both these may be planted on the

summit of a rockery, though with moderate shade they attain to greater luxuriance. The only important point in its cultivation is to render the drainage secure. If placed in a damp hollow, it is pretty sure to perish during winter, but in an elevated position it is one of the hardiest ferns known. The soil may be either leaf-mould, peat, or sandy loam; and, though it would seem to require limestone, because, when growing wild, it is generally found on a calcareous soil, it nevertheless thrives equally well without it, provided the station is suitable in other respects. My plants are large and strong, having been planted complete in the first instance; but some odd scraps of rhizome, put out in June last, are now robust specimens, having made a remarkably free growth this season. They are all planted in a mixture of about equal parts silky loam, sandy

POLYPODIUM ROBERTIANUM.

peat, and broken hearthstone, this last material being of great service in fern culture.

*Polypodium alpestre.*—The Alpine Polypody. *Caudex* short, dividing into scaly crowns, from which proceed terminal fronds. *Stipes* short, stout, sparingly clothed with pale brown scales. *Rachis* stout, its branches furnished with a narrow leafy wing. *Fronds* averaging eighteen inches in length, erect, dark green, lanceolate, bipinnate. *Pinnæ* broadly linear. *Pinnules* ovate-oblong, connected by the wing of the rachis, deeply pinnatifid. *Sori* at first distinct, afterwards confluent. *Spore cases* brown, numerous.

This fine fern differs from other British polypodies in forming distinct crowns instead of extending by a creeping rhizome. Its light and elegant appearance causes it to be sometimes mistaken for the Lady-fern, a mistake, however, which will never occur to those who have had a little experience in the determination of species, as it is both less elegant, be-

POLYPODIUM ALPESTRE.

cause less finely divided, but also different in the contour of its fronds, the width of which decreases towards the base, whereas in the Lady-fern the frond is widest at the base. It is rather scarce in Britain, being confined to a few localities in the Highlands of Scotland, but it is widely dispersed over Europe, especially in the mountainous regions of Norway, Sweden, Lapland, and Switzerland. It is, as might be expected, very hardy, and it bears exposure well, though it has more beauty when moderately shaded. I have some fine tufts planted in deep pockets near the base of the bastion, where they are completely shaded from the sun, and are planted in the common loam of the place, tempered with a small admixture of the dust of broken crocks. It is a good pot-fern, and excellent to grow in quantities for grouping in jardinets and rustic baskets. It cannot be increased rapidly except by seeds. If propagated by division, the cultivator must wait till it has formed several distinct crowns, which at the end of the season may be separated with a portion of root to each. These should be potted in small pots, well-drained and filled with sandy peat, and when the fronds begin to rise in spring, they may be planted out where they are to remain, or be shifted to larger pots. If planted in the rockery immediately after division, some of them may perish during the winter.

There are a few beautiful varieties of this fern. *V. flexile* is of slender form, and more flaccid than the species. *V. lanceum* has large stout fronds, and the pinnules are deeply pinnatifid with obtuse serrated segments. *V. tripinnatum* has large, stout, tripinnate fronds, pinnules an inch or more in length, with oblong secondary pinnules.

*Polypodium vulgare semilacerum.*—Two years ago, a frond, with a mere scrap of rhizome attached, was sent to me with other ferns to be named. It had been some days in the letter before it was seen, but, being still tolerably fresh, it was carefully potted and shut up in a cold frame. In due time it began to throw up fronds, and it is now a grand plant filling an eight-inch pot. It is a lovely fern, and occasions no trouble as a pot plant. I have never grown it out of doors. For notes on other varieties of P. vulgare, see Floral World, 1864, p. 49.

## THE CROCUS.

The best way to use crocuses in beds and borders, is in clumps of five to ten bulbs of one colour to each clump. A magnificent effect may be produced by marking off a border in three lines, and planting in those lines clumps of yellow, white, and blue respectively. A long straight border would look best in four lines, white being the boundary on each side, and yellow and blue side by side between them. To do justice to crocuses the soil should be sandy, deep, and rich, and they should remain undisturbed for three years. They should then be taken up, divided, and replanted. They increase rapidly, and in the course of a few years every part of the garden may be furnished with them, even if there be but comparatively few to begin with in the first instance. It is the planting them too late, in bad soil, and in spring chopping their leaves and bulbs about—a feat in which jobbing gardeners are very anxious for distinction—that must be taken account of in considering the causes of degeneracy or the total disappearance of crocuses from gardens where they were once plentiful.

When grown in pots they form charming decorative objects for the drawing-room, and as the best of the named sorts serve admirably for this purpose, there is the additional enjoyment of seeing the best forms and colours which have been produced in crocus flowers.

## NOVEMBER, 1864.—30 Days.

Phases of the Moon.—First Quarter, 6th, 11h. 53m. after.; Full, 13th, 5h. 33m. after.; Last Quarter, 21st, 7h. 17m. morn.; New, 29th, 7h. 17m. after.

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 month of the year, but storms frequent, and much atmospheric moisture.

| D M | Sun rises. | Sun sets | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Anniversaries, Meetings, etc. |
|---|---|---|---|---|---|---|
| | h. m. | h. m. | Morn. | After. | | |
| 1 | 6 56 | 4 31 | 8 46 | 5 40 | Fine; wind and rain | All Saints |
| 2 | 6 58 | 4 29 | 9 47 | 6 28 | Rain; wind; bar. 28·857 | Robert Errington born, 1799 |
| 3 | 7 0 | 4 27 | 10 41 | 7 25 | Slight clds.; boisterous | Battle of Hohenlinden, 1800 |
| 4 | 7 1 | 4 25 | 11 29 | 8 29 | Overcast; boist.; rain | *Royal Hort. Society of Ireland* |
| 5 | 7 3 | 4 24 | After. | 9 38 | Rain; wind; rain | Day breaks, 5h. 7m. |
| 6 | 7 5 | 4 22 | 0 44 | 10 51 | Fine; thinly clouded | 24th Sunday after Trinity |
| 7 | 7 7 | 4 20 | 1 15 | Morn. | Cloudy; rain; boist. | Victor Emmanuel at Naples, 1860 |
| 8 | 7 8 | 4 19 | 1 42 | 0 9 | Rain; wind; bar. 29.80 | *Cent. Hort. N. Cole, "Fruit Trees"* |
| 9 | 7 10 | 4 17 | 2 9 | 1 28 | Clear; clear and frosty | *R.H.S. Chrysanthemum Show* |
| 10 | 7 12 | 4 16 | 2 37 | 2 46 | Frost; fog; rain; frost | *Bristol and West England Show* |
| 11 | 7 14 | 4 14 | 3 5 | 4 5 | Fog; cloud; sharp frost | St. Martin |
| 12 | 7 15 | 4 13 | 3 38 | 5 26 | Clear; fine; frost | Revolution of Berlin, 1848 |
| 13 | 7 17 | 4 11 | 4 15 | 6 42 | Light clouds; mild | 25th Sunday after Trinity |
| 14 | 7 19 | 4 10 | 5 1 | 7 53 | Cloudy; fine; cloudy | *Tower-Ham. Chr.—Sth. Essex Chr.* |
| 15 | 7 21 | 4 8 | 5 53 | 8 58 | Cloud; fine; cloud; fine | *Brixton-Hill Chrysanthemum Show* |
| 16 | 7 22 | 4 7 | 6 49 | 9 52 | Dense clouds; rain; fine | *Metropol. Amal. Chrys.* 16th—18th |
| 17 | 7 24 | 4 6 | 7 50 | 10 38 | Densely clouded | Relief of Lucknow, 1857 |
| 18 | 7 26 | 4 5 | 8 54 | 11 15 | Fine; cloudy; fine | Funeral Duke of Wellington, 1852 |
| 19 | 7 27 | 4 3 | 9 59 | 11 45 | Fine; cloudy; fine | Battle of Arcola, 1796 |
| 20 | 7 29 | 4 2 | 11 2 | After. | Cloudy; hazy | 26th Sunday after Trinity |
| 21 | 7 31 | 4 1 | Morn. | 0 35 | Cloud; wind; cld.; rain | *Sth. Lond. Chry., Horns, Kennington* |
| 22 | 7 32 | 4 0 | 0 5 | 0 57 | Clear; cloud; rain | St. Cecilia |
| 23 | 7 34 | 3 59 | 1 8 | 1 17 | Fine; rain; mild | Twilight ends, 6h. 0m. |
| 24 | 7 36 | 3 57 | 2 12 | 1 39 | Constant rain; drizzle | Antwerp surrendered, 1832 |
| 25 | 7 37 | 3 57 | 3 17 | 2 2 | Cloud; fine; mild | Michaelmas term ends |
| 26 | 7 39 | 3 56 | 4 22 | 2 29 | Cloud; fine; cloudy; fine | Sandwich Islands discovered, 1778 |
| 27 | 7 40 | 3 55 | 5 28 | 2 59 | Cloudy; fine; cloudy | 1st Sunday in Advent |
| 28 | 7 42 | 3 54 | 6 35 | 3 37 | Fine; frost at night | Twilight ends 5h. 57m. |
| 29 | 7 43 | 3 54 | 7 38 | 4 22 | Frost; fog; fine; frost | American Indep. recognized, 1782 |
| 30 | 7 45 | 3 53 | 8 36 | 5 16 | Hazy; fine; cloudy | St. Andrew |

Probable Weather of November 1864.—The forecast of last month was verified by events, the break-up of the summer occurring on the 20th, as therein anticipated. November is likely to be a very agreeable month throughout. From the 1st to the 10th bright and warm, with wind S.W. to N. W. Thence to the 15th bright, with frosts, wind N.E. to E., and in northern parts a little snow. Thence to the end of the month changeable, bright days alternating with rain and fog. Wind N.W. and back to S.W.

## THE GARDEN GUIDE FOR NOVEMBER.

Kitchen Garden.—The most excellent results may be insured by deeply trenching the soil, and laying it up in ridges to be fully exposed to the weather. Many really bad soils become good soils when broken up deeply and mixed with a portion of the subsoil, even though that subsoil may be by itself as bad as the other. On deep yellow

loams, trenching two spits deep is equal any time to a dressing of manure, and generally of far more importance than any amount of manuring. Old garden soils are often sick and sour with manure, but a deep stirring buries the vermin at a depth at which they perish, and brings into action the fresh untilled earth beneath, with all its dormant powers ready for useful action under the influence of the atmosphere. It will always pay when labour is scarce to make work for labourers in deep tillage of garden and allotment grounds; the process is nothing less than a complete renewal of the soil wherever the material exists below for the purpose. Of course where there is only a thin layer of vegetable earth over hard rock or gravel, the case is different, but very often some of this unpromising material improves the staple when broken up and mixed with it.

*Asparagus and Seakale* may be forced by the roughest of methods where there are plenty of leaves and large deep pits. Any one can make up a forcing-bed, on a plot of spare ground, by means of a few boards to form the boundary of the pit, or turf walls where turf is plentiful. Five or six feet of leaves, without dung, will do very well, and when the roots are planted, rough boards put aslope to carry off rain and snow may be used to cover in lieu of glass frames. During hard weather any amount of dry litter may be heaped over, and a supply of either of these delicious vegetables be had for the mere cost of the roots in the first instance. As ample instructions have been given in this work for forcing these roots, we need not here go into detail, but we mention this rough-and-ready method as a hint to amateurs who want a little work for the winter, and who have not conveniences for forcing by hot water and other expensive methods. Seakale will pay the poor man best to force by impromptu methods, and this should be completely blanched; but asparagus should have air and light when the shoots appear, as it is valueless unless the tops have two inches or so of green growth.

*Cauliflowers* potted for keeping over winter should be kept rather dry, and as much as possible exposed to the weather, to keep them stocky and hard. Keep the lights or glasses on always at night from this time forth, removing them every morning, except during frost or drenching rains. In wet, muggy weather, tilt the lights upon blocks of wood or bricks, so as to create a circulation of air amongst the plants, and yet keep them from being soddened with water.

*French Beans.*—Our mode of forcing French beans reduces the labour considerably; and we advise its adoption where these delicacies are in demand during winter. Instead of pots, we use boxes six inches deep, two feet four inches in length, and one foot four inches wide. The boxes are made of inch deal, well pitched inside and out, with a few drainage holes. They are crocked all over at the bottom with small convex crocks, hollow side downwards. Over the crocks are laid lumps of rotted turf, and they are then filled to within one inch of the top with a mixture of rotten cucumber dung, leaf-mould, and turf, well broken together and pressed firm. The soil is then marked out in lines four inches apart all over, except next the sides of the boxes, where the lines are two inches from the side. This arrangement allows of seven rows the long way of the box, and four rows across—the whole four inches apart, and the outside rows two inches from the side of the box, over which the leaves and the outside plants project a little, the inch thickness of the wood being a gain for that purpose. We use either *Chinese Dwarf*, *Early Fulmer*, or *Newington Wonder*, preferring the second to the other two when we make only one sowing, with a good heat at command; but when we grow a few in early spring with very little artificial heat, we prefer the last named as the hardiest of the three. The seeds are sown an inch deep. When sown the boxes are placed on a tank or flue, and the plants show about eight days afterwards. As soon as the seed leaves are developed, the plants are earthed up with a mixture of rotten dung and leaf-mould, which is spread between them, and pressed moderately firm as high as the seed leaves; and after this operation there is nothing more than ordinary care required to secure a good crop of beans.

*Lettuces.*—Treat as recommended for cauliflower.

*Peas and Beans.*—Sow at a risk Dillistone's Early, Sangster's No. 1, and Advancer peas, Beck's Gem and Mazagan beans. In low situations, where snails and slugs abound, there is little chance of success. On high and dry positions they will probably endure the winter, and come in earlier than spring-sown crops. Aspect is not of so much importance as dryness. Raised borders under walls facing south are generally chosen for these sowings; but an exposed position, if dry, will be nearly as safe. The usual causes of failure are damp and vermin.

*Seakale* may be planted now in well-prepared ground in well-drained positions; where the soil lies low or damp, however, it

should not be planted till the spring. In any case, the ground must be deeply trenched and liberally manured, and the manure thoroughly incorporated with the soil. Begin forcing now by first covering the stools with conical mounds of sand or coal ashes (not leaves, which spoil the flavour). Place the seakale pots over as many stools as are to be started now, and fill the spaces between and over the pots with a mixture of stable dung that has been once turned, with leaves, straw, and other litter, beating it firm as you proceed, and leaving the whole smooth and tidy nine inches above the top of the pots.

*Seakale in Pots.*—Where only small quantities of seakale are required, it may be forced very conveniently and cleanly in pots. Pot the roots singly in 24-sized pots, in a mixture of leaf-mould, rotten dung, and sandy loam, equal parts. Place the pots on the top of a brick flue or on a gentle hotbed, the bottom-heat not to exceed 60°. Invert over each pot another empty pot, stopping the hole of each with a piece of flat tile, over which press a lump of clay.

*Drainage.*—About three-fourths of the complaints that reach us of the misbehaviour of fruit trees, and the failure of vegetable crops, and the unsatisfactory blooming of roses and many other things, have one common origin—the want of drainage. We see people labouring away at the surface, raising the level by additions of soil, manuring liberally, removing plants that have not prospered, and planting others in hope of better luck; and we can tell them when all is done, that until they secure the first essential of success—a rapid removal of surplus water—there can be no success to their efforts, manure and plant as they may. At this time of year you have but to open a hole one spade deep, and in less than ten minutes that hole will be filled with water, which proves that the whole surface soil is saturated, and that any cavity, tunnel, or opening would immediately draw off the surplus water according to the capacity of the opening, and that therefore very simple and inexpensive means would suffice to enable the soil to get rid of the water which is in excess of its power of absorption. A two or three-inch pipe laid at a regular fall of about two feet beneath the surface will effectually drain a breadth of from 20 to 100 feet in width, according to the nature of the soil and its relative level. Generally speaking, the drains should be three feet deep and twenty-four feet apart; but in a wet clay they will not be too close at twelve feet apart. In districts where there is any apprehension of the disturbance of the drains by moles, one-inch pipe should be used. On very flat land a fall of 1 in 50 will suffice to keep the water moving; but a rapid fall is preferable if the outlet is low enough to admit of it, as in times of sudden heavy rainfall a quick removal is desirable. Of course we cannot here enter into the details of the subject; but as this is as good a time as any to drain land that requires it, we again remind our readers that good drainage promotes the warmth and fertility of the soil; and, on the other hand, a water-logged soil is almost poisonous to every kind of plants that come under the care of gardeners.

