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BOOKS FOR THE COUNTRY.

THE
FLOWER GARDEN,

BY

E. S. DELAMER,

AUTHOR OF "THE KITCHEN GARDEN," &c.

LONDON:

GEO. ROUTLEDGE & CO., FARRINGTON STREET.

NEW YORK:—18, BEEKMAN STREET.

PRICE ONE SHILLING.

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THE
FLOWER GARDEN,
&c. &c.

THE FLOWER GARDEN.

THE
FLOWER GARDEN;

OR,

The Culture in the Open Ground

OF

BULBOUS, TUBEROUS, FIBROUS-ROOTED, & SHRUBBY
FLOWERS.

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BY

EUGENE SEBASTIAN DELAMER, [handwritten: friend.]

AUTHOR OF

[handwritten: Dixon, Edmund Seal]
"PIGEONS AND RABBITS," "FLAX AND HEMP," "THE KITCHEN GARDEN,"
ETC. ETC.

A New Edition.

LONDON:

G. ROUTLEDGE & CO. FARRINGDON STREET;

NEW YORK: 18, BEEKMAN STREET.

1857.

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NOTICE.

FLOWERS and their culture have a whole literature to themselves. Hundreds of pounds might be spent in forming a floral library, and years devoted to studying its contents. Will, therefore, the Reader violently complain if he finds *this* FLOWER GARDEN incomplete in certain details, and even blemished by sundry small errors,—to avoid which last, however, all pains have been taken? It pretends to exactly as much as, and no more than, its predecessor, “The Kitchen Garden;” and will be content to receive the same meed of approbation, and to exercise the same amount of usefulness.

In all pursuits, there must be a first step,—an Indicator to the grand highways which lead to success and eminence. It is something to have taught an apprentice hand not to attempt too much at once;—to have pointed out to him *where* the difficulties of his Art lie,—*what* he may undertake with confident ease,—and to achieve *which* results he must gird up

the loins of his Intelligence and his Industry,—at the same time that he is presented with a general sketchy map of the vast country which lies open to his exploration. If the fair-judging Reader shall decide that this has been effected by the KITCHEN and the FLOWER GARDENS, it will be an encouragement to the Writer to volunteer as gate-opener to other fields of Philobotanic Literature.

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THE FLOWER GARDEN.

It would be an inconsiderate employment of our limited space, to repeat here such preliminary remarks to "The Kitchen Garden," as are applicable to horticulture in general. The plants which are candidates for admission into the flower garden, are very much more numerous, and more varied in their constitution, native climate, and soil, than those cultivated for culinary and economical purposes. But the wider and more discursive the topic, the stricter is the economy of packing room forced upon the literary workman, who has only a certain number of pages allowed him in which to arrange his superabundant materials.

Floriculture differs from kitchen-gardening in one grand principle,—that, whereas the latter has no free-will in the choice of the objects of its care,—for whether in Great Britain or Australia, in Russia or in Italy, a gentleman's household *must* be supplied with all possible, as well as all necessary, vegetables and fruits; the flower-gardener enjoys a wide range, and liberty of selection, which makes a failure on his part incalculably more discreditable. *He* has only to keep up a goodly show, to maintain a fair outside, no matter with what materials; if one thing will not prove effective, let him try another; if one family of decorative vegetables will not suit his latitude, his aspect, and his soil, others, perfectly adapted to it, will almost beg him to patronize them. While the unhappy kitchen-gardener is compelled to furnish peaches in June, grapes in April,

spinach all the dog-days through, and the materials for green-peas-soup in February,*—under every condition of the elements, and often with defective material appliances;—the master of the ceremonies to the parterre and pleasure-ground has full *carte-blanche* given him: his employer merely says to him, in so many words, or by implication, “Let me have something pretty to look at, and cheerful to walk in; let the out-door apartment of my mansion, which we call ‘the garden,’ be always tasty, gay, and well furnished with seats and leafy alcoves for the ladies,—with fountains to serve as lustres, and their basins as mirrors,—with sun-dials instead of timepieces,—a smooth carpet of verdant turf softer and more elastic than a Persian rug,—and, everywhere that you can contrive to place them, well-chosen combinations of the brightest colours. You may order to any reasonable extent of the country nurserymen; and whenever I go to London, I will send you down any striking object that may chance to be attracting attention there. Only let me have a well-kept flower-garden, and I shall be content. If we can show finer and more remarkable specimens than our neighbours, so much the better; if not, at least let our garden be as good of its kind as theirs.” The gardening artist who, under such circumstances,—with the accumulated treasures collected by Fortune, Lobb, Douglas, and other intrepid discoverers, at his disposal,—fails to produce a pleasing and harmonious effect, is almost left without excuse.

Therefore, in the laying out and planting gardens and pleasure-grounds, the wisest principle to start from is, not to gratify your own particular predilections in favour of certain classes of flowers and shrubs, but to make *them* subordinate to the local circumstances in which you find yourself placed. *They* must be the leading guides of what you will most cultivate, and even of your plan. Thus, in many famous gardens on the continent of Europe, many evergreens, which give the charm to our own shrubberies during a considerable portion of the

* See the Gardener's Chronicle for January 5, 1856.

year, either will not stand the winter, or are sure to be severely injured by it. Laurels, laurustinuses, arbutuses, bay-trees, and even Portugal laurels, are kept in tubs, that they may be housed when frost comes. Now, surely those gardeners show better taste by *refraining* from the employment of such evergreens in the same massive clumps as we do, than if they were to persist in parading half-dead and half-naked regiments of unacclimated and unacclimatable plants. Again: there is a tribe of plants, commonly spoken of by gardeners as American plants, with brilliant flowers, often of curious shape, and peculiar texture—often, too, with evergreen foliage,—which *must* have a special soil, heath-mould, to grow in, and which are the better for breathing an atmosphere of equable moisture. Rhododendrons, azalias, heaths, and kalmias, are of notorious beauty. Now, although beds of American plants may and ought to be made where the soil is not naturally suited for them,—and instances of horticultural success in this line are far from uncommon,—the principle here advocated is, that where the soil and climate are inherently congenial to American plants (as is the case in numerous sites in the hilly parts of England, Wales, Scotland, and Ireland), *there* American plants should be made the leading feature of the flower-garden and the pleasure-ground. Thus, not far from Penzance, in Cornwall, there is an extensive grove of pinasters, with an underwood of gigantic rhododendrons,—whose blossoms hang beyond the reach of the tallest man mounted on the tallest horse, now meeting overhead in thickets, now dispersed as independent evergreens. It would be in vain to attempt raising similar specimens under ordinary conditions of planting, while it was a happy idea to plant them where they flourish so luxuriantly. Again: the cypress is a magnificent ornament to the gardens of the south of Europe; but it requires a long roasting summer to make it put forth all its strength. It is respectable in the south of England; shabby-genteel higher up the island; in the north, miserable and poverty-struck.

Of course, local circumstances, and especially peculiar skill and care, can modify the average effects of latitude, —even within a dozen miles of Edinburgh some decent specimens are to be seen; but wherever, in spite of a fair trial of sedulous attention, the cypress sinks below the standard of respectability, there is no wisdom in continuing the fight against nature—the idea is to be manfully dropped. Too often do we groan over the aspect of cypresses that look as if their owner were taking care of them against an apprehended scarcity of birch-brooms. It would have been much better to plant in their place holly, Portugal laurel, box, and yew. *Hardy* evergreens only are admissible within the boundary of a sensible gardener's domain. In short, it is true wisdom in ornamental gardening to long, not for what is most difficult, but for what is easiest to obtain, supposing it to be good in its way. Unusually fine specimens of ordinary plants are more admired than shabby specimens of rare ones; and, for still stronger reasons, a collection of fine, well-grown individuals is a more attractive sight than a collection of wretchednesses, however distant may be their native spot, or however much money they may have cost at the nursery. It is needless to explain that the above remarks do not apply to experiments in planting out, and testing the hardiness of newly-arrived species. In such cases, some risk must be run. Those who succeed, have the gratification of drawing the prize (which they well deserve) of having handsomer, because older-established, plants than their neighbours growing out of doors, as happened to those who first ventured the Deodar Cedar and the *Cryptomeria Japonica* to stand the winter as garden-trees, and the *Dielytra spectabilis* as a border-flower.

Even the plan, form, and character of the flower-garden must be moulded by circumstances. It must be open, and yet private; secluded from intrusion, and yet exposed to light and air. It must be conveniently near; as much under the eye and as open to the constant and immediate visits of the persons who are to enjoy it as

can possibly be contrived: keeping in mind the notion that a flower-garden is a sort of open-air apartment, it should harmonize, both in style and magnitude, with the residence of which it forms a part. Only one discrepancy is permissible; a small but handsome and tasty cottage may stand in the midst of large and luxurious gardens. Even then, the disproportion should not be too glaring. But, except in the largest cities, a vast house, a semi-palatial abode, with only a few square yards of court, and no garden, or only a tiny apology for one, is as offensive to good taste as it is inconvenient and uncomfortable to its occupants. The style, also, of the flower-garden must correspond with that of the house and grounds, and carry out the date of the architecture. An Italian mansion, on the slope of a hill, should have its terraces, vases, balustrades, and flights of steps leading to the several levels of horizontal flower-beds, forming something like what Sir T. Browne called "the pensile or hanging gardens of Babylon." If the park is laid out in avenues, and the house is either in the Dutch or the Elizabethan style, then a geometric garden, with formal evergreens, with clipped yew hedges, and even with verdant, living sofas, obelisks, peacocks, statues, and ships of box and yew, will be in harmony. While a park in the Brownean style of landscape-gardening, allows the flowers to be distributed in their place in the artificially-natural mode (as if the gardener were composing a picture, or a scene for the opera), which is known all over Europe as eminently the English style of gardening. As a rule, the more wild and secluded the district in which the house is located, the more highly finished and well dressed ought the garden to be. In the highlands of Scotland, in the valleys of Wales, on the moors of Cornwall and Devon, the traveller has seen enough of thickets and rocks, and of wild nature in general; but a distant glance of his trim and regular garden, a peep at the top of trees and shrubs which are not to be found on the mountain-side, recall him at once, in idea, to his HOME, and forestall the realities of repose and comfort.

But; whatever style of garden is adopted, one grand miscalculation should be guarded against;—it is the *large* garden, which is too often coveted in the place of one in perfect trim. Men *will* grasp at more than they can carry, when they are allowed the permission to take up a *fair* armful of happiness; and so they forget the golden maxim, whether for the parterre or the cottage allotment,—

——— “laudate ingentia rura,
Exiguum colito.”

“*Praise* an extensive country estate; cultivate a little one.”

Flower gardens may be divided into three classes, TOWN GARDENS, VILLA GARDENS, and COUNTRY GARDENS, or the gardens attached to gentlemen's country seats.

TOWN GARDENS.

The first point to carry, in these, is to get *something* pleasing and ornamental to grow; what those somethings are, will depend entirely upon circumstances. There are localities where almost nothing, in the shape of vegetable organization, can preserve life. Near Wolverhampton, the hardiest weeds are all that can be seen; and around the alkali works in the north of England, the trees and hawthorn hedges are killed; the herbage alone exists, and that does not always remain uninjured. It is clear that in a country town, of from five to ten thousand inhabitants, where no smoky or gas-exhaling manufactures are carried on, a longer list of plants can be grown and bloomed, than in the heart of London or Manchester. Therefore, the town gardener must be content with what he finds by actual experiment will bear his own peculiar climate. His first object must be to have abundance of fresh and healthy foliage; his second, though equally desirable aim, to enliven it with all the flowers he can. As to style, in small country towns, a landscape garden can be effectively laid out, where there is a brooklet, a bit of meadow, a rustic bridge, and a distant peep of the

open country. The smallest bit of real rural horizon is an invaluable element in horticultural picture-making. But in large cities, a geometric or symmetrical plan is mostly the only available arrangement. Advantage may be taken of a passage, an archway, or a line of building, to help to form a vista or avenue, and to give the idea of greater extent than really exists. If people were not afraid of being reproached with a Cockney taste,—which taste is often no more than the wise and laudable desire of deriving the utmost amount of enjoyment from the most limited capabilities and materials,—the Chinese style of gardening might be very advantageously employed in very many town gardens. It allows the display of many ornaments, it courts the introduction of incongruous flowers, it affords a place for the whims of wealthy fanciers, which otherwise must be excluded. The Chinese are admitted to be excellent gardeners, even by those who do not admire their taste. A Chinese town garden, employing pot-plants, dwarf trees, movable trellis-work, and temporary summer-houses and flights of steps, in the same way that scenic artists use what are called “properties” on the stage, might be made an ever-varying fund of amusement. The intelligent reader will have little difficulty in developing the hint thus started, especially after perusing the instructive and amusing works of Robert Fortune.

Shirley Hibberd, in “The Town Garden,” makes the following sensible remarks:—“In an ordinary town garden, measuring, say some thirty feet by sixty, anything beyond a plain arrangement of oval and circular parterres, separated from the wall borders by a plain continuous path, is out of the question. Some people sketch out a narrow path of the most serpentine outline, which from a distance looks like a sandy snake; and this (after leading a visitor from the back door by a number of convolutions over every square yard of the entire garden, until he is dizzy with curves returning again and again upon themselves) ends abruptly in a high grimy wall, against which a few stones are piled to represent ‘rock-

work.' Now, besides the absurdity of a serpentine path in a small garden, such a path is made still more ridiculous by the fact of its leading nowhere; whereas a simple division of the soil into parterres and gravel paths—without any attempt at the country lane or lovers' walk—accomplishes all that it professes, by enabling the visitor to reach any object that attracts him, the path itself remaining a convenience, *not a feature*.

"Most town residences have front plots, and these, if well kept, add very much to the neatness, cheerfulness, and indeed respectability, of a house. Just as we judge of a man by his dress and general bearing, so may we judge of him by the appearance of his home. A scrubby pair of neglected chrysanthemums trailing over a sour and ragged grass-plot, or a sooty shrubbery of untrimmed, worm-eaten, and flowerless lilac-trees, do as much to disgrace a house and its occupant, as a string of pewter pots dangling from the garden railings, and half-a-dozen broken windows. A front plot, being smaller, requires, of course, less labour than a garden, but, if possible, more taste. Lay out your plot in the simplest manner possible, and do not suffer your neighbour to laugh at an endless variety of parterres of all shapes and sizes, edged with oyster-shells, and filled up with plants that would disgrace a common. One central bed, and a continuous border, are usually all you have room for, or, at least, three (always prefer odd numbers) beds of equal sizes, and in these you may keep up a show of annuals and herbaceous perennials. The centre of each bed should have a handsome flowering shrub; and near the house one or two laurels and a holly will serve as a screen against dust, and ensure privacy for your windows. A very small plot is best laid down with grass and clean gravel, without flowers at all; in the centre, a variegated holly, box-tree, or laurel, may be planted; and all the labour required is to keep the grass closely shaven, or the gravel neatly swept. Here the object must be to produce a neat appearance, and to avoid all attempts at bewildering outlines, massive shrubbery, or thin sprink-

lings of innumerable colours. If you do not indulge in box edging in your garden behind, you should have it here if you grow flowers, it adds so much to the neatness and completeness of your outlines."

Symmetrical gardens in towns offer the advantage of small, regular, corresponding beds, which may be kept gay by flowers grown in masses, many of which may be replaced by others soon after their bloom is over. Bulbous flowers are invaluable for this purpose; the *first* season, they are almost always sure to blossom well, because they have formed their flowering germs elsewhere, under more favourable circumstances. The White, Tiger, and Orange Lilies, as well as the Crown Imperial and the Hemerocallis, may remain permanently, if the situation is not altogether too close. Van Thol, Parrot, Bizarre, Double, and all the robust Tulips; Hyacinths, Crocuses, Snowdrops, and Narcissuses, will all bloom exceedingly well, if grown in town and country in alternate years. Those who have a town-house and a country-residence, or who can even make an arrangement with some country market-gardener, may thus maintain a collection of bulbs in serviceable condition for many years. With only a moderate double set, a few beds in town may be made gay every successive spring and summer. But in carrying out this, or any other like floricultural expedient, be it remembered that the plants must be set in *proper soil*. Townspeople are apt to fancy that earth is earth, and that nothing more is to be thought or said about it. Whereas, the soil of town gardens is not only exhausted for want of manure, but is often actually poisoned by deposits of soot, and other causes that have been in action for centuries past. Consequently, if you wish your flowers to thrive, provide them with a healthy medium for the reception of their roots, cart away as many loads as are requisite, and replace them with soil that is pure and fresh, whether from meadow, field, or heath. Small azaleas and rhododendrons render useful service in town, from the ease with which they may be transplanted in spring, with

their flower-buds already formed. The latter shrubs fulfil the double office of flowering plants and evergreens. When their leaves are begrimed with dirt that is plastered on them by the wind and rain, it is not altogether a loss of time to spend a few hours in washing them with a sponge and tepid soap and water. Many rhododendrons have the habit of flowering abundantly *only* every alternate season. Therefore the novice will not be discouraged at seeing but little bloom the *second* year, provided they have been planted in a bed of heath-mould. Birthworth, the Blue Passion-flower, Virginian Creeper, the White and Yellow Jessamines, several species of clematis, and ivy, are perennial creepers that bear the town air well, as does the Everlasting Pea; annuals are the Scarlet Runner and its variety the Painted Lady, and the common Nasturtium, of sterling value. The Tuberous or Potato Nasturtium, deserves to be more generally known as a tough-constituted town climber. Hops (when not smitten with the plague of aphides) make elegant festoons for the balcony or verandah. Sweet Williams, raised from seed, in spring, in the country, and brought to town in March, will mostly make a gay bed for one season at least. The same of Canterbury bells, several Campanulas, Lychnises, Phloxes, and Pæonies. Sunflowers, white and yellow mallows, ten-week stocks, the Virginian stock, the Clarkias, the Antirrhinums, tall double Poppies, the double Marigold, the *Oenotheras*, or Evening Primroses, the Candytufts, Sweet Peas, and several Lupines, are acceptable annuals. Where there is room, the Lime is a good town tree, leafing early in spring, and perfuming the air with its blossoms in August, besides attracting the hum of bees; it also bears lopping, clipping, and training well. The Elder *remains* of moderate size, and its bunches of flowers are admirable. The various species of crabs, pears, and apples even thrive the better for the overdose of carbon which the atmosphere of towns contains. Dwarf Apple and Pyramidal Pear Trees, such as may be bought in France for tenpence each, might be

grown in even small gardens, if town gardeners did but understand the mode of keeping them in order, both at branch and root.

Grass is such a staple article in English gardens, and, in truth adds so much to their beauty, that it seems hard to discourage its employment in towns. And yet, what are most of the grass-plots met with there, even with all the expense that is incurred for returfing, sanding, rolling, mowing, and guano? Too often do we behold half-naked patches of ground, like threadbare coats or shocking-bad hats, that you have no pleasure in looking at, and are afraid to walk on. If the blades of grass *will* spindle up, long, lank, few, and far between,—if the roots *will not* tiller and thicken,—it is better to occupy the space with something else, even with a layer of clean bright gravel. Where a strip of green is wanted to run along the ground, as at the foot of buildings, round the base of a pedestal, or as the frame-work of a grass plot that is intended *never to be trodden on*, Ivy answers the purpose well, especially if the band of green is broad. The court of the Louvre, at Paris, furnishes a good example. If a narrow edging is all that is required, the Lesser Periwinkle, *planted thick*, answers well, and will besides show its azure flowers in mild winters and forward springs. Roses are unsuited for towns; the Moss, Yellow, Bank-sian, and Austrian, especially so. Still, if your site tempts you to venture a few, try the Old White, the Maiden's Blush, the Old Striped Rosa Mundi, the Portland Rose, the Common Pink and Crimson Chinas, Madame Hardy (Bourbon), the coarser varieties of *Rosa Gallica*, Brutus or Brennus, and Aimée Vibert. One of the Boursault Roses, which are vigorous climbers,—for instance, either the Blush Boursault (Calypso), or the Crimson Boursault (Amadis),—trained against a wall with a sunny and airy aspect, will sometimes, and perhaps, allow you to bud other varieties on it with tolerable success. Select the most vigorous perpetual Roses for the experiment. The best mignonette is raised in the country, and brought to its city destination when just

beginning to flower. A professional gardener will take charge of your boxes, and return them stocked with healthier plants than you can raise at home. Violets, pansies, primroses, polyanthuses, anemones, heaths, and double daisies, do not bloom well "in populous cities pent," although they may not quite give up the ghost. Thrift, with its pink blossoms, and London Pride, with its pretty rosettes of leaves, are wonderfully hard to kill. The Lily of the Valley will often come up, spread, and blossom, year after year; so will its cousins, the Solomon's Seals. In not too choked town situations, an interesting branch of gardening may be practised on roofs and the tops of walls, by covering them with stonecrops, or Sedums, white and yellow, Houseleek, wall-flowers, Antirrhinums, both upright and pendulous, orpines, irises, and where continuance of shade is long, with mosses, polypody, wall-rue, cup-moss, and other elegant cryptogamous plants. Even trees will grow on the tops of walls (if the seed can drop into a convenient chink), as the Common Ash and the Mountain Ash.

A difficulty in town gardens is to keep things from being wire-drawn, from running up tall with all their leaves at the top and the lower part of their stems naked, and from stretching out their branches, weak and drooping, to the right and left. Want of light and air, after which the plants are stretching, is the cause of this lank and diffuse habit of growth; but the more it is allowed to go on unchecked, the worse the evil will become. The remedy is, careful and constant pruning, both of the spring and the summer shoots, so as to keep the shrub or tree as dense and compact as possible. Unfortunately, prunings which improve the mass of foliage also diminish the quantity of flowers. In towns, many laburnums, lilacs, Guelder roses, thorns, and almond-trees, which would bloom respectably if allowed to run on and on, flower not at all if they are cut close back. The fact is the result of the situation, and a sacrifice of some kind must be made. Isolated trees and shrubs, instead of being planted in clumps, are less liable to spindling in

town. A small greenhouse in town is useful, to receive in winter the shrubs and plants with which the balconies, steps, and windows may be adorned in summer. A pair or two of large American aloes, of orange-trees, pomegranates, and oleanders, in tubs or boxes, may be thus kept in health for years, and will give more style to the aspect of a house than a multitude of little ephemeral flowers in pots. Of course, town gardening is more expensive and requires more constant attention than rural floriculture. The man of business, who has but little leisure to spare, will save much time and trouble (though he will also lose much wholesome mental relaxation), by contracting with a nurseryman by the year for the renewal of his bulbs and bedding-plants. Nor is such the way to economize. But for those who are fully occupied all day long, and who still like to see their little plot embroidered with flowers, although they can only admire their changing beauties as each successive Sunday comes round, the aid of a respectable nurseryman is well worth the consideration of proprietors of town and suburban gardens.

It will cost very little more expense and trouble to plant, instead of the ordinary hardy shrubs and trees, others, varieties of the same species, whose appearance is more remarkable and unusual. For instance, there is the Cut-leaved Alder to take the place of the common Alder. The cut-leaved, variegated, and yellow-berried Elders, though they need not supersede, may thrive in company with the elder of the hedge. The Hazel with dark purple leaves, harmonizes well with the Copper Beech; though, unfortunately, nothing but moss will grow under the shade and drip of Beech-trees. The Weeping Walnut (by no means common) bears excellent fruit, besides making even a more massive tent of foliage than that characteristic tree, the Weeping Ash. There are also weeping elms, sophoras, birches, thorns, acacias, cherries, peaches, and others, from the stature of shrubs to the altitude of timber trees. A pair of Weeping Willows, one on each side of a gateway, or at each corner of a respectable-sized front garden, have a happy effect in

breaking, not too abruptly, lines of building, besides sheltering the mansion from gusty winds, and serving as a blind against intrusive gazers. The Weeping Willow has the advantage of leafing early, and also of retaining its foliage late. Cuttings raised from Napoleon's Willow differ somewhat from those usually grown in England, and have therefore the merit of novelty as well as of historic interest. Magnolias, trained against a wall, will not unfrequently produce their immense, white, powerfully-scented flowers within the precincts of a city, not to mention their evergreen foliage. Another class of materials suitable for town gardens, on account of their highly artificial aspect, are the trees and shrubs with blotched, speckled and mottled leaves,—as ivy, aucuba, syringa, althæas, maples, rhododendrons, and others, making altogether a long list. Some of these variegated plants, being of delicate constitution, require extra attention to their soil and pruning. In England, town trees scarcely receive so much attention as is bestowed on them in Paris, and as, in fact, they well deserve. Along the Boulevards, and in many private and public gardens in the French metropolis, are to be seen fine specimens, both young and old, of a tree called *Ailanthus glandulosus*, which is scarcely ever heard of here, and which, indeed, is by no means common in this country. It is very handsome while still quite young, may be easily made to run up with a tall straight stem before forming its bold spreading head, and, as Dr. Lindley observes, independent of its value as timber, it has good qualities, even in an ornamental point of view, which ought to have saved it from neglect; for it is perfectly hardy, has a most noble aspect, and grows excessively fast. It is a native of the northern provinces of China, and may be rapidly propagated in England from suckers, which it produces freely. The tree had been growing nearly thirty years in this country before its introduction into France; and now, while it is forgotten here, both there and in Italy it is much valued as a tree for shading public walks, and is planted for that purpose, as well as in gardens, together

with the Tulip-tree, the Catalpa, the Horsechestnut, the Platanus, and other large-leaved exotic trees, to whose number the Paulownia may now be added. Loudon's account of the Ailanthus shows how well it is adapted for towns. "Its leaves are not liable to be attacked by insects, which is a very great recommendation; and they continue on the tree, and retain their green colour, till the first frosts in November, when the leaflets drop suddenly off, the petioles remaining on often a week or two longer. The tree grows in any soil, though one that is light and somewhat humid, and a sheltered situation, suit it best. In France, it is said to thrive on chalky soils, and attain a large size, where scarcely any other tree will grow. It is readily propagated by cuttings of the roots."

VILLA GARDENS.

The town gardener is restricted to growing what he can, and must be content to think that he has not laboured in vain if he can make a respectable display of foliage and flowers, no matter of what genera and species, exotic or native. A villa gardener has better opportunities, both as to greater extent of space and more favourable conditions of growth. Still, even he will be controlled by limits and prohibitive circumstances, which he can neither break through nor go beyond. He may not be able to grow yellow roses, nor to make the scenery outside his boundary line subservient to that within it. His next-door neighbours, on either side, may be as opposite as the poles to himself in point of taste. Still, he has much within his reach. A great point in successful villa-gardening, is to carry out well one sole idea. Great variety there cannot be, nor contrast, in the moderate area of ground which most villas possess; but there may be high finish, perfect good taste, choice selection, and manifestation of wealth, science, and skill. To attain this happy end, there must be UNITY OF DESIGN; without it, except by the merest accident, there will be merely a jumbling hotch-potch or chance-medley

salmagundi of gardening, whatever amount of cash and labour may be bestowed on horticultural incongruities. But with unity of design and a leading idea consistently carried out in all its details, failure is scarcely possible; for, even should any blemishes result from accident while laying out the plan or from neglect in the parties who have to realize it, they will be so easy to remedy, when once the object in view is clearly defined, that a stranger will be scarcely aware of their having existed at all.

On coming into possession of an old or neglected villa garden, wait a good twelvemonth before commencing alterations of any importance, even such as changing the line of a gravel walk. You will thus have time to study its original character, and to make what you find growing there take their place in what you propose to do. Often, you will rescue treasures that otherwise would have been destroyed, or thrown out as rubbish. Fig-trees may send up strong shoots, that will produce fruit in a year or two, from stumps that have been cut down to the ground, and left for dead; in damp out-of-the-way corners you may find exquisite moss roses, perhaps the White Bath, or the Pompone Moss; or, some thorny bush that ignorant eyes mistake for a bramble, may be the Yellow Cabbage Rose; choice Tulips, Hyacinths, Anemones, and Dog's-tooth Violets, may spring up and flower from offsets and fragments left by persons who *meant* to have removed the whole original stock of roots; curious perennials, like the Dragon Arum, after being crushed and trodden under foot for years, may gratefully repay a summer's kind treatment by sending up a stem and inflorescence which will be the wonder and admiration of half the parish. In short, with an old villa garden, cultivate it as it is, and wait. Draining, however, where required, can only be productive of good. The same of trenching two-spade deep, or at least somewhat lower than the top spit, which has been cropped perhaps for successive years without renewal. In old gardens, plants that have been lost are sometimes thus

recovered, by bringing up their seeds to the influence of air and sunshine.

If it be your task to make a new one, first ask yourself “*What* style of garden shall we have? To *what* branch of horticulture shall we give our attention? On *which* group of the vegetable kingdom shall we spend our money? *How* shall the exterior of our villa residence look from without and within? Shall we form a little *arboretum*, and nestle ourselves beneath a cluster of some dozen or twenty rare hardy trees? Shall we go into the Dutch line, and gratify our taste for florists’ flowers? Shall we make a Rosary, and be content to look a little naked in the winter if we can but have a blaze of bloom during summer and autumn? Any of these proposed plans can be carried out in villa gardening; only—there must be no indecision, no patch-work, half-measures, nor coalitions of opposite aims and principles. There is one apparent exception to the rule; but then it requires both more time and a more daily and assiduous study of garden literature than villa-proprietors can mostly afford. The amateur who, happening to have a sufficiency of land attached to his residence, chooses himself to take the command of two or three labourers, instead of employing a professional gardener at high wages, will adapt his practice to various ends, according as utility or ornament is the object the more desirable in his state of affairs. *His* horticulture is mostly of the composite order; he cultivates a garden of all-work. As the celebrated cobbler “lived in a stall—that served him for parlour, kitchen, and all,” so the independent manager arranges a plot of ground so as to comprise the conveniences of orchard, kitchen-garden, shrubbery, parterre, and terrace. And a capital school it is for the men and boys who are wise enough to look after instruction while working in it. How well, too, an avenue of standard perpetual roses harmonizes with the line of a feathery asparagus-bed! How little is there to displease in a rectangular strawberry-ground inclosed in a frame-work of brilliant low-growing flowers, with

an outer fillet of box, having openings left, like the gates of a Roman camp, for the approach of the workmen and the fruit-gatherers! What pleasant strolls may be taken in a wilderness of apple, bullace, cherry, plum, filbert, and medlar trees, with an underwood of periwinkles great and small, honesty, and primroses, and with one path at least skirting the edge of the fishpond, from which a pike for dinner may always be had! His visitors enjoy the combination as much as himself. He asks a city friend *which* he will have put into his carriage—a basket of flowers, or a hamper of vegetables;—and the answer is, “Both!” But, after all, this form of gardening is more practicable at the country parsonage, the wealthy farmhouse, and the mansions of our minor aristocracy, than at the villa proper. Nor can it be called a style devoid of design and principle; for it is eminently the utilitarian and experimental style of gardening.