Fruit Garden.—*Currants and Gooseberries* should now be lifted if required, as the next year's crop will be less jeopardized by getting them early to the places in which they are to fruit. Fork in a good dressing of manure between the trees in old plantations. Put in cuttings of choice sorts; the cuttings to be straight ripe shoots of this year, and all the lower buds removed, so as to prevent the throwing up of suckers.

*Fruit Trees* to be planted as soon as possible; manure not to be used unless the ground is in a poor condition, and then a little fresh soil should be used with it if possible. Turf from the roadside, clay, clearings of ponds and ditches, are excellent materials to invigorate an old worn-out soil required for fruit culture, as also to give body to poor sandy and chalky soils. In planting, keep all roots near the surface; never plant any tree deeper than it was planted before, and if it was evidently too deeply planted before, give it a better chance than it had previously by more shallow planting. Stake as soon as planted, to prevent rocking by the wind, and at the same time prune.

*Raspberries* to have the old canes cut away, the new canes thinned to three or four of the strongest to each stool, and a good mulch of half-rotten dung laid down over their roots, and the ground between them *not to be dug at all.*

Fruit House.—*Peaches* in the forcing-house to be pruned at once; the roots top-dressed; the branches washed with a paste of clay and Gishurst, or clay, lime, and sulphur, and the lights put on. But give plenty of air. Vacancies may now be filled up in the peach-house, and nothing better for the purpose than bearing trees. In many gardens a reformation is taking place in the cultivation of peaches. Healthy trees producing but small crops on open walls are being removed and planted in Paxtonian houses, which by their steep pitch and abundant ventilation are admirably adapted for fruit culture. Generally where peaches

are unproductive on open walls the climate is most to blame, and the mere protection of glass, even without fire-heat, suffices to convert barren into fruitful trees; besides the fact which must always be borne in mind that trees under glass invariably get more attention than those in the open air. River's *Early Victoria* is the earliest peach known, a week earlier than Early York. The same raiser's Early Albert is a good peach for forcing, but of less value than the former. Other good varieties to force are *Mignonne Grosse, Galande, Early York,* and *Red Nutmeg.* In planting peaches on open borders, let attention be first given to drainage; if the soil is light, lay down six inches of tenacious loam or clay, or turf from a loamy pasture, and about three inches of rotten dung, and then stir the whole, and mix this material with the staple to a depth of two feet, mixing the ingredients well together. The peach, nectarine, and apricot all require a firm, substantial, and somewhat adhesive soil, a south aspect, and a dry bottom.

Flower Garden.—*Planting on Mounds* is beginning to be better understood, and more generally practised, and consequently we less frequently hear of losses among ornamental trees of delicate constitution. Three years since we had to advise on some trees of Wellingtonia in a suburban garden. They had been planted out on the lawn to form a group, and by sure and not slow degrees had lost all their freshness of colour, the lower branches and the tips of the new growth becoming browned during winter, so as to have a most unsightly appearance. Araucarias in the same style of planting were in a similar bad condition. We had them all lifted, the earth entirely shaken off the roots, and then replanted on mounds made up of yellow loam from Wanstead. The mounds were two feet high, the roots of the trees were carefully spread out, covered only just sufficient to hide them from the daylight, and then staked with three stakes, each placed at an angle, in the style in which soldiers stand their muskets in groups of three on parade. They are now pictures of health and beauty. All choice conifers that require a dry soil, or that are in any way susceptible of the effects of damp, should be planted in this way, and with a little management their lower branches can be trained down so as to sweep the ground all round, and make pictures of them.

*Roses* planted now, though with leaves still on them, will begin to make fresh roots at once. In any case make the ground ready by manuring liberally where roses are to be planted. Briers worked this season may be lifted now, but they should never have a place in the rosery till they have made at least one full season's growth from the first starting of the buds. Plant firm, and stake at once.

*Slugs and Snails* are now very active during mild weather, preparing perhaps to make a good fill before hybernating for the winter. It happens that most people have time now to trap them, which they generally say they have not at other seasons. Brewers' grains or buttered cabbage leaves are the best traps known for these destructive vermin. They will leave any other food for these attractive baits, and may be trapped wholesale by inverting large flower-pots tilted off the ground by means of a few sticks over heaps of fresh brewers' grains.

Tulip beds now to have the hoops placed over to be ready for mats or other covering in case of heavy rains. But the bed should be freely exposed for the present; there is nothing gained by covering too soon.

Greenhouse.—*Camellias dropping their buds* are the subject of frequent complaint. We have frequently advised the use of liberal waterings after the buds are set and the wood as hard as necessary, and we can only repeat that in the majority of cases the buds drop because the roots are dry. But watering on the ordinary plan is not always a remedy, for while the plants were out of doors in the summer the soil about the roots may have got hard and impervious to water, and now when water is given it all runs away next the side of the pot without moistening the roots at all. The remedy is easy enough. Fill a tub with soft water, to which add a quart or so of boiling water, to make the whole nearly tepid. Then lower the plants into it a few at a time, and let them soak for an hour. The rush of air bubbles from the pots will prove what a dry state the roots had come to. After this soaking they will take water kindly until they get their next baking, which we shall suppose will not take place till next summer again. We serve all hard wood plants this way that have been some time in the same pots, as it is next to impossible to prevent the occasional hardening of the earth about their roots, and this sometimes happens in winter, when, owing to long-continued frost, water is withheld for a week or two.

*Frozen Plants.*—As with the best precautions valuable plants will sometimes get wholly or partially frozen, a word of advice now may be useful all the winter through. To recover frozen plants the safest procedure is to keep them *in the dark* till they thaw, and to let the thawing take place *slowly.* A dry *still air* is also essential; a frozen plant placed in a draught, in the sun-

shine, or in undue warmth, even if in darkness, will probably go to a pulp as soon as it is completely thawed; but if thawed slowly in dark and stillness will recover, if the freezing has been only to a moderate degree. These remarks refer chiefly to half-hardy and greenhouse plants, such as geraniums, etc., etc., but they apply also to hardy plants when the frost catches them out of the ground, as, for instance, trees on their way from nurseries, if the roots get frozen they suffer much unless thawed in the dark, as advised for plants of more tender constitution.

*Greenhouse.* — At every opportunity pass the whole of the plants through a careful hand, whose duty it will be to remove dead leaves, trim away dead snags or mildewed shoots, give water if needful, and see that the drainage of the pots is safe. Once a month at least this should be done from October to March, and for lack of such a rule many valuable plants are lost, for many shrubs will appear still green and lively long after they are absolutely dead at the collar through a stoppage of the drainage. Use tepid water to all plants in a growing state, and as little as possible to everything, so as to avoid as much as can be the use of fire-heat. Remember, the more moisture the more heat and the more air, and *vice versâ*. If you cannot give air or use fire, then cease to give water, and keep all paths and stages clean.

*Primulas and Cyclamens* to be kept in the warmest part of the house, and have every encouragement to push forward for bloom. Keep these near the glass, where there is no drip.

*Spring Flowers* to be thought of now, so as to secure a proper succession of Cyclamen, Primula, Cineraria, and a few potted Pansies. The chief point in managing these things is to keep them as near the glass as possible. Give water very carefully, to guard against damp at the collar, and let them have as much air as possible consistent with their forwardness and the state of the weather. Those to be pushed on for a first supply keep in warm greenhouse temperature, and constantly look out for fly which will revel amongst them if not checked in time.

*Succulent Plants* must now be arranged in their winter quarters. In a mixed collection the best place for them is a top shelf in the full light, and where they are not likely to suffer by drip. The requirements for their winter safety are a dry position, plenty of light, air when needful, and security from frost. Give them no water from this date, or at most water with caution only such as obviously need it; and any in active growth or flower keep warm until they go to rest.

Vinery. — *Vines* grown in pots for forcing for early grapes may now be shifted into large pots, and the safest way to do it will be to shift pots and all, and without turning out the roots of the vines. Prepare the 12-inch pots with crocks and a few inches of compost; enlarge the drainage holes of the pots the vines are in, then place these pots inside the larger pots, and fill in with tough turfy compost; the outer pot will soon be full of roots, and the vines may be allowed to carry all the bunches they show, and when these are ripe the vines should be destroyed. Vines to rest from this time to be pruned at once; in fact, early pruning is the only safe method of preventing bleeding.

Stove. —*Forcing* to be commenced now, and in accordance with hints already given preparatory to it. First clean the glass, to make sure of the utmost possible amount of light; then get together the fermenting materials—leaves and sweet dung chiefly, and over this lay six inches of tan or spent hops to plunge the pots in. Put in nothing but what has been prepared for the work, and has ripe wood and well-formed flower buds. Azaleas, Camellias, Gardenias, Roses, hybrid Rhododendrons, double Plums and Peaches, double Cherry, Weigelias, Tree Pœonies, Chimonanthus fragrans, Rhododendron ciliatum, Cytissus Atleeana, Kalmias, Andromeda floribunda, Daphnes, and Jasminum nudiflorum, are all cheap and easy subjects to force, and all beautiful in their season. It requires more skill, and a good stove, to manage Poinsettia pulcherrima, Euphorbia Jacquiniflora, Achimenes, and Gloxinias nicely, but these may be forced in dung-heat where there is plenty of room, plenty of material, and some experience at command for the purpose.

Orchid House.—*Orchids* at rest to be kept moderately dry and ventilated. Endeavour to make them rest completely, as if they do not enjoy a season of complete repose, they will not bloom so satisfactorily next season. Those that do not naturally rest to have the warmest positions, but even these are not now to be encouraged to grow more than sufficient to keep them in health. Now is a most convenient season for a general examination of the stock, and the renewal of blocks, baskets, etc., for improving the effect of the grouping and arrangement. Repot any that require it, and let every plant undergo an examination, during which the surface material should be wholly or artially removed.

Pits and Frames.—*Auriculas, Carnations, Picotees, and Pansies in pots* to have air frequently, to prevent mildew; slight frosts will not hurt them so much as a confined and damp air; take off the lights in the morning, and keep them off till the sun is nearly quitting the frames, then shut up, and there will be enough warmth retained to counteract the frost without. In damp, dull weather, tilt the lights only to admit a slight current of air through, and at every opportunity when the weather is genial take the lights off, clear away dead leaves, gently stir the surface of the soil in the pots, and give a little water if needed.

*Auriculas* must be kept clean and dry; any drip from the frames will do incalculable mischief; at no time, not even during frost, should the roots be dust dry; it causes an exhaustion of the plant which will tell seriously on the bloom hereafter.

*Carnations* will often be found beset with green-fly during damp warm weather at this time of year; in which case fumigate at once, and again a few days afterwards, and they will probably remain quite clean till they begin to grow again in spring.

*Cucumbers* to be kept safe as to bottom-heat, or they will begin now to drop their fruit, or to show canker at the collar. Be prompt, therefore, to renew the linings, if needful, where fermenting material is used. Recently collected leaves will with the help of dung once turned yield a very steady heat, and the better in large masses.

*Pines* require very careful management now, for we have warm sunshine one day, and perhaps fog and frost the next. There ought to be a command of more heat than is absolutely required, which is easy enough with hot water, but not so easy with fermenting material, so as to keep the temperature of bottom and top pretty uniform, in spite of changes of the weather. As a comparative state of rest will be good for all classes of pine stock now, a bottom-heat of 65° for a minimum and 70° maximum, top heat of 55° min. and 65° max., will be safest for the plants. Supply water according to the state of the weather; take advantage of bright open weather to water pretty liberally, raising the heat and giving air at the same time; and when frost and darkness recur, withhold it as long as will be safe, but not to cause exhaustion.

Greenhouse Plants in Flower.—*Acacia corymbosa.*—This fine species rarely does much good in a common greenhouse at this time of year; its leaves are apt to fall prematurely, and though in a good compost and well-drained, the plant often has the appearance of being waterlogged. The fact is that Acacias, one and all, require *a drier atmosphere* than it is possible always to accommodate them with. If the house can be kept dry and airy, Acacias will always do better than in a humid atmosphere suitable for most other hard-wooded plants.

*Coronilla glauca* is now going out of bloom, but young plants struck early and grown on generously will sometimes bloom profusely at this time of year. The variegated-leaved variety of this species is one of the most beautiful of greenhouse shrubs.

*Globulea hispida.*—A low-growing succulent from the Cape, with white flowers. It belongs to the family of the house-lecks, and requires the same treatment as the rest of its class, very effectual drainage, and a soil composed of equal parts broken bricks, sandy loam, peat, and thoroughly decayed cow-dung.

*Leonitis leonurus.*—This plant is much esteemed on the Continent, and is a common inhabitant of the Belgian gardens, in this country it is scarcely known. It is a labiate, producing pretty scarlet blossoms, and grows to a height of three feet. Ordinary greenhouse treatment.

*Tree Carnations* are now coming to perfection for the conservatory, and are among the very best of winter flowers. Many growers entertain a bad opinion of them through having had palmed upon them plants of the florists' class of carnations which it was found impossible either to flower well in winter or to grow to a tree-like form. The true kinds are invaluable, and just the sort of subjects in which an ambitious gardener will desire to excel, for they may be brought to most elegant forms, and their splendid colours and fragrance are unsurpassed in the whole range of winter flowering plants. To do them justice, begin early in the year to grow the plants slowly in a cold pit with a western exposure, or in an airy greenhouse. When the plants have made a few strong shoots, pinch them back, to promote a bushy habit. Continue to pinch as required, and if any bloom buds appear before the end of September or October, pinch them out as soon as seen. After the end of June place the plants in the open air, on a bottom of tiles, stones, or slates. House early in October; keep well aired, and towards the end of the month use a little fire-heat if the weather is frosty. A firm turfy loam with a small proportion of manure is the best soil for them.

*Tropæolum Lobbianum* is a magnificent

winter blooming kind. Cuttings struck in August will bloom profusely till the spring in a warm temperature near the glass, and a poor soil well drained. The two which please us most for taking up a rafter are Lilly Schmidt and Triomphe de Hyris. For small pots, the double orange Nasturtium and Crystal Palace Gem are charming. Henderson's Ball of Fire is also first-rate.

## NOTICES OF BOOKS.

*Bee-Keeping.* By the TIMES BEE-MASTER. Sampson Low and Co.—The "Times Bee-Master" is Dr. Cumming, the well-known divine, and author of various works on the prophecies, etc. From a writer enjoying a well-earned reputation in theological literature, the public had a right to expect an original, truthful, and thoroughly practical work on Bees; that is to say, if Dr. Cumming chose to employ himself in such a task. It is a mistake altogether; it will damage his reputation, and cause some hard things to be said as to his literary honesty. It consists for the most part of extracts from other writers on the subject. These are put together in some such way as country wives in olden time made their patchwork quilts, that is, with the least possible regard to order and harmony, and by fitting in a piece of any quality or colour wherever a place would be found for it. So much for its originality. As to its truthfulness, it is absolutely unjust to the authors drawn upon so unsparingly for information; exploded blunders are here revived, and important discoveries of recent date are wholly ignored. As to the practical part, let any of our readers who may be foolish enough to purchase it, read the description of the method of taking a super (p. 137), and by that judge if they would like to follow the instructions of the "Times Bee-Master" in the pleasant and profitable occupation of bee-keeping. It is rather odd that the process, of which the Dr. has a foggy notion, was described in the "Garden Oracle" of 1863, and the Dr. might have transferred the description by means of his well-used scissors, and it would have been of some value to the few readers he may have. His descriptions of hives are of no use at all, his engravings are copies, and the whole affair an imposition. We may reasonably suppose that the respectable publishers of the volume relied on Dr. Cumming's literary experience, and expected a book which would have been a credit to them, instead of which it is a disgrace. However, they did their part well, for the book is beautifully got up, and being rich in extracts, will, to persons who are not bee-keepers, prove entertaining.

*Outlines of Roman History.* (Ince and Gilbert's series). By the Rev. E. BOGER, M.A., head master of St. Saviour's Grammar School, Southwark, and late Fellow of Exeter College, Oxon. An excellent little work, perhaps the best of its kind, written in an interesting and readable style, not only useful for the young, but also for those of riper years, who wish to refresh their memories upon the course of events in the rise and progress of the once "mistress of the world." The table of contents is especially valuable, forming in itself a compendious record of the salient landmarks of Roman history.

## TO CORRESPONDENTS.

POLYGALAS, ACACIAS, LAPAGERIA ROSEA, ETC.—Will you kindly tell me in your next number what sort of treatment Polygalas like? Shade or sunshine, an airy or a close house, warm or cool, wet or dry in winter, and when is the best time for potting them? Should they be cut back at all? I have one tiny cutting of a year old, besides two large plants, all tolerably healthy. Will acacias do well for the winter in a shady house facing west? They have been out all summer, and are well ripened and full of buds. Or would a light sunny house facing south suit them better? All my houses are lean-to ones. Which will best suit camellias now? And how can I get worms out of their pots? I have tried lime-water and bumping the pots to frighten the worms. I have lifted one

or two out of the pots, but the worms retire to the centre of the ball, and I fear to disturb the roots. I told you some months ago of my Lapageria rosea, with my contrivance for dropping water on it constantly (Floral World, 1863, p. 233). Last July I had a box prepared — feet long, — feet wide, and 18 inches high, filled with peat, and set in a zinc tray. A little tank is fixed against the wall above it, with a small gas-pipe, which comes down to and reaches along the box. There are tiny holes in the underside of the pipe, from which the water drops constantly, keeping the peat sopped day and night. A gas-tap regulates the flow of water. From the zinc tray a small pipe carries the drainage along the conservatory, and down to a soot-tub below. In this box my Lapageria rosea was planted in July, and after being quiet for four or five weeks, it began to grow at the rate of half an inch a-day, throwing up strong shoots. It seems to have stopped for awhile now, but looks very healthy. I have found the bed of wet peat an excellent thing to strike many sorts of cuttings; acacias, pelargoniums, pomegranates, fuchsias, genistas, all take without any trouble, and form good roots. Do all the sorts of gold and silver ferns dislike syringing? All those which I have in pots I have set upon damp cocoa-nut refuse, two or three inches deep, and they seem to like it extremely. Would it suit begonias? I have some gloxinias which are only now coming into flower when I have not heat to bring them out. How can I persuade them to flower earlier in the year? Others kept in the same house have done flowering a month ago.—*H. R.*

[Greenhouse polygalas are Cape plants, requiring but little care, and not worth cultivating in quantity. That they may be formed into handsome specimens may be seen at all the summer shows, where *P. dalmaisiana*, *oppositifolia*, *cordifolia*, and *grandiflora* are usually shown in collections of greenhouse plants. They require a soil consisting chiefly of peat, with a little hazelly loam added, and to get up fine specimens, the usual routine must be resorted to of potting the plants on and stopping the shoots, to cause bushiness, until they are of the size required. The best time to repot will be after they have flowered. Your acacias will do best in the sunny house, and your camellias can be placed in the shady one. Acacias require a comparatively dry atmosphere. If we could secure them this, many would, no doubt, prove quite hardy that are at present tender. Prepare a tub full of liquid manure of moderate strength; if it consists of diluted house sewage (in which the principal ingredients are urine and soapsuds), it will suit admirably. Plunge the pots containing the camellias to the rim in this tub for an hour, and every worm will be dislodged: they will, in fact, come out and die in the bath, and the camellias will probably be benefited by the soaking. Your Lapageria will, no doubt, do well. You forgot to add the measurements of the box, so we cannot judge whether you have given it sufficient root room. You must now lessen the water supply. As a rule, gold and silver ferns are injured if syringed: the syringe not only washes off the powder which colours the leaves, but induces mildew. A damp atmosphere with warmth is essential to their well-doing, and the same treatment will suit begonias. The time at which gloxinias flower depends on the time at which the bulbs were started. You can only secure early bloom by starting them into growth earlier.]

Monster Vegetables.—Some time ago we received from "A. C.," one of the oldest subscribers to the Floral World, a series of questions, replies to which we were requested to forward to an address given by the writer, who stated that he was on the eve of departure for New Zealand. The letter came into our hands at a moment when we were so hard pressed with work that we were compelled to put it aside, and it has lain aside from that time till now. On again perusing it, we observe that "A. C." remarks, "I have made an arrangement with my friends here to forward the Floral World to me every month." Therefore, a reply in this place will probably fall into "A. C.'s" hands in due time, and prove, we hope, as useful now, and in this form, as if we had communicated privately as he wished in the first instance. The queries, with their capitals and italics, are those of "A. C." To each of them we have appended our reply, and should any of our practical readers consider our replies incorrect in any particular, we shall be glad to hear, especially as the queries have such a peculiar and distinctive purpose:—1. Name the Broad Bean which has the *longest pod and largest bean?—Minster Giant Longpod* has longest pod, *Taylor's Windsor* largest bean and the best flavour. 2. The Dwarf French Bean which has the *largest and longest*

*pod?—Negro Long-podded.* 3. The RUNNER BEAN which has the *longest and largest pod?—Giant White.* 4. The *largest* BEET?—*Common Red.* 5. The *dwarfest and quickest hearting* CABBAGE?—*Dwarf Early York, Shilling's Queen,* or *Sutton's Early Coombe.* 6. The *largest* CABBAGE for culinary purposes?—*Large Paignton, Sprotboro',* or *Wellington.* 7. The *longest and largest* CARROT?—*Altringham.* 8. The CAULIFLOWER which has the *largest head?—Leornard's* or *Statholder.* 9. The *largest* CELERY?—*Laing's Mammoth Red.* 10. The *longest and largest* CUCUMBER grown?—*Improved Manchester Prize,* but *Dr. Livingstone* not quite so large, is better. 11. The *largest* Cos LETTUCE with a white heart?—*Carter's Giant White.* 12. The *best-flavoured* SCARLET FLESH MELON?—*Scarlet Gem.* 13. The *best-flavoured* GREEN FLESH MELON?—*Bailey's Green Flesh.* 14. The *largest* PARSNIP for culinary purposes?—*Guernsey.* 15. The PEA which has the *largest pod and largest pea in it?—British Queen,* which is also the finest pea known for fruitfulness and flavour. 16. The *longest* SCARLET RADISH!—*Beck's Long Scarlet.* 17. The *largest* WHITE TURNIP for culinary purposes?—*Pomeranian.*

FILBERT CULTURE.—*E. C.*—The Kentish system is a good system, because it keeps the trees down in the form of bushes, but it is generally very rudely practised. Rooted suckers are planted in the first instance; these grow two years, and are then cut down. The result of this is a vigorous shoot, and only one is wanted. This, after a season's growth, is headed back and disbudded, and at a foot from the ground, and by a regular course of pruning a round compact head is formed. In the early stages of the pruning the future growth is alone considered, and the shoots are cut so as to promote the growth of buds directed outwards, the leader and the central shoots being removed altogether, and the tree formed to a stem not more than a foot high, and an open head not more than five feet high. When they come to bearing condition, great care is taken to preserve a certain number of the young shoots, and the sprigs which come from the part where the shoots of the preceding year were shortened, as on these are produced the female blossoms. As for the male blossoms, a certain number are of course left, but the pruning can never be effectually performed without removing a considerable number of them, and of female blossoms also. But to enable the pruner to proceed with certainty, pruning is always deferred till the spring, when the male blossoms are conspicuous.

YELLOW ROSES.—I have been reading your book on the culture of roses, more especially with regard to yellow roses, and I am induced to risk an observation which you may carry out better than myself. Some years since I spent several weeks in the course of the summer at the village of Porloch Weir, a few miles below Minehead, on the Bristol Channel, and in a fisherman's garden, formed on the shingle, grew the greatest profusion of yellow roses I ever saw, about the size of a common cabbage rose, both in growth and flower. His wife told me the reason they so seldom blossomed was that they were treated too well, not being by any means delicate, but required plenty of fresh air. A friend tried the plan on one he had treasured for several years, but never blossomed; he removed it into the grass lawn, into an open situation, and the following year it was a perfect mass of bloom. If this is a new idea to you, I hope it may be of use. I am a great lover of flowers, but have not the means to indulge in expensive beauties.—*A. G.* [There is certainly nothing new in a tea rose doing better on an open lawn than in some close and dark position, though "A. G." does not say why it "never blossom d well." But to hear of yellow roses blooming abundantly on the shingle at Porloch Weir is certainly interesting. The balmy air, moistened and warmed by the gulf stream, is no doubt the principal cause of the prosperity of the roses in the Bristol Channel.]

SENECIO, AMARYLLIS BELLADONNA, CRACKED GRAPES.—For the last three years my beds of American groundsel have been failures, notwithstanding the dry summer. I have not a bloom; they are nice grown, healthy-looking plants, but no bloom on them at all. Four years since the same beds with similar plants, were a picture. Belladonna lilies.—Do these roots bloom every year? Last year I suppose I had thirty spikes; this year I may have had a dozen, chiefly from three patches of roots, while six or seven other patches have shown no bloom. I have moved the roots this week, trenching the borders, and the roots are showing signs of throwing out the leaves, but no bloom. I generally buy a dozen roots for the house yearly, and then place them in the borders. In some gardens at Torquay the belladonna

roots increase and bloom wonderfully. My White Sweetwater grapes and a Muscatel have cracked very much this year, and one of the black grapes has failed in parts of the bunches, perhaps half a large bunch not ripened but shrivelled. How is the thrip to be kept from the vines? I have ferns in part of the grapery, and the gardener says the ferns infect the vines, and he cannot syringe the vines when fruiting, etc.—*A. B. S.* [We can give no reply to the Senecio query, not knowing whether you raise your stock from cuttings or seeds. All that belladonna lilies require is a warm, dry, sheltered border. The cause of the grapes cracking is want of water at the roots. When the berries were swelling, the border should have been frequently soaked. The gardener can and may syringe the vines all the summer long till the fruit begins to change colour; then let them be dry. No doubt the ferns and vines are both punished through want of moisture, and with a change in this respect there may be an end of thrip.]

Wire-worms.—Will you allow a subscriber from the first a few lines in a corner of some future number, to inquire if any of your readers have observed any similar result to that which I now wish to call your notice, and if not, to ask such of them as have more space at their command than I have, and are plagued with wire-worms, to try if the two facts are in any way connected as cause and effect. Two years ago a certain part of my little garden was so infested with these wretches, that I could not grow anything there; peas, lettuce, carrots, nothing came amiss to them; everything I planted they utterly destroyed, and in despair I had determined to abandon that plot of ground to entire neglect. Early last year, having a lot of stumps of the brassica tribe (chiefly Brussels sprouts, I think), which I was rather at a loss where to deposit, it occurred to me to try how the wire-worms would like a change of diet; accordingly, for a whole year after, I planted in this border all my old cabbage stumps, etc.; here they throve wonderfully, although planted as close as I could stick them—the ground had been well manured before I lost my last lettuce crop—and I had from them several good dishes of sprouts. Last spring, being very much pressed for room for my second planting out of lettuces, I ventured them in this border once more. Not one was lost by the leathern-coated little vermin; nor have I seen a single little beast of the tribe there. Now, I am most anxious to avoid the not uncommon fault of reasoning; and, therefore, ask if any such result has followed in other places, and if any of your readers who are plagued with wire-worm would think it worth while to try if the brassica tribe is offensive to them. —*A Lover of Lettuces.*

Chrysanthemum Cuttings.—Old chrysanthum stools take a great deal of room in a small garden, and as I grow twenty-four in 12-sized pots, I find them troublesome in winter. Another evil, on being kept in my conservatory, the suckers become weak and spent, and unfit to face the weather under cradles. I am this day taking off a sucker from each, potting it in a 60, and intend keeping them in a cold frame till March, then cutting off the top for a cutting. Will they degenerate by this treatment? if not, I shall destroy old stools as they go out of bloom.—*H.* [Good practice, sure to answer.]

Zonale Geraniums.—*P. P.*—These have improved so much of late that lists of three years old are obsolete. The following we consider the very best of them: — *Scarlets*, Wellington Hero, Adonis, Marvel, Faust, Clipper, Dr. Lindley, Hibberd's Pet, Bishopstowe, Attraction, Commander, Transcendant, Etoile de Massifs, Monsieur Martin, and Eleanor. *Rose Pink*, Christine, Primer, Helen Lindsay, and Mrs. Whitty. *White*, Madame Vaucher, Snowball, and Galanthiflora. *Painted*, Madame Rudersdorf, Herman Stenger, Demetrio Picciola. The best bedder known is Stella.

Various.—*B. B. B.*—No. 1 is Cystopteris fragilis; 2, the same; 3, Lastrea rigida; 4, Scolopendrium vulgare; 5, Lastrea cristata; 6, Lastrea spinulosa; 7, Polystichum aculeatum lobatum; 8, Lastrea dilatata; 9, Lastrea recurva; 10, Asplenium trichomanes; 11, same as 8. These were very bad specimens, and occasioned very much trouble. To name good specimens is always a pleasure. —*G. S.*—You can procure tree onions from Messrs. Hooper and Co., Central Avenue, Covent Garden. In your northern climate you must certainly pot Tritoma uvaria for the winter. To be safe from frost is all it requires.—*Flora.* —To give directions for the gathering of particular varieties of fruits would really be a waste of space. —*M. C.*—Wait till spring to prune the rhododendrons.

*** The communication from Pinner will appear next month.

THE

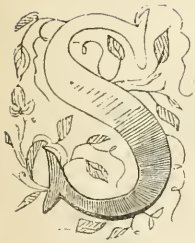
# FLORAL WORLD

AND

# GARDEN GUIDE.

DECEMBER, 1864.

## THE FLORAL WORLD.



EVEN years have now passed since the first number of the FLORAL WORLD was issued, or, as some elegant authors would say, "was first launched on the waves of public approbation." During that period several new periodical works devoted to horticulture have appeared, and during that period several have perished. We have not speculated on the causes of the decline of the journals that have lately passed away, but we have speculated on the continuance of the FLORAL WORLD thus far in the enjoyment of a quiet prosperity, neither injured in its circulation by new competitors, nor depressed by the disappearance of works that, to all outward appearance, were as well worthy of continued support. We think the reason why the FLORAL WORLD continues to prosper is that it is thoroughly practical, and not too ambitious. Others have attempted great things and failed. If they had attempted less they might have had better luck. In this work the aim has been not so much to show what might be done under peculiar circumstances, as what should be done under ordinary circumstances. There are not many who can indulge in the growth of musas, palms, and orchids, but there are many who see that roses, ferns, greenhouse plants, and bedding and border flowers, are within their reach; and to such persons we have chiefly addressed ourselves, and intend hereafter to consider their interests even more anxiously than we have done hitherto. So in 1865, instead of attempting to discover how to take cuttings of Coxwell's balloon, or graft Epidendrums vitellinum on Welwitschia mirabilis, we shall commence a fresh hunt among the hardy border flowers and the nearly hardy subjects of all kinds that for use or beauty have, or ought to have, a place in every garden. As in 1864 the "Garden Guide" was enlarged so as to present a very complete view of the work of the months, we may find a few brief reminders under that head sufficient

next year, which will leave space for the fuller treatment of the fruits and flowers most in request amongst our readers. But our principal object in commencing this address was not so much to talk of what we have done, or what we intend to do, as to return thanks for the generous support we have so long enjoyed, ask pardon for all shortcomings, and especially in cases where any item of correspondence has been unavoidably neglected, and, lastly, to wish all our readers

A Merry Christmas and a Happy New Year.