A very eligible garden for English villas is the winter garden, or garden of evergreens, with a large proportion of grassy slopes and lawns. It by no means excludes gay flowers in summer; but they must be such as either entirely disappear in winter, or mark their positions by tufts of green leaves. Standard and pillar roses can, therefore, be but sparingly admitted; whilst hollyhocks, pæonies, dahlias, bulbous flowers, and the whole legion of annuals, must be pressed into the service, without the least scruple of overtaxing their powers. Very telling winter clumps may be made of brilliant-berried shrubs,—pyracanthus, snowberry, the *wild* Guelder rose, the barberries evergreen and deciduous, the spindle tree, the mountain ash, and the yew. A sufficiency of scarlet or fancy* geraniums and verbenas may often be nursed in the house, on window-sills, to supply a few beds on the lawn, and to take the place of the early spring bulbs. Still, the show from November to March is the main point to be attended to. There may be chrysanthem-

* See “Fancy Geraniums; a Practical Treatise” (3d.), by Thornhill and Dickson, Nurserymen, Bristol.

mums, and common pink and crimson China roses, in beds, and isolated plants of the Double-blossomed Furze and the Dwarf Almond. To fringe the belts or clumps of laurel and laurestinus, you may have Colt's-foot, the scentless-white and the heliotrope-scented, and the pink buds of that little bright-blue flower, which is often mis-called Forget-me-not. Ilexes, and, near the sea, even hoary cork-trees may be grown in England. The good old varieties of Holly ought to be held in reverential esteem. On the arbutus, fruit, flowers, and foliage, all court approval at once; rosemary and southernwood will glitter with the dew of a wintry forenoon, at the back of a mass of the white Christmas rose and the green-flowered hellebore, fringed irregularly with the dwarf golden blossoms of the Winter Aconite. As the season advances, a bed of *Erica carnea* will be thickly covered with rosy blossoms; and then will follow Snowdrops, Hepaticas, Van Thol Tulips, Hyacinths, Vernal Squills, and a host of other pretty things. Primroses make a lively bed in spring; in many woods, on a moory black soil, the self-sown primroses will sport into a great variety of colour; hardly two are to be found alike. They pass from bright sulphur, through sad-coloured neutral tints, to orange, lilac, and vivid crimson. It is easy to have a bed filled with the proper soil, to search for or procure specimens, and transfer them to their final site. The mixture of a few choice plants from cottage gardens, adds brilliancy by their more decided hues; but the best effect is obtained when the primroses are taken quite at random. Patches of Pulmonaria, or Lungwort, with leaves of mottled green, and flowers changing from pink to blue, are not to be despised in a spring garden; nor are the single blue Russian and double pink Neapolitan Violets, the Wood-laurel, the Pyrus Japonica, and Wall-flowers, double and single, yellow and brown. Something actual may be thus accomplished to elicit a smile from the grimmest of the seasons.

Country-houses have sometimes damp, shady courts and nooks, intermediate out-door dens between the back-

yard and the garden, which puzzle the owner what to do with them. They are too much in everyday sight, as well as too damp to hold either firewood or tools, or domestic animals,—and to what other purpose to turn them, he cannot tell. Such a corner will often make a capital FERNERY, where a curious, beautiful, and mysterious Natural Family of Plants may be cultivated. The British ferns alone will furnish a number of handsome hardy species,—though *all* British ferns are not hardy. Persons inclined to adopt the suggestion, will be aided by the study of “Sowerby’s Ferns,” or the magnificent “Ferns of Great Britain, Nature-printed, Life-size.” “Lowe’s History of Ferns, British and Exotic,” is also in the course of publication.

An essential convenience is thus pointed out in Paul’s clever “Hand-Book of Villa Gardening:”—“Much of the comfort and enjoyment in a garden depends on the state of the WALKS. Their formation may appear a simple matter, but it is one that requires attention. In wet and retentive soils, the earth should be removed to the depth of a foot or so, and a foundation laid of broken bricks, rubble, or coarse gravel; over these successive coats of finer gravel may be laid, keeping the centre of the walk slightly raised, and contriving a fall when possible, that the effects of a heavy shower may the more speedily pass away. It is very pleasant to be able to traverse the principal walks of a garden with comfort five minutes after a spring shower, and there is no reason why this should not be done, if they are properly contrived.”

Country Gardens, or those adjoining the country seats of wealthy families, are often on a magnificent and even a royal scale. In British gardens of this class, the acme of horticultural perfection is attained. Their management is intrusted to able and experienced persons, who have no need of admonition from a book like this; on the contrary, it is from their practised intelligence that its writer is too happy to learn. Without further preface, therefore, a summary shall be given of Bulbous Flowers, Tuberous and Rhizomatous Flowers, Herbaceous Flowers,

Shrubby and Sub-shrubby Flowers, Annuals, and Flowering Trees. In addition to the necessities required for Kitchen Garden use, the florist must have a stock of various soils, in assortments, as leaf-mould, heath-mould, silver-sand, hazel-loam, the materials of old cucumber-beds; besides a hotbed in spring, cool frames, and a small greenhouse, if possible; a cellar for roots and plants in winter, a shed in which to pot plants and keep seeds and bulbs, plenty of flowerpots for the rearing of bedding plants and cuttings, shallow pans and boxes for raising seedlings, stakes (of wood, not iron) to support Dahlias and Standard Roses, and, whatever else may be added to the list, a small library of the best works on Horticulture.

BULBOUS FLOWERS.

A bulb is a very complete and simple form of vegetable existence. To the question, "What, amongst plants, constitutes an individual?" the most generally received answer is, "A bud is an individual;" so that an oak-tree is a collection of individuals, something as certain corals are a collection of polypes. Now, a bulb is a bud on a larger scale. The buds that are formed and drop off from the junction of the leaf and the stem in certain lilies, are miniature bulbs. Bulbs enjoy the advantage of being more independent of a fixed residence in the soil than many other plants. During their period of rest, they may be kept out of the ground, be made the subject of merchandise, and be transported to very considerable distances. Meanwhile their vitality is still in full force, and important changes, such as the formation of the future blossom, is going on within them. In due time, they again require the nutriment supplied by the rains and the earth; just as an animal that has lain torpid all winter, seeks his food on awakening in the spring. The capability of propagation by offsets is another point of interest belonging to bulbs. Young progeny, exactly resembling the parent plant, are thus produced with certainty. Bulbs often are the subjects

of the first attempts at horticulture by juvenile gardeners; and are occasionally the only means by which city residents can gratify their taste for growing flowers. By far the great majority of bulbs produce exceedingly handsome blossoms, often odoriferous and even highly-scented. As a general rule, too, they are early rather than late in their season of flowering, and readily susceptible of forcing by artificial heat. They are well adapted for pot culture, for at least one season; the next, they may be returned to the open ground, and replaced by others to succeed them in the greenhouse or the parlour window. Bulbs produce annually only a limited number of leaves; if these are destroyed, they are not reproduced, as is the case with most trees, shrubs, and herbaceous plants. Consequently, the leaves of bulbs must be carefully protected and preserved during the whole period of their growth, both before flowering and after; otherwise, the plant will suffer from the failure of those functions which all leaves perform. Bulbs are solid, like the tulip; coated, like the hyacinth and the onion; and scaly, like the white and the orange lily. For convenience, bulbous flowers are here arranged in alphabetical order, which will be adhered to for the plants in other sections.

Agapanthus umbellatus or *umbelliferus*.—A striking plant, which is too much confined to the greenhouse, inasmuch as the lovely blue of its handsome head of flowers only attains its fulness in the open air. The *Agapanthus* is only half-hardy in England; and though it may be permitted to remain throughout the winter in the open ground, under a covering of litter or leaves, it must always be at a risk. It is safer to keep the bulbs in pots (which must be large) in good, light, rich soil. At the beginning of June, these pots may be sunk in a bed or along a border, being liberally supplied with water in hot dry weather. Where there is a good stock of bulbs in hand, half may be ventured in the garden, and half retained in pots, to be removed into a cold frame for the winter. Flowering commences in July, and con-

tinues during the summer if the plants are indulged with plenty of water, of which they are greedy at that time. Propagate by division of the bulb, planting the offset immediately. Seedlings (to be sown on peat-mould) will not come into a flowering state before their fourth year at soonest. Damp is the great enemy of the *Agapanthus* during its dormant period. Plants, therefore, to remain out the winter must have a well-drained situation.

Amaryllis.—A showy genus, belonging rather to the greenhouse than the garden. They require a strict observance of the periods of growth and rest, and careful attention to the health of their *foliage*. While dormant, moisture is fatal to them; at the same time, in our latitude, a mild insular climate suits them best. The *A. belladonna* is greatly admired for its large pink sweet-scented flowers, which appear from August to October. A difficulty is, that it succeeds better in a border than confined in a pot, and that the leaves do not appear till after the flowers, and are liable to destruction by early frosts in any but the most favoured spots, such as South Devon and the Channel Islands. The bulbs of this species are not fond of being disturbed too often. Once every three or four years is quite enough for the separation of the bulbs and the renewing of the mould. Plant in light soil containing a few calcareous ingredients, at the depth of four or five inches. Thorough drainage, and covering with mats or sashes at the approach of anything like severe weather, are indispensable.

Colchicum autumnale.—Meadow Saffron, or Autumnal Crocus; in French, *Tue-chien*, or kill-dog.—A native plant found abundantly in many moist pastures on heavy land, but of sufficient curiosity and beauty to be admitted as an ornamental bulb. The peach-blossom tinted flowers, resembling the crocus in shape, appear in autumn; but they may really be considered as very early, forestalling the spring, instead of late, for they are duly followed by the leaves and the seed-vessel, which rise with the approach of genial weather. Indeed, so precocious are the flowers, that they appear before the

bulb has quitted its dormant state, as far as the emission of roots is concerned. Thus, the *Colchicum* will send forth its succession of blooms, while lying in a basket, on a window-sill, or in a China dish, without the contact of a particle of earth, to the great astonishment of the inexperienced. When the flowering is over it *must* be planted. An objection to it is, that its foliage is coarse and cumbrous in proportion to the amount of bloom displayed; but this may be remedied by making the bulbs *leaf* in a reserved ground, to bloom where wanted. Some use them as an edging. There is a double variety. The plant must be regarded as poisonous, though it furnishes a medicine of questionable value. Quite hardy; not nice about soil, but preferring moisture.

Crocus.—The welcome harbinger of returning sunshine and cheerfulness; although one species, *C. sativus*, or saffron, flowers in the autumn, and is cultivated for culinary and medicinal purposes rather than as a garden plant. The genus is large; a few species only are desirable for the parterre, the Alpine crocuses having mostly insignificant flowers, although interesting in other respects. The yellow crocus, *C. luteus*, is a general favourite; but requires a bright sunny day for its perfect expansion. The Cloth of Gold, *C. Susianus*, which has been put forward to rival it, is far inferior. *C. vernus* includes many shades between lilac and white. Crocuses are employed either as an edging, in separate tufts along the border, or to form geometrical patterns, and even coats of arms, in combination with hepaticas, snowdrops, bands of gravel, chalk, small coal &c. &c., on a smooth grass-plot. Such devices may be made to accord well with the formal and architectural style of gardening; but their effect is scarcely appreciated on the level ground. It must be seen from a first or second-floor window. In landscape-gardening, *C. vernus* may be employed as a charming decorative adjunct if profusely and irregularly planted beneath clumps of tall trees, perhaps in combination with snowdrops and winter aconite, in such a way as to imitate a particoloured carpet

spread by the hand of Nature herself. In parterres, the species are better kept separate; that is, at least in separate patches or rows, because they do not all flower exactly at the same time. Thus, the bright yellow blooms before the white and the purple; and if their combined effect is counted upon, disappointment will mostly ensue. Crocuses, in general, like a light, moist soil. Plant them in September, at the depth of from three to four inches, and take them up for division and transplantation every fourth summer at longest, after the leaves are completely withered. The reason is, not only that by multiplication of offsets they become too crowded to bloom well, but that every year new corms (as these solid bulbs are called) are formed above the old ones, and in course of time rise to the very surface of the ground, the inconvenience of which in a garden is obvious. In a state of nature it is otherwise. In the Alps, wild crocuses are abundant in swampy hollows into which the brooklets, caused by the melting snows, bring with them a small but perceptible deposit of mud. This thin layer is, of course, annually repeated, and a stationary bulb would in a few years be buried beyond the power of vegetation. It is, perhaps, not too much an indulgence of fancy to believe that the upward progress of the corms is an adaptation designed to enable them to keep pace with the gradual elevation of the soil in which they are rooted. Although several species seed freely, the usual mode of propagation is by offsets. After flowering, be careful to leave the foliage perfectly uninjured until the full period of its natural decay. To avoid the inevitable incumbrance of these leaves in small gardens, it is not a bad plan to form beds or baskets of crocuses in plunged pots, which may be removed to give place to other flowers. The same mode of shifting and succession is applicable to many other bulbs, and only requires a little industry to carry out.

Crown Imperial — *Eritillaria Imperialis*.—A coarse, though bold and showy flower, welcome in April for its erect stem, a yard or more high, and the decided charac-

ter of its foliage, in spite of the offensive fox-like smell which it exhales in sufficient force to justify its banishment to the most distant part of the parterre, or even to the shrubbery. The colour of its flowers varies from a light sulphur-yellow to a deep orange-red. Such varieties are obtained from seed sown as soon as ripe. The Dutch or large-belled crown imperial, *F. maxima*, deserves special notice on account of its height, and for the number, size, and beauty of its flowers. Like other fritillarias, the crown imperial thrives best in a light, well-drained soil, containing a slight admixture of chalk. Protect in early spring from snails and slugs. Every third or fourth year, when the bulbs are too crowded, take them up for division at the end of June. Replant, at no long interval, at the depth of eight or ten inches; immediately is better, if you wish for flowers the following spring.

Daffodil—Narcissus pseudo-narcissus—"which comes before the swallow dares, and meets the winds of March with beauty," has several double-flowered varieties; but perhaps the most pleasing and elegant of all is the original wild flower which grows in humid pastures, from which it well deserves promotion to the garden. All the care the daffodil requires is to be taken up at intervals of several years, and to be protected from the ravages of ignorant jobbing-gardeners who, for neatness' sake, as they call it, will cut off the rank green leaves after the plant has done flowering. Neatness, in moderation, is a virtue. In this case, the price at which it is purchased is the absence of flowers the following spring. In the outskirts of London there are innumerable tufts of daffodils which year after year produce nothing but leaves.

Dog's-tooth Violet—Erythronium dens-canis—is not a violet at all, though it is an exceedingly pretty little plant, which in addition to its pinkish flowers, has remarkably handsome mottled leaves. Although of quite as easy culture as other spring bulbs, it is not so abundantly met with as its merits would seem to imply,

probably on account of its not being particularly prolific of offsets. This graceful flower, a native of the Alps, has the divisions of its corolla turned up like those of the cyclamens. The tint varies from white to pinky-purple. Prefers light soil. The American species, *E. Americanum*, has yellow flowers, and requires the same culture, *i. e.*, to be taken up every two or three years. It has a tendency to run to offsets instead of flowers, which is best obviated by planting in light peat soil, such as would be used for heaths and rhododendrons.

Fritillary.—*Fritillaria meleagris*.—Chequered Lily or Chess-board Flower,—is a native, hardy, and early-flowering plant, whose grass-like leaves and pendulous flowers render it a general favourite. In tint, it varies considerably, from greenish white to dark dull purple. In well-drained soil, the roots may remain for a succession of years without removal or protection. The Persian *Fritillary*, *F. Persica*, a larger species, is more delicate, requires a lighter soil, and the shelter of a cold frame or greenhouse in winter.

Garlic.—Several species of *Allium* are grown as border flowers; *A. Moly*, with golden-yellow flowers, of which there is a white variety, being the most generally cultivated. There are also white and pink-flowering species. One paradoxical Garlic, *A. fragrans* or *odorum*, is agreeably scented. They are showy, increase rapidly by bulb, prefer a warm dry light soil, and require no further care than separation every second or third year. Their generally offensive odour would seem to render them unfit for the flower-garden, whilst their gay appearance suggests their employment in tricks on inexperienced admirers of flowers. *A. Moly*, however, does not prove disagreeable in large bouquets which are only to be looked at without being handled.

Gladiolus.—*Corn Flag*.—The wild European species, *G. communis*, is perfectly hardy in England, and delights the eye in summer by its tapering spikes of bright red flowers. The bulbs are corms like those of the crocus,

and only require separation and replanting at intervals of several seasons. Of late years, several foreign and highly ornamental species of *Gladioli* have been introduced, and from these not a few showy hybrids have been raised. They are all more or less tender, safest under pot culture or in raised beds covered with shutters or sashes in winter, requiring light soil and the complete absence of moisture during their period of rest. If ventured out in the open ground, they must have a well-drained spot, and be covered in winter with six inches of dry litter, sawdust, or withered leaves. Established thus, they bloom magnificently; but there is always the danger that some unusually severe frost or extraordinary continuance of cold and wet may destroy the whole collection. Deservedly admired species are *G. cardinalis*, *psittacinus*, *grandiflorus*, *gandavensis*, *blandus*, *versicolor*, *Colvillii*, and *ringens*, besides varieties and hybrids too numerous to specify here.

Guernsey Lily—*Nerine Sarniensis*.—A native of Japan. It is an old story that a ship homeward bound from thence was wrecked on the Guernsey coast, where the Asiatic bulbs have ever since thriven so well as to be objects of export. The plant produces in autumn a head of eight or ten bright red flowers. Afterwards, the bulbs are mostly thrown away, from the difficulty of getting them to bloom afterwards, or even to survive. The care and appliances they would require to perfect their foliage are mostly bestowed on more valuable plants. Indeed, they are hardly worth the trouble they give. They are pretty, and that is all. Plant the bulbs, as soon as they arrive, in pots of sandy loam, in the sunniest part of the greenhouse.

The Hyacinth—*Hyacinthus orientalis*.—There are three modes of growing hyacinths; in glasses, in pots, and in beds. The former may be speedily dismissed; for the powerful and headache-causing odour of the flowers renders them unsuitable for living rooms, except in small numbers in vast apartments. Early hyacinths are more agreeable as decorations for the entrance-hall,

the glazed corridor, the balcony, the greenhouse, or the saloon and occasional reception-room. The only satisfaction to be derived from bulbs in glasses is the power of beholding the roots, and of watching their descent in the water. Otherwise, the plant, as it grows, becomes a wretched unsteady thing, even when supported by wires, for want of its natural foot-hold in the soil ; it is exhausted and nearly worthless for the following season ; and the practice might be reprehended as a flagrant case of cruelty to flowers, if such an offence were recognised by society.

Forced hyacinths, in pots, are deservedly general favourites ; and the more gently they are forced, the more slowly they are brought forward, if only by the temperature of an ordinary sitting-room and full exposure to the sunshine in the window, the better-grown will be the specimens. This, too, will allow of the pleasure of noting the development of the rising flower-stem. If the perfected bloom exhales too oppressive a perfume, it can then be removed to ornament a cooler part of the house, which will protract the duration of its beauty.

The hyacinth strikes its roots vertically downward to a depth which is considerable in proportion to the diameter of the bulb and which is greater than the height of flower-pots usually allowed to roots of that size. The idea therefore suggested itself to manufacture tall cylindrical pots, of narrow diameter, expressly for growing this flower ; and lovers of hyacinths will do well to make use of them. In an ordinary garden-pot of sufficient depth (not less than ten or eleven inches), a clump or knot of hyacinths of different colours may be grown. Three is a good number to constitute these bouquets, whether in pots or in the open border ; and the permutations and combinations that may be worked out in this way with the different colours of white, blush, pink, pale yellow, red, porcelain-blue, deep blue, violet, and dark purple, afford a varied scope for the amateur's taste to exercise itself. One point must not be forgotten in respect to hyacinths ; some of the single varieties are even in higher esteem than the double ; moreover, they

come earlier into bloom. Therefore, to produce a good effect, the knots should consist of all single or all double flowers, that the members of the group may bloom simultaneously. Even in beds, it is strongly advisable to keep the double and single flowers separate. For a general collection, it is better to have two beds than one; otherwise, some specimens will be beginning to fade before others have attained their beauty.

It is usual to begin hyacinth-growing by the purchase of imported Dutch bulbs in September. After a collection is formed, it will be found necessary to draft in annual reinforcements from abroad, because certain varieties and colours multiply much more rapidly by offsets than others; so that, in a year or two, the amateur will find himself over-stocked with one kind, while others run short. The former he may give away, or turn out into the open border; for the latter he had better apply, and that in good time, to the nurserymen who import. Respectable dealers may be depended on to furnish a good article of genuine Dutch origin.

The soil for hyacinths is a compost, prepared beforehand, consisting of light loam, leaf-mould, river-sand, and well-rotted dung, in about equal proportions. It does no harm if the sand rather predominates. Put two or three crocks at the bottom of the pot, fill it neatly full with the soil which has already been well incorporated; give the pot two or three gentle taps on the ground to settle its contents, place the bulb in the middle, press it down a little with the fingers, and then add just so much compost, that one third of the bulb shall remain uncovered. Not only do the hyacinths do better in pots when the upper part of the bulb is thus left exposed, but the basis and origin of the flower left visible becomes itself an ornament, having its own distinctive complexion and features visible to the observant eye. It is said that one of the great Dutch growers could recognise two thousand varieties of hyacinth *by the bulb*. After potting, give a good watering, and let them stand under some shed or other sheltered place for three or four days. Small

growers may then remove them to the cellar or the cold frame (covered with matting), to remain there till the central bud has started from a quarter to half an inch, when they must all be exposed to light and increased warmth. Before that state of advancement, small batches of half a dozen or more, may be brought forward to be hastened in the hotbed, or the parlour window, as required, in succession. Large growers, such as Messrs. Henderson, of the Wellington Nursery, St. John's Wood, place their potted and watered hyacinths in beds five feet wide, and throw old tan over them, to the depth of five or six inches; and this is allowed to remain until the pots are quite full of roots, and the tops have made a growth of one or two inches. Sand, instead of spent tan, has been occasionally employed for the same purpose, and is a convenient substitute in many localities. They are then carefully looked over, and any that are not sufficiently rooted are replunged. Great care should be taken that they are not left in the tan, or sand, too long; if they remain there till the leaves begin to open, the flower is very likely to be injured. Such as are well rooted are placed in a cold frame, where they can be securely protected from frost, and have plenty of air at every opportunity. If flowers are wanted early in the season, a hotbed is prepared with dung that has been well worked previous to making up the bed. As soon as the hotbed is sufficiently sweetened, a few pots are put into it every week, to keep up a succession from Christmas till March, at which time the others will be coming on quite fast enough in the cold frame. Although most hyacinths succeed very well without artificial heat, many are greatly improved by it. Indeed, all that do not bloom kindly in the cold frame will be benefited by applying dung-heat. The bulbs that are kept in the cold frame all the winter from the time they were taken out of the tan are generally in finest bloom from the middle of March till the second week in April. After that, they begin to decline.

Hyacinth-beds should not be *more* than five feet wide,

for the convenience of reaching as far as the middle, though they may be any size less, according to taste. The length, also, is arbitrary; the owner of a large collection of bulbs will judge for himself whether the most striking effect will be obtained by a single long bed, or two or three short ones side by side. When the ground is marked out, excavate the soil to the depth of four feet, if it is naturally cold and clayey, and throw in a bottom stratum of shingle six inches thick, for drainage. On light soils, three feet is sufficient, and the shingle may be omitted. Fill with compost the same as for pot culture, till it is two or three inches above the level of the earth. On the surface of this, place the bulbs, in quincunx order, in rows six inches apart, six inches from plant to plant, and cover them with an additional three inches of compost, which may contain a larger proportion of silver sand than the bed itself. In this case, it would be dangerous to allow the upper portion of the bulb to be exposed to the air, unless the bed were made in a conservatory, under glass, or even in a good-sized oblong cucumber frame, which, with a little contrivance and taste may be made to serve as a temporary hyacinth-house, and contain a pleasing collection of choice specimens. A bed made as directed above, will, even after settling, be raised two or three inches, and will be kept neat by some provisional edging of wood, iron, or earthenware. Box is not advisable, as harbouring slugs.

Another mode: instead of excavating the soil to receive the compost, simply break it up well to the depth of a foot or eighteen inches, and thereon raise a mound of compost of the required length and breadth two feet high, keeping it together by walls of thick green turf well flattened and beaten together by the spade, and fastened, if need be, with pegs of osier. On the top of this mound plant your hyacinths. Advantages are, that the flowers are brought nearer the admirer's eye, as if they stood on a low table, and that the cultivator is spared much painful stooping when he plants and takes up the bulbs and ties the top heavy flower-stems to sup-

porting sticks. On the other hand, a mound-bed requires frequent and regular watering; is more exposed to gusts of wind, and therefore stands in greater need of the protection of an awning during the period of flowering; and is also more liable to injury from frosts of unusual severity. Still, this method of cultivation introduces a pleasing change to the every-day routine of flower-beds on the ground level.

The arrangement of the colours of the respective bulbs admits of the exercise of individual tastes. A common plan is to contrast the tints of every two adjacent blooms; never to let blue stand close to blue, nor red be next-door neighbour to red. Others make each of their four or five rows to consist of various shades of the same colour. Mere chance-medley planting, taking the bulbs at hazard as they come to hand in the basket, will often, as in the kaleidoscope, lead to brilliant combinations. A rich effect is obtained by following the order of the prismatic spectrum; *i.e.* let all the flowers at one end be dark purples and violets, and at the other dark reds. Let the purples be followed by blues and light porcelains, till you come to whites. Next the whites, should follow the yellows; after them pinks, then full reds, and then dark crimson. Were there such things as green-flowered hyacinths, they would come between the yellow and the blue, displacing the white, which might be divided to form a bright termination at each end of the bed.

When the flowering is over, withhold water, and remove the awning, if one has been used. The leaves have now to fulfil their office, and must be aided by plenty of air and light. The single hyacinths will probably form seed-vessels. If these are not required for the interesting though patient task of raising varieties from seed, or if it be feared that they will exhaust the bulb too much, do not cut off the flower-stem,—an operation which might cause the bulbs to rot,—but pick off the berries one by one, leaving the stem standing. When the leaves are brown and dry, the bulbs may be taken up; the soil, dead fibres, &c., removed; and then the bulbs should be

laid with the offsets in shallow boxes, divided into compartments, labelled with the names, or numbered according to the grower's private catalogue. Baskets are even better than boxes, but they occupy more room, as their division into separate compartments is not so easy. They should be looked at at least once a fortnight, to cut out or reject any rotten bulbs, or rotting spots. As the time for re-planting advances, many offsets will come away easily, which would have been difficult to separate at an earlier period. A dry airy shelf is a good place for keeping them. Pot-grown bulbs must be subjected to the same treatment. It is not advisable to grow the same bulbs in pots two successive years; but very good blooms may be obtained from bulbs grown in pots and beds every alternate year. For exhibition or extra-fine specimens, it is usual to rely most on imported roots. The offsets must be planted in a bed by themselves, a little earlier and in somewhat richer soil than the full-grown bulbs. In one, two, or three years, according to their size, they will take rank with adult plants. For hyacinths in the open border, taking up every second or third year is sufficient. For seedlings, when the capsule turns yellow and splits, the seed is ripe. Sow immediately broadcast on a bed of light rich mould, into which none but thoroughly rotted manure is admitted. Over the seeds sift an inch thick of light soil. Protect from scorching sunshine and drenching rains; and in winter, cover with mats during frosty weather. When the young leaves wither, weed and gently scratch the surface of the soil, and sift over it another inch of light rich soil. Pursue the same treatment the second season. The third summer, take up the bulbs and replant them as if they were offsets or flowering bulbs. The fourth year, they generally bloom, and the fancier may look out for a prize or two.

Good Single Hyacinths.—*Whites*: *Voltaire, Emicus, Anna Maria, *Grand Vainqueur, Molière, Reine Blanche, Hercule, Hélène, Thémistocle, Virgo, Mercure. *Yellows*: *Prince of Orange, Héroïne, Roi des Pays Bas, Alida Jacoba, Anne Caroline, Jupiter, *La Pluie d'Or.

Reds: Mars, Van Speyk, *Felicitas, *L'Ami du Cœur, Herstelde Vreede, Amphion, Sappho, Cochenille. *Blues*: *Grande Vidette, Emicans, *Nimrod, *Vulcan, Robinson, *Emilius, La plus Noire, Grand Lilac, Bolivar.

Good Double Hyacinths.—*Whites*: *Vestal, Sphæra Mundi, Anna Maria, Gloria Florum, Mathilda, *Triumph Blandina, *Minerva, Hermann Lange, Montesquieu, Sultan Achmet. *Yellows*: *Ophir, Cræsus, Louis d'Or, Bouquet d'Orange, Jaune suprême, L'Or végétale, Duc de Berri d'Or. *Reds*: Boerhaave, Bouquet tendre; Flos sanguineus, Gloria Solis, Rex rubrorum, *Grootvoorst, Wellington, *Waterloo, Panorama, Madame Zootmann, Honneur d'Amsterdam. *Blues*: Othello, *Pasquin, Roi des Pays Bas, *Globe céleste, Globe terrestre, *Noir véritable, Bonaparte, Alamode, Laurens Koster.—A very small collection should include those marked with the asterisk.

Hyacinth, Grape—*H. Muscari*, or *Muscari moschatum*—bears a small spike of almost globular dull-violet flowers. Perfectly hardy, and may be left to take care of itself; but hardly worth admittance into the flower-garden.

Hyacinth, Monstrous—*Muscari monstrosum*—does not deserve the honour of a specific name, being sterile, and only capable of propagation by offsets. Instead of a spike of flowers, it puts forth something like a frizzled wig in disorder, of a dull rosy-purple tint. Void of all symmetry and purpose, it can find favour with few but lovers of abortions and curiosities.

Iris.—A large genus, comprising bulbous, tuberous, and fibrous rooted species. Of the bulbous kinds, acknowledged favourites are, the Persian iris, *I. Persica*, a low plant, which in March or April sends up, on a stem shorter than the leaves, a single, very powerfully sweet-scented flower, washed with blue on a light ground. Does better in a pot under a frame, in the same compost as is used for hyacinths, than in the open ground. Is propagated with difficulty either from seeds or offsets, but the bulbs may be annually obtained of the nursery-

men who import Dutch roots, and may be forced if required, like hyacinths. The Scorpion Iris, *I. alata*, a native of North Africa, produces in early spring two or three sweet-scented bright blue flowers on a very short stem. A curious and striking plant requiring the same culture as Cape bulbs (see *Ixia*). Two other bulbous species, *I. xiphium* and *I. xiphioides*, are by many regarded only as varieties of each other. The former is known as the Spanish iris, of a great diversity of tints; the latter as the Spanish, Portuguese, and English iris, in still greater variety, sufficient to form a handsome collection and produce a brilliant effect when grown together in a bed. They flower towards the end of June, and are often thought to deserve an awning, like tulips and other choice florists' flowers, to perfect their bloom and prolong its duration. In other respects, too, bulbous irises must have a similar treatment; namely, as soon as their foliage is withered, they must be taken up, have their offsets removed when sufficiently dry, and be replanted in October, or better in September. A light sandy soil agrees with them best. Seedlings, which will generally produce varieties, may be obtained as directed for hyacinths. Six or seven inches every way is a sufficient distance for the adult bulbs in a bed. The Spanish iris, though quite hardy as a border flower, must be taken up at least every third year, in August, to be divided and replanted in September. If kept out of the ground much later, the blooms for the following season will fail. The reason which requires them to be taken up, is that new bulbs are annually formed beneath the old ones, and would finally burrow so deep as to perish. The plant, therefore, in a wild state, is suited for the shoulders of steep hills, where a slight portion of the surface soil is carried down to the valley every year.

Ixia.—A lovely genus, delicate and brilliant, of low stature and slender growth. Unfortunately for us, their native home is a southern region, warm and dry, in comparison with which their English exile is damp and chilly. In the greenhouse, especially on a shelf near

the glass, *Ixias* thrive at their ease ; in the garden, they can only be grown in favoured spots by fanciers who will bestow on them all the care and attention exacted by tender pets. Devoted cultivators of Cape bulbs will study Monographs, Treatises, and Transactions, too voluminous to be comprised in the present syllabus. All that there is room to state here is, that their periods of growth and rest must be carefully alternated and attended to; that a wet sub-soil below and frost and heavy rain above are fatal; that their general soil is a mixture of peat-earth, leaf-mould, and light sandy loam, slightly enriched with the thoroughly-rotted dung of an old hotbed; and that, if grown in the open border, their bed must be an excavation properly filled, or better a raised pit built with walls of brick or turf, screened by a south wall, filled with light compost, and capable of being protected by lights or shutters, occasionally by both. Various other expedients may be tried, such as a stratum of dead leaves in winter, oiled canvass coverings, thatchings with straw, &c., if the roots be ventured out of doors; but the truth is, that, here, their proper place is under glass, in pots with a stratum of small shingle at the bottom, in which, according to size, more than a single bulb may be planted. Indeed, the bulbs are mostly so small that a great many of them would be lost by out-door culture in beds. Their treatment is much the same as that of the African gladioli. October is the time for planting. The bulbs may remain two years without shifting; but in that case, as soon as the bloom is faded, the pots must be kept in a dry situation. *Ixias* are propagated from offsets. Seedling plants often furnish pretty varieties, which generally flower the third year. *Ixia bulbocodium* is the only European species. The others are numerous and in great diversities of colour; *I. crocata*, the orange *ixia*, is one of the commonest; *I. polystachya* is a favourite with the Dutch. Persons desirous of growing *ixias* and the families of plants related to them, will gain practical information by visiting the collections and studying the lists of nurserymen.

Jonquil—*Narcissus jonquilla*.—So called because its leaves resemble those of a rush, in Latin *juncus*, in French *jonc*. The jonquil is a favourite pot-plant for spring forcing, partly from the good grace with which it submits to such treatment, but mainly for its slender foliage and its bright-yellow odoriferous flowers, whose perfume, however, is even too penetrating for many persons to bear in a room. The jonquil, like most of the other narcissi, is a native of low meadow-lands, and likes an abundant supply of water during its growth and flowering. Plant in September in any good garden soil. In the open border, take up the bulbs every two or three years; but double jonquils should be taken up every year, to prevent their degenerating. Be as scrupulous with them as with daffodils and crocuses, never to let the leaves be cut off because the gardener thinks it makes them look smarter, till they have perfectly fulfilled their office of ripening and returning the sap to the root. Single jonquils will furnish seed, but the quickest way of propagation is by offsets. Importers of Dutch roots will supply you with a stock at a moderate price, which, if you take care of them, will last you your life.

Lily—*Lilium*.—A large genus, of great beauty. The common White Lily, *L. candidum*, has been grown in gardens from time immemorial; it has blotched-leaved and striped-leaved varieties. The Orange Lily, *L. croceum*, a native of Austria, may be found in almost every cottage plot of flowers, where it amuses the children by smearing their noses, when they go to smell of it, with its yellow pollen. The Tiger Lily, *L. tigrinum*, from China, where its bulbs are eaten, has handsome orange-red flowers speckled with black, and is remarkable, though not singular, on account of the numerous little bulbs which are produced along the stem at the foot of each leaf. The Martagon, or Turk's-cap Lily, *L. martagon*, from the Alps, has an unpleasant smell emitted by its numerous dull purple flowers, spotted with small black dots; but its colour varies. The Scarlet Turk's-cap, *L. calcedonicum*, is handsomer; while the Yellow Turk's-cap,

L. Pyrenaicum, offers the curious contrast of yellow petals and scarlet anthers. The Canada Lily, *L. Canadense*, bears numerous yellow flowers. All these are quite hardy, and suited to the open border. The Tiger Lily is most vigorous and beautiful when growing in heath-mould. For the others, ordinary garden soil will do. Every third or fourth year, take up the tufts of bulbs, separate and plant them at once at the depth of three or four inches. Although they will travel to a distance, if required, they will flower not so well, or not at all, next spring, if kept out of the ground too long. The Bulbiferous Lily, *L. bulbiferum*, from the Alps, is also hardy, but is a less showy plant than those already mentioned. The Dwarf Lily, *L. pumilum*, appears to be only a variety of the common Orange Lily, is more delicate, and requires a light and sandy soil. The Pompone Lily, *L. Pomponium*, from the Pyrenees and Siberia, the dark red divisions of whose corolla turn back so as to form a sort of turban, prefers light fresh soil from a pasture, a shady situation, and, like most other Alpine plants, is all the safer for protection in winter, to imitate its native shelter of snow.

Species requiring a little more pains to cultivate are the Philadelphian Lily, *L. Philadelphicum*, a charming plant, about two feet high, which must be kept in a half-shady spot, potted in heath-mould, to prevent the loss of its offsets, which run underground. The Superb Lily, *L. superbe*, must also have heath-mould and protection in winter, although at home, in North America, the frosts are severer than with us. So it may remain, to be taken up and replanted every third or fourth year. Although thriving better for a certain amount of shade, it is apt to damp off and rot in wet situations. The Carolina Lily, *L. Carolinianum*, also requires heath-mould. The Kamtschatka Lily bears yellow jonquil-scented flowers, blooming in July, and, as its name indicates, is an alpine. The Monadelphian Lily, *L. Monadelphum*, so styled from its stamens being united, as in the Linnean class Monadelphia, for one-third of their

length, and Szowitz's Lily, often confounded with the preceding, are similar in constitution. The Isabelle Lily, *L. testaceum*, of a light bright brick-red or buff, of unknown origin, is as easy of cultivation as the common White and Orange Lilies. Thompson's Lily, so named by Dr. Lindley, has lilac flowers half the size of the White Lily, requires light loam, and protection from damps in winter. *L. giganteum*, a noble lily, sends up a flower-stem ten feet high.

The following exquisite species are more or less hardy, as far as present experience goes, in a mixture of leaf-mould and sandy loam: The Japan Lily, *L. Japonicum* (often confounded with the sweet-scented lily, *L. odorum*, also from Japan, a treasury of flowers which has furnished several beautiful species of lily), a superb plant, bears very large solitary and terminal white flowers slightly dashed with purple outside. The Long-flowered Lily, *L. longiflorum*, resembles the former, but is still handsomer. Brown's Lily, much in the same style, and Wallick's Lily, from the north of India. Perhaps the most elegant of all is the Lance-leaved Lily, *L. speciosum*, or *lanceolatum*, of which there are several varieties, which may be classed under the heads of *white* and *red*, or *L. speciosum album* and *L. speciosum rubrum*. Plants of these may be had of respectable seedsmen and florists, such as James Carter & Co., 238, High Holborn, for from two to three shillings each. As yet, they are grown in pots, in peaty soil, and are treated as greenhouse perennials. They well repay any trouble that may be bestowed on them; but plants from China and Japan have often proved more hardy than was expected at their first introduction. It is probable that the scaly bulbs of the whole Lily genus are edible in case of need. In rustic medicine, the pounded bulbs of the White Lily are a favourite cataplasm for burns and scalds.

Narcissus.—Two species have been already noticed under their trivial names of Daffodil and Jonquil. By Narcissuses, in ordinary gardening language, are understood the Polyanth or Many-flowered Narcissus, *N.*

Tazetta, and the many varieties derived from it, as florists' flowers. The rest are looked upon as mere border flowers. *N. concolor*, with white blossoms, runs into numerous varieties, one of the finest of which is known as the Grand Monarque. The poetic Narcissus, *N. poeticus*, with its ring of purple encircling the centre of the flower, is not without a certain elegance. Perhaps the most prepossessing species, on account of its dwarf habit, its less powerful odour, and its graceful mien, is the pretty little Hoop-petticoat Narcissus, *N. bulbocodium*, which though not a rare, is far from being a vulgar flower, as it increases anything but rapidly by offsets. Grown in pots, it well deserves a place in spring in every sunshiny parlour-window. It thrives better in warmer and drier soil than the former species. Some botanists make it a separate species, and call it *Bulbocodium vernum*. Is found wild amongst the hills of Dauphny and Provence. There is also *B. tigrinum*, a native of Russia.

Polianth narcissuses are annually imported from Holland, with tulips, hyacinths, and other Dutch bulbs. It must be owned that the varieties of narcissus, consisting merely of permutations and combinations of two colours only, yellow and white, in single and double-centred flowers, offer much less diversity than other bulbs of similar rank in the seedsman's catalogue. Still they have their steady admirers, attracted by their graceful habit, the ease with which they are forced, and even by their powerful odour, which is sufficiently oppressive to exclude them from the private apartments of many who would otherwise welcome them. For room-decoration, scentless flowers, as the camellia, are the most advisable to employ, as far as sanitary prudence is concerned. The rose, the violet, and mignonnette are harmless; certainly in the moderate quantity in which they commonly enter into dwelling-apartments; others, as the heliotrope and the lily of the valley, often give headache, and even nausea; while many of the liliaceæ, notwithstanding their beauty, notoriously exhale an insupportable efflu-

vium. In the saffron harvest, not only are the women who separate the pistil from the petal of the flowers, obliged to keep up a strong current of air in the room where they are at work, and are often compelled to leave their task and recover themselves in the open air from the stupifying influence of the odour given out, but even the saffron-gatherers in the field (mostly women) are attacked now and then by drowsiness followed by fainting-fits. Double sashes and glass cases, *i.e.* miniature close-shutting greenhouses, afford the best means of gratifying the sense of sight, in the case of strong-scented flowers, without offending the sense of smelling.

Narcissuses may be bloomed, like hyacinths, in glasses; but it is not the object of the present Book to indicate the *worst* mode of growing flowers. In pots they may be treated exactly like hyacinths, with a still more liberal supply of water, and in even lighter compost. It requires one kind of soil (rich and substantial) to bring the bulbs to their full strength, and another (more poor and sandy in its nature) to produce the utmost perfection of bloom. This explains why imported roots flower better than those in ordinary garden borders; demonstrating that even in floriculture, a division of labour has its advantages. To narcissuses, as to other bulbs, the rule may be applied: "Take care of the leaves, and the flowers will take care of themselves." To return again to the instance of saffron: when the flowers are all gathered, and the field is green in winter with the rank long leaves, its proprietor is carefully anxious to fence out hares and rabbits (which are fond of the plant), and to prevent them from feeding on the foliage, which is of no use to its owner, because experience has told him that if *that* is injured, his next year's saffron will be proportionately defective.

Snowdrop—Galanthus nivalis.—Although so common and easily-grown a flower, a garden without snowdrops would be sadly incomplete. There are single and double snowdrops; the former is, to many eyes, the more graceful; it has also the merit of being somewhat earlier and of best deserving its French name, *Perceneige*, or *Pierce-*

snow. Poets have made it the subject of their rhymes, sometimes with the license allowed to them; as when the Goddess of Spring, in some propitious hour, has changed an icicle into a flower:—

“ Its name and hue the *scentless* plant retains,
And winter lingers in its icy veins.”

But the snowdrop has an agreeable though faint perfume. Snowdrops may remain for years in the ground without being taken up, though it will be better to do so from time to time with border patches, to prevent their growing uncouth and ragged. They thrive well in somewhat moist and shady situations, such as under a clump of oaks on a lawn; *there*, of course, single flowers only are appropriate, double flowers being out of place beyond the limits of the parterre. Single snowdrops are not shy in bearing seed, though they are seldom propagated in that way, except by the hand of nature. Both kinds increase by offsets. Plant in August or September, at the depth of two or three inches.

Snowflake — *Leucojum æstivum* — Has flowers very similar to the former in general appearance, but are produced, several on one flower-stem, which is taller, and with a greater proportion of foliage. Quite hardy, only requires lifting every three or four years; but besides its more rampant growth, is of much less value than its cousin the Snowdrop, from blooming in summer, when we have so many more attractive candidates for our favour.

Squill—*Scilla*.—A pretty genus, with what gardeners call very “neat” flowers, whose tint is mostly a pleasing, and in some a brilliant blue. The least prepossessing species, *S. maritima*, the Maritime Squill, makes up for its modest spike of dull-looking flowers by its medicinal virtues. Its large exposed bulbs grow abundantly on the rocks, in many parts of the Mediterranean coast. If cultivated here as a curiosity, it must have the protection of a green-house in winter, and the bulb must be planted not more than one-third or one-fourth of its

depth, in a large pot of light loam. *S. Peruviana*, the Peruvian Squill, is not a native of that country; but was taken to the New World by the Portuguese, and brought back to Europe in the seventeenth century, after becoming naturalized on the coast of Chili and Peru. Bulb large, flowers blue (there is a white variety), best kept in a pot, in light soil, under a cold frame. *S. amœna*, *S. Italica*, and *S. campanulata* all bear flowers of various shades of blue, may be left in the ground several years, and do best in a light, dry, warm soil, with a certain amount of shade. The Two-leaved Squill, *S. bifolia*, the Siberian or early Squill, *S. Sibirica*, or *præcox*, and *S. umbellata*, merit pot-culture, although they are perfectly hardy, that they may take their place amidst forced jonquils or hyacinths. The Siberian Squill, especially, is one of the prettiest emblems of spring which we have, joined to which, its dwarf and graceful stature renders it worthy of all admiration. The Wild Hyacinth of our woods is by most botanists enrolled with Squills, as *S. nutans*, Nodding Squill, though it was formerly classed as *Hyacinthus non scriptus* (also as *Agraphis nutans*), in allusion to a mythological fable which can have no place here; nor can the plant itself claim admission into gardens.

Star of Bethlehem—*Ornithogalum*.—A genus very closely allied to the former. *O. umbellatum* is one of the commonest. The French call it the Eleven-o'clock Lady, because it opens its cluster of bright white flowers an hour before noon, when the sun shines brightly, shutting them again at three. The corolla only expands under the strong stimulus of light. It is also supposed to be one of the plants mentioned in Scripture. *O. pyramidale*, styled by the French the Virgin's Spike, displays its handsome white blossoms at the end of June. *O. fimbriatum*, Fringed Star of Bethlehem, has white flowers striped with green. These are all of easy culture, and, indeed, scarcely deserve any great pains to be taken about them, beyond lifting and separation every second or third year. There are Cape Stars of Bethlehem, which are not safe unless treated as *Ixias*.

Tiger Flower—*Tigridia pavonia*,—derives its principal charm from the ephemeral duration of its singularly-shaped and coloured blossoms, which expand and fade within a few hours. It is consequently not well adapted either for bedding or for pots, although each strong bulb will produce several blooms crowning the tuft of bright sword-shaped leaves. It is most effective in patches in a bed or border near the living-room windows, where its gaudy petals will be sure to catch the eye, and where it will escape the inglorious fate of the many flowers that are only born to blush unseen, and waste their brightness on the desert air. Though a native of Mexico, it may be left in the ground all the year round *when and where* a mild winter and a dry soil can be insured. But it is safest taken up in autumn, when the leaves are quite withered. Propagate by seeds and offsets.

Tuberose—*Polianthes tuberosa*.—An old favourite allowed to grow obsolete, because it gives a little trouble and costs a trifle of expense. It is true, also, that it belongs more to the conservatory than the flower-garden; still, a word or two shall be written to help its restoration to public favour, for it is now so utterly neglected that many useful plain gardeners have never seen such a thing as a tuberose. The bulbs are annually imported from Italy; it is of little use trying to do anything with them here after they have once flowered, unless as a test of horticultural skill. Plant them in large heavy pots in light, rich loam, in March, and plunge them in a hotbed. When the central bud has started a few inches, remove them either to a warm light place in the greenhouse, or to a very sunny frame. In July, such plants as are not retained indoors, may be plunged in their pots, to flower in the open air, either in clumps, or along a border. They form an elegant avenue, alternated with the Pyramidal Campanula. As the flower-stems rise to from four to six feet in height, they must be supported by light straight stakes of equal length; and it is this peculiarity which gives the flower its *architectural* character, and usefulness in decoration. It is

very generally employed on the altars in Italian churches, where the perfume exhaled by its pure white flowers is said to have the same effect as mignonnette-boxes in London; namely, the keeping of evil smells and infections at bay. Double tuberoses will be preferred as handsomer, if not more odoriferous, than single ones. While the flower-stem is rising, the plant is greedy of heat and water; admit air also at every available opportunity.

Tulip.—There are several species of Tulip, all of which produce elegant flowers. The Wild Tulip, *Tulipa sylvestris*, bears bright yellow flowers in April or May. There is a very showy double variety, which, though not esteemed by florists, is very effective as a border flower. *T. suaveolens*, the sweet-scented or Van Thol Tulip, is an extremely pretty dwarf plant, with bright-red petals edged with yellow, flowering in April, and valuable for forcing, in association with other spring bulbs. It may be left all winter in the open ground. Parrot tulips, also early, remarkably showy, and well adapted for pot-culture, are supposed varieties of *T. sylvestris*. The tulip about which the Dutch once went mad, the Florists' Tulip, which still retains its admiring fanciers, is *T. Gesneriana*, or Gesner's Tulip.

On the Florists' Tulip a treatise might be written which should far exceed the entire limits of the present Book. It is a special, and somewhat thorny as well as complicated branch of the grand floricultural tree. Nor are all growers agreed as to classification and management. To convey to the uninitiated some idea of the rules of art, it is worth while transcribing from "Glenny's Properties of Flowers," the twelve points which he has laid down as indispensable for the Tulip:—"1. The cup should form, when quite expanded, from half to a third of a hollow ball. To do this, the petals must be six in number; broad at the ends, smooth at the edges, and the divisions between the petals scarcely to show an indentation. 2. The three inner petals should set close to the three outer ones, and the whole should be broad enough

to allow of the fullest expansion without quartering (as it is called), that is, exhibiting any vacancy between the petals. 3. The petals should be thick, smooth, and stiff, and keep their form well. 4. The ground should be clear and distinct, whether white or yellow. The least stain, even at the lower end of the petal, would render a tulip comparatively valueless. 5. Roses, byblomens, and bizarres, are the three classes into which tulips are now divided. The first have a white ground, and crimson, or pink, or scarlet marks; the second have white grounds, and purple, lilac, or black marks; and the last have yellow grounds, with any coloured marks. 6. Whatever be the disposition of colours or marks upon a tulip, all the six petals should be marked alike, and be therefore perfectly uniform. 7. The feathered flowers should have an even close feathering all round, and whether narrow or wide, light or heavy, should reach far enough round the petals to form, when they are expanded, an unbroken edging all round. 8. If the flower have any marking besides the feathering at the edge, it should be a beam, or bold mark down the centre, but not to reach the bottom, or near the bottom of the cup; the mark or beam must be similar in all the six petals. 9. Flowers not feathered, and with flame only, must have no marks on the edges of the flower. None of the colour must break through to the edge. The colour may be disposed in any form, so that it be perfectly uniform in all the petals, and does not go too near the bottom. 10. The colour, whatever it be, must be dense and decided. Whether it be delicate and light, or bright, or dark, it must be distinct in its outline, and not shaded, or flushed, or broken. 11. The height should be eighteen to thirty-six inches; the former is right for the outside row in a bed, and the latter is right for the highest row. 12. The purity of the white, and the brightness of the yellow, should be permanent, that is to say, should stand until the petals actually fall." Exhibiting gardeners and fanciers will do well to consult the same authority for the "properties" of other Florists' Flowers.

Tulip-beds are made much in the same way, and composed of nearly the same materials, as those for hyacinths. A trench four feet wide, or thereabouts, is dug out; a few inches' depth of shingle is laid at the bottom, to insure drainage, if the subsoil is clayey, and the rest is filled with a compost of fresh loam, leaf-mould, river sand, and the well-rotted dung of *ruminant* animals, when such is to be procured, all thoroughly and previously incorporated together. Much mystery has been made about special and incomparable receipts for the ingredients, and their proportion, in a tulip-bed; but it may be suspected that these important formulæ contain a certain amount of quackery. The soil of a tulip-bed should be renewed every year; it will still serve for the culture of other flowers. The bed should be raised an inch or two above the level of the ground, and slightly raised in the middle. The beginning of October is a good time to plant. Draw parallel lines, with a cord, six inches apart, along the bed, and cross them with lines at right angles, also six inches apart. At the points where these cross, the bulbs can be gently pressed into the soil just deep enough to keep them standing upright. Some amateurs previously arrange the order in which the tulips are to be placed, so that they correspond in the bed either with a numbered plan, or with the compartments in the store-boxes. When the bed is thus covered with bulbs, and it is seen that all is right, lay additional soil over them *with the hands*, till they are covered to the depth of from four to five inches. The earth must be kept up at the edges of the bed either with thick turfs laid edgewise, with the grass outside, or with a border of stone or earthenware. The former, clipped close, makes a pleasing frame to the bed; the latter are less liable to harbour slugs, snails, and worms. It is better thus to heap earth over the bulbs, than to plant them with the trowel or dibble; because the soil, remaining free from all compression, is more readily penetrated by the root-fibres. During frosts and heavy rains, the beds should be covered by canvass or matting sustained by hoops. As the leaves

and flower-buds begin to peep above-ground, this precaution becomes the more necessary, as the future bloom might be seriously injured, or even destroyed, by exposure to an inclement spring. Valuable collections, during their flowering, are mostly sheltered by an awning; afterwards, the sun and air are allowed to exert their full influence. The immature capsules are broken off, to prevent exhaustion of the bulb, unless it be desired to ripen seed. When the leaves are completely withered, the bulbs are carefully taken up: it is dangerous to expose them to burning sunshine. At the same time they must be thoroughly dried, before final storing in some airy place, in their box-compartments, where also they can be safe from mice. Offsets will mostly come away better at a later period.

These offsets eventually become bulbs that produce flowers identical with those of their parent. Tulips raised from seed bloom in their fourth or fifth summer; and if the seed has been well selected, there is a chance of obtaining from out a large number, a few good and novel varieties. Their tints will be at first confused; but in succeeding seasons, they will gradually break, and become clear and distinct. This transitional state of the tulip (during which it is called a "Baguette") lasts from two to fifteen years.

When the capsules of tulips allowed to bear seed begin to open at the top, they are cut off, and kept till September or October. Sow them *on* a bed, or a large earthen pan, of light rich soil, and cover them lightly with leaf-mould half an inch thick. The first year, they will put forth a single leaf. When this is withered, the *surface* of the mould may be renewed. The second summer, they may be taken up, to be replanted *immediately* in tulip compost. The third year they may be treated like offsets. All this while they must be carefully weeded, and protected from the inclemency of the seasons. If a seedling is a year behindhand in showing bloom, it promises all the better for that circumstance. In other cases, a tulip of the highest merit will put forth

a worthless scarcely-recognisable bloom. The most usual causes of this phenomenon are, changes of climate, culture, or, above all, of soil, or even the accident of a cold and wet spring. The next year's bloom will often appear adorned with all its pristine beauty. Meanwhile, if it balks your expectations, do not be discouraged; the fit will pass, and all will be right again.

On cool reflection, and admitting all the floral pretensions of tulips, it must be granted that they have attained a higher rank in the world of flowers than their intrinsic beauty entitles them to claim, especially since the introduction of numerous rivals from foreign lands. The varieties of tulip (the choicest of which do not exceed eight hundred in number) present much less striking distinctions, both in colour and form, than those of many other flowers,—for instance, of the hyacinth and the rose. Certain varieties of florists' tulips are sweetly scented,—a pleasing peculiarity, which deserves a greater measure of favour than has hitherto been accorded to it.

Zephyranthes candida.—A small bulb, producing in October a single flower, whose three interior lobes are pure white, and the three exterior tinged with pink at their tips. In a warm dry soil may remain out of doors all the year round, only requiring to be taken up every third or fourth year. *Z. Atamasco* is still handsomer and equally hardy. *Z. rosea* is best cultivated in a frame, in pots.

TUBEROUS AND RHIZOMATOUS FLOWERS.

A tuber is a solid root, like those of the potato and the dahlia. In some respects it is analogous to a bulb, as having alternate periods of growth and rest, during which latter it will exist independently of the soil, and may be transported to long distances. It also contains the nutriment of the future plant, as well as the germ itself, which, however, is in a much more embryotic state than in bulbs. A perfect bulb contains but a single leading germ; a tuber has mostly several. A tuber is less

symmetrical than a bulb, and, unlike it, may generally be divided into portions during its period of rest, each of which portions will grow and form an independent plant, provided that it contains an eye or germ. In tubers, the eyes are either dispersed irregularly, but tolerably equally, over the whole surface, as in the potato (where they are more crowded near the nose) and the anemone, or clustered near each other, more or less numerous, about the crown or neck of the plant, as in the florists' ranunculus, the dahlia, and the cyclamen.

Rhizoma is the botanical name for the underground stem of many plants, which subterranean stem so far resembles a tuber as it often is a reservoir of the plant's nutriment, to the extent of serving as an article of food for man and beast,—and as it is furnished with dormant eyes, has a tendency to put forth roots, and has a period of rest, during which it is passively subject to the requirements of the human will, according to its greater or less power of endurance and torpidity. The transition from tuberous to rhizomatous, and thence to herbaceous plants is so gradual, that the line of demarcation is not very easy to fix in a work like this; nor indeed is such a classification professed to be adhered to more strictly than will serve for popular convenience. The tuberous and rhizomatous flowers in most general cultivation will now be noticed in alphabetical order. It is hoped that no very severe fault will be found if the next section is made to comprise plants which might have taken their places here, or if some that are found here might with equal propriety have appeared in the following chapter.

Aconite (*Winter*)—*Eranthus* (spring flower) *hyemalis* (wintry).—Linnaeus named it *Helleborus hyemalis*. A charming little plant, which has perhaps the greatest right of any to claim the merit of being our very first spring flower. Hence, it is commonly known as "The New Year's Gift," but is less familiar to the inhabitants of towns than to country residents. It thrives best in a somewhat damp and shady situation, and does not like to be disturbed too often; consequently, it does better under

trees and shrubs, or in a neglected corner screened by walls, than in the open parterre. It increases fairly, both by root and seed, remaining dormant about eight months of the year. In removing, take up a *large* patch, to make sure of having a sufficiency of the creeping fleshy root to furnish good eyes. Under pot-culture, it must have large shallow pans; common flowerpots cramp it too much. A mignonnette-box all to itself answers very well. In any case, it must remain where it is during both growth and rest, with a renewal of the surface soil every other year. Like the true hellebores, its bright yellow flowers exhale an odour which many persons find oppressive and disagreeable. For other Aconites, see *Monkshood*.

Anemone, i.e. *Windflower*.—Of the Florists' Anemone, *A. coronaria*, the very numerous varieties may be separated into two classes, the single and the double. The former are multiplied both by seed and by division of the root; the latter by division of the root only. As with hyacinths, double anemones should be grown on different beds from the single ones, since they bloom at a later period; the character of the flowers, moreover, does not harmonize well together. Semi-double flowers, or those with more than the normal number of petals, sometimes called Kilkenny anemones, take rank with single ones; they are also capable of bearing seed. In double anemones, the stamens and pistils, the organs of reproduction, are changed into a thick rosette of small petals. Single anemones are in esteem amongst gardeners, although double roots fetch a higher price. The colours of anemones are red, blue, and white, or very pale straw-colour, and their intermediate shades. The plant is particularly valuable from its flowering late in autumn and throughout mild winters, more or less, to burst into brilliant bloom in early spring.

Anemone roots may always be had of respectable seedsmen. Plant them as soon as possible after they are taken up in summer. But to make a bed of single anemones, the best plan is to sow seed, which many people make a

point of saving only from flowers of the richest blue and red tints. The precaution can do no harm; but it is questionable whether it has any effect if the seed be gathered from off a large bed; for the produce therefrom is completely hybridized by the agency of the wind and of bees. Over-year's seed will succeed very well; still it is better to take that of the current season, sowing as soon as it is ripe, in May or June.

Mark out your bed on a spot of good friable hazel loam, which is in good heart or has been well manured the previous year. Rank fresh manure must be avoided. Break it up well to the depth of two feet at least; thoroughly pulverize the top spit; remove all pebbles and roots of weeds; rake the surface perfectly level. The breadth of the bed should not exceed what is convenient for reaching to the middle for weeding and gathering.