## ROSE GOSSIP.—No. X.

### A RECKONING WITH ROSES.

THERE are many signs and tokens of encouragement for rosarians of the present day, promising to revolutionize the style of flowers which has been so much in vogue during the last few years. The rage for mere size, unaccompanied with other important properties, is beginning to be questioned, to the discomfiture of the hosts of bad "Jacqueminots," differing little from each other except in name. It is true that this notable rose has been the progenitor of a few, very few, varieties of transcendent merit, especially those in which the Bourbon blood (Rose de Rosamene) of the parent has been especially developed; but the majority of its seedlings have been inferior in qualities, though, from the exigencies of the "trade," they have displaced older and better kinds from the lists. Of what use are those large, flaunting, loose-petalled flowers, changing, in a few hours after opening, to dull, foxy purples, which bear the same relation to what a good rose ought to be that "soup maigre" does to roast beef, or that the attenuated French coquette does to a buxom English belle. They only serve to inflict discouragement and disappointment upon deluded purchasers, often inducing them to give up rose-growing in disgust. Some of our eminent florists appear to have become alive to this, and to recognize the fact that no rose without doubleness, distinctness, and, above all, hardiness of constitution, is fit for cultivation in our insular climate. Mr. Wm. Paul, in particular, has shown what we can produce in his Beauty of Waltham, Lord Macaulay, and Princess of Wales; nor must John Hopper and King's Acre be omitted—sterling and original roses, really hardy in constitution, and thoroughly tested before being sent out. We have no objection to French varieties, if really fine, but they ought to be much more severely proved before we buy them; and even then it is a lottery, in some respects, whether they will succeed here or not.

Upon critically examining the catalogues of roses introduced since 1859, I find, out of the annual importations of some sixty to seventy novelties, only the following of first-rate excellence — a small percentage upon, perhaps, four hundred new kinds. The hybrid perpetuals are, Anna Alexieff, Comtesse Chabrilland, Senateur Vaisse, Victor Verdier, Gloire de Santhenay (a fine rose, *when* you get it), Duc de Cazes, Mad. Clemence Joigneaux, Mad. Chas. Wood, Charles Lefebvre (the finest of its class), Francais Lacharme, Prince Camille de Rohan, Duc de Rohan, Vicomte Vigier (perhaps), Sœur des Anges (on account of its colour), Le Rhone, Mad. Wm. Paul, Jean Goujon, and Vainqueur de Goliath. These are distinct acquisitions. I do not include Mad. Furtado, for, though a beautiful flower, it is an unsatisfactory grower, fit only for exceptional situations, and which will, in consequence, soon

drop out of cultivation. The roses of the current year can scarcely yet be considered to have undergone a sufficient probation, so as to determine their ultimate value. The most promising that have fallen under my own observation are Mareschal Suchet (Guillot fils), Paul de la Meillaray, Mad. Victor Verdier, Mad. Derreux Douville, and Mareschal Forey. Perhaps some of the others may turn out equal or superior to these. In Bourbons the additions have been still fewer—Catherine Guillot and Baronne Gonella being the only kinds worthy of special mention. It remains to be seen whether H. Dombrain, or others of this class for the season 1864, deserve to be considered as acquisitions; and in teas there has been, during the same period, nothing of such pre-eminent good character as to rank higher than second-rate. There have also been, during the same period, about a score of good flowers of secondary qualifications, most of which were produced in the memorable rose year, 1862.

It appears that there are, as usual, about seventy novelties of French origin for the season 1865; M. E. Verdier alone having more than a dozen. With previous experience, is it likely all these can be roses of merit? Yet how is it possible for English purchasers to tell which to select? There are a few canons which may be laid down, however, for their assistance. In the first place, when a foreign raiser christens one of his productions by the name of himself or his wife, it is certain he believes it to be good. In the next place, the lower-priced varieties seldom turn out much. "Monsieur" is far too keen a tradesman to part with his wares for less than their probable worth. Again, the repute of the growers must be taken into account; and, furthermore, all kinds described as "moderate" or "nearly full" should be avoided, however florid the enumeration of their other excellencies may be. Guided by these considerations, we may anticipate valuable novelties in H. P.'s. *Duchesse de Caylus*, *Charles Margottin*, *Duchesse de Medina Cœli*, *Mad. Chas. Verdier*, *and Duc de Wellington*. Trouillard's seedlings appear to be raised too much from the "Géant des Batailles'" blood, which I am heretic enough to believe anything but a first-rate rose itself, and to have originated not a single offspring that we could not do without. They all possess the fault of turning colour soon after they are open; nor do they succeed well, except in the most favourable situations and soils.

To turn to Mr. Wm. Paul's seedlings, announced for 1865. Here we have promise of a departure from the stereotyped reds and scarlets. He appears to be trying back into old strains of a more genuine type and desirable colour. The nearer we approach the tints and forms of the best summer roses, combined with thorough perpetuality, the more likely are we to obtain that desirable flower, possessing all the points of a perfect rose. Their condensed description follows here: — *Elizabeth Vigneron*, rosy pink, large, full, cupped, hardy, vigorous; *Madame Emile Boyau*, soft rosy flesh to blush, large, perfect, hardy, moderate; *Prince de Joinville*, showy rose, large, hardy, vigorous; *Princess Lichtenstein*, white, globular, large, full, hardy, flowering abundantly. If this last turns out good, it will be an acquisition indeed, a good white perpetual being a desideratum.

By a slip of the pen in the haste of "copy," the term "importation" was used instead of "exportation," in my last paper in the November number of the Floral World, "Duchesse de Caylies" should be "Caylus," and "Madame Vachey" should be "Vachez." These were the printer's blunders.

*Homerton.* W. D. Prior.

## THE PLUNGING SYSTEM. No. III.

[This paper was written for the October Number, and has been kept back till now through pressure of other matters.]

THERE are three subjects before me at this moment, the beauty and peculiarity of which compel me to return to the plunging system, and say somewhat more in its advocacy and in explanation of its legitimate uses. This is the 26th of September, the wind is changing from S.W. to somewhere near N.W.N., and the consequence of the change is a dense and chilling fog. Usually such weather is the precursor of frost, and I take warning from these indications, and push on all the work now in hand for preserving such bedders as are worthy of glass all winter. As a matter of course, geraniums are being taken up and housed, but my huge old plants, about which I told you in No. 2, have been under cover three weeks, and are now making a grand crop of bloom; so that in the houses there is a promise of summer colours for a long time to come. I invite you now to consider how many advantages for decorative purposes this system offers as contrasted with the ordinary practice of planting out, and generally of planting once for all. By the first week in September my pyramid began to look shabby. This was not the fault of the plunging system, but of the position, which is overshadowed with great trees; so that the geraniums have not a fourth part as much sun as they require, and hence the shoots they make while in this position are thin and weak. By housing them thus early, the best of the new wood can be well ripened for next year, the thin sappy growth is of course cut away, and the plants are got under cover in good time to escape the heavy autumn rains and occasional touches of night frost which do geraniums great mischief. It would not do, in fact, to leave plants of seven years old, and measuring six feet in height, in the ground to the end of the season; and hence a grand style of decoration demands a departure from ordinary practice.

To remove the geraniums from the bed was an hour's work, to tie them up and make them fit for housing consumed a day, and they were then in such trim that they might remain as they are till next April, and then go to their out-door quarters again, without repotting, or retying, or any preparation whatever. At the moment when geraniums were removed, I had choice of three subjects for the bed, but they happened to be three that would not mix. I had asters, fuchsias, and Sedum fabarium from which to choose, and I chose the fuchsias, and turned the two other subjects to account in another way. Respecting each of these I propose to say a few words.

FUCHSIAS are valuable on this system, but of no use at all by any other process. In the case just put, the advantage to me in using fuchsias is of no small account. In the first place, it is one of the easiest things in garden practice to get up a good stock of large late flowering plants from spring cuttings. These shifted on till they fill 32-sized pots, in rich light soil, will be in perfection from the beginning of August to the middle of October; they will last, in fact, till the chrysanthemums are showing colour, and the centre of my clump, *Lord of the Manor*, makes a superb display; its rather clumsily-formed flowers being very large and showy, and produced in remarkable profusion, the remainder of the clump consists of a mixture, the plants being selected for size and colour. Amongst them occur Tristram Shandy, Alpha, Pauline, Bo-peep, Lord Elcho, Earl of Devon, Exhibitor, and Great Eastern, with others of similar colours and habits. It is really a charming spectacle, the plants being carefully packed, those in the centre slightly elevated by placing them on inverted pots, and descending thence to the margin, forming a nearly conical mass of crimson, purple, and dark green. Fuchsias may be used to any extent by this method out of doors; and

instead of having to wait for months and see them actually pining for a long time after they are put out, we take a crop of some other flowers first, and do not need the fuchsias till they are in perfection and fit to produce an immediate effect.

Asters ought to be used in this way and no other, except in great places, where a few blank beds are of no consequence. By the planting out system the beds appropriated to asters must be unattractive from the beginning of May till the middle of August, perhaps later, and then there is a good display, which lasts about six weeks. I told you in No. 2, p. 150, that I had in view to replace the geraniums with asters if any accident should happen. I now tell you that when the time came to use the asters I adopted fuchsias instead. But you know it is as well always to have two strings to your bow, and the asters were not wasted, depend upon it. I have reason to be proud of those asters. I potted every one myself, about a thousand in number, working occasionally at them for an hour or two before breakfast after they had filled thumb pots with roots. They were potted into the thumbs from the seed-pans by a sharp lad, and the advantage of the two pottings is now manifest. Although limited to 5-inch pots (48's), they have yet bloomed so superbly that at least three-fourths of them are good enough for show. I have never seen such a lot in my life before, and I attribute their perfection to the management. They were potted firmly in equal parts rotten dung and good loam, the pots were placed on a bed of rotten dung in a pit all summer, and thus their roots were always cool and moist, and they had of course plenty of water. There could not be a simpler way of providing asters in any quantity. One of the sharpest and most experienced nurserymen in this district found them out, and implored me to save all the seed that could be got from them. I told him I would not bestow five minutes on the business, having always more irons in the fire than I can handle comfortably; so he set to work, and tallied the greater part of them for himself, and as soon as their beauty is over he will carry away a few bushels of heads to ripen at home for use next year. To use these asters was a very simple matter. The "Magic Ring" was sown with Tom Thumb Tropæolum after spring flowers, and just as the asters came to perfection, the Tropæolum was a mass of seeds; it was therefore destroyed, and the asters planted in circles, reds, blues, etc., with pure white round the margin. See the gain, again, over the system of growing but one crop of flowers each season. To succeed the asters I have plenty of pompones, and after those bulbs and miscellaneous spring flowers.

Amissing link. I have mentioned *Sedum fabarium*. It was figured at page 249 of last year's Floral World. It is one of the most useful plants in existence for the plunging system, and it blooms at such a season as to supply the missing link between the summer flowers and the chrysanthemums. Look now at the beds and borders; look at the seedy lobelias, the verdant (not golden) calceolarias, the ragged and forlorn-looking geraniums, and say would it not be desirable to lengthen out the season by keeping up the show of flowers to the very end of these bright autumn days, when the garden is so enjoyable, except for this general dilapidation where not long since all was gay as the colours on a butterfly's wing. Sedum fabarium is a plant to grow by thousands to make a delightful display from the 19th of September to about the 15th of October, when there is an end of its glory. Do as I do—cut and come again all through March and April, and make as many plants as possible from the stock you have. If short, top the young plants as soon as they have made growth enough to furnish cuttings. I find they strike quickly without bottom-heat, but a little heat will hasten the process. I pot them all separately in thumb pots. That sort of practice is becoming the rule here; and as soon as those pots are full of roots, I shift at once to 32 size, using rich loamy compost and good drainage. Thence

to the end of the season all they want is sunshine and water, and to be kept in a cool frame or pit, or they may be out of doors after the middle of June. I prefer to keep them under glass, as all these large-leaved Sedums get injured more or less when put out. They require no sticks, they make stout stems, and in due time form heads of bloom six inches over, two, three, or four heads to each plant, and when packed close form an even mass of rosy-pink blossoms, remarkably cheerful and pleasing.

Chrysanthemums for plunging are looking this season as I have seldom seen them look before. They are loaded with buds of more than ordinary plumpness for the season, and the foliage is dense and as fresh as spring verdure. No doubt there will be an early bloom, and the quality all that can be desired. Mine have stood on cocoa-nut fibre all the season, and have had abundance of water. For a good show to follow chrysanthemums I have, independent of potted conifers, lots of Skimmia Japonica, Cotoneaster Simmonsii, and Cotoneaster Hookerii, the three best hardy berry-bearing shrubs known, besides golden-leaved Euonymus, variegated ivies, and brightly-coloured miscellaneous evergreens innumerable, amongst which the conifers you have often heard about play an important part. S. H.

## ROSES IN THE COUNTRY.

Numerous entertaining articles on the cultivation of the rose in the suburbs of London have appeared from time to time in the Floral World, which have not only been useful to residents at a like distance from "St. Paul's," but have also been read with interest by many who dwell beyond the "Smoke Radius;" and as there are no doubt among your subscribers a great number who possess that advantage, a few notes of the experience of such a one may perhaps be found worthy of perusal. Residing in a rural and pretty district about fourteen miles north-west of town, where the air is exceedingly pure, and being an ardent admirer of the rose, I have in my leisure hours devoted myself successfully to its cultivation. The situation of my garden is very open, but rather exposed and very cold in winter, facing nearly due north, but somewhat sheltered from the east. The soil is strong yellow clay; the first thing done, therefore, was to have it thoroughly drained. Entering upon my tenancy at the Lady-day quarter, I was the first season, much against my wish, compelled to put up with spring planting, but selected plants worked upon Manetti, which were afterwards kept mulched and regularly watered all through the summer; and although I was repaid with some fine blooms, and suffered but few losses, I am convinced that there is, after all, nothing like autumn planting. Plants put out early in November get well established, and suffer comparatively little from drought compared with those planted in spring, which this season has proved to me more fully than ever; and no amount of *watering* will make up the difference, and with plants on the brier this is still more perceptible. A great point in favour of the Manetti is its great adaptability to the exigencies of unfavourable seasons, for I find that dwarfs on this stock, from being planted so much deeper than those on the brier, will stand a continuance of dry weather and hot sun long after others appear quite burnt up; besides which, from its strong and late growth, the roses often furnish blooms much later in the season, if the weather is open, than those worked on the brier. I am aware that many amateurs object to the Manetti, but believe it is frequently from the practice, so often condemned in your articles, of sending out roses, particularly new sorts, which are worked on little thin stocks (barely rooted cuttings some of them), and which have been stewed up in heat, and forced into a weak spindly growth, so as to get something to

look at, but which, when planted out, take half the season to recover themselves; and if they do not perish outright, rarely give any blooms worth having until the next year. I speculated on half a dozen new varieties in the spring of last year, and two only of them bloomed that season, two others died. The remaining two have just managed to exist; but out of all the six one only has made a decent-sized plant. On the other hand, if plants are obtained that have been worked on well-rooted stocks of the Manetti, in *the open ground*, their vigour is perfectly astonishing. I know that plants of this kind in new varieties cannot be had the first year of the introduction; and for that reason I hesitate trying any novelties until their second season; but even with older sorts, if bought in pots in spring, they are often of the same forced and debilitated character. My plants, which are nearly all on Manetti, and *root-grafted, not budded*, I had from John Harrison, of Darlington, and must say they were superior to any I have seen in size and robustness of growth; besides which, coming from that northern climate, they appear to take more readily to my cold clay soil and bleak situation than any I have had from elsewhere. There were over one hundred plants, which were all put out last autumn, and only two out of the whole lot have failed. Many of them, notwithstanding the dry season, have rods six, eight, and ten feet long, and two plants of Gloire de Dijon (on Manetti also), under glass, have made shoots over fifteen feet long. I had also two small plants of *John Hopper* (*H. P.*) of that year's budding (on Manetti), the buds of which had started and made a short stubby shoot of about four to six inches long. These two plants were carefully planted out in my rose-house early in February last, and *never pruned*. They commenced to grow almost immediately and with the utmost vigour, and in May bloomed splendidly, and produced finer blooms than any I saw of that variety at either the Crystal Palace or Regent's Park exhibitions, and have now shoots from five to six feet long; whereas, had they been plants grafted in the forcing-house, although probably with much more appearance of size, I doubt if I should have had a single bloom worth cutting.