Anemone seed is light and woolly, hanging together in knots like carrot seed. To avoid this inconvenience, mix it up with a considerable proportion of moist sand, rubbing it well between the hands. Sow broadcast as evenly as possible, and not too thick if the seed be new. Cover with a thin stratum of lighter loam and leaf-mould dusted over the bed with a sieve. The seed is somewhat slow to germinate, and weeds will make their appearance first. These must be drawn out, as soon as they are big enough to be laid hold of by the finger and thumb. Very gentle waterings must be given, if the drought is severe and the sun scorching. As the little green twin-cotyledons of the anemones show themselves, the same attention to weeding and watering must be repeated, to be continued during the summer. In October, a few flowers will appear; next spring, there will be a respectable show; and the following season, the bed will be bright with divers colours. The best flowers are not the first to come into bloom. From every fresh-sown bed, one or more double roots may be expected; but these will often not manifest their presence till the second or the third year after sowing. Fresh seed is more likely to produce double and richly-tinted flowers than old seed; because

the embryos from which *they* are produced, are of comparatively feeble vitality. In a lot of old seed, the germs of the finest flowers are mostly dead; those which do come up being only the robuster and coarser individuals.

It is better not to disturb an anemone-bed too often. At the end of four or five years, when the roots have become crowded and the soil requires a partial renewal, they may be taken up *as soon* as the foliage is *quite* withered, to be replanted in a fresh spot as early as convenient. Anemone roots are dormant for a much shorter period than most other tubers; consequently, no time must be lost. A fortnight's, or even a week's delay, especially in the time of taking up, may seriously impair the next season's bloom. At the time of lifting the roots, remove an inch or so of the surface soil, give the bed a not too rough raking, and throw over it a coating of fresh well-pulverized loam, equal to that abstracted. If the weather be dry, water with *very* diluted liquid manure; wait for a few weeks patiently, and you will find your old anemone-bed covered with plants springing from the fragments of tubers left in the ground, which will bloom vigorously in due season. In short, you will have two beds for one. Double anemones require the same soil and treatment. Do not wait till September or October, but plant your roots *as soon as you can get your collection together*. Remember, anemones do not like to remain long above-ground. It is not usual to name the choice varieties that are raised, either of single or double anemones. In fact, they would make a list long enough to reach from London to York, extensible, at the florist's will, to John o'Groat's house and the Orkney Isles.

The Japan Anemone, *A. Japonica*, is an elegant and useful acquisition recently introduced from Japan. It is perfectly hardy, thrives in any good light soil that is not too dry, producing an abundance of its pinky-purple flowers throughout the autumn. It rarely ripens seed, but may be readily propagated by division of the root, a very small portion of which will grow. Is

most effective in large patches or small beds. The Elegant Anemone, *A. elegans*, also from Japan, is more robust than the preceding, and hardy. The Apennine (with blue flowers), the Narcissus-flowered (white and yellow), and the Wood (white) Anemones, *A. Apennina*, *narcissiflora*, and *nemoralis*, are pleasing ornaments to the shrubbery and pleasure-ground. *A. pulsatilla*, violet-blue, flowering in May in dry flinty ground, deserves both mention and cultivation.

Arum.—The Snake-root, *A. dracuncululus*, or Dragon Arum, is often found in old flower-gardens, and deserves a place in modern ones. Its handsome speckled stem, like a serpent's skin, bears, when in vigour, a remarkable, large, dark-purple flower, which however is unsuited for admission into the interior of the mansion on account of its powerful carrion-like smell. Still, the Snake-root in bloom is an object not to be passed without notice. Any deep rather moist garden soil suits it, but it must not be disturbed for division of the root or transplantation. After those operations, it refuses to flower for a year or two, till it has recovered its strength. The old herbalists attribute wonderful virtues to the Grande Serpentaire, or Serpentine, as they call it. *A. crinitum*, or *muscivorum*, the Hairy or Fly-catching Arum, a native of Corsica, produces in spring a central spadix surrounded by a spathe, which is blotched with green outside, and inside is lined with violet silky fibres inclining downwards, and in which are caught and held fast the flies attracted by the cadaverous odour exhaled by this extraordinary inflorescence. It rarely flowers in a pot, and requires protection during winter in the open ground. The White-flowered Arum, *Calla*, or *Richardia Æthiopica*, makes an elegant decoration to the edge of a pond; but it must be treated as a pot-plant during winter. Is easily propagated by division of the root, and requires to stand in a pan always half-filled with water, except during frost.

Christmas Rose—Black Hellebore, Herbe de Christ of old French writers, *Helleborus niger*—produces its

handsome white blossoms tinged with pink from December to February, according to the weather. As the flowers, when put forth, are apt to be damaged by sleet and rain, they well deserve the occasional shelter of a hand-light, or even a slanting piece of plank. The foot of an east wall is a good situation, to avoid the drenching south-west storms that pelt from time to time in mild winters. Soil, a light fresh loam. Propagate by root-division, not too frequently. Seeds, sown as soon as ripe, will produce slight varieties, more or less tinged with pink, which will blossom in their third year.

Cyclamen.—A charming genus of humble, pretty, sweet-scented spring flowers, whose ugly French and English names, Pain de Pourceau and Sowbread, ought to have been replaced by some more pleasing appellation, even though the tubers may be rooted up by swine in the woods of Italy and Switzerland. Although the European species, *Cyclamen Europæum*, *Coum*, *repandum*, and *hederæfolium*, may and will pass the winter in a dry open border, with some slight protection of litter or matting overhead, they are safest in pots in a cold frame. The broad-leaved *Cyclamen*, *C. macrophyllum*, a native of Algeria, unlike the others, flowers in the autumn. The most elegant of all, the Persian *Cyclamen*, *C. Persicum*, must be grown in a pot, with the tuber partially above-ground, in which, if large enough, it may remain for several years, with an occasional renewal of the upper portion of the soil. Old tubers will thus produce large tufts of numerous pink or purple and white flowers, so graceful in their shape that Hogarth selected them as one of his illustrations of "The Line of Beauty." All the *Cyclamens* are propagated from seeds, which must be sown immediately they are ripe, in shallow pans of light rich earth, and be grown under frames with plenty of air and little heat the first few years. The tubers, after flowering and maturing their leaves, must be kept in a dry and airy place during their period of annual rest, *i. e.* from July to December.

Dahlia—*Dahlia variabilis*—a floral upstart, the whole course of whose rise to fame and fortune is within the memory of many persons now living. The original single-flowered plant, from Mexico, first claimed the attention of horticulturists as an edible root, whose repulsive, nauseous, peppery taste inspires equal disgust to man and beast. Then, single dahlias were thought fine things, and various gay colours were obtained from seedlings. Then came the phenomena of double dahlias, which were taken into favour by enterprising florists, and improved, and improved, till they became what we see them now. The dahlia is essentially a *made* flower; its cultivators proposed to themselves a certain model, as to form and furnishing of petals, which they determined to perfect; and by skill in hybridizing, by outlay in sowing enormous numbers of seeds, and, above all, by patient perseverance, they *have* perfected it. One great point, however, they have not attained,—the production either of a blue, or of an agreeably-scented flower. No attempt will here be made to name any of the choice varieties of *Dahlia* which, at the moment of this present writing, may chance to be the favourites of the day. The existence of this little Book may be more durable than most of theirs; and it would be of little service to print a list that would soon become obsolete by the intrusion of fresh candidates for the public applause. Inquiring readers had best consult the current numbers of the *Gardener's Chronicle*, in whose advertisements and answers to Correspondents they will be sure to find all they are in search of. Perhaps, though not probably, a blue perfumed *Dahlia* will start from the earth; in which case, those which now figure in the parterre will have to hide their diminished heads, for a time at least. Many old esteemed varieties have completely disappeared; while the mercantile horticulturists, both of Great Britain and the Continent, annually inundate the market with a copious flood of novelties, many of which are inferior to their predecessors. The wisest course for the inexperienced amateur is to leave the

selection of his Dahlias to the respectable nurseryman of whom he orders them.

The Dahlia thrives best in a good rich hazel loam. Both the leaves, stem, and roots are killed by frost; the latter, consequently, must be kept in a place of safety during winter. The stem is fragile, and apt to be blown down or snapped short by high winds; it is therefore best supported by a stake inserted into the ground at the time of planting the root or cutting. The young shoots, in their early growth, are apt to be eaten off by slugs and snails, which must be driven off or destroyed by circles of lime and ashes, or by waterings with lime-water. The blossoms are apt to be bitten and spoiled by hungry earwigs, to obviate whose onslaughts traps of hollow bean-stalks, to be inspected once or twice a day, are hung at enticing intervals amidst the foliage; or circular earthen pans, to be filled with water, are placed at the foot of each plant in the early stage of its growth, so as to keep the enemy at bay by a miniature kind of encircling ditch. Choice blooms for exhibition are shaded and protected in various ways.

New varieties of Dahlias are obtained from seed; the varieties themselves are propagated—first, by division of the tuber at the crown, in which case it must be seen that each portion is furnished with an eye; and, secondly, by cuttings, which will strike root, and form tubers of their own by the end of summer. If a Dahlia tuber be planted entire in spring, it will mostly send up several stems. It is usual to leave only one of these, as producing a handsomer and more symmetrical plant.

In forming a collection of Dahlias, the general mode is to order the number required of a nurseryman, in good time during the winter, if the newest new novelties are a matter of importance. They will arrive some time in spring, in the shape of rooted cuttings two or three inches high, in small pots, and must be kept in a greenhouse or in a frame, till the end of May, or such time as all danger of frost is over in that locality. They may then be planted out in rows, beds, quincunxes, or

avenues, taking care to plant them at the distance demanded by their lofty stature and vigorous growth. The further cares are—watering; protection from vermin; tying the stem, as it rises, to the supporting stake; and the cutting out of unnecessary and irregular shoots.

In the climate of England, Dahlias are unable to complete the entire circle of their vegetation. In October they are in full force, and the slightest frost destroys them then. In order to prolong the duration of their blooming, they are sometimes planted in large pots, which are plunged in the border during summer, but are lifted and removed to a greenhouse or conservatory as autumn advances. The forward buds are thus enabled to expand in safety. But plants so treated display only a short-lived beauty; to flower well, Dahlias must have the open air. The tubers ought to be left in the ground some time after the autumnal frosts have destroyed the foliage; they still find nourishment there, complete their ripening, and are consequently less difficult to keep. About the middle of November is the usual time for taking them up, an operation which ought to be carefully performed, avoiding wounding the roots, and choosing if possible a bright calm day. They may be left a few hours to dry in the open air, to be thence removed to any place secure from frost, where neither the excess of dryness or moisture is to be feared. They will pass the winter exceedingly well, covered with sand on the floor of a dry and wholesome cellar.

At the end of March, as the time for planting out approaches, remove the tubers from their winter quarters into a hothouse, or lay them side by side, close to each other, on a gentle hotbed under a frame. Those whose crown is still surviving, will soon begin to vegetate; the rest may be thrown away as worthless. Some persons plant the tubers entire; but the practice is bad. On the contrary, they should be divided as much as possible, bearing in mind the indispensable precaution to leave at least one starting eye on every portion. If the season is so far advanced that all fear of frost is over,

they may be planted out at once in their permanent sites; if not, in pots filled with good mould, which must be kept on a hotbed under glass, admitting plenty of air, till the first week in June. The first blooms are mostly imperfect; and Dahlias are scarcely in their full beauty till the great heats and droughts of summer are over; that is, at the end of August and in September. It is as well to cut off all imperfect and faded blooms, that the sap may be directed to the buds that are successively coming forward. There is no need, here, to do more than allude to the grafting of choice Dahlia-shoots on the tubers of inferior varieties.

The Dahlia derives its principal value from its filling the void left by the disappearance of summer flowers, as well as from displaying its finest blooms at the season when our aristocracy return from town to their country seats. It is a gaudy, flaunting, showy plant, which has the great merit of usefulness in its way; but it is far from possessing all that can be wished for in a flower, and no doubt many of its early worshippers will now confess that they prostrated themselves too blindly before their idol. But every one has, and ought to have, his taste. We have no right to blame, though we may not sympathize with, the amateur who prefers a Dahlia to a Rose.

A smaller species, *D. cosmæflora*, which has not yet started off into varieties, is of dwarfer habit, and produces flowers with a purple disk and lilac rays.

Hemerocallis flava.—Day Lily; a plant with yellow or tawny flowers, which was not mentioned at the same time with the other Lilies, simply because its root is not bulbous. It is a coarse plant, quite hardy, fitter for the shrubbery than the choice parterre, producing a tuft of long narrow leaves, and easily propagated by root-division. This Day Lily produces a fair succession of ephemeral flowers. Other Day Lilies have been made into a separate genus, *Funkia*, more remarkable perhaps for their leaves than their flowers. *F. subcordata* has heart-shaped leaves, of a bright green, with longitudinal folds or plaits,

and bears, towards the end of summer, a spike of white sweet-scented flowers. *F. Cærulea*, has smaller, somewhat earlier, violet-blue flowers, and oval heart-shaped leaves, of a darker green, and with more strongly-marked longitudinal veins. Both species like a warm dry soil, and flower well in pots on a sunny shelf of the greenhouse, though they will live out in the open ground. They are made for a longer summer than 'our own.

Iris.—Several of the tuberous-rooted Irises are decided and deserving favourites. The most striking is the Chalcedonian Iris, *I. Susiana*, or Widow Iris, whose large flowers are marbled or veined with a dull greyish purple-brown, which suggests the idea of the hues of mourning. Must have a warm, dry, deep soil, and does not like disturbance. Will be sure to rot off with too much moisture. The most common Iris is the German, *I. Germanica*, useful for its hardihood and thrift in confined situations; will grow even on roofs or the tops of walls. Its blue flowers appear in May and June. There are paler and also white varieties. The Grassy Iris, *I. graminea*, the Silky Iris, *I. setosa*, and the Siberian Iris, *I. Sibirica*, do well in ordinary garden-ground. The Dwarf Iris, *I. pumila*, makes a neat edging of short stiff leaves, above which numerous blue flowers appear in spring. There are white, purple, and russet-tinted varieties. The kind with yellow flowers veined with brown, *I. lutescens*, is a little taller, and flowers sometimes from the month of October. The Hungarian Iris, *I. Hungarica*, is also used for edging. It is also a little taller than the preceding, and displays its numerous violet-blue flowers a little later. More than fifty species of Iris are known to botanists.

Ladies' Slipper—*Cypripedium*.—An elegant genus, whose species are natives of the mountains of Europe, India, and North America. Their culture is difficult, and their propagation still more so. They must be treated like the terrestrial Orchidaceæ, *i. e.* like those members of that large family which have their roots in the ground instead of hanging to the branches of trees.

(See *Orchis*.) This peculiar branch of floriculture is mostly pursued by persons who make it their especial study, and whose practical experience is aided by treatises, monographs, &c. *C. calceolus*, from the Alps; *C. guttatum*, from the cold regions of Canada, and also from the forests of Siberia; *C. pubescens*, from Carolina; *C. spectabile*, also from North America, may be grown in heath-mould, in the open ground, in a shady yet airy situation. In winter they must have protection analogous to that afforded by a thick covering of snow. The great beauty and singularity of the blossoms of the Cypripediums render them well worth the attention of those who are not deterred by ordinary difficulties, and who will take the trouble to carry out the Theory of Horticulture to its practical and effective results. The plants on sale are mostly imported, and therefore fetch good prices in the horticultural market. L. Van Houtte, of Ghent, Belgium, advertises the very scarce and hardy *C. macranthum*, at two guineas each.

Marvel of Peru—*Mirabilis Jalapa*—*Belle de Nuit*, or *Beauty of the Night*, of the French.—This striking plant requires a somewhat warmer and drier climate than our own, and therefore does best in our hottest summers. It then forms a bushy plant from two to three feet high, covered with red, yellow, white, striped, or mottled flowers, which open when the heat of the day is over, and are succeeded by fresh blossoms the following day. The Night-scented, or Long-flowered *Marvel of Peru*, *M. longiflora*, differs from the above, in having a more diffuse and brittle habit of growth, with heart-shaped viscous leaves. The flowers, whose tube is from four to five and a half inches long, are of a dull white, and emit, after sunset, a powerful odour, which resembles a combination of orange-flowers and heliotrope. The varieties of the first species, though differing in colour, are similar in their growth and foliage; and therefore should be grown in beds or clumps by themselves alone, without being mixed up with the second species, which may be planted singly, in rows, or in small groups of three or

four plants. Of the latter, there is a variety with the blossoms tinged with dull violet. Marvels of Peru are mostly treated as tender annuals, sown under a frame on a hotbed in spring, and planted out at the beginning of June in a well-sheltered border, where they can bask in the reflected heat from a wall, and luxuriate in light rich sound loam. But they really are perennials, forming tubers, which may be taken up and kept like those of Dahlias, to be replanted the following summer. For those fond of powerful perfumes indoors, the Night-scented Marvel, grown in a pot, and brought forward by bottom heat, would make an agreeable variety to the ordinary list of odoriferous flowers.

Monkshood—Aconitum.—A genus whose expulsion is strongly recommended from all gardens, especially where there are children and careless servants. The beauty of the flowers does not rise above mediocrity, and is very far from compensating for the danger of poison to be apprehended. The yellow-flowered Monkshood is called *A. lycoctonum*, and Tue-Loup, which both mean Kill-Wolf. The common blue species, *A. napellus*, or Wolfsbane, has not only poisoned pigs that have swallowed fragments of the plant while amusing themselves with the garden rubbish that has been thrown down to them, but families have been poisoned by eating the scraped root, by mistake, for horse-radish. A French lady stepped into her garden, to listen for the church-bell to ring for mass. Like the ploughman who whistled o'er the lea for want of thought, a wandering mood of mind caused her to pluck and nibble a bit of the nearest plant, whether flower or leaf she could not afterwards remember. At mass, she was taken seriously ill; and, after a horrible afternoon and night, got well in the morning. But she no longer permits Chapeau de Prêtre, or Monkshood, to form one of her list of border-flowers. Authentic cases might be multiplied. Therefore, the directions here given for the treatment of the Aconites, whether blue or yellow, native or foreign, are to stub them up and burn them to ashes.

Orchis.—Many beautiful and curious species of *Orchis*, and the closely related genus *Ophrys*, are native plants, though now rare. The Bee *Ophrys* (formerly *Orchis*), the Spider *Ophrys*, and the Fly *Ophrys*, whose flowers resemble those respective insects, were found on the skirts of our woods and pastures. *Orchis pyramidalis* and *fusca*, are attractive objects in their native forests; but the species are very numerous. To cultivate them, take them up when in flower, with a large ball of earth surrounding the roots, and plant them in exactly the same soil, aspect, and conditions as they enjoyed when wild, whether in wet peat-mould, or in dry chalky loam. These conditions are not always easy to combine. Many species require shade and air at the same time; others are only at home in a marsh or a bog. They may be grown in pots, but ——— The tuberous root of most terrestrial orchidaceæ consists of two lobes, one of which shrivels every year, a new one being formed at the side of the other lobe. Thus the plant travels slowly, but surely, and is therefore not at its ease in a hyacinth-pot, as far as shifting its ground is concerned. The less fastidious species will do tolerably well in a border of heath-mould at the foot of a north-east wall, where they are best left to themselves year after year. Not easy to propagate; but the seeds may be sown as soon as ripe.

Oxalis—*Wood Sorrel*.—An extensive genus, whose type is that pretty little native of our woods, the *Oxalis acetosella*, whose sour juices furnish a considerable quantity of oxalic acid, to which in fact it gives the name. This same acid is the basis of a salt that is much employed in the arts and in domestic economy; namely, oxalate of potash, or Salts of Sorrel. Certain species have been highly vaunted for the amount of nutriment stored in their tubers; for which see "The Kitchen Garden." The leaves of the *Oxalis*es are ordinarily composed of three leaflets, which are sensitive to light and moisture, like those of the Trefoils. The flowers are always neat and often brightly coloured, but unfortunately the most beautiful must be treated as greenhouse plants, in pots, in

light sandy soil. They comprise tints of pink, red, purple, white, and of brilliant canary-yellow, but have need of bright sunshine to open well. The handsomest species cultivated, *O. speciosa*, from the Cape, has large reddish-purple flowers with a yellow tube, and is tender. *O. violacea*, Violet Oxalis, from North America, stands our winters outdoors. *O. cernua*, or *caprina*, from the Cape, has bright yellow flowers, sometimes double, and is safest in pots. *O. rosea*, Pink Oxalis, a South American annual, is a charming little plant, which on light soils, with sparing waterings, makes an edging that remains a long while in flower. *O. Deppei* may be also employed as a pleasing edging in kitchen-gardens. *O. floribunda* deserves notice.

Pea (Everlasting).—The genus *Lathyrus* comprises several very ornamental and favourite species, some of which are perennials with hardy rhizomatous and even tuberous roots, whilst others are elegant annuals. Of the former, *L. tuberosus*, Gland de Terre, or Earth-Acorn, with bright pink flowers, which appear in June and July, in bunches of five or six, was anciently cultivated as an esculent plant, and will grow in any garden soil, from seeds, or tubers planted in autumn. *L. grandiflorus*, the Large-flowered Everlasting Pea, with handsome rosy flowers shaded from dark to light, may be multiplied by seeds *when* such are produced, or cuttings of the root; likes a sunny aspect, and a slight mulching with manure in winter. The least-known species, which deserves to be more extensively cultivated, is *L. Magellanicus*, Lord Anson's Pea, whose elegant foliage and bright blue flowers adapt it for covering a trellis on a wall. Propagate by root-division, and mulch or cover with litter in winter. The Everlasting Pea, which is to be found in almost every old-established garden, is *L. latifolius*, with pink flowers (of a rather dull hue, however), which have the merit of making their appearance every summer with admirable punctuality, and without exacting more than the most ordinary care on the part of the gardener. There is a white variety less widely diffused, but of

equally easy culture, which bears bunches of blossoms of remarkable purity. These two varieties combined are useful to supply the living drapery of leaves and flowers, required to clothe the columns of a verandah, the interstices of a trellis, or the walls of an arbour. Under favourable conditions, they will run up to six or eight feet. Propagate by root-division. As a general rule, the Everlasting Peas are shy bearers of seed, and like a deep, well-drained hazel loam.

Of the annual species, the common Sweet Pea, *L. odoratus*, in its varieties of pink, white, and purplish blue, is everywhere petted, both as a border plant and a pot-flower. The seed, which is abundantly produced, has only to be sown in small patches on their site, and the plants stuck when two or three inches high. To have an earlier display, Sweet Peas started in pots, in a frame, or in the parlour-window, may be turned out in May with their balls of earth entire. There are besides, the Tangier Pea, *L. Tingitanus*, with large, dark, purplish-red flowers; and the Abyssinian Pea, *L. Abyssinicus*, with angular and trailing stems, narrow leaves, and bright azure-blue flowers. These need only to be sown in the open ground in February or March.

Pæony.—The genus *Pæonia* is made up of two very distinct divisions; namely, the herbaceous species, which die down to the root every autumn, natives of Great Britain, and of the European and Asiatic continents; and the Moutan, or Tree Pæonies, *P. Moutan* and its varieties, natives of China and Japan, whence they were brought some sixty years back, where they are highly esteemed as ornamental plants, attaining the height of ten or eleven feet, with a shrubby stem. The herbaceous kinds are all quite hardy, suitable for borders or bedding in masses, producing single, semi-double, and double flowers, in shades passing from pure white, through pink, and bright red, to deep crimson. Although the single flowers are more fleeting than the double, as well as less magnificent, a few single-flowered plants should be retained in the garden, not only for the cheerful character

of their blooms, but for their singular seed-vessels, which open and display the scarlet seeds within, and afford a vivid addition to the winter bouquet. All the herbaceous Pæonies delight in a deep, sound, alluvial loam, and thrive even under the shade of trees, by which the duration of their bloom is prolonged.

The tree Pæonies like the same soil, with an admixture of heath-mould or silver-sand; nor are they nice as to aspect and exposure. The great difficulty in flowering them well, is that they shoot their leaves and flower-buds so early, that they are in great danger of being cut off by spring frosts, except in the most favoured situations. Various modes of protection in the open garden have been devised; such as temporary coverings of canvass or oil-paper, and moveable screens of boards, to be left on or taken off, according to weather. Others grow them in large pots or boxes, retaining them in the greenhouse till the bloom is over. In this case, the soil must be renewed every second or third year. The different species of Pæony hybridize together, and many beautiful varieties have resulted from the circumstance. The herbaceous kinds are readily propagated by root-division; the tree Pæonies are more difficult, but still may be multiplied by slips of the root, by cuttings detached at their insertion on the stem, by layers half cut through behind each bud, by grafting on the tubers of the common herbaceous Pæony, *P. officinalis*, or better on the common Chinese tree Pæony, *P. Sinensis*, as this latter does not throw up suckers. The plants, once established, may be left pretty nearly to themselves, and will require no pruning. The nurseryman's list of varieties of Pæony, new and old, is too long to be quoted here. Remarkable species are, the slender-leaved Pæony, *P. tenuifolia*, from Siberia, of which a double variety, obtained in Russia, has been propagated in Holland. The foliage is light and graceful; the flowers very double, perfectly regular, and of the most brilliant crimson. The rose-scented Pæony, *P. fragrans*, from China, has very double pinkey-purple flowers, with a decided rose-like perfume,

and does well in heath-mould in the open air with the protection of a covering of litter in winter.

Ranunculus.—The florists' *Ranunculus* is the *R. Asiaticus*; but the genus is large, and several of the species, in their double varieties, are cultivated as border flowers. *R. Ficaria*, Double Pilewort, with gold-lacquered flowers, is the earliest and the most dwarf. The tubers may be divided every season. *R. aconitifolius*, Aconite-leaved Crowfoot, produces abundance of double white flowers; the Double Buttercup, or Meadow Crowfoot, *R. acris*, is equally useful in filling up vacancies. *R. gramineus*, Grass-leaved *Ranunculus*, which also produces double blossoms, is mainly remarkable for its foliage differing from the usual type of the genus. *R. repens*, Creeping Crowfoot, has likewise double yellow flowers. The Turban *Ranunculuses* are of more robust stature than the above, with larger, semi-double, more globular flowers, varying in shades of white, orange, and yellow. All these are hardy, of easy culture and propagation in soil like that of loamy pasture-land.

The florists' *Ranunculus* has for many years past been carefully cultivated by the same class of amateurs as tulip-fanciers and auricula-growers. The roots, which are something like miniature dahlia-roots, consist of a bundle of small, fleshy, spindle-shaped bodies, called claws, which are united at the crown of the plant, whence sprout one or more eyes. The *Ranunculus* requires a light yet substantial loam, free from pebbles, and previously enriched by the complete incorporation of leaf-mould and the materials of a spent hotbed. The proportions of these will vary according to the heaviness or sandy nature of the original soil. All scalding droughts, as well as superfluous moisture, must be guarded against. As to the time of planting, there are two opinions; some put the roots into the ground at the end of October, and this is best *if* the ensuing winter proves favourable. Others defer it till January or February, when they hope that the severest inclemency of the season has passed away. The safety insured by the latter plan is purchased

at a slight sacrifice of the fineness of the bloom. Very small tubers, like those of the *Ranunculus*, are apt to be weakened by remaining too long above ground. At whatever time, when the bed is prepared and levelled, make along it parallel trenches six inches apart, and from two and a half to three inches deep. It is better to deposit the roots in these, than to drop them into holes made with a dibble. The plants may be six inches apart every way, and can therefore thus be easily arranged in quincunx order. Too wide a bed is inconvenient. In the trenches, at the spot where each plant is to stand, drop a good pinch of river sand, as much as you can take up lightly with the thumb and three fingers. On this sand plant each root, one by one, taking care that the claws are downwards, and the crown of eyes uppermost. Cover in the earth carefully, so that the crown is not more than two inches, nor less than an inch and a half, below the surface. Now comes the critical period of their existence. The claws swell, by imbibing moisture from the earth, and if frost reaches them then, they are apt to perish. The danger is less when vegetation has once commenced, as the superfluous fluid is thus carried off. Covering with hoops, or canvass awning, or a thick bed of straw, or carpeting with mats, must be resorted to when such a casualty threatens to occur. Early in spring, when the leaves begin to peep above-ground so as to render the ranks of plants visible, the surface of the soil between each rank should be compressed with the hand quite close to the plants, on a fine dry day, when the earth is not muddy nor sticky. Protection from March and April frosts, weeding of course, watering (not too hastily nor abundantly) in the droughts of May, and shading when the sun begins to scorch, are the subsequent attentions requisite. Very choice collections of *Ranunculuses* are mostly complimented with the honour of an awning during their period of bloom. By the beginning of July, the foliage will be all withered, and the roots had better be taken up immediately, lest a summer shower should saturate them with moisture, rendering their

preservation more difficult. Lay them in an airy shady shed, and clean and separate the offsets at once. The finest of these will bloom well, and may be planted together with the full-grown tubers. The lesser offsets had better spend a season in a preparatory bed, to gain their adult strength. The roots may be kept in airy bags, or boxes, till the return of the planting season. The vitality of *Ranunculus* roots is tenacious; they have been kept out of the ground two, three, and even more years, without perishing. It is needless to observe that such accidents should be avoided, unless purposely tried for the sake of experiment. Offsets are the usual means of multiplication; the tuber also may be divided, when it has more than one eye; but it is a nice operation, with so small a root. Varieties may be infinitely multiplied from seed; for it is asserted that the seed of the *ranunculus* in no instance ever produces two flowers alike, or the same as those of the parent plant. Semi-double flowers will give seed; of course the handsomest will be selected. When the stems are ripe, they are cut, and hung up in paper bags for a fortnight or a month, to dry. Some sow immediately; but new seed does not rise so well as that a year old. In the open ground, spring is the time for sowing; but in boxes, or under frames, many prefer the end of summer. Sow on light, rich, well-sifted soil, and cover with another very slight coating of earth gently dusted from the sieve. Some lay a stratum of moss over all, till the seeds begin to germinate. Light waterings, moderate exposure to sunshine and air, weeding, and protection from insect vermin, will follow. The seeds are from thirty to fifty days in coming up, according to the temperature. First year's seedlings may be taken up and replanted in fresh soil. They will show bloom from their second to their third year.

Gardeners have taken advantage of the tenacity of life in *Ranunculus* roots, to obtain blooms from them nearly all the year round. In the open ground, they may be planted every month, from the middle of September to August inclusively. In September and October, they

may be planted in pots, to be brought forward in hot-beds under glass. For a bloom in September or October, plant about the middle of July. For a bloom throughout the season, commence in February, and plant every fortnight or three weeks. In September, plant in a frame, and you will have a bloom about January or February. But it must be confessed, that the *Ranunculus* loses, by forcing, much of its strength of stem and brilliancy of colour; and there is a time for all things,—even for *Ranunculuses* to keep out of sight. We do not want every day to behold the very same flower, any more than we desire every day to partake of the very same dish.

Tropæolum.—See “The Kitchen-Garden,” art. *Nasturtium*, p. 130. The difficulty of getting *T. tuberosum* to flower, is merely that our summers are not long enough. In November, it will often show abundant bloom; but it must develop its quantum of leaves before it begins to form flower-buds. The best remedy is to bring it forward in a greenhouse in a pot, and afterwards plunge that pot where the plant is to stand. It is an exceedingly useful and pretty climber, as is also the *T. canariensis* or *aduncum*, the Canary-bird flower, which does not form a tuberous root, but must be treated like the common garden *Nasturtiums*, *i. e.*, as half-hardy annuals. Another exceedingly graceful tuberous species is *T. tricolorum*, the tricoloured (black, red, and yellow) *Tropæolum*, from Valparaiso, which is almost always in flower. Its very slender trailing stems must be supported on a frame-work of wire, which may be modelled as vases, parasols, columns, peacocks’ tails, &c., and which will be completely clothed by the lively foliage and flowers of the plant. The tuber, unfortunately, is not hardy, and the species is mainly adapted for in-door culture. Paxton advises that the root should not be buried, but only placed on the surface of the soil, so that its fibrous roots may penetrate it. The tuber, thus established, will grow in a truly astonishing manner; and although the plants may not luxuriate the first season, they will after-

wards become extremely vigorous. The same high authority recommends using double pots for these plants, and filling up the interstices with river-sand, which should always be kept moist. Perhaps *T. tuberosum* might be made to flower earlier, if its tuber were laid on the ground, instead of being buried in it. Certainly, the new tubers which it forms are always at or near the surface. There are two blue-flowered species of *Tropæolum*; Wagner's *Tropæolum*, *T. Wagnerianum*, from Venezuela, with fibrous roots, triangular hastate leaves, and fringed-edged petals; and *T. cæruleum*, with tuberous roots. The latter may be multiplied by grafting on the tubers of more common species,—a delicate operation. The latter are not common, and can hardly be regarded as out-door plants, as far as present experience has ascertained. The introduction of these, and innumerable other varieties, is due to the Messrs. Veitch, of Exeter, to whom, and to their collectors, the Messrs. Lobb, European horticulturists are immensely indebted. To those gentlemen recourse may be had for specimens and accurate details respecting these and similar floral novelties. One more remarkable species is *T. speciosum*, from the island of Chiloe, which has large flowers of a bright vermilion, shaded with yellow. All the *Tropæolums* are climbing plants, whose habit is to hang in festoons from whatever points of support they can attach themselves to, and decorate with their garlands of hundreds and sometimes thousands of flowers.

HERBACEOUS FLOWERS.

Plants are called Herbaceous when, although their existence may endure for a term of years, the stems which support their leaves and flowers, instead of mounting permanently like those of shrubs and trees, die down to the root, or to the tuft of leaves which crowns the root, every winter, to send up fresh stems (if they are not stemless, as is the case with many herbaceous plants) the following spring. They are thus clearly distinguished

from annuals and biennials, which, after making their flower-stem and ripening their seed, whether in the first or second summer after having been sown, themselves perish utterly. For gardening purposes, exotic plants which in their own country would form permanent stems, whether as standards or climbers, but which are killed by our winters down to their root, although *that* may survive either by its own vigour or by the gardener's protective aid,—such plants may be practically regarded as herbaceous here. There are even true shrubs, as certain species of rose, which manifest an affinity to herbaceous plants, by annually shooting young stems from the original stool, which flower vigorously, while the older stems languish and die. It will be seen, therefore, that the list of “Herbaceous Flowers” admits of considerable latitude in its formation. It comprises very many exceedingly useful as well as beautiful ornaments of the parterre and pleasure-ground. The genera and species composing it are very numerous, and the following incomplete notice must necessarily be of the utmost brevity.

Alstroemeria.—A South American genus, fitter for the greenhouse than the garden. *A. psittacinus*, the most robust. *A. versicolor* resists our winters with a covering over the roots; has produced numerous varieties. Try also *A. pulchella*, *A. aurea*, and *A. peregrina* in the open ground. Propagate by seeds, which will mostly flower the second year; more readily by division of the root, carefully, for it is very brittle. Avoid excess of watering.

American Cowslip—*Dodecatheon Meadia*—*i. e.*, Dr. Mead's plant of the Twelve Divinities. Linnæus has been sneered at for giving such a name, for no better apparent reason than that this exceedingly pretty plant generally bears a bouquet of *twelve* rosy-lilac flowers at the top of its flower-stem. But the great naturalist was more learned than many of his critics. The Dodecatheon, amongst the ancient Greeks, was a medicinal herb, in great repute as an antidote, on which specific

virtues were believed to have been conferred by each of the twelve heathen gods and goddesses,—Jupiter, Juno, Apollo, Mars, Venus, Ceres, Neptune, Mercury, Vulcan, Minerva, Diana, and Vesta. What the plant was exactly, we know not; but Linnæus paid a graceful compliment to the greatest physician of his age, by coupling his name with a classical herb of medicinal power, while he avoided the anachronism of applying, to an American plant, a name used in Greece before America was discovered, by styling it *Mead's Dodecatheon*. Hardy, and yet not easy to keep. Grow it in a mixture of one-third light loam, two-thirds heath-mould, in a half-shady spot. Never let it be dry, and never wet; in either case, you are apt to lose it. "Another reason of its being lost," as shrewdly remarked by Mrs. Loudon, "is, that as the stem and leaves die away in winter, the root is often dug up and thrown away as dead by jobbing gardeners, who are unacquainted with the plants of the garden they are working in. To prevent this, a mark of some kind should always be fixed to the plant in small gardens; or when a new gardener is employed, its situation should be pointed out to him." They have much to answer for, those jobbing gardeners. The American Cowslip is perhaps safest in a pot in a cold frame.

Antirrhinum majus—Garden Snapdragon. In French, Mufle de Veau, Calf's Muzzle, and Gueule de Lion, Lion's Mouth.—Has produced numerous varieties, one of the most esteemed of which is striped with red on a white ground, like a carnation; others are shaded with orange and yellow. Prefers dry, loamy, or calcareous soil; an exceedingly ornamental plant for the tops of walls. Seedlings produced in abundance, but not to be depended on. Propagate choice kinds by cuttings from the young shoots every year.

Aquilegia vulgaris—Columbine,—so called because the flower can be separated into portions, each of which resembles a *columba*, or dove. In French, Gant de Notre Dame, or Our Lady's Glove.—Has been grown in gardens for centuries past, and varies through shades of

white, red, and violet, plain or striped, single or double. Propagated by seed or root-division. *A. Sibirica* and *glandulosa* have handsome blue flowers; ordinary soil; protection of litter in winter; apt to degenerate if raised from seed.

Asclepias—*Swallow-Wort*.—American plants, of doubtful hardihood in British winters. Soil, half light loam, half heath-mould. Try *A. Cornuti*, erroneously named by Linnæus *Syriaca*; roots of very vagabond disposition, flowers white, dashed with red, sweet-scented. Try, also, *A. amœna* with reddish purple, and *A. tuberosa* with brilliant orange-red flowers.

Auricula—*Primula Auricula*.—The florists' Auricula is a flower of old-established merit and ancient respectability, whose varieties are exceedingly numerous, and whose special culture and the secrets belonging to it, with the rules and tricks of practised fanciers, would fill a voluminous treatise. Such Auriculas are grown in pots, in light soil in damp climates, in somewhat stiffer where the atmosphere is drier. The compost is made up of sandy loam and leaf-mould, with varying proportions of rotten cow-dung, rabbit-dung, sheep-dung, thoroughly decomposed hotbeds, and other mild manures, according to the local recipe. Auriculas are Alpine plants; therefore they suffer not only from severe frosts, but from sudden changes of temperature and humidity. During heavy rains, it is usual to lay the pots on their sides; they should catch only the morning and the evening sun. Auriculas, if even of only ordinary merit, require and deserve the shelter of a cold frame to protect their blooms from injury. Propagate by offsets, taken off after flowering, or in autumn; for new varieties, by seed sown as soon as ripe in shallow pans of heath-mould, slightly covered. Protect the young plants in a frame till they have five or six leaves, when they may be pricked out in separate pots and treated as adults. The common border Auriculas are usually called *Bears' Ears*, and only require a somewhat moist and shady situation, with occasional division of the root.

Campanula—*Bell-flower*, *Hare-bell*.—The Canterbury Bell, *C. Medium*, is the Virgin's Violet, or *Viola Mariana* of the sixteenth century, whence it has been falsely styled the Marine Violet. A large genus, not nice about soil, of easy culture and propagation, and valuable as affording abundance of blue flowers. Perhaps the most remarkable, *C. pyramidalis*, sends up a flower-stem six feet high or more, covered with blue blossoms from top to bottom; best grown in pots, during winter at least. Propagate by offsets. The flower-stem may be trained to form arches or garlands, which will produce a long succession of bloom, if well supplied with water. *C. cespitosa*, a little tufted plant, makes a pretty edging, either in its blue or its white variety. *C. muralis*, with blue or bluish-white flowers, makes an elegant little rock-plant. *C. Medium* (a biennial), *persicæfolia*, *grandis*, *Carpatica*, *latifolia*, and *glomerata*, are all useful border plants. *C. punctata*, introduced in 1844 from Siberia, has heart-shaped radical leaves, and large nodding yellowish flowers, spotted inside with brown: multiplied by root-division. *C. nobilis*, from China, has creeping roots, heart-shaped leaves covered with bristles, as are the stems, and very large tubular vinous-red flowers sprinkled with darker spots. Thrives in the open air in fresh hazel loam.

Campion (Rose)—*Agrostemma coronaria*.—In its double variety, a useful border plant which is not particular about its soil and situation.—See *Lychnis*.

Calceolaria.—A very elegant and numerous genus, more suited for the greenhouse than the open garden, and composed of species some of which are shrubby and some herbaceous. The former may be used as bedding plants during summer, but none will stand our winters. The shrubby *Calceolarias* (so called because the shape of the blossoms is *something* like a shoe) are readily propagated by cuttings, and require to be well supplied with water. *C. bicolor*, white and yellow, is one of the prettiest. *C. corymbosa* has bright yellow flowers. For bedding, it is best to employ only a single species by

itself, as the various species differ considerably in habit and growth. The herbaceous species, which are also tender in winter, and require plenty of water while flowering, are propagated by separation of the stool, and by seeds for new varieties, which are now very numerous, and have attained the rank of florists' flowers. It is curious that the shrubby and the herbaceous Calceolarias hybridize freely together. They all like a large proportion of leaf-mould in their soil.

Carnation—Dianthus caryophyllus.—Another florists' flower, which would occupy all the remaining space in this Book, if allowed. For what it must be, as an Exhibition flower, see Glenney's "Properties." Of the Picotee, that gentleman pronounces, "The properties of form are similar to those of the Carnation; but the distinction between Carnations and Picotees is, that the colour of the former is disposed in unequal stripes, going from the centre to the outer edges, and that of the Picotees is disposed on the outer edges of the petals, and radiates inwards; and the more uniformly this is disposed, the better." The choicest varieties of both these flowers are named; and new ones, raised from seed, are constantly appearing in the Nurserymen's advertisements, for which see the *Gardeners' Chronicle*. The wild Carnation, like several other species of *Dianthus* or Pink, is found growing luxuriantly on the tops of walls and similar arid spots. In the south of Europe, the garden Carnation is treated accordingly, and delights the casual passenger by displaying pendent heads of flowers in unlooked-for sites. The fact gives a hint in respect to culture; Carnations are injured by too much moisture. In beds, they are usually grown in light rich mould, composed of calcareous loam, silver-sand, leaf-mould, and rotten cow-dung. A lady betrayed the secret of her great success with Carnations, by setting her foot on the bed, wherein it sunk ankle-deep. Perhaps the good drainage thereby insured was literally at the bottom of her triumphs; for pot Carnations have mostly the earth pressed firmly down about them. Propagate, and also maintain the excellence of

good kinds, by layering every year after the flowering season. Make a slight slit in the underside of the shoot, at the point where it will be imbedded in the earth, immediately below a joint or bud. Keep the slit open with a small slip of wood, peg the layer down with a small crook-stick, and cover it with light earth. Carnations may be also increased, after blooming, by "pipings," *i. e.* the ends of shoots *broken off* at a joint, not *cut*, so as to form a short pipe-like cutting. Some cut off the tips of the leaves, which in Carnations and Pinks is technically called the "grass." The pipings then are made to strike root, under a hand-glass, in a mixture of leaf-mould and silver-sand. Pinks are more generally piped, Carnations layered. As the flower-stems rise, they must be supported by sticks. Very double flowers, which would burst their calyx, are held together by a twist of thread, a disk of card, and other means; and fastidious florists have even tweezers, brushes, and scissors, to dress and arrange the petals. Double Carnations will produce seed, which should have the preference for raising new varieties. Sow in earthen pans, in spring; and prick out the plants, in prepared beds, when they have made six or eight leaves. The following season will give you the result of your lottery.

It is questionable whether the *Tree Carnation*, *D. fruticosus*, has a just right to a distinct specific name; but it is well worth cultivation, from its upright, shrubby habit of growth, which adapts it for training to a trellis in the conservatory, or even in a pot, and also from its flowering nearly all the year round, if kept in a greenhouse or a warm room during winter. The flowers are sweet-scented, and are tinted with divers colours, white, straw-colour, pink, red, and crimson. N.B. In layering Carnations, water *very* sparingly two or three days beforehand, in order to render the shoots more flexible. The Tree Carnations are sometimes so tall and stiff that it is impossible to layer them by bending them to the ground. In that case, the shoots are made to pass through small pots of earth, that are temporarily supported or suspended at the required height.

Chrysanthemum—*Pyrethrum* of modern Botanists.—The garden *Chrysanthemums* are said to belong to two species; *P. Sinense*, the Large-flowered *Chrysanthemums*; and *P. Indicum*, the Pompones, or small-flowered varieties. Of both these, there are very many named sorts; and new varieties are constantly appearing, throwing their predecessors into the shade, by the charm of novelty, if not of beauty. *Chrysanthemums* are of the easiest culture, by root-division in early spring, by cuttings in April and May, and by layers in July and August, which will strike root, bear transplanting, and flower the same summer. A light rich soil and plenty of moisture, is all they require. To keep them dwarf, for pots, constant shifting into a size larger is a usual mode; but from shoots taken shortly before the formation of the flower-buds, and struck under glass, in heat, very pretty dwarf plants are often obtained. The *Chrysanthemum*, which would be admired at any season, is specially valued as being the last showy flower of the year. But out-door plants are at the mercy of the weather, which *may* allow them to bloom, or may not. A few choice *chrysanthemums* deserve a place against a south or east wall; there they will bloom a little earlier, and also enjoy a little shelter. Most gardeners, however, bestow their labour on pot-culture, removing the plants into a frame or greenhouse at the first symptom of frost and snow. *Chrysanthemums* offer great variety of form as well as of colour: there are the Quilled, the Tasselled, the Incurved, the Clustered, the *Ranunculus*-flowered, the Marigold-flowered, and the Aster-flowered.

A dozen good *Chrysanthemums*: the Queen, blush; Vesta, ivory-white; Nonpareil, rosy-lilac; *Sulphurea pallida*; Themis, rose; Defiance, white; Beauty, peach-blush; Marguerite d'Anjou, nankin; Madame André, rose and white; King of Crimson; Calypso, lilac; Rolla, purple.

A dozen good Pompones: Mont Blanc, white; Ariadne, red; Reine des Anemones, white; La Pygmée, yellow; La Ruche, blush; Riquiqui, plum-coloured; Cedo nulli, white tipped with buff; Bijou d'Horticulture,

sulphur-white; Cinderella, lilac; Drin-drin, bright yellow; Modèle, white; Jonas, bronzy-yellow and crimson.

Cineraria.—Star-shaped flowers, subshrubby and herbaceous, most brilliantly tinted with white, pink, blue, crimson, purple, and violet, in the richest hues. It is a pity that they are as good as useless in the garden, from their tenderness, combined with the early period at which they form their flower-stem. As pot-plants, for indoor decoration of the parlour-window, the greenhouse, or the passage-conservatory, *Cinerarias* are invaluable, as they may be had in flower from December to May. They will grow from seed, cuttings, and divided roots, in ordinary light rich garden soil, which should be kept rather moist than dry. The African *Cineraria*, or rather *Aster*, *Agathæa amelloïdes*, or *cælestis*, is a very old-fashioned, almost forgotten window-plant, with the curious combination of very light sky-blue rays surrounding a yellow disk. It is tender, and likes light rich soil, in common with other Cape plants, and strikes easily from cuttings. It deserves to be patronized as a bedding plant, and to be rescued from its present obscurity. In floriculture, a resuscitation is sometimes even more interesting than a novelty.

Cobæa scandens.—A climber, with large dull purple flowers, useful for its rampant growth. The roots *may* survive the winter, with protection, in the open ground; but for safety, raise plants every year, from layers or cuttings, to be kept in pots till the return of spring allows them to be planted out in a warm aspect, in good hazel loam.

Coltsfoot (sweet-scented).—The *Tussilago suaveolens* of other days, is now *Nardosmia fragrans*. Its flowers, with a powerful heliotrope-odour, appear in winter, before the leaves. Will grow in any moist loamy soil, from slips of the root; but will become troublesome, if allowed to have its own way too much. Give it an inch, it will take an ell.

Columbine.—See *Aquilegia*.

Commelina tuberosa.—A Mexican plant, whose tuberous roots may pass the winter outdoors, if sufficiently covered with litter and leaves. Some take them up every autumn, while others raise fresh plants from seed, on a hotbed, every spring. The bright azure-blue of the flowers has a pretty effect when grown in large patches, or in beds.

Cranesbill—*Geranium*, of many species.—The Cranesbills which will live with us as perennial border plants, though pleasing, are not sufficiently handsome to show cause why they should not be transferred from the garden to the shrubbery. One, the blotched-leaved geranium, has been recommended as a fodder-plant for cattle. Propagate by root-division.

Crowfoot.—See *Ranunculus*, in Tuberous Flowers.

Daisy (Double)—*Bellis perennis*.—There are Quilled, Double, and Proliferous or Hen-and-Chicken Daisies, of various shades of white, pink, and crimson. In Flanders and Germany, some trouble is taken to raise new varieties from seed, and collections of Daisies are formed. They are useful plants for making edging or small gay beds in spring; nor are they to be despised when grown in pots or boxes. Propagate by root-division,—an operation which should be performed every autumn, to insure fine and abundant flowers.

Dielytra spectabilis.—Introduced by Mr. Fortune from China, in 1846, and alone well worth the journey thither. A beautiful plant, with bright green, divided leaves, succulent, semi-transparent stems, and pendant pink and white flowers of singular form, on beholding which a London man-cook was in ecstasies, because they were, in shape, something like a turbot! Perfectly hardy in our severest winters; likes a good hazel loam; desirable either for pots, beds, or borders. Forces well. Propagate by root-division.

Escholtzia Californica.—A hardy plant whose introduction caused a great sensation amongst gardeners. Its bright-yellow flowers contrast strikingly with the deep-cut glaucous foliage. *E. crocea* is a darker, saffron-tinted species,—or variety. Some plants display addi-

tional petals, which encourages the hope that double flowers may hereafter be obtained. Sow the seed as soon as ripe.

Evening Primrose.—*Ænothëra* (it ought to be pronounced with the *ë* accented long) is the Greek name of a herb which we are unable to specify now. It cannot have been an Evening Primrose, because they all come from America. Some are biennial, seeding freely; others are perennial, like the very pretty *Æ. tetraptera*, or Four-winged *Ænothëra*, which sends up stems covered with a succession of large white flowers from July to October, and is readily propagated by runners from the root, in any garden soil. The two commonest yellow Evening Primroses are, *Æ. suaveolens*, which opens its sweet-scented flowers at the approach of night, and *Æ. serotina*, of more shrubby habit, but equally prolific of flowers. These will become almost weeds in a garden, from their rapid multiplication by seed. *Æ. macrocarpa* produces handsome yellow flowers all summer long. Propagate by cuttings and root-division. *Æ. Drummondii* is a tenderer yellow-flowered species. *Æ. speciosa*, from Louisiana, has sub-shrubby trailing stems; oblong lanceolate indented leaves, pubescent underneath; large white flowers in bunches, sweet-smelling towards night, appearing from July till stopped by frost. Requires preservation from excessive moisture in winter. *Æ. rosea*, from Mexico, is hardy, has oval, pointed leaves, produces numerous pink flowers from June to October, and is reproduced abundantly from self-sown seeds. *Æ. purpurea* is a North American annual, which may be either sown where to remain, or be pricked out from a nursery-bed. *Æ. acaulis*, Stemless or Dandelion-leaved Evening Primrose, from Chili, is a hardy perennial, bearing large white flowers tinged with pink. It will be thus seen that the *Ænothëras* afford useful materials for keeping a garden gay. The tenderer kinds are apt to suffer from the dampness of an English winter.

Everlasting.—More than one genus of plants is known by this name amongst gardeners. *Gnaphalium orientale*

is the Yellow Everlasting, of which such enormous quantities are sold, in the shape of garlands and crowns, outside the cemeteries of France, to hang about the graves of relations and friends. This Everlasting is a perennial, low, cottony plant, thriving best in a warm, light, dry soil. *Helichrysum bracteatum*, the annual or large-flowered Everlasting, produces yellow flowers, and only requires to be sown in spring; there is a white variety. *H. macranthum*, from Australia, with white flowers tinged with various shades of pink, which have varied considerably since its introduction to this country, must be grown in heath-mould, and treated as a tender annual. *Helipterum eximium*, *speciosissimum*, and *humile*, are Cape Everlastings; require pot and greenhouse culture, in heath-mould. *Xeranthemum annuum*, Purple Everlasting, is an annual, rising half a yard high, with cottony stems and leaves. Must be raised on a hotbed; and is grown best in pots in rich sandy soil, although it will flower well in a warm dry border, in fine summers. The coarse white Everlasting of old farm-house gardens is little better than a troublesome weed. Dried Everlastings are made to assume various hues by dyeing; the taste is questionable. In drying the flowers for winter bouquets, cut them before they are *fully* expanded, and keep them *suspended* heels upwards till they are perfectly stiff.

Foxglove—*Digitalis purpurea*.—A native plant, which adorns the rocky slopes of Scotland and Wales with its bold and taper spikes of crimson flowers, delicately spotted within. There is a white variety, which, together with the original, well deserves a place in the garden. Biennial, though, in point of fact, the stool will often prolong its existence by dividing into offsets. Sow the seeds as soon as ripe, and prick out where to remain when large enough. The same culture is applicable to all the species, such as *D. grandiflora*, from Switzerland, with large yellow purple-spotted flowers; *D. obscura*, from Spain, with small rusty flowers and shrubby stems, tender in winter; and *D. ferruginea*, a hardy perennial, with flowers yellow outside and white within. The Fox-

glove is a poisonous plant, employed in medicine to diminish and deaden the action of the heart. Due caution must therefore be observed in not carelessly nibbling and chewing its leaves,—a foolish habit in which some people indulge whenever they happen to enter a garden.

Geum—*Herb Bennet*; *Benoit*, in French: all which means no more than *Benedictus*, or Blessed.—A genus more remarkable from having been one of the favourites, the whims, the caprices of the great Linnæus, than for anything else. It is hard to say what, in the *Geum rivale*, for instance, a British meadow weed, could so take the fancy of the Master. It is impossible to account, logically, for attachments and sympathies. The handsomest *Geum*, perhaps, is *G. coccineum*, Scarlet Bennet, a hardy perennial, with radical pennated leaves having very large terminal leaflets, sending up a branching stem half a yard high, which produces, during the summer, a succession of scarlet flowers. Requires a light soil and a warm exposure. Multiply by seed and root-division. There is a double variety.

Gentian — *Gentiana*. — An Alpine genus of great beauty, whose leading characteristic is that they are both bitter and beautifully blue, though some are yellow. Seen on the exposed ridges of their native mountains in May and June, they look like brilliant bits of sky that have dropped on the earth. *G. acaulis*, Dwarf or Stemless Gentian, is sometimes used as an edging. It is better in a bed, in heath-mould, by itself, requiring a half-shady, neither wet nor dry situation. Propagate by offset-shoots, and by seeds sown as soon as ripe on heath-mould, and not covered. *G. verna*, same intense blue colour and culture. *G. purpurea* has yellow flowers speckled with purple. *G. lutea*, with large yellow flowers, is the species whose roots furnish the bitter tonic medicine, the gentian of the apothecaries. Propagate by seed, in sandy loam, not too exposed to the sun. *G. asclepiadea* and *saponaria*, from North America, have both blue flowers, and require the same treatment

as the Dwarf Gentian. The whole of this family of mountaineers abhor the smoke and dust of towns, and like in winter something that will answer the purposes of their homely native coverlid of snow.

Geranium.—Count the sands of the sea, and then count the varieties of *Geranium*. In the garden, they are only serviceable as bedding-plants, for summer show. Their propagation and preservation during winter is almost a business by itself, engaging the attention of nurserymen who sell them by hundreds and thousands in spring, and who receive in the aggregate immense returns, if they do not make large profits, as they ought, from their sale. During March, April, and May, the gardening journals teem with advertisements relative to bedding geraniums, which may be generally ranged in two classes, the Scarlets and the Fancies; there are white-flowered geraniums, with the foliage and habit of the Scarlets, which may be effectively combined with them in a bed. For any of these, recourse may always be had to the nurseryman, at a reasonable rate; still, those who like to be independent, may strike an abundance of cuttings during summer, and winter them in the dwelling-house by all sorts of expedients. Scarlets may be turned out of their pots, and hung up in a cellar with their balls of earth; Fancies will not bear such unceremonious treatment. After every available corner or window-sill has been occupied, still, observes the *Calendar of the Gardeners' Chronicle*, February 16, 1856, "the demand for bedding-out plants in the spring is frequently greater than the room devoted to their wintering can supply. It will in this case be necessary to commence propagating to make good the deficiencies. For all the soft-wooded and free-growing plants, a common dung-frame, having a slight bottom-heat, will suffice; fill up to within twelve inches of the glass, upon which place four inches of dry sandy soil, in which the cuttings may be put directly you can procure a young growth for the purpose. As the display of flowers during the early summer months depends mainly on the health of the stock at

planting time, it will save labour and increase the size and healthiness of the plants to turn them out of their pots or cutting-pans into low pits or frames; and a light sandy compost will serve for them to grow in. If six inches of this is placed over a very light bottom-heat, the plants will soon make rapid growth; and you will have the advantage of an abundance of cuttings for propagation, if wanted. Calceolarias, Petunias, Verbenas, and such things, answer best for this; but where time and pot-room are objects, Scarlet Geraniums, and nearly every variety of bedding-out stuff, may be managed on the above plan. Before planting time, the plants should be checked by raising them once or twice with a spade. Put in root-cuttings, in a brisk bottom-heat, of Bouvardias, and some kinds of geraniums difficult to strike in the ordinary way, or of which cuttings are scarce to be got."

Golden Rod—Solidago.—In general, tall, ugly things, flowering in autumn, only fit to serve as a screen for a pig-stye, or to be stubbed up and burnt with the rest of the weeds and garden refuse. We are possessed of more than sixty species; too many, by half, and not worth naming. Propagate, if you will, by root-division. Will grow anywhere and ornament nowhere.

Grass.—Besides their utility for lawns and edgings, many of the grasses, or gramineous plants are decidedly ornamental. Both the Quaking Grasses, *Briza media*, a perennial, and *B. maxima*, an annual species, serve for winter bouquets, and are pretty while growing. Feather-grass, *Stipa pennata*, has its glumes elongated into something like a Bird-of-Paradise plume; grows in any dry soil, and increases by tillering at the root. The Cotton Grasses, *Eriophorum*, of which three or four species grow wild in England, are seldom seen in gardens, simply because they must have a *marsh* to grow in; but their singular white tufts are worth some trouble to introduce as ornaments to the margin of a pond. Fraser's Sedge, *Carex Fraseriana*, merits culture in similar spots. *Arundo Donax*, is a bold tall reed, which will support our win-

ters when not too severe, and in good deep soil will send up noble stems from ten to twenty feet high, producing an Eastern, jungle-like effect. But our summers are scarcely hot and long enough for this fine reed. In the south of Europe and the Levant, it is largely grown to serve as vine-props, stakes, and many of the purposes for which bamboo is employed. Painters also are fond of placing it as the mock sceptre in the hands of the Suffering Jesus. Multiply by root-division. Offsets best strike root on a hotbed. Do not cut the old stems till spring, just as the young buds are beginning to start. A magnificent diæcious grass, *Gynerium argenteum*, which appears to be hardy in England and Ireland, has lately been introduced from South America. It is too large for any but extensive gardens; those who desire plants, can obtain them from Messrs. Henderson and other first-class nurserymen.

Flax—Linum.—A large genus, with rather dangerous cathartic powers, and pretty flowers, in shades of blue, yellow, red, and violet, whose petals are extremely short-lived. The most ornamental species are greenhouse plants, of shrubby and sub-shrubby growth. The common textile Flax, of which linen is made, is frequently sown in gardens as an annual. Its azure blossoms plead in its favour; and it is right to make young people familiar with the aspect of a plant of such extreme utility. See our Book on "Flax and Hemp." *L. montanum* is a blue-flowered perennial of the same hardiness as other Alpines, and likes to be shifted after blooming.

Forget-me-not.—The true plant is the Water Mouse-Ear, *Myosotis palustris*, a charming weed which grows wild in abundance in damp meadows, and sends forth roots freely from its trailing stems. To have dwarf pot-plants, strike cuttings in gentle bottom-heat in early spring, selecting terminal shoots, and giving all the light and air possible, with plenty of water. The Parisian gardeners drive a considerable trade in this pretty favourite. *M. sylvatica*, which grows naturally in drier situations, is also cultivated for its blue flowers. *Mer-*

tensia Sibirica, the Siberian Lungwort, removed by modern botanists from the genus *Pulmonaria*, with heart-shaped leaves, and bunches of five or six blue flowers, is also sometimes styled Forget-me-not, but incorrectly. It thrives in a moist, half-shady spot, and increases rapidly at the root.