A great mistake, in my opinion, is frequently made in buying roses that have been grown in very rich and suitable soils and in unusually favourable situations, as plants from such localities I find invariably suffer more on removal to less favoured districts than those grown under less advantageous circumstances; it seems like going ourselves to reside in a comparatively unhealthy place after living in a very salubrious one. The change is not beneficial; and it was from this impression that I thought of trying plants from a northern district and the result has far exceeded my expectations. As further proof also of this, I may add that I had a number of roses from France, most of which have done very badly—a great many failed entirely, and scarcely one that has behaved satisfactorily. The past summer has been with me much too dry for the generality of roses some few varieties that do not open readily in wet seasons, such as La Reine, Louis XIV., Auguste Mie General Washington, and others of similar build, have bloomed most superbly: but, on the other hand many kinds have been deficient in fulness and thickness of petal, and likewise in depth of colour. The long continuance of dry weather and the many cold nights in June, July and August, have also, I think, caused a great deal of the *mildew* which has been very prevalent here. I prefer late pruning, and find with me the end of March, or even as late as the second week in April, is preferable to an earlier period. By early pruning, it is true you may possibly, if a favourable spring, obtain blooms a week or ten days sooner; but in the event of any of those treacherous spring frosts, the plants suffer far more, and there is great risk of the first blooms being spoiled completely. I observed cases of this kind this year in roses in the neighbourhood that were pruned earlier than my own; the extreme tips

of the buds seemed as if they had been cut off quite level with a sharp knife, and of course when the flower expanded every petal was ragged, the foliage also was curled and browned, and yet the season was very early, for I had Gloire de Dijons in fine bloom on a sheltered corner on the 20th of May, and almost every variety out early in June. By late pruning you also escape a great deal of the ravages of the grub, that helps to spoil your early blooms; and by keeping the plants back until they can have a chance of growing away unchecked, they thrive with such luxuriance that they defy the attacks of aphis and other pests more readily. I have, however, found less blight of all kinds among the roses than one would have expected for so dry a season. The autumn blooms have been, with some exceptions, tolerably good; but had it not been for the welcome showers early in September, there would have been a very meagre display.

A word or two to amateurs on plucking roses for bouquets, etc., for I have found many of my friends have a practice of *breaking* off the flower stems, which, if it does not prick their fingers, often damages the plant considerably, sometimes pulling off a shoot entirely, or else tearing the bark in a snag right down to its base. Blooms should always be *cut* close to a bud pointing outwards, or in a favourable direction to improve the shape of the tree when it pushes; and do not be afraid of cutting long stalks —it saves pruning back for autumn growth. I also generally pick out with the finger nail the next two or three buds below the one left at the top, which then grows with more vigour; but if you leave the buds, they present a lot of side spray that generally come blind, *i. e.*, throw no flower-buds. This treatment will be found to increase your autumn blooms both in size and quantity, and the plants should thus be regularly gone over after their first bloom is over. I have grown a very large number of sorts; but out of some hundreds, those that can be recommended as combining finely-shaped flowers, with vigorous and constant blooming habit, can really be reduced to a very moderate number. It is most irksome to amateurs, also, who speculate in novelties, to find how many there are of the new roses annually introduced that turn out almost worthless; the French raisers surely ought to be able to judge if a new seedling is really good and distinct, and an improvement upon an older variety, and forbear from foisting infamous pretenders with grand names and high-flown descriptions upon the too confiding English nurserymen, who, in their turn, ought also to set their faces against buying anything but those they can form a good opinion of, as it tends to make amateurs very chary of new sorts. I am pleased to see that this matter is being taken up in many influential quarters. And now, as there are many of our favourites that appear to behave very differently with me, to what you report of them nearer town, I purpose giving a few cursory notes regarding them, that may at least be useful for comparison, and perhaps also assist some who are about making a selection for present planting, and will therefore follow the catalogues, and take them alphabetically, and shall touch only upon those kinds that have done well with me; and as all the varieties are now so vividly described as to shape and colour in nearly all the lists, it will be unnecessary for me to burden you in that particular, but shall particularly remark sorts that are free in autumn.

*Hardy Perennials.*—Alphonse Damaizin, when perfect, very fine, but the blooms frequently come ragged at the edges; superb colour, free in autumn. Anna Alexieff, beautiful in summer and free, in some of your articles said to be a most constant bloomer, and yet with me it has never given a second crop of flowers, although well shortened back: my brother also, who has a splendid rose soil and pure air, makes the same complaint. Anna de Diesbach, not much use in autumn. Auguste Mie, fine in dry weather, and good also in autumn. Baronne Hallez, good in

autumn. Beauty of Waltham. Charles Lefebvre: this is the finest rose yet brought out, and this season its autumn blooms have, if anything, been finer than the first; shape perfect, and petals thick and regular as a camellia, grand Bourbon foliage, and smooth wood, seems to be very distinct in character from General Jacqueminot, and yet, if anything, richer in colour, and almost as constant a bloomer: should much like to know the parentage of this. Comtesse de Chabrillant, perfect, and full in autumn. Duc de Cazes, free. Duc de Rohan. Duchesse d'Orleans has been very fine this season, and also some good blooms in autumn. Duchess of Norfolk, free. Emperor de Maroc, rich colour, but rather shy in autumn. Eugene Appert, splendid colour, and very constant, but flowers frequently ragged. Françoise Lacharme, magnificent, and very fine also in autumn, one of the best roses grown. General Jacqueminot, the most useful rose we have, the autumn blooms just after the September rains were finer than the summer ones. General Washington—one of the noblest flowers ever raised when well opened, blooms almost constantly, requires fine weather, or else the blooms split—has been superb this season. Gloire de Santhenay, although spoken of as being shy near town, has bloomed very freely here, more so than Senateur Vaisse, and some blooms of rich colour in autumn. Gloire de Vitry. Jean Bart, good in autumn. John Hopper. Jules Margottin. La Reine, this on its own roots blooms freely, and is now covered with buds, but requires dry weather to open well. Lælia. La Brillant. Le Rhone. Louis XIV.: this rose with me blooms very freely, and almost constantly, although so shy nearer town; a weak grower, but yet does well on its own roots here. Madame Boll, not free in autumn, but yet has this season given some good late blooms. Madame Boutin. Madame C. Crapelet, colour in dull weather very brilliant. Madame Charles Wood, a splendid rose with immense petals, and tolerably free in autumn. Madame Domage, good in autumn. Madame Knorr, ditto. Madame Vidot. Maréchal Vaillant. Maurice Bernardin. Monte Christo, free. Olivier Delhomme, free. Prince Camille de Rohan, very beautiful, almost black, free. Prince Leon. Professor Koch. Senateur Vaisse: this and "Santhenay," and Charles Lefebvre, it is almost impossible can ever be surpassed. Souvenir de Comte Cavour, free. Turenne. Vicomte Vigier, free. Victor Verdier, very fine, and a very late bloomer, with me has been infinitely superior to Jules Margottin in its autumn blooms. Virginale: this has done better with me than any of the other white hardy perennials, but requires dry weather; very free blooming, but a weak grower.

*Bourbons.* — Acidalie, Catherine Guillot, Louise Odier, Modèle de Perfection, and Malmaison are much finer than any of the others. Paxton and Queen are useful as free bloomers, but of no use as cut flowers.

*China.*—Mrs. Bosanquet is most exquisite, and is always in bloom, and much more worthy a prominent place than any of the white perpetuals, besides which it is very vigorous in growth, and always opens well with me, and does well both worked on dwarf briars and own roots. Teas out of doors have been very fine, but must have good protection in winter, excepting Gloire de Dijon, which seems more hardy than many perpetuals. Devoniensis also on own roots, in a well-drained border, seems tolerably safe. I have grown a great many under glass, which I must speak of at a future time; but the best out of doors, where protection can be afforded in winter, I have found as follows:—Abricote, Bougere, Canary, Devoniensis, Homere, Madame Falcot, Madame Willermoz, Narcisse (first rate), Pauline, Safrano, Sombrieul, Souvenir d'un Ami.

All the roses enumerated above have done splendidly with me: many others I could enumerate that have also been fine, but it is far better to have repeats of the *best*, than to fill up valuable space with sorts that are less satisfactory.

*Pinner, Oct.* 17, 1864. HARDY.

## WHAT ARE THE NEW ROSES MADE OF?

Every rose grower has an inkling to try new roses. Even if they turn out worthless there is some amount of pleasure in proving them to be so; if they turn out genuine acquisitions, the pleasure is, of course, tenfold. There are many who practise utter caution, and never venture on a new rose until they have some guarantees of its excellence. But both parties are victims of a plague. The reader thinks of the green-fly, but we have not that in our minds now; that is a pest of the garden which the rose-grower knows well how to deal with. We do not refer to mildew, or the mycelium of fungi, which last is indeed *a* plague but not *the* plague. The plague of the rose-grower is the system adopted by the trade in sending out new roses, three fourths of which may die a few months after planting and the remaining fourth languish in an unenviable state of ill health for months before they acquire their proper vigour. Yet in the system to be condemned there is nothing fundamentally wrong; the evils are in increments of detail; it is, in fact, a good system turned upside down. The method of propagating is the source of the mischief. Roses submit to heat in much the same way as calceolarias; that is to say, they are impatient of it. But a new rose is first pushed in heat to furnish buds; Manetti and Boursault stocks also pushed in heat are made to receive those buds, and by a forcing system, the bud is compelled to push before the union is properly effected, and the result is plants that require a thorough course of nursing under glass before they are fit for any purpose, and amongst them there will be many fit for no purpose whatever, through the imperfect junction of graft and stock. On examining new roses just received from nurseries, it will too often be found to be the case that the "work" has made a semblance of a head before the scar where it was entered had properly healed over, yet those plants were professedly "hardened off," and were supplied as quite fit for planting out.

The rose-grower sees that he has worked plants to deal with, and he follows a good rule in planting them with the work below the surface, in order that roots may be emitted above the stock from the collar of the plant. But if the soil be cold or damp, or the weather unfavourable, the unripened work rots in the soil, the rose perishes, the stock perhaps throws up a vigorous shoot, and the grower may just work it again if he chooses with some good old sort already in his possession, a weak stock being all he has for his money. We are not complaining of Manettis and Boursaults for the purpose; they are most valuable stocks for dwarf roses when worked near the ground, but the rapid way in which propagation is carried on in order to get up stocks of new roses is a cause of disappointment to hundreds of amateurs—an injury to the fame of the rose itself, which never fails to repay good cultivation, and in the end it must prove injurious to the trade by rendering people over cautious as to purchase of novelties. A poor peat soil, a weak stock only just potted up from the cutting-bed, a close atmosphere, a brisk heat, spindling scions that are too weak to hold up or carry a bloom—these are the principal elements concerned in the manufacture of a new rose for the market; and is not such a system the plague of the rose-grower? Of course, these remarks may be turned to profit by purchasers of new roses, who instead of being in haste to turn them out—no matter at what time of the year they purchase their plants—should rather give them a course of careful culture under glass, get them hardy and sturdy, and as soon as really good shoots are formed strike a few *on their own roots*, and wait a fair time before allowing any of them to bloom. As for the trade, they can do better by their purchasers by refraining from the excesses of competition. Worked roses are better than

no roses at all; and if they will simply say what sort of roots the new roses have, purchasers will know also what they are ordering, without being put to unfair risks. It is the rule, however, in catalogues and advertisements, for all the skill of description to be devoted to the blooms, of which, perhaps, very few have ever been seen. Will the traders enlarge their literary field, and let the people know what the roses are made of? We prefer, in matters of this sort, not to mention names; but we cannot forbear to do justice to one nurseryman—Mr. Cant, Colchester—with whom, by the way, we have never had any transactions—for his near approach to plain dealing in advertising new roses as being nearly all on their own roots. We are not contending that new roses should be sent out on their own roots exclusively, though we would prefer it if they were; but we are contending for full description: let the name of the stock be given, and, if possible, let us have guarantees that the plants have been propagated with some regard to the habits of the rose, as a plant that will not bear with impunity any long confinement in a damp stove. The rose-growers expect to pay a higher price for novelties than for sorts of old renown, but to the risk that attends the purchase of novelties of all kinds, they do not wish to have added the risk of buying "a pig in a poke."

## NEW ORNAMENTAL TREES.

The introduction of new ornamental trees and shrubs, whether by seed-raising or by importation, is one of the most interesting of horticultural pursuits. We are therefore glad of the opportunity to notice certain plants of this class adapted for garden decoration, to be found in some of the French nurseries, our information being mainly derived from an account of them by M. Pépin in the *Revue Horticole*. Most of the plants referred to were growing in the establishment of M. Dauvesse, of Orleans.

One of the most remarkable of the novelties referred to was a fine hardy variety of Ceanothus, called *C. azureus latifolius;* this had been selected from a bed of seedlings which had been raised from C. americanus, fertilized by C. azureus. The plant is described as being now abundant enough for distribution, and as having erect growing stems and branches; oval leaves, hoary beneath and toothed at the margin; and long compact thyrsoid panicles of flowers, which open pale blue, but become deeper coloured as they get older. These flowers are produced from June till October or November; and it is recommended that the plants should be cut down annually, this treatment causing them to throw up young shoots, which bear very fine panicles of flowers. From the scarcity of blue flowers at certain seasons, and the profuse and continuous blooming of this new Ceanothus, M. Pépin concludes that it will be found useful for making contrasts, both in the shrubbery and the flower borders, and that it will take a prominent place amongst decorative plants. It is said to increase readily by cuttings and layers, and also by seeding, but the seedling plants are not to be relied on to reproduce either the early and continuous blooming qualities of the parent or the lively and decided colour of its flowers.

Another interesting plant of the same establishment is a *white-flowered variety of Spiræa Fortuni*—that species which has been introduced to commerce under the name of S. callosa. This variety is remarkably handsome, its white flowers being as numerous as those of the type, and disposed in a sort of corymb. Planted alternately with S. Fortuni itself, which is rose-coloured, the contrast is said to be very fine. Both the bark and leaves are paler-coloured than the type.

Then there is an *Acer Wageneri laciniatum*, a variety of Maple, which M. Pépin concluded had been obtained by seeds from Acer eriocarpum, one of the finest of the American Maples. The young wood of this new tree is purple and glaucous, and its leaves, which are very much laciniated, are glabrous above and white and downy beneath. This variety, the writer observes, from its light and carved foliage, will not fail to be chosen for the ornamentation of parks.

Another shrub of garden interest is *Maclura aurantiaca*, with the leaves streaked with white. This is new, and remarkably effective. M. Pépin also refers to *Fontanesia Fortuni*, a plant brought from China by Mr. Fortune, as being hitherto rare, but now extensively grown by M. Dauvesse, and forming a fine shrub, with foliage having much resemblance to that of certain species of Japanese Privet, vigorous in habit, and flowering abundantly.

It is, we learn, to M. Dauvesse that we are indebted for the elegant dwarf *Thuja* (or Biota) *orientalis aurea*, which was picked out from his seed-beds of Thuja orientalis in 1845. And in 1861 he obtained in a similar way *Cupressus Lawsoniana nana*, a variety which assumes a pyramidal form, and has short branches and a compact habit, which give to it a novel and peculiar appearance.

We may also mention as a desirable addition to our hardy ornamental trees a very handsome *Red-flowered Locust Tree* (Robinia Pseud-Acacia), of which information has reached us from another source. This tree has been obtained by M. Villevieille, nurseryman at Manosque, in the department of the Basses Alpes, and must prove a very decided acquisition. The flowers are as fragrant as those of the parent, and this quality, together with their colour and the elegance of the foliage, cannot fail to render the Red Locust a favourite amongst flowering trees.—*Gardeners' Chronicle.*

## MANAGEMENT OF COOL STOVE AND GREENHOUSE ORCHIDS.

The culture of orchids in a greenhouse, or on the cool system, does not differ in principle, but in degree, from that practised in the warmer temperature with which in idea these plants are more usually associated. The difference consists in rendering the period of rest or repose somewhat more rigid and decisive, and making it correspond strictly with our winter; and in taking advantage of the summer period of the year chiefly to induce the growth and blooming of the plants. One thing should not be lost sight of by those who attempt to grow these plants on the *cool system* only, and that is, that by this means they cannot have that continual succession of bloom which is kept up by the flowering of one or other of the species under the other course of treatment. Little or no blossom can be expected in the winter season; and as during summer the growth of most of the kinds will be going on simultaneously, it is probable that many would be thrown into bloom at nearly the same period, though the different habits assumed by the various species would cause some difference in this respect.