Fumitory—*Fumaria* of the old botanists, *Corydalis* of the moderns.—The Fumitories have long enjoyed, and may still enjoy, a certain consideration as pleasing, modest spring and summer flowers, unless it be their fate to retire before the presence of their beautiful relatives, Dielytra. The Tuberous Fumitory, *C. bulbosa*, blossoms in April, and bears a bunch of flowers whose colour varies. Quite hardy. *C. nobilis*, with a perennial tap-root, is of taller stature, and has yellow flowers slightly tipped with purple. Requires heath-mould; is propagated by slips of the root. *C. lutea* has white and yellow flowers, likes stony ground, and is suitable for rock-work. *C. sempervirens*, or more appropriately *glauca*, as *ever-green*, is a strange title to bestow on an annual plant, from Canada, has purplish flowers intermingled with yellow, and when once introduced will come up self-sown.

Hepatica triloba, or *Anemone hepatica*—charming spring plants, universal favourites, in varieties of white, red, and blue, single and double. Thrive best in light loam, in a half-shady, half-moist spot. The flowers appear before the leaves, which succeed them, and cover them soon after the petals have fallen. In December, not before, cut off the old leaves with a pair of scissors, which will allow the flowers to display themselves unencumbered by dead foliage. Propagate the double varieties by division of the stools, not too often. The single Hepaticas may likewise be thus increased, and also by seed, which continues green, although ripe, for nearly two months, and falls at the slightest touch. Watch for its maturity, and sow immediately after gathering.

Hollyhock—*Althæa rosea*.—In French, *Passe-Rose* and *Rose Trémière*. Theoretically a biennial, but practically a hardy perennial, from the way in which it in-

creases by offsets. A noble and useful garden flower, either in avenues or clumps, standing singly or collected in beds. The Dutch are fond of growing it as dwarf as possible, in pots. It is only of late years that the English have regarded it as a florists' flower, naming the choice varieties. Mr. Bircham, of Hedenham Rosary, Norfolk, was one of the first to direct the attention of the public to its merits; and now the French and English gardeners are engaged in a friendly rivalry as to which can show the best Hollyhocks. Double flowers only are in esteem at present. For new varieties, sow the seed in March, duly cultivate the plants during summer, and in October plant them where they are to flower. The Hollyhock is a gross feeder; any good garden soil will suit it, but on a deep, moist, rich loam, it succeeds the best. The finer kinds are largely propagated by eyes, which are taken off in summer, and planted in a pit under glass, in light sandy soil, placed over a gentle bottom-heat. As some kinds only are raised true from seeds, plants from cuttings will mostly be preferred to seedlings. At the time of final planting out, if in spring, the state of the ground is of great importance. To use a common gardening phrase, the earth should "move like an ash-heap" at the time this work is done. It is better even to wait a fortnight beyond the most advantageous season, than to plant when the ground is wet and clammy. The plants should be set firmly in the ground three feet apart, not too low, pressing the soil well round the neck with the hands, or by a gentle stroke of the foot. This done, watering must be attended to, if the season be dry, using weak liquid manure, breaking the surface of the ground with a hoe the day after the water is given. When the flower-stem rises, it should be fastened to a stake firmly fixed in the ground at, or soon after, the time of planting; otherwise, some tempestuous gust will be sure to prostrate the plants in the height of their beauty. Hollyhocks are also propagated by grafting,—the less preferable mode. Mr. Paul (see his "An Hour with the Hollyhock") enthusiastically lauds this flower

for its effectiveness in garden scenery. "The Hollyhock," he says, "is a capital plant for the borders of plantations or shrubbery walks. It forms a finer distant object in such situations than the Dahlia, is less lumpy, and continues blooming to a later period of the year. Again, it may be planted to advantage in the background of an herbaceous border, so that the lower part of the stem is hid from view by the plants in front. In both these situations it may be planted singly, in irregular lines, or in groups of three or five. And here, perhaps, the less choice kinds are more in character than the finest, as a high state of culture is neither convenient nor expected. To be effective *en masse* is all that is looked for, and the showiest should be chosen, the hardy kinds of brilliant colours, and left to assume their natural form of growth. It is sometimes said that it is not a suitable plant for small gardens. I think, however, it may be agreeably disposed there in avenues, or in groups of three or five near the boundary, filling up in front with dwarf shrubs, herbaceous, or summer-flowering plants. It appears to me anything but difficult to effect such an arrangement with this plant as shall relieve the flatness often so tiresome in small gardens. The amateur who cultivates with the view of producing the flowers or spikes in the highest state of perfection, will probably prefer planting in square beds or rows. If in beds, set them three feet apart; if in rows, three feet from plant to plant, and four feet from row to row, that one may walk conveniently between them. I need, perhaps, scarcely say, that a situation airy, and freely exposed to the sun, is indispensable, if we wish to carry culture to the highest pitch of success."

First-class English Hollyhocks: Beauty of Cheshunt, light rosy red,—one of the finest; Blushing Bride, delicate blush, spike handsome and compact; Charles Barron Improved, salmon pink; Darius, orange-buff, large and showy; Diana, rosy peach, edged with carmine, shape perfect; Glory of Cheshunt, clear yellow, spike large and handsome; Honourable Mrs. Ashley, peach, shaded

with lilac, one of the finest; Lizzy Improved, clear peach, similar in style to the last, but more brilliant; Lord Jocelyn, crimson and very fine; Louis Napoleon, silvery blush, veined with purple, and though not a show flower, very effective; Magician, cherry, with dark maroon base; Memnon, beautiful light crimson, spike large and fine; Miss Ashley, light fawn, and handsome in shape; Narcissus, clear yellow; Queen Eleanor, bright rosy peach with silvery edges, quite new and distinct; Rosy Morn, bright rose; Solfaterre, lemon-coloured, and good in form; Souvenir, purplish rose; Swansdown, white, edged with lake; and White Globe, pure white, large and compact.

First-class French Hollyhocks : Amarante, very double, dark red; Anaïs, very double, admirably shaped, mottled or rather jaspered pink; Arlequin, light violet clouded with dark violet and speckled with white; Boule de Neige, very round, double, and pure white; Chromatella, very double, dark yellow; Desprez, white in the circumference, yellow in the centre; Grand Colbert, double, perfect in shape, dark mottled red; Grand Pé-King, very double, nankin yellow; Jeune Euphémie, double, well shaped, light red; Isabelle, very double, cherry-coloured; Marie-Gabrielle, double, fleshy white; Pluton, very double, almost black; Proserpine, very double, very dark red.

By stating that the very newest varieties are not required, and by leaving the selection to respectable nurserymen, such as Paul, Bircham, and many others, a good assortment may be ordered with confidence, at quite a moderate expense.

Hop.—*Humulus lupulus*.—A graceful climber, useful for covering verandahs and balconies, and pleasing to the eye of those who can admire elegance of form independent of bright colouring. The growth of the Hop affords numerous illustrations of the Line of Beauty. Its habit of dying to the ground every autumn affords a convenient opportunity of painting or cleaning the framework up which it has climbed. Propagate by root-division; must have a deep, rich loam, well manured.

Larkspur.—*Delphinium*.—Hardy, herbaceous, perennial Larkspurs are the Siberian, *D. grandiflorum*, with a tall branching stem, which bears, in July and August, an abundance of flowers brilliantly tinted with a cobalt or smalt-like blue. There is a double-flowered variety. Propagate by seed and offsets. Tall Larkspur, *D. elatum*, with light-blue flowers, remarkable for its stature. Less-known species, all with blue flowers, are *D. cheilanthum*, var. *Hendersoni*, *D. Wheeleri*, var. *speciosum*, *D. azureum*, and *D. Barlowii*. *D. alpinum* has a bluish calyx and yellowish petals; *D. albiflorum*, from Armenia, produces pure white flowers in long bunches, which have a fine effect when the plant is vigorous. All these larkspurs are propagated in the same way; they like a warm, light, rich loam, and bear drought better than excess of humidity. *D. Ajacis* and *Consolida* are the common Wild Larkspurs of the fields. The dwarf annual florists' Larkspur produces single, semi-double, and double flowers, in various shades of white, grey, pink, red, blue, and violet. They are most effective in beds or rows. For a bed, sow the seed, saved from the most double and finely-coloured flowers, either in autumn or spring—a sowing at both those epochs, will give you a longer *succession* of bloom—in shallow drills eight inches apart. When the plants are well up, thin them out to six inches' distance.

Lily of the Valley.—*Convallaria maialis*.—Grows freely in light moist soil, in a half-shady spot. Leaf-mould suits it best, as most resembling the soil of its native woods. Produces seed, but is easiest propagated by its creeping roots, of which take up a *good large* patch. Forces well in a pot, in the ordinary temperature of a keeping-room. Its perfume, form, and purity of colour combined, render this plant a universal favourite. Its near relations, the Solomon's Seals, *Polygonatum vulgare* and *multiflorum*, of less humble stature, thrive under the same culture as the Lily of the Valley.

Lobelia cardinalis, the Cardinal Flower, and also *L. fulgens* and *splendens*, have been held in esteem as bedding plants, but have gone somewhat out of fashion.

They are propagated by offsets, which must be potted separately, require abundance of water, as they naturally grow by the edges of ditches, and require the protection of a frame or greenhouse in winter. The above produce bright-scarlet flowers on tall upright spikes. *L. syphilitica* and *cælestis* are of humble growth, and produce a long succession of light, bright-blue, small flowers, during the latter part of summer; charming plants for bedding or borders, but must be wintered under shelter. Propagate by cuttings and root-division; by seed also, if you can get it. *L. ramosa*, from Australia, has large cobalt-blue flowers. Sow in autumn, winter in a frame, and plant in the open ground in spring. *L. heterophylla*, a pretty, blue-flowered annual, taller than the preceding, also from New Holland, requires the same culture; as does *L. bicolor*, from the Cape, a perennial, flowers white and blue.

London Pride—*Saxifraga umbrosa*.—From the Alps; forms a pretty edging with its rosettes of leaves. Clip the flower-stems close with a pair of shears, as soon as the period of bloom is over; increases troublesomely by offset suckers. Heart-leaved Saxifrage, *S. cordifolia*, from Siberia, with large leaves in proportion to the size and number of its dull-pink flowers, scarcely deserves cultivation. *S. granulata*, a native plant, is grown, as a double variety, for its pretty white flowers. *S. crassifolia* is in repute amongst village doctresses, for its leaves, as a cooling application to blisters and wounds in winter when beet and mallows are not to be had. *S. sarmentosa*, from China, is a pretty plant to suspend in a pot, but will not bear our winters. Propagates itself by runners, like the Strawberry. Several other species of Saxifrage make pretty rock-plants—(their name signifies “Rock-splitter,” from the supposed effects of their roots, which penetrate into narrow chinks);—but they are rather agreeable stop-gaps in the border than the claimants of rank as florists’ flowers.

London Tuft, or *Sweet William*—*Dianthus barbatus*.—Makes a showy bed, from its shades and combinations of

white, red, pink, and crimson. Prefers light rich loam, well drained. Though a hardy perennial, is best treated as a biennial; for the stools get loose and shabby after the second year, and the heads of flowers are inferior for want of a change of soil. Sow the seed, which is produced abundantly, in a preparatory bed, well manured, in spring; in October, prick out the plants where they are to bloom, about six or eight inches apart every way. By sowing thus every year, the plants which have bloomed may be thrown away, to be succeeded by younger and more vigorous individuals. Of course it would be wrong to make the same bed produce London Tufts, or anything else, year after year. A Flower Garden requires a rotation of crops, in the same way as a farm, or a kitchen garden. Bouquet Parfait is the flattering title which the French have bestowed on the Sweet William.

Lungwort—*Pulmonaria mollis*.—A boraginous, rough-leaved, hardy plant, which was supposed to be serviceable in chest complaints, because its leaves are blotched with light spots, producing a distant resemblance to tuberculous consumption. Its pink and blue flowers are rather pretty; grows almost anywhere from seeds and bits of divided stool; helps nicely to furnish the skirts of a shrubbery.—See *Forget-me-not*.

Lupine—*Lupinus*.—There are sub-shrubby, herbaceous, and annual Lupines, mostly with pretty and abundant flowers, in simple spikes, displaying clear bright tints of blue, rosy-purple, yellow, and white. Their leaves are mostly digitate, *i.e.* composed of from eight to a dozen leaflets, which start like rays from the footstalk as a common centre; some, however, have their leaves entire. The sub-shrubby Lupines are in general evergreen greenhouse plants, though *L. Marshallianus* is deciduous. The perennial herbaceous kinds are, for the greater part, hardy in England, and are valuable border-flowers for their succession of blooms and rich colours; of these, *L. polyphyllus*, *Nootkatensis*, *latifolius*, *perennis*, and *argenteus*, are to be recommended; while *L. tristis*, from

California, has sad-looking brown flowers. These should be sown in pots, and planted out when they are becoming vigorous. In their earliest youth they are apt to be devoured by slugs. They are also increased by division at the root. The annual Lupines are better sown in their destined place. *L. Termis*, with white flowers, is used in the South of Europe and the North of Africa as forage for cattle, besides being ploughed in green, for manure. The most pleasing species are *L. mutabilis* and *Cruikshankii*, tall evergreen shrubs in their native habitat, though annual here; *L. varius*, *luteus*, *albus*, *nanus*, *succulentus*, and *bicolor*. The greenhouse Lupines prefer light rich soil; the others do well in any good garden-ground or sound rich loam.

Lychnis.—The Double Ragged-Robbin, *L. Floscuculi* (Cuckoo-flower), is of graceful habit, with delicate pink flowers, grows in any moist loam, and increases freely at the root. *L. Chalcedonica*, when single, offers the form of a Maltese Cross, in white, pink, scarlet, and saffron-yellow. The double scarlet variety is a brilliant flower, thriving best in light rich loam. There are double garden varieties of *L. viscaria*, *dioica*, and *sylvestris*. *L. Alpina* makes a pretty decoration to the rock-work, with the help of a few handfuls of fresh heath-mould.—See *Campion*.

Marsh Marigold—*Caltha palustris*.—An exceedingly showy native plant, whose golden petals look as if they were enamelled with lacquer. There is a double-blossomed variety which well merits cultivation, but must be located in a wet spot. Such gardens as have a marshy corner will find no lack of beautiful plants to occupy it. The flower-buds of the Marsh Marigold make a very bad imitation of French capers, and are of questionable wholesomeness.

Mesembrianthemum — *Noon Flower*.—An immense genus of succulents, mostly shrubby. The Ice-Plant is an annual. See our "Kitchen Garden." The flowers, of considerable beauty, white, yellow, orange, pink, and purple, require bright sunshine to make them expand.

They are all greenhouse or parlour plants ; still, they love the neighbourhood of the sea, and in some few spots in Cornwall and Devonshire they stand the winter planted out on rocks, which almost daily are sprinkled by the spray of the waves. The effect of their numberless blossoms in summer is very fine ; and such a collection of out-door mesembrianthemums, where possible, is well worth forming. Though succulents, they like a fair share of moisture, especially while in full growth. Propagate by seeds and cuttings.

Michaelmas Daisies—*Aster Alpinus*, and *multiflorus*.—Great, straggling, gawky things, which would be discarded, but that they put forth flowers, in considerable variety of white, pink, purple, and blue, when almost everything else is in the sear and yellow leaf, and are therefore acceptable to help to fill up bouquets. Propagate by root division.

Mimulus moschatus.—The Musk-plant, will produce its cottony foliage and yellow flowers in any damp, shady spot ; the same of the Scarlet Mimulus, *M. cardinalis*. From *M. guttatus*, *rivularis*, *variegatus*, and perhaps others, very many cross-bred varieties have been raised from seed, which have obtained a certain reputation as florists' flowers. They are more or less hardy, strike freely from cuttings, like a mixture of sandy loam and heath-mould, with abundance of water. In fact, they are almost aquatic plants. The blossoms, though ephemeral, are produced in long succession ; and, if we had not so many better things, Mimuluses might boast of their floral merits and pretensions, although inclined to be weedy.

Moneywort—*Lysimachia nummularia*, *i.e.* Loose Strife, or Stopper of Contests.—A native plant in meadows and moist woods, useful as a pendant fringe for rock-work, vases, &c. In boxes, it makes an elegant border to the floor of a balcony. Its foliage is neat and regular, and a little yellow flower appears at the foot of every leaf. Little bits of the root will grow in peat earth. Give plenty of air, sunshine, and water.

Pansy, or *Heart's-ease*—*Viola tricolor*.—A modern result of horticultural skill and patience. There are now innumerable named and unnamed varieties, whose leading "property" is that they must be circular in general outline, and flat and very smooth at the edge: every notch or unevenness is considered a blemish. Choice varieties are propagated by cuttings taken from the ends of the shoots, in spring, cutting them off just below a joint. Root-division is also an available mode; but the shoots must be shortened when too long or straggling. All good Pansies should be thus divided annually, or renewed by cuttings, to prevent them from degeneration. Those operations also serve to transfer the plant to fresh soil, which should be light and rich, well drained, but not dry. Many amateurs find great amusement in raising Pansies from seed saved from the finest flowers. These are grown in shallow pans of leaf-mould enriched with old manure; and are pricked out, when large enough, to the bed wherein they are to show their master what they are. Pansies like an open, airy, sunshiny spot. In close places, they soon spindle up, straggle about, and pine into good-for-nothingness.

Pentstemon campanulatus.—A Mexican plant, with slender flower-stems, half a yard high, or more, which are surmounted by long tubular blossoms, dark-red outside and whitish within. Is useful as a bedding plant, from the long continuance of its flowering season. Propagate by seeds, cuttings, and parting the stool. Seedlings vary greatly, both in foliage and colour of their flowers. Must winter in a cold frame, or green-house. *P. cyananthus* is a hardy perennial, producing long spikes of beautiful blue flowers. *P. digitalis* is a robust plant, which has sported into numerous varieties. *P. Cobaea*, from Texas, has large flesh-coloured flowers, striped with carmine. A very handsome plant in the open border, but delicate. *P. glandulosus*, from North America, is hardy, with large velvety light-violet flowers. It will thus be seen that, as a genus, the Pentstemons are very uncertain in respect to hardiness, though they are all

more or less ornamental, and well deserve to have winter shelter bestowed upon them. *P. Murrayanus*, requiring heath-mould and protection from the frost, is a striking plant, with terminal bunches of vermilion blossoms. The specific names of other Pentstemons are indicative of their beauty; as *speciosus*, *gracilis*, *venustus*, *pulchellus*, *roseus*, and so on.

Perennial Aster—*Aster spectabilis*, *cæspitosus*, *argenteus*, *Parisiensis*, *Reeversii* (which makes a pretty edging), and several other species sporting into varieties and hybrids. The smaller their stature, and the more herbaceous their habit, the more desirable are they as border plants. Will thrive in warm light loam, and are increased readily by root-division.

Periwinkle—*Vinca major* and *minor*, the Greater and Lesser P.—Native trailing evergreens, which spread rapidly at root, and produce abundance of sky-blue flowers in spring, in light moist soil and somewhat shady situations, and are suitable for covering banks, or for forming edgings of a certain breadth. There are white-flowered and variegated-leaved varieties of the Lesser Periwinkle. Both are readily propagated by cuttings of their creeping shoots. Some of Rousseau's most sentimental effusions were called forth by the Periwinkle flowering amidst the mountains of Switzerland. *V. herbacea*, a Hungarian species of still more humble growth, requiring the same soil and culture as the preceding, has varieties with double blue and also double reddish-purple flowers. The Madagascar Periwinkle, *V. rosea*, is a stove-plant, with dark shining green leaves, with pink flowers darker in the centre, a variety of which has white flowers with a crimson centre. A pretty pot-plant, with the family habit, flowering, in its place, all summer long and part of the winter; but a greenhouse even is not warm enough for it to grow thriftily.

Phlox.—There are robust Phloxes, hardy perennials, of considerable stature, which help to fill up vacancies in extensive pleasure-grounds; there are others, tenderer, more delicate, of humbler growth, in request as free-blooming

bedding-plants. Perhaps the prettiest of these is *Phlox Drummondii*, an annual with a twiggy stem and somewhat downy foliage, whose lower leaves are oval and the upper lanceolate. It produces its pink flowers, which are darker in the centre, all summer long. It varies into numerous shades of rose and crimson. Propagate by seed in light rich loam. Admired kinds may be perpetuated by cuttings for a longer or shorter lapse of time. *Phlox*, *i.e.* Flame, is scarcely an appropriate name for the genus, as its prevailing colours are white, lilac, blue, blush, and pink. *P. ovata* and *nitida* are exceptions, as having bright-red and violet-red flowers. All the species belong to the temperate regions of North America; one only, *P. Sibirica*, is found in the north of Asia. The *Phloxes* are in general robust plants which thrive in ordinary garden-soil, and are increased by cuttings, stool-division, and seed: the latter mode has originated many varieties, especially from *P. acuminata*. *P. suaveolens*, itself a variety of *P. maculata*, has produced striped flowers that have been much admired. But it is possible that, with the exception of *Drummond's*, the beauty of the *Phloxes* has been over-vaunted.

Picotee.—See *Carnation*.

Pimpernel—*Anagallis arvensis*.—A red-flowered native, which would be admired were it rare and difficult of culture; but it is only a weed. *A. Monelli* has an abundance of deep-blue flowers all summer long, but is tender in winter. Strike from cuttings, in heath-mould, under a bell-glass. Other less-known *Pimpernels* deserve patronage; *superba*, *Philipsi*, *grandiflora*, and *rosea*. There are shrubby *Pimpernels* with double flowers; all greenhouse plants.

Pink—*Dianthus plumarius*.—A florists' flower, in great variety; is, however, more generally looked upon as a border than a bedding plant; most acceptable in bouquets for its rich, yet delicate perfume. In any light warm garden-soil it only requires piping or layering every second year to prevent it from getting weedy and shabby in foliage and inferior in bloom.—See *Carnation*. The

China Pink, *D. Sinensis*, though mostly single, is exceedingly pretty, from its brilliant contrasts of colouring. Treat as a hardy annual, sowing on gentle bottom-heat, and pricking out when its stature and the season render expedient. It is really a biennial, with an extensible term of existence, like many others. Therefore, any very prepossessing variety (and there will be sure to be many in a large sowing) may be retained by detaching and striking the shoots at the bottom of the flowering-stem.

Polyanthus—*Primula elatior*, or *vulgaris*, var. *caulescens*.—This popular cottage-garden flower is probably the offspring of hybridizations between the Cowslip and its more showy relative, the Oxlip. But the transition, in a cultivated state, from Primroses to Cowslips, from stemless flowers to those with stems, is so gradual, that it is not easy to define, first, which are species, and, secondly, which are varieties. Single Polyanthuses only are Florists' flowers, and deemed worth the honour of having "properties" required of them; but many of the double varieties are very pretty, as well as those called the Hose-in-hose kinds, and those with coloured calyces, which continue ornamental after the petal has disappeared. The genus *Primula* delights in leaf-mould, or mixtures of peat and sandy loam, kept somewhat moist, in half-shady situations. They make gay borders or edgings at the foot of north-east or north-west walls, or under lofty trees. In pots, unless allowed to bloom in the open air, their colours are less brilliant. Double kinds are increased by dividing the stool. The raising of seedling Polyanthuses is a very amusing task, in consequence of the immense variety obtained. Sow the seed, as soon as ripe (though it will keep pretty well for a year or two), on leaf-mould and sand, covering it but slightly or not at all, either in shallow pans or in a preparatory bed. As soon as the plants are big enough to be handled, prick them out in the place where they are to flower, and water and shade till they have taken hold of the ground. Polyanthuses and Primroses are not fond of manure.—See *Primrose*.

Potentilla.—The herbaceous species, whence many

varieties have been obtained, have very much the habit of Strawberry-plants, with flowers mostly in shades of pink, red, and crimson, of easy culture in ordinary soil, and useful on rockwork. Though pleasing, they are not of *striking* beauty. *P. fruticosa*, Shrubby Potentilla, makes a thick bush, about a yard high, producing bright-yellow flowers all summer long, and hardy in good soils and sunny situations. It seldom ripens seed, but supplies the defect by abundance of suckers.

Primrose—Primula.—Double Primroses delight in the same soil and situation as Polyanthuses, but are somewhat less robust, being apt to damp off, go frost-bitten, or succumb under the repeated ravages of slugs. Somewhat disdained as florists' flowers, they still maintain, deservedly, a certain horticultural and commercial value. They do well in a raised bed of leaf-mould, held together by brick-work or other support, and thus meet the admirer's eye half-way. There are white, yellow (at least two varieties), lilac, red (several varieties), crimson (ditto) double Primroses, besides mottled flowers and those which contain combinations of tints. They occasionally indulge the caprice of sending up a stem, thereby raising their flowers to an elevation of several inches above the leaves. When they execute this freak, they may be regarded as whole-coloured double Polyanthuses. Persons desirous of forming collections of double Primroses, are advised to procure them (both for excellence, variety, and cheapness) either from French or Belgian Flanders. Propagate by root-division, and keep a constant eye on choice varieties, both for their health's sake and to prevent kidnapping. Good double Primroses are exceedingly apt to make themselves scarce. *P. cortusoides*, from Siberia, is a charming little miniature, producing at the top of its stem a very large number of tiny, delicate lilac flowers, and requires the same treatment as the above, with the advantage that it may be raised from seed. As yet, not a common plant. The *P. Sinensis*, Chinese Primrose, is mainly useful for the winter decoration of living-apartments. It is nearly scentless, very gay, and lasts long in bloom. There are

white and various shades of pink varieties, with fringed and plain edgings, single and double. Chinese Primroses have not yet been made to render much service in the open ground. Though the roots will survive several years, they do not do much after their first season of flowering, and may be as well thrown away, to be replaced by seedlings annually raised, and pricked out in pots filled with a mixture of leaf-mould and sandy loam. There are also several Alpine species of *Primula*, which well deserve a nook in a shady border.

Reed.—See *Grass*.

Rocket.—The Double Yellow Rocket, *Brassica eruca*, would be rather handsome were its petals not so fleeting. Grows in any good garden-soil, is increased by cuttings and root-division. The Double White or Garden Rocket, *Hesperis matronalis*, is really a noble flower, when well grown, which is not always. The first essential to have fine Rockets, is a rich, deep, strong loam, even inclining to clayey, like the best wheat-lands; the next is, to shift the plant annually to a fresh spot, and divide the stools, which afford the means of propagation, as also do cuttings. The Garden Rocket varies in colour from light blush or French white, to light purple or violet. The scent of the spikes of flowers, somewhat resembling that of Stocks, is more powerful towards night; whence its generic name, *Hesperis*. Though hardy, requires looking to, and resents neglect.

St. John's Wort—*Hypericum*.—Yellow flowers, very similar in appearance in the different species, though varying in size. The large St. John's Wort (sometimes erroneously called Star of Bethlehem) has a very showy flower, almost filled with a silky tasselled tuft of stamens with red anthers, but of short duration. It spreads rapidly by its creeping stems, in light, dry, sunny soils, such as gravelly banks; and if not wet at root, will bloom abundantly in spite of trees overhead. Tutsan is a hardy shrubby St. John's Wort, largely employed in shrubberies and pleasure-grounds by gardeners of the last century; but it has now, for the most part, retired

from business, in consequence of the arrival of more attractive and equally serviceable new-comers. One or two Tutsan bushes may be permitted to help to form a screen of shrubs, in consideration of the days of auld lang syne.

Salvia—*Sage*.—See “The Kitchen Garden.”—*S. splendens* forms a robust tuft that throws up spikes of scarlet flowers; a showy plant, very useful in autumn; will survive our winters, but should not remain long on the same spot, and therefore is best divided at the root in autumn, potted, and kept under a frame during winter. *S. patens* resembles the above in habit, with brilliant smalt-blue flowers, but *must* have winter protection. *S. nemoralis*, hardy, produces a long succession of small amethyst-purple flowers, which have a fine effect when grown in a large mass, or as a hedge, and which are so attractive to bees that the twiggy stems on which they grow sometimes are crowded with numerous species of the genus *Apis*: there are humble-bees, earth-bees, hive-bees, and others,—queens, drones, and workers,—all swarming together amidst the flower-forest in search of honey. *C. coccinea*, tender in winter, makes a convenient pot-plant, being in the style of *S. splendens*, but smaller and slenderer. There are numerous other gaudy species, with blue, pink, white, yellow, red, violet, and two-coloured flowers, in all more than four hundred, the majority *not* hardy in England. They are raised from seeds, cuttings, and root-division; like light rich soil, which they speedily exhaust; and require frequent shifting in pots. Old stools of the more showy *Salvias*, wintered in a frame, and planted out in May entire, will make magnificent tufts, and furnish a profusion of splendid bloom.

Saxifrage.—See *London Tuft*.

Scabious—*Scabiosa atro-purpurea*, and others. Pin-cushion Flower.—Well-known border plants, which retain their place mainly because we are used to them, and are accustomed to cut their honey-scented blooms to fill up the intervals in large bouquets. Sowing the seeds gives

you fresh young plants which are not nice about soil; but the stool may often be divided into rooted shoots, which is a quicker process.

Sedum—Stone-crop, Ginger, Wall-pepper, Love-chain, Gold-dust, &c.—The hardy species of this genus of succulents, mostly with yellow or white flowers, are serviceable for rock-work and artificial ruins. The Orpine, *S. Telephium*, with dull purple flowers, and which attains a height of some eighteen inches, is planted along the roof-ridge of many cottages in Normandy, where it looks like the bristles on the back of an angry boar. These hardy Sedums may be regarded rather as convenient materials in the hands of the landscape-gardener, than as *real garden flowers*. *S. Sieboldii*, amongst the greenhouse species, is an elegant plant to suspend in a pot or basket.

Snapdragon.—See *Antirrhinum*.

Solomon's Seal.—See *Lily of the Valley*.

Spiderwort—*Tradescantia Virginica*.—An old perennial border plant, with blue flowers varying to purple, in either case occasionally more or less double. Will grow almost anywhere, and is increased by dividing the stool. There are hothouse species, one of which, *T. discolor*, is mainly grown for the beauty of its leaves.

Sweet William.—See *London Tuft*.

Thrift—*Armeria vulgaris*.—In French, Gazon d'Espagne, Spanish Turf, or, more poetically, Gazon d'Olympe, Turf of Olympus.—The English name is derived from its thriftiness in towns and confined situations, though its native home is on the grassy tops of cliffs whose base is washed by the waves, and whose summit is exposed to the sunshine and wind. Thrift is mainly employed for edgings, for which it is well adapted by its grasslike tufts of leaves and its numerous heads of pretty pink flowers. In the wild state even, the depth of their tint varies greatly; in gardens, there is a variety with deep crimson flowers, which is much more ornamental than the common sort. Propagate by division of the stool. For neatness' sake, as soon as the flowers are

faded, clip *their stems*, not the herbage, close with a pair of shears. *A. plantaginea*, which abounds in dry and sandy districts in the interior of France, would equally answer the purpose of an edging in gardens. *A. pseudo-Armeria*, False-thrift, from Barbary, is a magnified species altogether on a larger scale, which produces several times a year heads of rosy flowers at the top of stems half a yard high. Must be treated as a greenhouse plant in winter. The Thrifts were *Statice*s in the days of Linnaeus. The modern *Statice*s are mostly greenhouse plants, of sub-shrubby stature, with pleasing rather than handsome flowers, and, like their half-brother the Thrift, fond of a sea-side residence.

Valerian.—*Valeriana hortensis*, and *Pyrenaica*, are common garden perennials, with white and red flowers respectively. The latter will grow and bloom well on a wall or rock-work. They have no right to take higher rank than that of hardy filling-up stuff. *V. cornucopiæ*, Horn-of-Plenty Valerian, from the North of Africa, is a tall annual, which produces numerous red flowers, and is eaten as a salad, like the Mâches (or Corn Salads, mentioned in our former volume), of which *some* people are very fond in winter and spring. Sow in light soil in spring, or better in autumn.

Veronica Chamædrys, or Earth-Oak Veronica (from the shape of its leaves),—the pretty blue-flowered German Speedwell of our hedges,—is the type of a large genus, which furnishes several easily-cultivated border-plants that supply a long succession of fleeting flowers, on spikes, in shades mostly varying from white to deep blue. St. Veronica was the compassionate female who, the legends tell us, offered a napkin to the Saviour on his way to the Cross. He used it to wipe the perspiration from his face, and his likeness remained miraculously imprinted thereon. The napkin itself is still occasionally exhibited to the public from a lofty balcony beneath the dome of St. Peter's, at Rome. The Veronicas are aptly named after a benevolent woman, as there is something graceful, feminine, and fragile in their

aspect. There are also greenhouse herbaceous species. *Veronicas speciosa*, *Andersoni*, *salicifolia*, and *Lindleyana*, from New Holland, requiring sandy loam and heath-mould, stand the winter outdoors in such climates as that of Cornwall in England, and Brittany in France, where they make handsome low-growing evergreen shrubs. As they strike from cuttings without difficulty, it is easy to keep up a succession of young plants in pots, in which character they will render service by flowering during the dead months of the year.

Violet—*Viola odorata*.—White, dull-red, and deep-blue sweet-scented varieties grow wild; there are also double white, red, and dark-blue garden sorts. The Parma Violet has very light-blue double flowers, exceedingly pleasing, but hardly so highly scented as the former; will flower under a frame from October till spring. The Bruneau Violet has double flowers, with the outer petals dark blue, the inner ones mottled with white, red, and blue. Some Violets have a greater tendency than others to commence flowering in autumn, and to continue, under favourable circumstances, throughout the winter. Such are the Russian and the Neapolitan Violets, amongst the singles; and the double red, and the Champlatreux double white or Four-Seasons Violet. Advantage is taken of these hybernal bloomers by planting them in frames like cucumber-frames, on a bed of soil composed of leaf-mould, calcareous earth, and alluvial loam. Continued crops of violets, for bouquets, are thus obtained, and they form a profitable branch of market-gardening in France. Violets are increased fast by runners and root-division. The double kinds are sometimes used as edgings, but they come into bloom somewhat later than singles. The Tree Violet is regarded as a woody-stemmed species, from the Canaries; but it may be questioned whether its erect character be not as much an artificial circumstance as the shrub-like shape of Tree Mignonnette, which is nothing but the result of training an upright stem to a stick, and pinching off the lower shoots. Besides the Sweet Violet and the Heart's

Ease, there are numerous other species, some of which are lively ornaments to a rock-work or the top of a wall, or will brighten up the barrenness of a sandy waste.

Water Lily—*Nymphaea alba*, the White, and *Nuphar luteum*, the Yellow; the former much the handsomest.—Useful in ponds with a muddy bottom, where gold-fish, fresh-water tortoises, &c., are kept. Procure a good large stout rhizoma at the end of summer, and sink it in its place by a stone tied to it. The Yellow Water Lily is apt to increase to a troublesome extent; so beware how you introduce it to your artificial lake. There are Chinese Water Lilies, red and blue, whose winters at home are severer than with us, and yet they cannot get through ours. It is the defective summer heat which renders them thus tender.

Willow Herb.—A large genus, many of whose species, with gay red flowers, grow wild in moist spots. The French Willow Herb, *E. spicatum*, is a tall perennial, useful for screens and shrubbery-skirts, with purplish-red flowers and blue anthers. Hardy; increases so fast at root as to become a nuisance, if you let it.

SHRUBBY AND SUB-SHRUBBY FLOWERS.

There is so gradual a transition from herbs to shrubs, and from shrubs to trees, that the terms “sub-shrubby plants” and “suffruticose trees” have been invented, to designate those individuals which occupy intermediate positions in the long series of the vegetable kingdom. If, therefore, the reader should feel inclined to cavil at the Wallflower’s being included amongst the Shrubby Flowers, that climbers like the Clematis and the Passion-flower are made to enter into the same list, or that the Arbutus and the Elder rank with Flowering Trees in the present volume,—he will kindly remember that there is no room here to discuss nice botanical distinctions, but simply to pass in compact review the most desirable occupants of a flower-garden.

Althæa frutex, or *Hibiscus Syriacus*, often called

simply *Frutex* in popular gardening language.—A hardy shrub, requiring, however, a longer and hotter summer than our own, producing abundance of mallow-like flowers from August till cold weather sets in, in single and semi-double varieties, in various shades and combinations of white, pink, crimson, and purple. In Lombardy, hedges are made of the Shrubby *Althæa*, which are gay with a long succession of bloom. In England, it would be worth while to forward the handsomest kinds in tubs in a greenhouse, to be placed in the pleasure-ground at midsummer, as Orange-trees and Pomegranates are in the Parisian gardens. The *Althæa frutex* grows slowly, and lives to a considerable age: good loamy soil suits it best. Sow the seeds in boxes, or in a frame, in spring; prick out the young plants in separate pots, and keep them in the greenhouse in winter, for the first two or three years. Favourite kinds may be continued and multiplied by grafting. The plants are also made to serve as stocks to receive scions of the very beautiful Chinese Hibiscuses, which, however, appertain to the greenhouse and the hothouse. The affinity between the *Althæas* and the Hibiscuses is so close, that a few of the latter, somewhat more hardy, may be mentioned here. They are remarkable for their vigorous habit of growth, and their large flowers, which make a fine show in September. They like a light, rich, deep soil, a rather shady situation, and require to be mulched and protected with litter over the crown of their root in frosty weather. They rarely ripen their seed, and do not bear root-division well, but must be raised from imported seed. *H. palustris*, Marsh H., from North America, should be abundantly watered in summer. *H. roseus*, Rosy H., a native of the marshes of the Landes of France. *H. militaris*, with deep-red flowers, from North America. *H. speciosus*, from Carolina, is safest in a greenhouse during winter. The above succeed against a wall in maritime or insular situations, like Ireland or Cornwall.

American Allspice — *Calicanthus floridus* — A misnomer, in respect to the English name, which is betrayed

by the prefix "American."—The plant has no relationship with spice-bearing trees. The French name it *Arbre aux Anémones*, Anemone-tree; for its reddish-brown flowers are not dissimilar, in shape, to double Anémones. Unlike them, they exhale an odour which resembles melon and ripe apple combined. It is a twiggy shrub, with deciduous foliage, suitable for verandahs or rustic porticos, thriving in a mixture of light loam and heath-mould, and worthy of a warm sheltered corner. Propagate by suckers, or by layers half-cut through behind a joint, which should remain in the ground a couple of years. There are varieties of this Anemone-tree. *C. occidentalis*, of Dr. Lindley, is a robuster shrub, with broader leaves, larger brick-red flowers, hardier than the preceding, and less nice as to soil and aspect.

Azalea.—A large and beautiful genus, which must be treated as what are called American plants, *i.e.*, grown in heath-mould, with a greater or less admixture of sandy loam, in somewhat shady and sheltered situations, where they are never very moist nor very dry. They bear transplanting (with the ball of earth attached to their roots) and forcing well. In the American bed in the open garden, the hardy species are valuable for their early blooming in spring, and their handsome bouquets of brilliant flowers. They have the defect of being rather thin and naked, running up bare and spindle-shanked, even if they did not put forth their flowers, in various shades of yellow, white, and red, before the full development of their leaves. They are propagated by offsets, by layering, and grafting. From seeds, which are hybridized with facility, numerous varieties are obtainable. Hardy species of *Azalea* are *viscosa*, *glauca*, *nudiflora*, and *calendulacea*, all from North America. *A. Pontica*, with yellow blossoms, comes from the Caucasus. All out-door American plants are best grown in a compartment of the garden that is specially devoted to them.

The Chinese *Azaleas* are greenhouse plants. Their extreme beauty is sufficiently attested by a reference to

the Metropolitan Horticultural Shows. For their varieties, the reader is referred to the nurserymen, especially as new ones are constantly coming out. Even an imperfect list of those now grown would fill several of these pages.

Berberry.—The Common *Berberis vulgaris* is useful to stop a gap in a shrubbery, on account of its curious flowers, with their irritable stamens (which will move if you tickle them with a pin or a bristle), followed by bunches of scarlet fruit. It looks well as a standard with weeping branches. Our gardens have of late made a valuable acquisition in the Evergreen Holly-leaved Berberry, *B.* (or *Mahonia*) *aquifolium* and *B. pinnata*, both easily raised from suckers and seeds, and natives of Oregon and California.

Bignonia capreolata—Tendrilled Trumpet-flower—is the only one of its genus which can be left all the year round in the open ground. At the foot of a south wall, with a covering of litter at foot in winter, and plenty of room to spread about, it will be covered from midsummer to autumn with a profusion of tubular tawny-red flowers. Strikes easily from cuttings.

Birthwort—*Aristolochia*.—A genus of climbers, with flowers in general not remarkable for beauty. *A. Sipho* has enormous heart-shaped leaves, which adapt it for covering walls and trellis-work with a thick mantle of green during summer. This species, as well as *tomentosa* and *Arkansa*, are hardy in England. Propagate most surely by layers half-divided behind an eye. *A. labiosa* has a very large whitish flower blotched with blue-black, whose odour is so offensive as almost to prohibit its cultivation. The genus is medicinal, or rather poisonous. Both its English and its botanical names have reference to its effects on the human system, which have sometimes been applied to evil purposes. Hence, some gardeners are unwilling to avail themselves of the aid which its striking foliage affords.

Bladder Senna—*Colutea arborescens*.—Fitter for the shrubbery than the garden proper, and the delight of

children, who amuse themselves with squeezing and bursting the bladder-like seed-vessels that succeed its yellow flowers. Grows freely in any soil, preferring calcareous earth, from suckers or seeds. *C. cruenta* is a prettier and smaller species.

Bramble.—There is a double white-flowered variety of the common Bramble, *Rubus fruticosus*, which produces, from July to autumn, bunches of blossoms like miniature roses. It likes rather a damp soil, and is propagated by cuttings, or better by suckers. The *Rubus* genus flowers on the wood of the previous year, which should be cut out afterwards like raspberry-canes, to make room for new. There is also a double pink variety, which was found wild, in 1817, near Clion, in the department of Indre, France. Double flowers of other genera are occasionally met with wild. The common Ladies' Smock, or Cuckoo-flower, is not rarely found wild and double in meadows. *R. odoratus*, the Canada, or Flowering Raspberry, is useful in the shrubbery and in towns, for its large foliage, its late and rosy flowers, and its thriftiness in shade. Propagate by the rhizomatous runners, and cut out the old wood in spring. There is a white-flowered variety.

Broom.—The Common Broom, *Genista scoparia*, were it rarer, would be highly esteemed as an ornamental shrub, and may be so employed even as it is. Our Plantagenet dynasty took their name from the *Planta Genista*. The Spanish, or White-flowered Broom, *Spartium album*, or *Cytisus albus*, is taller and tenderer than the above, requires a light dry soil, and is propagated by seeds, or by grafting on the common Laburnum, which will serve as a stock for most of the hardy ornamental Brooms.

Brugmansia.—*B. suaveolens*, or *Datura arborea*, is a noble suffruticose Peruvian tree, unfortunately too tender to stand our winters; and *B. sanguinea* has hitherto been confined to our conservatories. But as new facts in gardening are as valuable as new cases in medicine, Mr. Robert Dowling's communication is quoted from the

Gardener's Chronicle for Jan. 12, 1856:—"A noble specimen of *Brugmansia sanguinea* grows in the pleasure-grounds adjoining Crom Castle, the seat of the Earl of Erne, county Fermanagh, Ireland. It was planted in a conservatory in May, 1845, and was then about three feet high. Notwithstanding severe annual pruning, it grew too large in a few years, and was considered scarcely worthy of a place under glass. In May, 1851, I planted it out in the open ground, having the previous autumn cut its roots three feet from the stem, and ever since it has attracted the attention and been universally admired by the numerous visitors to this beautiful demesne. At the request of some ladies on a visit here, I measured the plant last August; it was then 14 feet 6 inches high, girthed at the ground 2 feet 6 inches, and covered an area of 165 square feet. At that time it was really a beautiful plant, completely covered with flowers and foliage to the surface of the ground; I then counted 180 flowers fully expanded, with twice that number ready to open. A gentleman told me, a few days afterwards, that he had counted above 200 open on it. It would be difficult to calculate the number it produced last summer; but I would say at least some thousands, as there was a regular succession from the beginning of summer, and it has now, January 5th, many open on it. It was planted in a mixed soil, composed of loam, bog-earth, a good portion of charred matter, rotten dung, and leaves—perfect drainage of course being secured. As I learned from experience that *Brugmansia* will not stand our winters without protection, ever since it was planted in the open ground I each year, in October, covered it by sticking poles in the ground, 5 inches apart, the spaces between being stuffed tight with grassy moss raked from an adjoining wood. A span roof is then put on, one side of which is thatched, the other covered with sashes, which has an additional covering in long-continued frost. To make all sure, I put inside a few cast-metal pipes, connected with a stove; but even last winter, although very severe, they were seldom used, as it requires a very

great frost to penetrate through moss a few inches thick. At the same time, arrangement for free ventilation is provided. I take the protection gradually away in March and April, and altogether in May. It may be considered that the plant is not worthy the trouble thus bestowed on it; but few could see it in summer and make that remark. The branches are shortened in before covering, or it might have been twice as tall as it now is. There are many free-flowering plants, commonly occupants of the greenhouse, which I think would succeed quite as well planted out as the *Brugmansia*, large specimens of which would add a new and interesting feature to our pleasure-grounds. I propose planting out a few next May, with a view to their remaining out through the winter, and getting glass cases made (so that they can be easily increased in size at pleasure and removed in spring) for their protection."

Buddlea globosa.—A Peruvian shrub, with leaves which ought to be evergreen, and round heads of orange-tawny flowers. May be trained against a wall; but in sheltered situations will survive our winters in the open shrubbery, under the shelter of *lofty* trees, in light well-drained soil. Its long oval leaves, very light underneath, and its sweet-smelling bullets of deep-yellow florets, give it a certain exotic charm. Multiply by cuttings and suckers, which keep in a pot, in a cool frame, the first two or three winters. When planted out, mulching at the roots is a wise precaution. *B. Madagascariensis*, also with odoriferous yellow flowers, must winter in the greenhouse. *B. Lindleyana*, from China, with red and purple flowers, is hardier, and may at least be ventured to cover a sunny wall.

Camellia Japonica.—Beautiful evergreen shrubs flowering in spring, and forming their flower-buds so early in winter, as to render their out-door culture with us extremely hazardous, although success is attained in a few favoured spots in Cornwall, with the aid of partial protection. On this account, Camellias will *live* in many situations where they will rarely flower. In a border

backed by a high wall, or trained against the wall itself, it will not be difficult to shelter them and to keep frost from their roots by a covering of litter. The variegated red is one of the hardiest; but the original single red Camellia, on which the double varieties are mostly inarched, raised from seed, makes a splendid bush where it *can* flower in the open air. In truth, however, the place of Camellias, in the United Kingdom, is in conservatories and living-apartments. They are house-plants, and as such they must be considered, in spite of their occasional and rare presence in the flower-garden: their culture constitutes a peculiar and elaborate branch of greenhouse gardening; and their cut blooms form a considerable item in the returns of nurserymen during winter and spring in general, and at the periods of the Paris and London seasons especially.

Chinese Pæony.—See *Pæony*, in the last section.

Christ's Thorn—*Rhamnus Paliurus*.—A shrub whose branches are furnished, when vigorous, with several series of thorns, some straight like pins, and others bent like fish-hooks. The foliage has a certain elegance, from the regularity with which the small leaves are disposed along the twigs. The small yellow flowers are inconspicuous, while the berries have somewhat the shape of a low-crowned broad-brimmed hat. Its chief interest lies in being pointed out by the ancient tradition of the Roman Catholic Church as at least *one* of the plants which composed the Saviour's crown of thorns. The fact is far from improbable, as the Christ's Thorn is a native of Syria. In Italy it makes formidable hedges, through which vineyard-pilferers can hardly pass without leaving a portion of their garments, and perhaps sundry bits of skin and drops of blood, behind them. To grow vigorously, it requires a long hot summer. Here, it may be *kept alive* in a sunny nook, in a weak and starveling condition, hardly recognizable by those who have seen it in the South of Europe.

Cistus ladaniferus,—the Gum Cistus,—with long, lanceolate, viscous leaves, and large white flowers with a dark red centre, is one of the handsomest shrubs we have.

There are other species, with yellow, red, and purple flowers, which, though individually ephemeral, follow each other in long and constant succession during the finest summer months. Some of our native trailing species make exceedingly elegant rock-plants. The *Cistuses* are of various degrees of hardiness, but all like a warm, well-drained, chalky soil. Multiply by suckers, cuttings, and seeds sown on a hotbed in spring.

Clematis.—See *Virgin's Bower*.

Clanthus puniceus.—A very handsome half-creeping shrub, with pinnated leaves, from New Zealand. It is usually kept in pots, in a greenhouse, in a mixture of loam and rotten hotbed; but will stand the winter trained against a wall (especially near the sea), with the protection of thick mulching and matting in winter. There, its bunches of large pea-like scarlet blossoms are really splendid. Increase by cuttings and suckers.

Coronilla glauca.—A pretty, yellow-flowered, papilionaceous pot-shrub, with sea-green pinnated leaves, useful for parlour-windows, because its plum-scented blossoms are gay throughout the winter. Native of the shores of the Mediterranean; is increased by seeds, cuttings, and layers. *C. Emerus* is hardier and more robust, with red flower-buds and yellow open flowers. It is sometimes used to make clipped fences, where the resistance of thorns is not required. If shorn in spring, will flower in autumn.

Cytisus Laburnum, or False Ebony, from its handsome dark heart-wood.—Almost a tree; well known for its bunches of drooping golden blossoms in spring. Hardy, vigorous, and increased abundantly by seed; is used as a stock whereon to graft other more delicate *Cytisuses* and allied species; amongst which are *C. nigricans*, *sessilifolius*, *capitatus*, *Austriacus purpureus* (with pinky-violet flowers), and *albus*, *Spartium album*, or Spanish Broom. On one of the grass-plots in Kew Gardens there grows a curiosity interesting to hybridists,—a *Laburnum* between *Cytisus nigricans* and *C. Laburnum*. The plant has put forth one branch of *nigricans* and one of *Laburnum*; the rest is hybrid.

Daphne.—*D. Mezereon* is one of our earliest and most welcome spring flowers, acceptable to early wandering bees. The French may well call it Bois-Gentil, or Pretty Wood. Grow it in *rich* soil, to make it abundantly twiggy, and consequently flowery. Propagate by sowing the berries. The Mezereon, ordinarily pinky-lilac, has white-blossomed and also deep-crimson varieties. The Wood or Spurge Laurel, *D. Laureola*, is a hardy ever-green shrub, with green sweet-scented flowers. *D. Pontica* is similar in habit, but is tenderer. Several others, as *D. odora*, a greenhouse shrub, are multiplied by grafting on *D. Laureola*. An interesting novelty is Fortune's Daphne, *D. Fortunei*, found by that enterprising gentleman in the north of China. It has deciduous leaves, and little terminal tufts of purple-lilac flowers, which appear before the foliage. Grow it in a mixture of heath-mould and sandy loam, and try if it will not prove hardy in the unsheltered bed.

Deutzia gracilis, from Japan.—A favourite pot-plant, because it forces well, and is covered with an abundance of pure white flowers in small bunches. People who see it in that state in February scarcely suspect that it may be hardy out of doors. *D. scabra*, on a somewhat larger scale, is a little like a miniature Syringa, with white powerfully-scented blossoms. There are also *D. corymbosa* and *canescens*. Deutzias (which merit encouragement) strike readily from cuttings under a bell-glass; but if plants which have been forced in spring be turned out of their pots in early summer, and planted with their balls *rather deep* in the open ground, they will form several well-rooted suckers, which will make strong plants the following season.

Furze (Double)—*Ulex Europæus*—makes a handsome single bush in the midst a grass-plot, glittering in spring like a complete mass of golden flowers. Requires well-drained sandy soil; and, being of slow growth, is best purchased of nurserymen, who strike it from tiny cuttings under bell-glasses. Double flowers are not common amongst leguminous plants. *Severe* frost kills Furze,

either entirely, or more commonly down to the ground, reducing it to the condition of an herbaceous plant. Hence, its greater luxuriance near the sea. An old-established Double Furze well merits a little protection, when unusually hard weather threatens to destroy it.

Fuschia. — Flowering shrubs, from the central and southern regions of America, and from New Zealand, with pendent flowers, combining grace of form with the charm of rich colouring. The first arrivals, from the end of the eighteenth century, were shrubby, twiggy plants, with a certain degree of hardiness; such as *F. globosa*, *virgata*, *coccinea*, &c.; but in 1837 came *F. fulgens*, of quite a different character, with larger, tenderer leaves, longer blossoms produced in terminal clusters, and more delicate constitution. This was soon followed by *corymbiflora*, *cordifolia*, and *serratifolia*, from which, amongst themselves and with the older sorts, very numerous hybrids have been obtained, and are still being obtained anew every season. The list of beautiful varieties now on record must amount to several hundreds. *F. splendens* and its nearest relatives, with the offspring which have originated from them, are scarcely fitted for the open border, as their large leaves and fragile stems render them the victims of gusts of wind, besides requiring a more greenhouse-like climate than even that of our most genial summers. The twiggy Fuschias may be regarded as herbaceous plants in the inland counties of England: many of them stand the winter, and form strong stools: although the frost may cut them down to the root, they shoot and flower well the following summer. In the south, and by the sea, they will form permanent bushes or coverings for walls. They are better suited to make single, than bedding plants; their habit is so decidedly different, as to give them the look of "a very odd lot" when collected in varieties to make masses in the parterre. Any light rich mould suits them, with no stint of water, or the weakest possible liquid manure, during their period of growth. They strike readily from cuttings under a hand-light. They are good plants for the amateur to

amuse himself with, by hybridizing and raising new varieties; as the parts of fructification are easily come-at-able, they seed freely, and the result has not to be waited for long.

Guelder Rose—Snowball-tree—Viburnum Opulus—is remarkable for the globular heads, consisting entirely of the white sterile blossoms, which, in the wild state, grow around the fertile ones. In this phase, it is called the Double Guelder Rose, and produces none of the bright crimson berries which are so great an ornament to the original shrub, and are so welcome to birds in hard winters. Flourishes in a deep moist soil; is easily propagated by cuttings, layers, and suckers. *V. edule*, from South America, produces bright-red eatable fruit; how nice it is, the writer cannot say. *V. Tinus*, the Laurustinus, is a deservedly popular evergreen, flowering in winter; but bears slight frosts better than severe ones. In the south of France it attains the height of twenty feet and more. There are several varieties. Propagate by layers, but better buy of nurserymen. *V. odoratissimum* is a sweet-scented greenhouse shrub, which bears the winters of Cornwall and Brittany. *V. Lantana*, the Wayfaring Tree, with black berries and cottony heart-shaped leaves, is hardy; so is *V. Lentago* from North America. Other species are, *V. cotinifolium*, *prunifolium*, *pyrifolium*, *nudum*, *plicatum* (hardy, from China), *macrocephalum* (ditto, sent by Fortune,—has heads of white flowers at least as big as Hydrangeas), *cylindricum*, and *amethystinum*.

Heath—Erica.—A family, rather than a genus, of low, twiggy, tufted shrubs, with curious and beautiful flowers, many of which look as if they were moulded in wax or blown in glass, and are one of the choicest ornaments of our Grand Horticultural Exhibitions. It is a pity that by far the great majority, from the Cape, will not stand our winters. In pots, Heaths must have heath-mould of course; be kept never too wet nor too dry, in a house by themselves, exposed to no sudden changes or extremes of temperature, and have the gardener's

daily, almost hourly attention. Hence, fine exotic specimens are good testimonials to horticultural skill. All the British Heaths, of which there are six or seven, including varieties, deserve a place in the American bed. The prettiest are, *E. Tetralix*, with pink waxy flowers, fond of a moister situation than the others, and the Cornish Heath, red, with a white variety. *E. mediterranea* is hardy, as is *E. carnea*, very like the former, and producing abundance of pink and black blossoms in the depth of winter. Heaths are mostly struck from very small cuttings of the terminal shoots, in sand, under a bell-glass; but success is only attained by great care; and it takes some time to raise a plant of any respectable size. It is therefore better to purchase of nurserymen who make the culture of Heaths their business, a visit to whose garden is an instructive lesson, and whose lists comprise all that is new, as well as all that is old and of good repute. Waterer and Godfrey, of Woking, Surrey, amongst others, are famous for their Heaths; but the fate of most Heaths in pots, purchased as window-plants without forethought as to their ultimate destiny, is to perish shortly after their first campaign.

Hibiscus—See *Althæa*.—The Chinese Hibiscus, *H. Rosa Sinensis*, is a tall shrub with crimson hollyhock-like flowers, which are used in China *to black shoes with!* From it have been raised many beautiful single and double varieties, white, yellow, and divers shades of red. They all require a moist-atmosphered hothouse.

Holly—*Ilex Aquifolium*.—A handsome native evergreen, which has produced varieties of a great diversity of foliage,—marginated, mottled, and extra-prickly,—which are increased by grafting on the common sort. In old trees, the upper leaves on the top branches are destitute of prickles at the edges. By grafting, an entire plant of this kind may be raised. Hollies do best in a light loam, and though they will live in very poor soil, they show their appreciation of a good one by their more luxuriant and fuller growth. The common species is raised from its berries, which should be laid in a heap to rot during

winter. The growth of the seedlings is somewhat slow : these will furnish stocks for grafting and budding, as well as plants for forming hedges. A holly hedge is so effectual, durable, handsome, and hardy, that though it requires great patience to form, repays all the care that is bestowed on it. The young plants from a nursery (carefully lifted, without injuring their roots) should be planted in October, attentively watered and weeded for the first few years, and kept clear of everything that can overshadow or choke them. The Broad-leaved Holly, *I. latifolia*, a hardy evergreen from Japan, is propagated by grafting on the common Holly, as is also *I. opaca*, and several others. Admirers of the genus will find a tolerably long list of species, some of which must pass the winter in a greenhouse.

Honeysuckle — *Lonicera*. — Charming sweet-scented climbers and erect shrubs, which are almost all hardy with us. They have also the advantage of leafing early. They thrive in a sound, deep, light loam, with a half-shady exposure, and are consequently useful for covering walls and trellises that face the east or the west, even with a few points to the north. They are readily increased by seed from their berries, by cuttings, layers, and rooted suckers. The erect *Loniceras* will serve for hedges where great strength of fencing is not required. They are *L. Tartarica*, Tartarian H.; *L. Pyrenaica*, Pyrenean H., a pretty shrub, but more infested with aphides than the others; *L. Alpigena*, with pink flowers, and berries as big as little cherries; *L. Iberica*, resembling the former, but with pubescent leaves; *L. Xylosteum*, the Fly Honeysuckle; *L. brachypoda*, with twin odoriferous flowers, a greenhouse plant; and *L. Ledebourii*, from the Altai, hardy, with orange flowers and black berries. Climbing species are *L. Caprifolium*, the Common Honeysuckle; *L. Etrusca*, a favourite with gardeners, as being almost a perpetual bloomer; *L. implexa*, from Majorca and Minorca, with slenderer stems and of humbler growth; *L. parviflora*, Little-flowered H., from Canada; *L. flava*, Yellow-flowered H., from N. America, delicate and rare;

L. sempervirens, Evergreen or Trumpet H.; *L. pilosa*, tender; *L. pubescens*, like the former; *L. Periclymenum*, the exquisitely-perfumed native of our woods; *L. confusa*, whose flowers change from white to yellow,—whence its Japanese name Nin-Too, or the Gold and Silver Flower; and *L. Sinensis*, another sweet-scented and very desirable species.

Hydrangea Hortensia—the Garden Hydrangea, from Japan—does best out-doors, in England, near the sea, where the winters are mild and the climate moist. In the Channel Islands, and in Normandy, there are Hydrangeas eight feet high, or more, with balls of flowers bigger than a man's head. Those balls are composed of sterile florets, exactly like the snowball on the Double Guelder Rose. The Hydrangea likes a light soil containing a large proportion of sand. The normal colour of the blooms is pink, after having been green in their immature state; but they change to blue when grown in certain soils, which can only be indicated with certainty after experiment; some peats, and also some loams, prove effectual to produce the chamæleon-like change, while others do not. It probably depends on the presence of iron, in some peculiar combination. The Hydrangea strikes freely from cuttings; the plants require abundance of water. In pots, the soil should be annually renewed. In the open garden, a sheaf of loose straw scattered loosely over a bush will make a good protection, as it admits air at the same time that it keeps off hoar-frost and ice from the tips of the shoots. Other species are, *H. arborescens*, *nivea*, *quercifolia*, *Japonica*, *involucrata*; the last very pretty, requiring the same treatment as *Hortensia*, as also does *H. pubescens*, with large handsome leaves, whose petioles and veins are brilliant red.