I will now proceed to sketch out briefly the course of treatment which it would be most desirable to follow; and in doing so, shall arrange my observations under the heads of winter treatment and summer treatment, including the operations of potting and watering.

During the winter season the plants must be at rest. I will suppose them to be placed in a well-constructed greenhouse, provided with the full heating powers such a structure usually commands, water-tight and wind-tight, so far as perfect re-

pair and sound glass can make it. The house may be large or small, and either be a lean-to or span-roofed. Aspect is not very material, but perhaps near the south would in this case be desirable, for the sake of the extra warmth which would be derived from the sun if thus placed. It would also be desirable to have the house wholly occupied by these, or at least by such other plants with them as would submit to the treatment they required. In such a house the plants should be placed. They should be nearly or quite dry, water being withheld from them in autumn, and only so much applied, at wide intervals, as would prevent them from losing their vitality from drought; they will bear to shrivel a little without injury. Whatever medium may be about their roots, whether turfy peat or sphagnum, or moss of any other kind, should appear comparatively dry when placed beside the ordinary slightly moistened soil which is kept about the roots of common greenhouse plants at this season of the year—it should not be quite so dry as dust, but considerably drier than would be sufficient to render it friable, and easily handled without adhesion. The nearer the roots and the soil can be kept in this condition throughout their period of rest—the winter—the safer they will be; and this may be accomplished by looking over, say once a week, and with a spouted watering-pot pouring a little *tepid* water on the soil—*not on the plant*—where it was observed to be getting drier than it should be. But little air need be given; on fine days a little fresh air may be admitted to assist in purifying the atmosphere, but in cold, bleak weather this will be unnecessary; the middle of warm sunny days is at all times the most suitable period for admitting it. The temperature may be kept up at about an average of from forty to fifty degrees during the day, which should be maintained by slight fires in the morning, in conjunction with such sun heat as may be available. The lowest temperature should be during the most inclement weather, for it is very erroneous management during such periods to keep the temperature up by extra fire-heat. At night it would be desirable to keep the temperature ranging about forty degrees, though in case of emergency, if the plants are dry, three or four degrees lower would not do much harm. They should not be allowed to get frozen however. The safety of the plants while submitted to so low a temperature, is almost entirely dependent on their being kept *dry*, as already pointed out. If it should chance that any of the plants begin to grow, do not then check them more than is unavoidable, but give them the warmest places the house affords, and a slightly increased quantity of water. The winter treatment should be continued to the end of March, unless a little fire heat can be afforded. If so, it may cease about the beginning of March. At whichever season it may be, the first change is to slightly elevate the temperature, say from an average of fifty degrees to a minimum of fifty degrees. A trifling amount more of water may be given too—about enough to keep the soil just evenly moistened, as is attempted *during winter* with other delicate plants; always use warm water, that is to say, water heated equal to the temperature of the atmosphere kept up; this guards the plants from many checks just as they are about to start afresh. Do not be anxious to give air at first. If a little fire heat be given during March, April, and May, the plants may be got on well, for this will suffice to start and keep up their young growth, and the summer atmosphere would then carry them on. The cost of this would not be a heavy amount, as in neither month would a strong fire be requisite. In March it is desirable to start with a minimum of fifty degrees; in April there should be a minimum of fifty-five degrees; and in May of sixty degrees. These increases would be almost covered by the increasing natural warmth of the season, as all the sun heat that could be caught should be husbanded by avoiding careless ventilation. A few hours' sun even in March will generally raise the temperature to sixty degrees; and if the house were kept

close, as it should be, this would go far towards supplying the fifty degrees minimum required during the night; at least, a very slight fire late in the evening would be quite enough. If more than sixty degrees sun heat occurred in March, a little air might be given, to prevent what would, under the circumstances, be an excess of heat. In April a maximum of sixty-five degrees, and in May of seventy degrees, or rather more, would be sufficient, and this would serve as a guide when, and when not, to admit much air, for it should be recollected that the chilling of the plants by over ventilation would be to them a greater evil than they would sustain by being kept as close as an ordinary greenhouse would keep them.

One thing should be kept in mind, and that is the day temperature ought to be kept well up to the point, a day or two at a time somewhat lower does no great injury, but generally the heat by day should be maintained, for it is this that must be looked to, to set the plants growing and to keep them so. There should, therefore, be a slight fire in the mornings, even on fine days, for an hour or two, to get a fair start; and in the case of cold, dull days, the fire should be looked to, to keep up about the minimum heat specified. Another point; though fifty degrees is named as the minimum for March, fifty-five for April, and so on, the changes are not to be made as sudden as the transition from one month to the next, but the temperature should be from the first gradually ascending, but in such a way that these figures may about represent the comparative rise. Then as to water, more and more must be given from time to time; and about a fortnight after the summer treatment begins, the syringe may be slightly used—a little gently over the plants, and more fully on the paths, and walls, and stages, so as to raise a moist atmosphere. At first this should be done once a day, say about nine A.M., when there is a nice warmth in the house; and warmed water, as before mentioned, must always be used. Subsequently—the change being brought about gradually—the plants may be well syringed twice a day (excepting those in bloom, which the syringe is apt to injure), and the paths, and walls, etc., perhaps twice besides. By the beginning of May, if the season is a bright one, some shading is required; this is most simply afforded, by then fixing permanently over the sunny side of the roof a covering of thin canvas, either single or folded, according to its capacity for excluding light; the sun's rays should be pretty well broken. Before the permanent shade is requisite, it may be necessary in the middle of hot days to throw a mat over the glass. The shade is to be removed in September, when the power of the sun becomes weakened. The repotting of the plants, or at least rearranging, for some grow in open baskets and others on blocks, is best done as the plants indicate signs of pushing out new growth, which would in most cases be in a little time after the heat was increased. In doing this, the old live roots—and the more of these the plants have the better—must be carefully preserved from injury; and the soil or moss employed should always have been previously warmed, so as not to chill them. The epiphytal kinds grown in pots should be elevated *upon* rough lumps of turfy peat soil, made firm by little pegs, and by careful arrangement; and the soil should be intermixed with lumps of charcoal and broken crocks. Those planted in open work baskets, of whatever kind, require very turfy peat, or very frequently moss is used, or sometimes peat and moss together. Those placed on blocks of wood have a little moss fastened round their roots, and they are fixed by means of copper wire and copper tacks (iron would rust). If some of the handsomer-looking growing mosses were employed instead of dead sphagnum moss, it would be an improvement. The terrestrial kinds require repotting in the ordinary way, in turfy peat soil well drained. Newly-potted plants require very careful watering. When any of the plants come into bloom, they must be kept rather drier than before, to preserve their blossoms.

*(To be continued.)*

## DECEMBER, 1864.—31 Days.

Phases of the Moon.—First Quarter, 6th, 7h. 34m. morn.; Full, 13th, 7h. 12m. morn.; Last Quarter, 21st, 5h. 3m. morn.; New, 28th, 9h. 22m. after.

Averages for the Month.—Bar. 29·944. Therm. max. 45°, min. 36°, mean 40°. Rain, 1·5 inches. Prevailing winds chiefly S.SE. and S.W. Weather changeable, frosts of short duration, and not frequent; damps prevail, with the wind S.W.

| D | M | Sun rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1863. | Exhibitions, Anniversaries, Meetings, etc. |
|---|---|---|---|---|---|---|---|
| | | h. m. | h. m. | Morn. | After. | | |
| 1 | 7 | 46 | 3 52 | 9 26 | 6 19 | Densely clouded; rain | Day breaks, 5h. 41m. |
| 2 | 7 | 48 | 3 52 | 10 11 | 7 29 | Rain; very windy; rain | Emperor of Austria abdicat., 1848 |
| 3 | 7 | 49 | 3 51 | 10 48 | 8 42 | Boisterous; clear | Twilight ends 5h. 56m. |
| 4 | 7 | 50 | 3 51 | 11 19 | 9 59 | Clear; fine; cloudy | 2nd Sunday in Advent |
| 5 | 7 | 52 | 3 50 | 11 47 | 11 17 | Cloudy; drying wind; | Mozart died, 1792 |
| 6 | 7 | 53 | 3 50 | After. | Morn. | Fine throughout | Mr. V. Hartwiss, sup. of Botanical |
| 7 | 7 | 54 | 3 50 | 0 39 | 0 34 | Fine; cloudy; fine | Garden at Nikita, died 1861 |
| 8 | 7 | 55 | 3 49 | 1 7 | 1 49 | Overcast; cloudy; fine | *R.H.S. International Fruit Show* |
| 9 | 7 | 56 | 3 49 | 1 35 | 3 6 | Rain; drizzle; fine | M. Pescatore died, 1855 |
| 10 | 7 | 57 | 3 49 | 2 11 | 4 23 | Clear; cloudy; breeze | Grouse and blackcock shootg. ends |
| 11 | 7 | 58 | 3 49 | 2 51 | 5 35 | Densely clouded; fine | 3rd Sunday in Advent |
| 12 | 7 | 59 | 3 49 | 3 39 | 6 41 | Fine throughout | Erasmus Darwin born, 1732 |
| 13 | 8 | 0 | 3 49 | 4 33 | 7 41 | Clear; fine; slight frost | C. H. S., S. Hibberd on Ferns |
| 14 | 8 | 1 | 3 49 | 5 34 | 8 29 | Foggy; fine; frost | Pr. Consort, Pres. R.H.S., d. 1861; |
| 15 | 8 | 2 | 3 49 | 6 36 | 9 11 | Hazy; fine at night | J. C. Loudon, d. 1843, æt. 60 |
| 16 | 8 | 3 | 3 49 | 7 42 | 9 45 | Densely clouded; fine | Camb. Mich. term ends |
| 17 | 8 | 4 | 3 49 | 8 47 | 10 13 | Cloudy; fine at night | Sir H. Davy born, 1779 |
| 18 | 8 | 4 | 3 50 | 9 51 | 10 38 | Fine throughout | Philip Miller died, 1771, æt. 80 |
| 19 | 8 | 5 | 3 50 | 10 53 | 11 1 | Cloudy; fine; frost | Day breaks, 6h. 0m. |
| 20 | 8 | 6 | 3 50 | 11 57 | 11 22 | Light clouds; fine | Twilight ends, 5h. 57m. |
| 21 | 8 | 6 | 3 51 | Morn. | 11 44 | Cloudy; fine; rain | Dr. Robt. Brown born, 1773 |
| 22 | 8 | 7 | 3 51 | 1 | 1 After. | Showers; fine; ther. 19° | Siege of Portobello, 1737 |
| 23 | 8 | 7 | 3 52 | 2 | 4 0 | Cloudy; fine; clear | Prince Consort buried, 1861 |
| 24 | 8 | 7 | 3 53 | 3 | 10 0 | Fine throughout | Length of day, 7h. 46m. |
| 25 | 8 | 8 | 3 53 | 4 | 16 1 | Fine throughout | Dr. Boot, botanist, died, 1863 |
| 26 | 8 | 8 | 3 54 | 5 | 20 2 | Cloudy; rain at night | R.H.S. Perfumes from flowers |
| 27 | 8 | 8 | 3 55 | 6 | 22 3 | Fine; frost at night | Johanna Southcot died, 1814 |
| 28 | 8 | 8 | 3 56 | 7 | 17 4 | Cloud; snow; cloudy | Charfishing ends |
| 29 | 8 | 8 | 3 57 | 8 | 6 5 | Cloudy; fine | David Don died, 1841 |
| 30 | 8 | 8 | 3 58 | 8 | 48 6 | Fine throughout; frost | Kossuth at Winchester, 1851 |
| 31 | 8 | 8 | 3 59 | 9 | 22 7 | Foggy; hazy; rain | Richard Kingston died, 1846 |

Probable Weather of December 1864.—In the forecast for last month there was a promise of agreeable weather to the 15th, and thereafter changeable. From the 13th to the 15th the barometer was depressed to a remarkable degree, min. 28 70 and gales with rain followed. During the present month many changes. From 1st to 12th damp with fog, little or no frost, wind westerly; thence to 20th occasional frosts and generally fine, wind N. to N.E.; thence to the end warm, variable, squally, wind N.E. to S.E. On the 25th sunshine, temperature agreeable.

## THE GARDEN GUIDE FOR DECEMBER.

Kitchen Garden.—There ought not to be now a single square yard of unoccupied ground that has not been deeply dug since the last crop was taken off. Deep stirring and successive frostings of the soil are immensely beneficial, and there will never be much success in the culture of edibles where there is any fear of hard

work in winter. The out-door work of this month must be regulated by the weather. When the ground is not fit to be trodden on, get together all the clippings of hedges, prunings of trees, etc., etc., for charring, and keep the produce under cover to use as needful; it is a most valuable top-dressing for peas and other early crops, both to stimulate growth and prevent attacks of slugs. During frost wheel out dung, ready to dig in at the first opportunity. Sow, during fine dry weather, Dillistone's Early and Sangster's No. 1 peas, Mazagan, Long-pod, and Beck's Gem beans, Horn carrot, and hollow-crowned parsnips. We have found of late years that parsnips sown at the end of January make very heavy crops, and are rarely hurt by frosts, and if they do happen to be cut off by frost, there is still time to sow again, and the loss of the seed is a very trifling matter compared with the chance of a heavier crop.

*Artichokes* to be dressed for the winter by removing any late heads, the stalks of which can be inserted in a bed of earth under cover till wanted; next remove the large leaves, and mould up the plants without throwing any soil into the centre. As clippings of hedges and prunings of trees are generally burnt at this time of the year, keep the ashes dry, and at the first opportunity, after having earthed up the plants, spread the ashes two or three inches thick over the ground between them.

*Asparagus, Seakale, and Rhubarb* will now be coming in plentifully from the forcing-beds. If these beds are allowed to get too dry, the produce will be neither good nor plentiful. But they may be moist on the surface and yet dry at the roots of the plants; therefore ascertain by stirring the soil with a trowel in the middle of the bed, and if dry, give a good soaking with tepid water. Make up fresh beds for successive supplies.

*Beans and Peas* not yet sown for speculative crops may be got in now. Choose a dry sheltered position. If there is plenty of spare room in frames or pits, preparations may be made for early crops without incurring the risk of sowing out of doors. Fill a frame with turves cut of the usual width, and laid grass side downwards. Sow the seeds pretty close together along the centre of each breadth of turf, and then sift over some fine soil, just to cover them, and shut up. As soon as the seeds have started, give air cautiously, and keep them as hardy as possible. As they rise, occasionally add more soil, so as to keep earthing them up; this will make them more strong and stubby than by covering them their proper depth in the first instance. In February the turves may be lifted out and the plants divided, without any injury to the roots, and so planted out in drills of well-prepared soil, and protected with long dry litter and reed wattles, until the weather allows of complete exposure.

*Brushwood* is of many kinds. Clippings of hedges and small prunings of bush fruits and trees are generally of no use for firewood, except in the furnace of a saddle or cannon boiler, for which, in some gardens, all such stuff may be used. But there ought to be no waste of anything that will burn, and at this time of year labour can generally be afforded to deal with these things in a way to economize every scrap. Lots of real good firewood may be looked out by first chopping and sawing up all loppings of fair size; at the same time large guarled and twisted branches should be stored for rustic work. Many a gardener has to buy in spring stuff that he might have supplied himself with by a sorting of the timber obtained in cutting down old trees and in the clearance of old plantations. When the best of the stuff has been stored, char all that remains, and keep the ashes under cover for use. In charring, a flame should never be allowed; a smouldering fire reduces without waste; a flame wastes the best part of the material—that is, the charcoal. To prevent too rapid a consumption, keep the heap well covered with turf, clay, or other soil, so as to confine the heat, and prevent too free an access of air.

*Cabbage, Scotch Kale,* and other standing vegetable crops, should be lightly hoed between when the ground is dry, and the plants earthed up; this protects their roots from frost, supports them against wind; and the hoeing removes weeds, and by loosening the top crust, prevents frost entering so deep as it does in hard ground.

*Cauliflowers, Lettuces,* etc., in frames and hand-lights must have plenty of air while mild weather lasts, by removing the glasses entirely on fine days, and keeping them tilted during rains. If any signs of mildew, sprinkle with sulphur; the *Boite à Houppe,* sold for half-a-crown by Burgess and Key, Newgate Street, is the best sulphur-duster, and should be always at hand in a dry place ready for use. It delivers lime, sulphur, or any dry powder, in a regular cloud, and is very expeditious. The fine dust from the bottom of the peat stack or the binns of the potting-shed will be found useful to strew on the surface

amongst plants suffering from damp; there is nothing to equal peat-dust for the purpose.

*Compost* should now be prepared in quantity, as there is now a chance of getting it well frozen and several times turned before the winter is over. The benefit of attending to this at once will be immense in the culture of specimen plants, and, in fact, with whatever requires a good compost, well pulverized, and free from vermin. It must be remembered that composts frequently turned at this time not only get frozen, which kills the vermin, but the robins and thrushes explore it every time it is thrown up afresh, and they perhaps clean it more effectually than frost.

*Garnishing and Flavouring Herbs* should be taken up and potted, in case of severe weather. Parsley and mint are generally scarce in February, because there is no care taken in time to secure supplies. Large roots of parsley potted now will keep green and fresh till wanted. The roots of mint should be potted in leaf-mould, and the pots plunged in an asparagus bed, or placed on a flue to force it gently. Parsley may also be protected on the ground by means of hooped mats and litter.

*Rhubarb and Seakale.*—Those who have not begun to force should do so now, either in the open ground or by potting. As a very mild heat suffices, this season's leaves and litter, if plentiful in bulk, will do as well to make up a bed for the purpose as dung. If the latter is used, it should be turned three times before making the bed, or the heat will be too fierce and too transient.

*Warm Borders* sloping to the south under brick walls may be sown with Horn carrot, early short-top radish, white mustard, golden cress, Beck's Gem beans, and Hammersmith lettuce. During sharp weather dry litter and hurdles will protect them very efficiently.

Fruit Garden.—*Bush Fruits* to be propagated by cuttings of ripe stout shoots of last year, and the buds to be removed from the bottom of the cutting to within four inches of the top, so as to form a clear stem and prevent suckers. Lay on a thick coating of half-rotten dung between gooseberry and currant bushes, and in dry weather prick it in with a fork, so as to avoid injury to the roots. Raspberries to have a heavy mulch, which is not to be pricked in; any disturbance of their roots is a great injury. In small gardens the best crop of currants will be obtained from standards, which are easily grown, and have a very handsome appearance when loaded with fruit.

*Fruit Trees* to be planted with all speed; if delayed much longer, the next year's crop may be lost. Always trim away by a clean cut all bruised and jagged portions of the roots; place the original collar at the level of the soil, so that the tree is no deeper than it was before, and fill in with soil in a friable condition. No tree will prosper if the roots are puddled in with wet pasty earth. Fruit trees of all kinds, both in fruit garden, orchard, and orchard-house, should now be pruned and painted. For the latter purpose, a mixture of lime, soot, and clay, to the consistence of paint, will answer well; or use Gishurst according to the directions which accompany it.

*Pruning* of standard trees should consist chiefly of opening out the head and regulating the growth, without severe measures of any kind. Wherever large boughs require removal, it is a proof of neglect of some kind in times gone by; and if many large branches are dead or dying, depend upon it the tree is in a bad state at the roots; most probably the surface roots are gone altogether. In small gardens old fruit trees are frequently killed by raising the soil about them, and so year by year removing their roots farther and farther from the atmosphere.

*Root Pruning*, where required, should be commenced without delay; the simplest method is to open a trench on one side of the trees, and cut back the roots to within two feet to three feet of the stems (according to the size of the trees) half round each tree. Next year open trenches, and cut back the roots on the other half round, and so on year after year. This will prevent a rank growth, and increase their fruitfulness.

Vinery.—*Vines* in course of breaking may be assisted materially by making up in the house a large dung-bed. The dung should have been turned twice, then to be wheeled in, and made up solid as for a hot-bed, but the surface not to be covered with soil. The ammoniacal vapour and the moisture together will give great vigour to the new growth, and, if the roots are properly encouraged, there will be a grand start made for an early crop. If this cannot be done, syringe frequently, and put troughs of water over the flues or pipes. Vines now to be started should not have much heat, say 55° by day and 45° by night, to be increased gradually; in fact, any hurry in starting vines into growth has to be paid for afterwards in shanking, mildew, deformed bunches, or some other grievance.

Flower Garden.—We cannot advise

the planting of evergreen shrubs at this season, though we confess to doing it ourselves and seeing it done by everybody else. It would be much better for the trees to be content now with marking the places where they are to go by stakes, and leaving them untouched till April, when the shift will distress them less, and they will commence to make new roots immediately. This plan allows of the planting of deciduous trees and the finishing of all the rough work in laying out a shrubbery, and it may even be carried so far as to the making of the holes for the evergreens, laying the stuff taken out in heaps beside them to get completely pulverized for filling in. Every cultivator of flowers should secure now a good supply of turf from a loamy pasture, and of bog, peat, or silky yellow loam, in which the common brake grows plentifully. These should be stacked up in high ridges like walls, so that the frost will penetrate the whole mass, and the grass will rot quickly. Manure, roughly spread among choice shrubs, will assist in protecting their roots from frost. In spring the manure can be levelled, and all rough stuff raked off. This is a good time to make banks and rockeries, as during frost the wheeling can be done without harm to the walks.

*Alpines* suffer more from wet than frost; choice kinds had best be potted and put in frames, as during January there is usually much havoc committed among alpines on rockeries. The only safe way to keep up a collection is to have duplicates of all the species in pots.

*Flower Beds* not occupied should be deeply stirred and left rough. The fear of an untidy appearance causes many a flower garden to get sour and full of vermin, whereas the soil should be as thoroughly broken and pulverized as that of the kitchen garden. The beds may be manured now where the positions are comparatively dry, but it will be as well to defer the manuring till the spring. If supplies of turf are wanted for next year's potting, get the material in at once, and stack in long narrow ridges like dwarf walls.

*Flower-sticks* are important items of garden furniture, and during dripping weather, time may be well spent in-doors, or in company with the furnace fire, in preparing a plentiful supply for next season. For ordinary purposes, the best flower-sticks are made by splitting what are known as four-foot double-selected laths, which the bricklayer or lathrender will supply. These should be split and cut to proper lengths, the edges rounded off, and the ends pointed, and then the whole should have two coats of paint. They will last longer if the pointed ends are dipped in hot pitch, which prevents their rotting in the soil. Flower-sticks of this sort are generally painted green, but they should be separated into two or three lots in sizes, and be painted two or three different colours, such as reddish-brown, green, and dark umber. These three colours will match nearly all the various kinds of stems of plants which the sticks may be used to support. The strong shoots of fuchsias that have been cut down in the open ground make excellent flower-sticks, and need no painting, because of their natural colour; the hardy fuchsia, called Riccartoni, makes first-rate flower-sticks, and the common Snowberry may be cut down for the same purpose, and the stout rods trimmed for sticks, and the light ones put aside for use as pegs, for which purpose they are very tough and trustworthy.

*Rhododendrons* that have been many years planted require a little refreshing at the root, and this is the best time to do it. A mixture of very rotten cow-dung and leaf-mould is an excellent surfacing material, or two or three inches of rotten cow-dung only will do; nothing stronger must be used. This is a job that may be done during frost better than while the ground is wet.

*Roses* must now be protected where they are much exposed to north-east winds. This is especially necessary in the case of standard tea roses, which in hard weather are often killed back to the work. If it is not thought advisable to take them up and pack their roots in earth in a shed, tie some haybands in and out among the shoots which form the head, so as to protect all the lower parts of the main branches, leaving the top unpruned, to bear the full severity of the weather. The ends of the shoots may be killed back some inches, but the ripe and stout wood of the head will escape through being protected, and at the March pruning all the frosted parts will be cut away. Dwarfs on their own roots are easiest protected by putting fern or straw loosely about them, and then laying a few heavy tiles or bricks over the roots; these keep the litter from blowing away, and preserve the roots from the effects of frost. Roses to be planted should be got in without delay while there is yet a chance of fair weather; as, if neglected now, it will be better to defer planting till the end of February. All newly-planted standards to be securely staked. In damp soils, iron rods are the best stakes,

as they do not encourage mildew in the soils as wooden stakes do.

*Tender Plants* in the open ground, such as Fuchsias, Erythrinas, Bouvardias, Oxalis, Alstrœmerias, Japan Lilies, Watsonias, and other rather delicate bulbs in the peat bed, must have some protection, such as coal-ashes piled in the form of a cone over their roots, or heaps of moss put over and kept from blowing away by means of hoops of willow rods.

Greenhouse.—Greenhouse to have as little fire-heat as will be safe, and to be kept as dry as possible. On the occasion of a sudden frost there is a tendency to get up a brisk heat at night, and much harm is inflicted on plants by running the temperature up to 60° or more, and then leaving the fire to go out, so that, by the morning, they are exposed to a temperature of 35° or less. The amateur must endeavour to avoid such extremes. By a little watchfulness it may generally be known when frost is to be expected; the fire should then be lighted early in the day, and allowed to go very low at night, and be banked up the last thing, so as to burn slowly till morning.

*Alamandas, Dipladenias, and Stephanotis* to be potted and trained.

*Chrysanthemums* may be kept in trim to keep the houses gay for a long time yet, if a little care is bestowed on removing dead leaves and keeping the foliage healthy. Some of the later kinds will now be coming into bloom, and a little fire-heat will be good for them if the weather is severe. The whole stock should be looked over now to see that small plants are tallied correctly, to prevent errors in propagating next spring. Put in cuttings at once of the varieties to be grown as specimens for next year. The mild heat of a bed of leaves will promote their rooting, and it is as well to give them a little help, as, if they remain in the cutting-pots a long time before they make roots, they get exhausted, and do not grow with a proper vigour. We believe a good deal of the difference in the specimens exhibited is owing to the mode in which the cuttings were struck. As size is of great importance in specimen plants, the sooner the cuttings are put in the better, that they may have a long season of growth. Chrysanthemums may be disposed of very easily by setting aside in a cool greenhouse one store pot of each variety it is intended to propagate, and destroying all the rest. That is our way of wintering a large number in a small space. Good stools in 6-inch pots will furnish any number of cuttings when required. People who have no glass can pack the roots close together under a wall or fence, where some dry straw can be thrown over them during severe frost.

*Ericas* of the winter-blooming kinds are to be kept as well aired and as hardy as possible. When requiring water, give the roots a good soaking, choosing bright mild weather for it if possible, and repeat the watering the next day, if any doubt whether the ball has been moistened through. After this let them go nearly dry again, but never beyond a certain point of dryness, or the ball will get hard. The general stock of Cape heaths will bear a few degrees of frost without harm, if kept well aired at all favourable opportunities. What is most likely to injure them is a dry fire-heat and a too dry state of the roots. But they will want very little water at this time of the year, and should have no encouragement to grow.

*Gesnera zebrina* is one of the most useful of winter flowers, and should have every encouragement, for its exquisite leaves are almost as attractive as its scarlet and yellow flowers. They will require an average temperature of 65° to 70°, with plenty of water, and to be syringed occasionally while pushing for bloom; but this must be done with great caution. Any that are to be started now must be potted in a rather more peaty soil than for summer culture, and have very little water until in active growth.

*Hyacinths* that have filled their pots with roots may now be pushed on by placing them over a moderate bottom-heat. In the early vinery the dung-bed will answer admirably, as the vapour will give the foliage a rich green healthy hue, and the flowers will come in fine spikes. But they must be prevented rooting down into the dung by being placed on flat tiles or slates.

*Ixoras* to be near the glass, and have plenty of air as the weather will allow.

Stove.—Stove plants at rest may suffer if allowed to get too dry, especially those having porous foliage and soft stems. In giving air take care not to expose tender plants to cold draughts; in fact, air should never be admitted in a volume at this time of year. The general collection of stove plants will be satisfied with a temperature of 60° by day and 50° by night. Orchids require a watchful eye among them; so many diverse climates are now represented in our collections, that it is no easy matter to keep all at rest together, and it may be better to remove a few that require to be kept growing to the forcing-pit rather than risk the safety of others by too high a temperature.

*Euphorbia Jacquiniflora* will soon be in fine condition, if carefully treated. Let it have good stove temperature and plenty of light, but be careful to give it very little water. It is often spoilt by amateurs, who think as the plant is in a flowering state it ought to have abundance of water, which is a mistake. If kept very wet at the roots, the leaves will fall off. At the same time it must not go dust dry.

*Forced Flowers.*—Put in Provence, Tea, Bourbon, and Perpetual Roses, Sweetbriar, Lily of the Valley, Lilacs, Weigelias, and bulbs according to stock.

Orchid House.—Orchid house to be kept at as low a temperature as is consistent with safety. The use of excessively high temperatures has been the cause of more mischief than all the rest of the mistakes in orchid culture. Keep the atmosphere of the house moderately dry, and as sweet as possible. One of the most important matters for the young beginner is to learn to decide when the pseudo-bulbs are ripe and ought to be at rest, and to proportion the period of rest to the habit of the species—matters which depend more on personal observation than on the precepts of books.

Pits and Frames.—*Cucumbers* that have been in bearing some time may always be restored to a youthful condition by the use of the knife. If we have a length of lights occupied with bearing vines at this time of year, we prepare for their renewal by opening a trench all round the roots of every alternate plant at a distance of one foot from the stem. This of course shortens in the roots to that length. We then fill the trench with a mixture of chopped turf, leaf-mould, and rotten dung. There will be new roots formed in this mixture at once, and a week after the operation we cut back the vines to within a foot of the soil, and then take up new runners, and stop and train as before. As soon as these show fruit, the remainder can be dealt with in the same way. They want extra bottom-heat after cutting back.

*Mushroom Beds* should be kept covered during bad weather with dry straw, and over that reed or straw hurdles, to throw off the wet and prevent entrance of frost. During mild bright days, take off all the coverings, expose the beds to the air, and cover up again with fresh dry straw. This management will keep the beds in bearing, and without deterioration of the produce.

*Pines* in fruit will need a moist air and a good bottom-heat; the late sunny weather has been very beneficial to pines colouring, and if the colour is right, the flavour is generally the same. The general stock must have as low night temperatures as will be safe, say 55° for a minimum, and by day 70° to 75°, and not higher. Dung-heat is rather troublesome this time of year, and there must be always at hand materials for lining and covering up, in case of a sudden change to severe weather.

Greenhouse Plants in Flower.—*Amphicoma arguta* is a beautiful greenhouse Bignoniad, scarcely known. It is an evergreen, and forms a shrub twelve to twenty inches high, and resembles a Pentstemon when in flower. The flowers are lilac, and are produced in the open border in August.

*Andromeda phillyreæfolia* is one of the smallest of the race; it is from Florida. It has exquisitely beautiful dark green foliage, and flowers freely, requiring the same treatment as Azaleas in forcing.

*Billbergia thyrsoides and Wetherelli.*—Bromeliaceous stove plants now in full beauty, and must have a temperature of 60° by day and 50° by night, or the blooms will fall prematurely; but kept at a proper temperature, the pretty tubular flowers last a long time. We recommend of this genus thyrsoides, scarlet; Wetherelli, blue and yellow; amœna, green and blue; fasciatus, blue and red; iridifolia, scarlet and yellow; pyramidalis, crimson. The soil should be equal parts turfy loam, leaf-mould, peat, and thoroughly-rotten cow-dung. The plants may be divided annually for fine flowers, but for massive effects may be allowed to stool from year to year till they fill large pots, and then they throw up numerous spikes of bloom, but the blooms are individually poorer than from offsets grown singly.

*Chimonanthus fragrans and sinense.*—These fine half-hardy deciduous shrubs require to be somewhat aged before they bloom well. Any rich light soil will suit them; and the easiest way to keep up a supply for forcing is to grow them from layers made in September; plant out in nursery rows, pinch in all summer, protect during frost with old mats tied to stakes amongst the plants, and take them up for potting when three years old, when they ought to be compact dwarf bushes. We have grown it as a wall shrub for twenty years, without an accident, till the winter of 1860, and then our old and young trees were alike destroyed root and branch. C. grandiflora is a very handsome wall-tree, and produces its yellow flowers in mild seasons along with Jasminum nudiflorum.

*Citriobotus multiflora.*—A diminutive

shrub from Western Australia, where it is called "orange thorn," on account of its little orange-coloured fruit. It is a pretty thing to grow for the drawing-room with Solanum capsicastrum, and other berry-bearing shrubs. Culture the same as for New Holland plants generally.

*Correa pulchella.*—See former notices of other species. Grow in sandy peat and turfy loam; warm greenhouse treatment. They are unequalled for winter flowers.

*Cytisus atleeana, elegans, and Everestiana* are the three best of the race for early bloom in the greenhouse. They make noble standards, and may be kept dense and bushy by clipping when done blooming; grown as diffuse bushes, they are best not pruned at all. Soil, equal parts peat, leaf-mould, and old cow-dung, and limited pot-room.

*Daphne indica.*—We may use the customary phrase in reference to this plant without fear of a challenge, and say, "No greenhouse is complete without it." They are, indeed, charming shrubs, and as easily grown as anything that is worth pot-room. The point of chief importance is pot-room; they must not be cramped or starved at the roots. The next point is not to use more than half peat, the other half turfy loam, the turf well rotted, plenty of water while growing, and, of course, very little when at rest. When we hear of failures in flowering Daphnes, we always first suppose the cause to be pushing them on too fast in heat; they require shelter rather than heat; but, to be in bloom now, must be rather skilfully forced. They force better every year, by getting used to it. The plants, after having been forced a few seasons, begin to move naturally when the time comes again, and then their flowering should be assisted. The best for a small collection are D. Indica, white; D. Indica rubra, red; D. odora, pink; D. odora rubra, red; and D. chinensis, yellow.

*Echeveria Scheeri.* — A pretty pink flowering houseleek from Mexico, requiring the usual treatment of this class, with a little extra warmth while in bloom.

*Echium fastuosum* is a plant of some pretensions, and one of the giants of the race. Its showy purple flowers are just now beginning to open on plants that were forced last season, and are now in a pit with the first batch of azaleas and camellias. When taken to the conservatory, it will make a gay show for some months, if kept warm. All the greenhouse Echiums like peat and tough turf from a strong loam, with abundance of drainage material in the pots.

*Epacris nivalis and purpurescens.*—There are few greenhouse shrubs that surpass the epacrises, and they are among the easiest of subjects to manage. Treat as Ericas, but with more warmth in winter. Put them in turf pits all summer, with the pots plunged in cocoa-nut waste, to keep the roots cool and moist. Prune well in after flowering, and encourage the new growth by the same means as used with Camellias. There can be no excuse for the long, snaky-looking plants we too often see in private collections, and which attain to their gaunt outlines because left to grow as they please, without any seasonal pruning.

*Genera zebrina and splendens.* — If these have been managed according to directions previously given, they will now be coming into bloom vigorously. As they will probably be suspended, see that they are not exposed to draughts, or they will suffer. Do not water the leaves. Keep the roots well supplied.

*Globulea hispida.*—This belongs to a section of house-leeks, with glandular leaves. They are succulents from the Cape, with white flowers, neat habit of growth, and worth a place where these plants are esteemed. Grow in sandy loam, peat, charcoal, and bricks broken to the size of walnuts, and with the dust sifted out.

*Gossypium Barbadense.*—This biennial cotton-plant requires a stove temperature and a rich soil; to have it in bloom now, it should be struck from cuttings in June, and have liberal culture, allowing it to get pot-bound in September.

*Hermannia plicata.*—A small shrub of the natural order Byttneriads, from the Cape of Good Hope. It requires the same treatment as Cape heaths. Its yellow flowers are now nearly over.

*Jasminum nudiflorum.* — One of the most useful winter-flowering plants, because certain to bloom, very cheerful, and quite hardy. We never saw it suffer by frost, and in the open air it is covered with its golden blossoms long before there are any genuine signs of spring. As a pot plant, it may be grown to almost any shape; and perhaps the best is trained over a small wire umbrella, or taken up by one clean rod tied to a stake, and then allowed to hang down in festoons.

*Lalage hovæfolia.*—A pretty fabaceous plant from Australia. It forms a small shrub with hovea-like leaves and yellow platylobium-like blossoms. It requires some skill to grow this plant well. The first necessity is extra good drainage, and the next is plenty of air, and in winter to

have a temperature never lower than 50°. The soil, fibry peat, loam, sand, small crocks, and charcoal. The cool end of the dry stove is the best place for it this time of year.

*Leucocoryne ixioides.* — A beautiful half-hardy bulb from Chili, producing now its lilac flowers. Requires the same treatment as Ixia. Soil, turfy peat, and best planted out in a conservatory border, though very useful as a pot plant.

*Mesembryanthemum bifidum, crassifolium and serrulatum.*—These winter-flowering species require much care at this season, as if they are allowed to get too wet at the root, or if the drainage is defective, they are sure to perish, unless enjoying stove temperature. The amount of moisture at the root must be in proportion to the temperature of the house; and if very little fire-heat is used, keep the plants nearly dry. Of the three named above, the first has yellow flowers, the other two pink.

*Myoporum parvifolium.* — A pretty white-flowered Australian evergreen shrub, of a genus which furnishes about a dozen useful species. M. parvifolium has very small leaves, and is nearly hardy, and a good plant to train on a sheltered wall, in a dry bed of gritty peat; when grown in pots, all these need the usual treatment of New Holland shrubs — fibry loam and peat, and a good sprinkling of nodules of charcoal. A cool greenhouse suffices for this species, but the others require a rather warm berth, and as much air and light as Ericas.

*Myrsine coriacea.*—A greenhouse or stove evergreen, of the Ardisiad tribe, from Jamaica; soil, sandy loam and peat.

*Oxalis laxula, variabilis, and fruticosa.*—These charming plants are worth any amount of care to keep a few in bloom all winter. They require warmth and protection from damp. It will be as well, also, to remove dead blooms with a pair of scissors once or twice a week, to keep the pans looking fresh and bright. We always grow plants of this sort in pans a foot or so wide, as these are handy at any time to be placed on the drawing-room table.

*Phylica pinea.*—Of this Cape Rhamnad, we have had in bloom at this season, P. pinea, P. imbricata, P. nitida eriophora, and P. rosmarinifolia, all white-flowered; two or three species will be sufficient for any moderate collection. Grow in a porous soil of peat, sand, and broken freestone, and treat as Ericas.

*Pittosporum flavum.* — This yellow-flowered Pittosporum is very nearly hardy, but of no use out of doors, even in sheltered places, because of its blooming at a season when frost would be likely to destroy its beauty. It is a fine shrub, with sweetly-scented flowers, and lasts a considerable time in bloom.

*Rhododendron Brookeanum and Javanicum.*—The first is a fine Bornean species, with reddish-salmon flowers, which requires stove culture, and is well worth it for its showy trusses at this season. The second is a small-growing kind from Java, and is known as a rare and exquisitely beautiful species, with yellow flowers, also requiring the stove, and abundance of water all the season of growth.

*Salvia fulgens* is a glorious plant for winter blooming, and never fails, if rightly managed, to bloom for months together. The soil should be rich and light, and the plants kept from blooming till wanted by occasional small shifts and stopping the shoots; then, if the wood is well ripened in autumn, and the plants allowed to get pot-bound, a good greenhouse temperature will keep them going till Christmas.

*Witsenia maura.*—A useful herbaceous plant for late bloom in the stove or greenhouse, but now very rarely seen. Best grown to large stools in a compost of turfy loam, peat, and sand. Offsets may be taken off in April, and potted in sandy peat, and placed in a gentle bottom-heat. It belongs to the Iris family.

*Zygophyllum cordifolium and maculatum.*—This is the Bean-caper from the Cape of Good Hope, of which about twenty species are in cultivation. They are very nearly hardy, and the annual kinds are useful border flowers. Both those named have yellow flowers, the second of the two being spotted. Z. album may also be had in bloom during October and November.

*Globulea atro-purpurea.* — A very pretty and useful greenhouse succulent, of very low growth, and with purple flowers, requiring the same treatment as others of the class.

*Grindelia Lamberti.* — A yellow-flowered evergreen half-hardy herbaceous plant, belonging to the Aster division of the Composites. Ours have been in bloom since the second week in August, in the open air, but must be housed for the winter.

*Malva campanulata.*—A pretty greenhouse evergreen shrub, requiring a rich, light soil and generous culture, and well worth the necessary care for the sake of its bell-shaped lilac flowers, which are very cheerful at this dull season.

*Meyenia erecta.*—A small shrub belonging to the natural order Acanthaceæ; the flowers purple, with yellow tubes. It

is a native of the West Coast of Africa. It is a pretty subject to train to some kind of low trellis for flowering in the conservatory, and makes a pretty ornament to a mixed border during the summer.

*Nerine sarniensis.*—The Guernsey lily comes to market with the flower just ready to push out of the bulb, and should be potted as soon as obtained, as the bulbs are much injured by exposure to the air for any length of time. By keeping them cool after potting, and bringing a few forward at a time, a succession may be had from the middle of September to the end of November. All the Nerines delight in a strong loam; in light or peaty mixtures they do no good at all. After flowering, promote a vigorous leaf-growth in a moist heat till about April, when the leaves begin to die down; then lay the pots on their sides on a top shelf in a greenhouse, and leave them without water till September, when shake them out, and pot again in fresh soil. Managed in this way, they will bloom again and again; by any other method of management there must be a fresh purchase of bulbs every year.

*Othonna virginea.* — An evergreen greenhouse asteraceous plant, with yellow aster-like flowers and woolly leaves. Best propagated from cuttings. Soil, two parts sandy loam, one part peat. Keep warm all winter.

*Passiflora Colvilii and racemosa.*—These are stove species which do very well in the greenhouse under some circumstances, but must not be classed as greenhouse plants. The second we once grew in a lean-to which occupied the place where a ditch had formerly existed, and was a remarkably hot and damp house, having a back wall of double boards, with three inches of sawdust between, and facing full south. It ran twenty-five feet, and bloomed from the end of June to Christmas, with the help of fire after the middle of October. A broad, deep, dry border of turfy loam, made light with plenty of gritty leaf-mould.

*Pleroma elegans.*—This fine evergreen greenhouse shrub is now in full beauty, and most acceptable at a season when there are so few stove plants in flower. To grow this plant, strike cuttings of half-ripe side-shoots in July, with a gentle bottom-heat; pot off in fibry peat broken up in lumps, with nodules of charcoal and small crocks, putting some fine sandy peat next the roots of the young plant. Always give extra drainage and small shifts. It is usually grown in the stove, which is unkind treatment; it is at home in the greenhouse.

*Salvia splendens* may be kept in bloom till the end of the year or later, in a good greenhouse temperature. It must have all the light possible, and plants of any size in smallish pots may be helped with liquid manure. It is one of the best for autumn and winter flowering, and should now, or very soon, be one blaze of scarlet.

*Solanum Tweedianum.*—A fine greenhouse species, with white and purple blossoms, easily grown, and propagated by either seeds or cuttings.

*Statice Holfordii.*—This is one of the grandest of the race for specimen culture, and is a fine subject for exhibition. It is very nearly hardy, and needs the same treatment as the rest of the greenhouse species.

*Stenochilus viscosus.*—A pretty evergreen shrub from New Holland, requiring warm greenhouse temperature all winter, and the usual treatment of plants from the same country. The yellow flowers are not showy, but worth having, and the plant has a character of its own.

*Tacsonia mollissima.*—To keep this in bloom, use a little fire-heat now, and keep the house dry.

*Thea Bohea.*—A nearly hardy species of tea-plant, more interesting than beautiful, but worth a place in a large conservatory, where it can be planted out in a deep border of turfy peat and loam. Treat the same as camellia, and the camellia house is the best place for it. It does not flower freely till it attains some age.

*Vinca pusilla.*—A small species with blue flowers. It begins to bloom in August, and lasts some weeks. It is a stove annual, easily grown, and never disappoints.

## TO CORRESPONDENTS.

Male Aucuba, etc.—*A. B.*—The reason we have never seen berries on the aucubas in our gardens is, that they are all females, and that until lately the male plant was not known here. Since the introduction of the male plant by Mr. Fortune, female plants have been fertilized by its pollen, and the rare sight has been produced of variegated aucubas covered with scarlet berries.

When the male plant comes to be fully distributed, the aucubas in our gardens will be glorious in winter; they will far surpass in beauty all other known berry-bearing shrubs. We advise our friends to secure male plants as early as possible, for it will become a race soon amongst amateur gardeners who first shall have fruitful aucubas. As regards the various new aucubas from the Himalaya, etc., it is probable that the pollen from a male of one species will fertilize females of its own and of other species indifferently. That, however, remains to be proved. Certainly, in purchasing any of the new aucubas, we should secure males and females, if possible; but the question is, if it be possible. Your wild ivy is a fine form of *palmata*; it is an altered form of the common ivy. To secure it, you must strike a few cuttings on which there are leaves fully developed in the palmated form. We find July the best time to strike cuttings of the fruiting form of ivies; but a quicker way is to graft them on stocks of Irish ivy. Your variegated Arabis is as good, but not better, than the kind in general cultivation.

Barren Fig-tree.—*Horticultor.*—A fig-tree that produces abundance of young fruit which quickly dwindles away, is, no doubt, in a very bad state at the root. You say the "top soil is good, but thin, upon coarse gravel, which is sometimes wet, and sometimes scorched up;" a state of things quite sufficient to account for the failure of the tree to mature its fruit. By some means or other the roots must be raised; and as fig-trees are not easily killed, we should—unless it is very large—take it up and replant it in a better way than it was planted at first. At a foot or eighteen inches below the common level of the ground there should be formed a hard pavement of concrete, sloping gently to a drain. On this lay six inches of hard rubble, and then form a bank of good earth, and plant the tree two or three feet above the common level of the soil. The best soil for a fig-tree is maiden loam, with a fifth part of calcareous matter, such as old plaster, chalk, lime rubbish, etc., added. We greatly prefer fresh chalk for such purposes, because in lime rubbish poisonous substances sometimes occur. We cannot inform you on the subject of iron filings.

The Garden Oracle and Horticultural Year Book for 1865.—As in every issue of the Oracle an endeavour has been made to present to the horticultural public something new, the present issue contains a list of stove and greenhouse orchids arranged to bloom every day throughout the year. This is accompanied with notes on the culture of the several genera, and supplemented by a paper designed to show that the collecting and cultivating of orchids need not of necessity require large outlays of money. In this paper there are numerous practical hints which will no doubt be of great value to beginners in this pursuit. The Oracle also contains descriptions of all the new plants, flowers, fruits, etc., of 1864, and selections of useful objects for 1865. It is, in fact, crammed full of information of the utmost value to gardeners of all classes, and will repay its cost a hundredfold to all its readers.

Tuberose Culture.—*T. R.*—*Burntash.*—There is but one certain way of having the flowers of the tuberose, and that is to procure fresh bulbs every year, and grow them liberally in a genial atmosphere. The bulbs should be potted as soon as obtained, giving them a rich sandy soil of the same quality and consistence as is used for hyacinths. When potted they should be set aside in a warm place for a fortnight, and then be placed on a flue, tank, dung-bed, or elsewhere, and have a bottom-heat of at least 60°. It does not answer well to place them in the stove, because it is the bulb rather than the top that needs warmth. Give plenty of water, and the flowers will appear in due time. As soon as they are sufficiently advanced to be attractive take them to the drawing-room, and when the bloom is over throw the bulbs away.

Various.—*Honor.*—The subject shall be dealt with in an article next month; it cannot be disposed of here; and, besides, the explanation you need will be useful to many of our readers.—*F. A. N.*—Taylor's is the best book on Bees. We cannot promise the design you ask for. *Polly.*—Cut back the peach-rods only about a fourth of their length. For the wall in your house, Rhyncospermum Jasminoides. We are preparing a number of useful lists for next year, and with them some short practical articles on subjects of general interest. The lists you wish for next month.