Jessamine—*Jasminum officinale*—is the favourite white-flowered, sweet-scented climber, so useful for covering arbours and verandahs; may be also trained to make a handsome standard in a pot. Propagate by cuttings and layers. *J. Sambac*, celebrated for the fragrance it exhales at night, must be grown in a hothouse. *J.*

revolutum, the Yellow Jessamine, has bright golden flowers, and does best trained against a wall. The Winter Jessamine, *J. nudiflorum*, is another of the lovely things we owe to Mr. Fortune. Its multitudinous clear yellow blossoms appear before the leaves, in January or February, and it is hardy enough to be left out-doors against a wall, and may even prove that it has still greater powers of endurance. In pots, it makes a most elegant parlour shrub, with the additional recommendation that it is scentless, or nearly so. It may be questioned whether there are any truly scentless flowers: it is certain that there are paradoxical flowers, which really exhale a powerful odour, that in some cases is extremely offensive to the human system, in others harmless, although the odour itself, as a smell, is imperceptible to ordinary nasal nerves. A correspondent of the *Gardener's Chronicle* (Jan. 8th) writes thus:—"This beautiful Jasmine is certainly a great acquisition to the flower-garden, inasmuch as it produces its cheerful bright-yellow flowers during autumn and winter, and continues blooming for several months in succession. It is also very useful for cutting for bouquets, and the sprigs will last in water a long time. It may be grown in any common light soil; and no one fond of a garden ought to be without it, for it does not take up much room. It is best planted against a wall, and kept trained. It is a free-growing plant, when it gets established, and quite hardy. We have a specimen which has been planted about five years. It is against a south wall about ten feet high, and is covered with charming yellow flowers from bottom to top. It has been in this condition from the beginning of November, and appears likely to continue so for a long time to come. When grown in this way, it is truly a splendid object. The way we have treated it is as follows:—It was planted out in the spring, and kept trained against the wall during summer, giving it a good supply of water at the roots. It made a good growth, and bloomed the same year. After flowering, it was pruned, cutting the side-shoots to one or

two eyes, and keeping the leading shoots trained up the wall till they attained the height that was wanted. It has been pruned every year since. Of course, it should not be cut in summer, for it blossoms on the young wood, and the longer the shoots the more bloom you get. It is easily increased by cuttings or layers. In the former case, take part-ripened wood and place it in a pot in light soil and sand mixed together; afterwards, put them in a warm frame till they are rooted, and then pot them afresh in small pots. Set them in the frame again, till they are rooted; then move them to a cooler place till spring, when they may be turned out against a wall, and treated as recommended above." In short, the Winter Jessamine only requires to be better known to become a popular favourite; and the purchase-money of this Book will be well laid out, if it only induces the purchaser subsequently to buy a plant or two of *Jasminum nudiflorum*. Other species deserving of notice are *J. odoratissimum*, yellow flowers, greenhouse culture; *J. chrysanthum*, hardy, evergreen, yellow, scentless; and *J. grandiflorum*, white, in greenhouse, sweet-scented; may be cleft-grafted on *J. officinale*.

Kalmia.—American shrubs, with very curious and elegant flowers, requiring the same treatment as Azaleas. The honey, of some species at least, is said to be poisonous.

Laburnum.—See *Cytisus*. *Purple Laburnum*.—See *Wistaria*.

Laurustinus.—See *Viburnum*.

Lavender—*Lavandula spica* (whose flowers are in request by distillers, perfumers, and housekeepers who are careful over their linen)—is propagated by cuttings, in spring, struck under a hand-glass. See "The Kitchen Garden." *L. Stæchas* is tenderer, and not worth having trouble bestowed upon it; as are likewise *Lavenders latifolia* and *pinnatifida*. They grow wild on the shores of the Mediterranean.

Lemon and Orange Trees—*Citrus*—grow out-doors against a wall in a few favoured spots in Cornwall and

Devonshire. Large Orange-trees, in cubical boxes, sometimes as much as three or four hundred years old, wintered in an orangery, and placed in conspicuous positions in the pleasure-ground during summer, form a striking feature in Continental gardening. They belong exclusively to the grand style of the Art, and demand considerable labour for their removal to and fro, and constant care in pruning and attendance. Those who have seen the Orange-trees in the gardens of the Tuileries and the Luxembourg at Paris will not easily forget their effect. The best French gardening-books should be consulted by those who desire to learn full details of their treatment.

Lilac—*Syringa vulgaris*.—The common species has a pure white variety of less robust habit and growth. The French have raised and cultivate several others, one of which has leaves mottled with white and yellow. *S. Persica*, the Persian Lilac, is a smaller and slenderer shrub, with looser, more drooping heads of flowers, more aromatically perfumed. This also has a white variety; and another, *S. Sanguéana*, is highly esteemed. The Persian Lilac forces well, both as pot-plants and to furnish cut flowers for bouquets. Less known Lilacs are *S. dubia*, a native of China; *S. Josikæ*, discovered in Hungary, in 1828, by the Countess Rosalie Josika. *S. Emodi*, a new Himalayan species, resembles the Persian Lilac, but with more numerous flowers. The Lilacs produce plenty of suckers, and are propagated still more rapidly by layers: the rarer kinds are grafted on the common.

Mezereon.—See *Daphne*.

Myrtle—*Myrtus communis* (of which there are broad-leaved, narrow-leaved, variegated, and double-blossomed varieties)—in point of hardiness is much on an equality with the Camellia, resisting the winters in many parts of Cornwall, Devonshire, and Ireland, with this difference, that, flowering later, it blooms safely and abundantly in the open air. In most parts of England, Myrtles must be kept in the greenhouse during winter. The single flowers produce berries, from which seedlings may be

raised; but the usual mode is to strike cuttings in sandy soil under a bell-glass. Allspice, *M. Pimenta*, is now removed to another genus. *M. microphylla* has pretty foliage, which pleases by its great regularity.

Nerium splendens—Oleander,—a handsome evergreen, with full, rose-pink, single or double flowers: there are flesh-coloured and other varieties. It is even tenderer than the Myrtle, and therefore useless here as an outdoor shrub. Its merits hardly entitle it to the space it would occupy in the greenhouse, and its great tendency to bleed profusely renders pruning an unsatisfactory operation to keep it in shape. Many a gardener has looked upon the death of an awkward overgrown *Nerium* as a happy release, and has forthwith consoled himself for the bereavement by taking into favour some less ungainly beauty. It requires abundance of water, and is propagated either by rooted suckers, or by *slips* pulled off, not *cuttings*, rooted in a bottle of water, or in light soil kept constantly wet. It is abundant in Algeria, along the banks of streams, which it is said to poison, either by exudations from its root or the drip of its leaves.

Oleander.—See *Nerium*.

Passion Flower—*Passiflora cærulea*, the Blue or Common Passion-flower—is the representative of a large genus, which are stove or greenhouse climbers, with the exception of two,—this and *P. edulis*,—which may be left in the open ground during our ordinary winters, with protection, and a covering of litter at root. Their name is derived from a fanciful resemblance which the various parts of inflorescence bear to the symbols and instruments of the Saviour's Passion,—to the glory, the hammer, the nails, the wounds, &c. Passion-flowers rapidly exhaust the soil in which they grow, require plenty of root-room, and consequently are not well adapted for pot-culture; they thrive in light, rich, deep loam, well drained, and yet not too dry. They are propagated by cuttings, layers, suckers, seeds, and by grafting on *P. cærulea*. It is always safer to retain in pots small plants

of the out-door kinds, in case of accident to their elders from severe frost. Some of the half-hardy kinds are worth turning out against a wall the first week in June, a succession for another year being kept up in the same way as with bedding-plants. Several species bear edible fruits, called grenadillas, which, if not of high flavour, afford welcome refreshment in hot climates; here (as those on *P. edulis*) they are simply pretty and curious, hanging along the branches like a series of eggs of increasing dimensions. *P. quadrangularis* bears, at home, fruits as big as Melons, whose pulp is eaten with sugar; in our hothouses, it flowers and gives out its perfume better than it fruits. *P. Brasiliana* produces flowers often at the extremity of its tendrils. *P. maliformis* has yellow fruit as big as apples; while that of *P. laurifolia*, the size of an egg, is in high esteem. *P. palmata*, with violet flowers, blooms well in the open air, although it may not prove perennial there. *P. Neumani* likewise may be made the subject of out-door experiment. *P. incarnata* has deep-blue flowers, and its crown, or rays, are longer than the corolla. If its shoots are frozen in the open ground, it will send forth others, which will flower in the August of the same summer. *P. Loudonii* is a stove-plant, with brilliant crimson flowers, deservedly named in compliment to one of our most industrious and able horticultural writers.

Polygala speciosa, *oppositifolia*, *myrtifolia*, *lanceolata*, *Heisteria*, &c. — Cape shrubs, with butterfly-shaped flowers of various shades of purple, and with a silky tassel at the tip of the keel. Their foliage is neat and regular; they require a mixture of leaf-mould and sandy loam. They will not bear our winters out-doors, which is a great pity; because, in pots, they have a great tendency to become wire-drawn and bare at foot, while the elegance of the flowers renders them desirable to retain either for bouquets or to remain blooming on the plants themselves. Purchase of a nurseryman, rather than be plagued with the slow process of raising tiny cuttings taken from the tips of the shoots, or seeds sown

on a hotbed, or layers. Be careful to water neither too little nor too much: it is far better to give the required moderate, but constant supply, at two or three doings than at one.

Pomegranate—*Granatum, flore pleno*.—The Double-flowered Pomegranate will thrive out-doors, in England, against a wall. It is a favourite plant to be thus trained, as a sort of pilaster, on each side of the entrance-door of a mansion. But the blooms thereon are few and rare, partly perhaps from injudicious pruning: the flowers are produced on the shoots of the year, and therefore care should be taken to leave lateral spurs from which they may start. But the truth is, that, even in France, the Pomegranate is a *tub-plant*, requiring a considerable *length* as well as heat of summer, which is attained by forwarding it in an orangery in spring. So treated, and brought out of doors, with us, about midsummer, it becomes, in the course of years, a magnificent object, adorning the close of summer with its bright-scarlet fleshy flowers. The Pomegranate attains a great age; perhaps equal to that of the Orange-tree and the Olive. Its bark, then, is twisted like a corkscrew, and its aspect venerable, at the same time that it annually blooms and puts forth its small, shining, deciduous leaves. There are yellow and white varieties (both far from common), which may be grafted on the Single Pomegranate. Cuttings strike freely, *in heat*. *P. nana* is a dwarf species, or variety, which comes to us from South America. An intermediate variety, *P. nana racemosa*, double, flowers more freely, and earlier. The Pomegranate does best in a substantial loam, that is at the same time rich and pervious to moisture, and is renewed at no long intervals. During growth, it must have frequent and copious waterings. The bark of the roots, and the roots themselves, are in repute as a medicine against intestinal worms.

Pyrus Japonica—Japan Pear,—which bears scarlet blossoms early in spring, is really a Quince, and is now removed to the genus *Cydonia*; but many real Pears deserve culture as flowering-shrubs and trees. Of some, the

fruit is pretty, and good to eat, as in *P. baccata*, *prunifolia*, and especially *P. Astracanica*. *P. salicifolia*, *Sinaica* (from Mount Sinai), and *salvifolia*—allied species, with woolly, light, and downy elongated leaves—have a pleasing effect. *P. spectabilis*, *coronaria*, and *floribunda*, are exceedingly showy. Propagate by seeds, or by grafting on the Service, the Hawthorn, the Crab, the Wild Pear, or the Quince. The Service-trees and the Mountain Ashes have been removed from the Pears to the genus *Sorbus*. The common Mountain Ash, *S. aucuparia*, i. e. Bird-catching Service (of which there is a weeping variety), is admired for its coral-red berries, as well as for its handsome foliage. The American Mountain Ash, *S. Americana*, is robust and erect, with smaller and darker red fruit than the former. Those who have not the patience to raise them from seed, may graft on the White Thorn. If you sow the berries of the Mountain Ash in the chinks of rocks, years afterwards, when you have forgotten the circumstance, you will find an ornamental object growing on the spot. Some of the Services, again, are referred to the Hawthorns, to which they are very nearly allied. The planters of shrubberies will do well to inspect a complete list of the genus *Pyrus*.

Raspberry (Flowering).—See *Bramble*.

Rhododendron—The Greek for Rose-tree.—Native evergreens of Europe, Asia, and America, whose best-known representative is perhaps *R. Ponticum*, from Asia Minor, and its very numerous varieties. Of late years, the genus has been greatly enlarged by the discoveries of Dr. Hooker in the Sikkim Himalaya mountains, whence he has introduced plants of extraordinary beauty, and from which every year exquisite varieties and hybrids are likely to result. Of these original species, *R. Thompsonii* is one of the handsomest shrubs ever introduced into Europe. In damp and shady situations, it attains a height of six feet or more. Its leaves are broad in proportion to their length, light-green above, and somewhat glaucous beneath. Its large whole-

coloured, bell-shaped flowers grow together in bunches of six or eight, and glow with the most vivid crimson. All the *Rhododendrons* are American plants, in the gardening sense; they have fibrous roots, which are seriously injured or killed by drought, and they must have some sort, or imitation, of heath-mould. Where this is not to be had from a natural source, within a convenient distance, a substitute may be manufactured by thoroughly combining silver-sand with leaf-mould, rotten sawdust, rotten tan, little bits of stick, and the refuse of a wood-stack charred in an oven to kill the insects, light loam, and vegetable refuse in which the seeds and creeping roots of weeds have been deprived of their troublesome vitality. *Rhododendrons* must have a certain amount of shade; and therefore, when not under lofty trees (which is their natural position), they do best with a north or north-east exposure. It is curious that several of the Sikkim species,—for instance, *pendulum* and *Dalhousiæ*, are epiphytes; that is, they grow on the branches of trees, where their roots find support and nourishment by penetrating the moss and loose bark. Nevertheless, they grow well in pots, and in the open ground, in heath-mould, with good drainage at bottom, and a moist atmosphere above. As the hardiness of these novelties is scarcely yet ascertained with accuracy, it will be safer to house valuable specimens in a greenhouse in winter; still there is every reason to hope that they will be found to adapt themselves to the British climate, if proper attention be paid to their peculiar requirements of shade, a peaty soil, and a constant infiltration of moisture. At least they are well worth the risk of experiment. Thus, *R. glaucum*, light purple, grows in the clefts of rocks at an altitude of four thousand feet; *R. lanatum* has large leaves and light-yellow flowers with a bright orange spot and purple speckles within; *R. triflorum* has pale-yellow flowers, growing by threes at the tips of the young shoots; *R. Maddeni* has large white blossoms delicately washed with pink outside; *R. argenteum* is so named because its leaves, dark green above, are silver-

white beneath. The undeveloped flower-buds are protected by membranous scales of a bright pink; the pure white flowers form enormous bunches. These few are sufficient to give an idea of the obligations which gardeners owe to Dr. Hooker. Other and older species are *R. arboreum*, *cinnamomeum*, *roseum*, *maximum* (greatest, rather a misnomer), and *Catawbiense*, with their very numerous offspring obtained from seed, and only to be propagated by extension. *R. Vervæneanum*, a fine variety raised by Monsieur Vervæne, has double flowers, light rosy-lilac speckled with yellow. The centre of each bloom is filled with tufts of stamens transformed into petals. *R. ferrugineum* and *hirsutum* claim our interest as natives of the Alps. *R. Chamæcistus*, from the mountains of the Tyrol, has bright flesh-coloured flowers, is the smallest of the genus, and far from the easiest to cultivate. All are naturally of hardy constitution, and accustomed to severity of weather at home; but they will not stand *all kinds* of winters. These nice peculiarities of atmospheric condition are what constitute the main difficulty in the culture of Alpine plants. At the first glance, it would be taken for granted that plants growing not far from the line of perpetual snow, must be easy to keep alive sheltered on the plain, where they are secure from snowdrifts and gusty winds; but in practice, such is not found to be the case. Rhododendrons are propagated by grafting and layering. The nicest plants are obtained from seed sown in pans of sifted heath-mould, pressed down with the hand, and kept equally and constantly moist till the seedlings have sprouted, which is effected by making the pans stand in other pans filled with water, and covered with a bell-glass or even a flat pane. In their second year, the plants are pricked out; two years afterwards, they are shifted to wider distances, where they remain till strong enough to take their final positions. The Rhododendrons are very nearly allied to the Azaleas, and even hybridize with them. They bear transplantation well, if removed with a good ball of earth and well watered afterwards.

Ribes.—The Latin generic name of the common Currant and Gooseberry bush is now popularly used by gardeners to indicate the species with showy flowers and worthless fruit, mostly from California. *R. sanguineum* is widely spread, as is its variety with double flowers. It likes shade and a moist peaty soil. The Flowering Gooseberry, *R. aureum*, has golden-yellow flowers with bright red anthers. *R. palmatum* has longer flowers than the above. Between this and *R. sanguineum*, a hybrid, *R. Gordonianum*, with sterile nankin-coloured flowers, is supposed to have been originated. *R. malvaceum*, Mallow-leaved, and *R. speciosum* or *fuschioïdes*, Fuschia-flowered, and *R. cereum*, Wax-leaved, *floridum*, *multiflorum*, and *punctatum*, are all equally hardy with the above. The ornamental *Ribes* do not bear indiscreet pruning, especially at bottom: they do much better grown as bushes than as standards, and require to have their wood thinned out rather than shortened. They are increased without difficulty by suckers, layers, and cuttings; more slowly and more uncertainly by seeds. The Flowering Gooseberry likes a drier and more gravelly soil than *R. sanguineum*. When 'grown in pots and greenhouses, the flowers lose much of their fulness of colour, which requires the open air to reach its attainable depth and richness.

Rose—Rosa.—Multitudinous in species, endless in variety. For any one in search of a floricultural fancy or hobby-horse, perhaps no better *protégé* can be recommended than the genus *Rose* to take into favour. For, independent of all historical and poetical associations, and forgetting its sweet inoffensive perfume and its medicinal virtues, the *Rose* affords a subject for rivalry and exhibition, with great diversity of form, colour, habit, and constitution. Although it is easy for those who have few horticultural appliances, to form a fine collection of hardy kinds, others, whose means put them in possession of frames, hothouses, and greenhouses, may extend their lists by tender sorts, equally charming and more rare,—may anticipate the summer's bloom, by forcing; may

rescue autumnal buds, by shelter, from perishing, and may enjoy the luxury of roses all the year round ; not, as with *Ranunculuses* so treated, by a constant repetition of the same thing over and over again, but by bringing forward, in their natural order, a diversity of plants which have a tendency to bloom at different seasons. The sight of a well-kept Rosary in spring, summer, autumn, and winter, will convince you that the above remarks are founded on truth. Supposing that you consult the *Gardener's Chronicle*, and that you run your eye through the advertisements there, you will have met with several pressing invitations to visit, during their season, sundry fine collections of roses, all unrivalled ;—none but themselves can be their parallel ;—all in full bloom, and likely to continue so, till November comes to draggle their petals and scatter their leaves. Reversing the celebrated advice to persons about to marry—"Don't !"—I will take the liberty, when a Rose-hunt is talked of, of urgently insisting—"Do, do !" And do it fairly, without favour or partiality ; go and see *all* the rose-gardens, or as many of them as you can possibly visit. Live on bread and water for a week, and work double tides, rather than fail to pay your court to the Queen of the Bourbons, and The Queen, surrounded by their ladies of honour. It is worth while putting oneself a little out of one's way to inhale the perfumed breath and to gaze upon the blushing though highly-rouged cheeks of Madame Laffay, Madame Desprez, Lady Alice Peel, and the Duchess of Sutherland, and to be interested by the tenderer, paler complexions of the Duchess of Orleans and Mrs. Bosanquet. The Souvenir of Malmaison will make you sigh with an emotion in which pleasure predominates over painful recollections. Then, there are little round-faced pupils, to whom you might wish for an introduction, but who are still in their nursery—they have not yet come out. Some of these, if you treat them well, will supply you with bouquets nearly all the year round. But, leaving their budding innocence in retirement for the present, start as soon as you can in search

of a perfect rose, hoping one of these days to meet with, as we are promised, a Yellow Moss Perpetual; and give no just cause to Paul and Son, Wood and Son, or Lane and Son, or Mitchell, or Clark, or Grier, or Bircham of Hedenham, or others, for whose names there is no room in a brief prose rose-epic, to regard each other with sour and jealous looks, because you have favoured some with your presence and have slighted their competitors. Make a completerhodological tour, as far as lies within your power.

You will find groups or classes of roses, with very distinctive characters, which may be divided into Late-Spring and Summer Roses, and Autumnal and Winter Roses. Of the first, we have the *Provence* or *Cabbage Rose*, which is no other than the *R. centifolia*, or Hundred-leaved Rose, from the number of its *petals*, not its leaves. Of this there are several varieties in point of colour. The *Queen of Provence* is paler and more lilacky than the common sort; the *Scarlet Provence* is merely a carmine-tinted flower. The *Unique* is a white Rose of extreme purity, probably proceeding from the Cabbage Rose by what is called "sporting," i.e. when a sucker or a branch of the original plant changes its character without assignable cause. These "sports" are only perpetuated by budding, grafting, or layering, and even then are far from permanent, showing a constant tendency to revert to the original type. Thus, on the same branch of the *Unique* you will sometimes have a completely red flower by the side of a white one. The *Striped Unique* has the petals exquisitely striped with pink, like those of a delicate tulip. This, too, is not to be depended upon for stability of character. Sometimes a bloom will come half white and half striped, sometimes half red and half striped, and occasionally half white and half red, without any stripes at all; and that perhaps on the very same bush. The *Crested Provence*, sometimes erroneously called the *Crested Moss*, is very beautiful before it is fully expanded. It is in all respects like the Cabbage Rose, except that on the outer divisions of the calyx there grows, not moss, but a kind of stiff irregu-

lar fringe, very artificial yet tasty in its appearance. It looks as if some short, stiff, bright green seaweed had taken root outside the bud. Of course this supplemental ornament is lost to sight when the Rose is fully expanded. The above extremely pleasing varieties warn us how careful we ought to be in rejecting plants growing in old gardens, before we have seen with our own eyes what they actually are. The Crested is said to have been discovered growing from the crevice of a wall in Friburg, Switzerland; and the Unique was found by Mr. Grimwood, then of the Kensington Nursery, in the garden of Mr. Richmond, a baker, living near Needham Market, Suffolk. Mr. Grimwood asked for a branch, but obtained the entire plant, which was willingly given him. It ought to be added, that the following year Mr. Grimwood, to his credit, made Mr. Richmond a present of a handsome silver cup, on which was engraved a figure of the rose. Two exquisite and delicate varieties, the *Bath White Moss* and the *Pompon Moss*, owe their discovery and preservation to persons who knew how to make use of their eyes, and had profitably studied "The Art of Seeing." There can be little doubt that many beautiful unknown flowers are trampled under-foot and destroyed, without an opportunity of displaying their merits, simply because some careless landlord, gardener, or in-coming tenant, happened first to behold them when they were not in bloom, or in leaf.

The Cabbage Rose has produced dwarf varieties; how, or where, we do not know. The *Rose de Meaux* and its still more diminutive sister the *Pompon* (Little Trinket) Rose, are miniatures of the Cabbage Provence, with the advantage that they bloom earlier, and so make elegant pot-plants for forcing. *Spong's Rose* is intermediate in size and stature between the *Rose de Meaux* and the Cabbage, but most resembles the former; it is cupped, with a full pink centre, the outer petals being lighter, and makes a beautiful little standard, budded low. The *Dwarf Burgundy* is another member of the same family, with cupped, deep-red double flowers, but a much less

abundant bloomer than either of the above. The *White Burgundy*, similar except in colour, is less frequently met with. All these Dwarf Roses must have a free rich loam; they have a great tendency to send up young wood annually from the roots, which young wood, principally, but not exclusively, bears the blooms of the following season, while the old wood becomes barren, sticky, and half-dead. Hence it is better to cut out the wood which has once flowered, without waiting for its natural decline, and also to remove the plants every second year, pruning them at the same time on this principle. To be sure, the treatment is a little troublesome; but it is the only way to prevent Pompons and Burgundies from getting rough and shabby. For the same reason, standards of these Lilliputian Roses, though very pretty, are apt to be equally short-lived: they bloom well *once*, and then they go dead, unless they can be made to throw out vigorous young wood from the point where the original bud was inserted.

Of the *Moss Rose* we are ignorant whence it comes; we only know that it is nearly related to the Cabbage Provence, and that everybody admires it. The *Bath White Moss* greatly resembles it, with the exception of colour and a much more delicate habit. It is largely grown for the American market, where it is highly admired; but where it is probably even more short-lived than with us, for we can only keep it going by continually budding it afresh. *Moss Unique* is said to have been obtained from a *Unique* branch producing flowers adorned with moss. The branch was budded from, and the plants so propagated produced flowers retaining (with more or less certainty) their mossy characteristic. The *Blush Moss* is a beautiful rose, somewhat less fragile in constitution than the *White Bath*. The *Crimson Moss* is handsome and vigorous; sometimes called the *Tinwell Moss*, from having been raised at Tinwell, in Rutlandshire. The *Moss Pompon* is a charming little pet, which requires every care to keep it in tolerable vigour. *Zoë*, or *Mossy Partout*, is so called because the leaves even, and the

stalks and stems, are productive of the mossy excrescence. *De La Flèche* is the nearest approach to a *Scarlet Moss*. There are other Moss Roses of the same type, but these are among the best.

Another set of Moss Roses have more semi-double flowers, a more rampant growth, a tendency to flower twice during the summer, and to produce their bloom in numerous clusters. They are likewise well covered with moss, and are more beautiful in the bud than when full-blown. They have hardly a right to the title "Perpetual," although the *Perpetual White Moss* and the *Perpétuelle Mauget* (bright rose and handsome, raised from the *Crimson Perpetual*) figure on the lists. Good mosses of the same character as these, without any pretensions to perpetuity, are *The Luxembourg*, deep crimson, of vigorous growth; *Cælina* or *Selina*, like the preceding, but darker in tint; and *Comtesse de Noé*, bright crimson and purple, of good form and vigorous growth, with handsome dark-green foliage. The moss roses are budded as easily as others; only the spines and moss on the bark in the immediate neighbourhood of the bud, must be rubbed off by gentle *side* strokes, while the cutting from which they are taken is still fresh, and just before the operation is performed. They require a well-drained, deep, rich loam, which, at the same time, is never subject to drought and scalding, with plenty of sun and air. Under such conditions, the robuster varieties will luxuriate vigorously. Mr. Paul describes a pillar of the old Red Moss attaining a height of fifteen feet, and although not well furnished with branches the whole height, some of the shoots of the previous year's growth were above six feet long, and the main stems had swelled to a considerable size. It is true that such gigantic stature is above the average, and is owing to the combined effects of soil, situation, age, and the fostering care of the cultivator; still, quite within the attainment of ordinary gardeners is a collection of Moss Roses, formed into pillars varying in height from six to eight feet. The above-mentioned kinds afford sufficient materials for accomplishing the purpose.

The *Double Yellow Cabbage Rose*, or *Yellow Provence*—*R. sulphurea*—approaches the Provence in name only, and in similarity of form of the expanded blossom, being essentially alien in descent to that and most other roses. When well bloomed it is a horticultural gem, but is so difficult to manage as to make it, in that case, a horticultural triumph. As to situation, I have never seen it blossom well, either in Britain or on the Continent, except when growing at the foot of a low wall, over the top of which it could straggle as it pleased; for it will not submit to pruning. It is one of the roses (among which are included the pretty little climbing *Banksias*, with their white or nankin-coloured tufts of tiny violet-scented flowers) which cannot bear even the smell of cold steel. You might not unreasonably expect them to refuse to flower if you come near them with a knife in your pocket, even if you do not take it out and open it. You may get rid of their dead and used-up wood as well as you can, by breaking it off; but the effluvium of iron agrees not with their constitution. A *south* aspect does not suit the Cabbage Yellow, while plenty of evidence exists to prove that the best chances are had in the above-stated position, or some near approach to it. Mr. Paul tells us:—"At East Lodge, on Enfield Chase, there was a plant on its own roots, growing at a distance of about ten yards from a wall with a north-eastern aspect. It here produced its beautiful yellow blossoms abundantly, covering the bush on all sides, during the flowering season, for several successive years. This situation is high and exposed: the soil is naturally a heavy loam, but was somewhat lightened and enriched by the frequent addition of stable manure. At Ballater, in Scotland, both this and the *Austrian Rose* flower beautifully. They grow there most luxuriantly, in a very exposed situation, covering a wall of great height and extent, laden with perfect flowers." Mr. Rivers tells us:—"At Burleigh, the seat of the Marquis of Exeter, the effect of situation on this rose is forcibly shown. A very old plant is growing against the southern wall of the mansion, in a confined situation, its root cramped by a stone pavement; it is weakly, and never shows a

flower-bud. In the entrance-court is another plant, growing in front of a low parapet-wall, in a good loamy soil and free airy exposure; this is in a state of the greatest luxuriance, and blooms in fine perfection nearly every season. M. Godefroy, a French nurseryman, has cultivated the Yellow Provence as a pillar rose in a free and open situation with much success. Surface manure in autumn, liquid manure in May, and summer pruning with finger and thumb, are indispensable details in his routine." The Yellow Cabbage will not bear the smoke of towns; nor has any good been done with it by budding, as far as has yet come to light. In unfavourable soils, it has been recommended to be budded on the *Musk Rose*, the *Common China Rose*, or on some free-growing *Hybrid China*; or to bud and graft it on short stems of the *Rosa Manettii*, to be afterwards planted in orchard-houses; on all which, the only true commentary is comprised in the words "but" and "perhaps." Possibly we have no congenial stocks on which to bud it, but must ransack the wilds of its native Persia to find them. Its delicate glaucous leaves and slender prickly twigs do not look as if they could find sympathetic support from any of the roses at present dwelling in Europe. In short, no system of culture has hitherto been hit upon which is certain to insure a successful issue. It is not quite clear that its dwarf variety, the *Pompon Yellow*, has ever opened its flowers in England.

The Austrian Briar—R. lutea—takes after the Yellow Cabbage in its dislike to smoke, to pruning with a knife, and to being budded on other stocks. It likes a dry soil, and plenty of liberty for its branches to ramble. As yet, a double Austrian briar is a desideratum, which, enthusiasts tell us only bides its time. There are two varieties; the most striking has large single blossoms, rich copper-colour within and yellow without; the petals of the other are of a bright canary-yellow, both on their upper and under surfaces. *Harrison's Double Yellow Briar* is a valuable Rose, bearing town-smoke a little better than the former, doing well budded on the Dog

Rose, and blooming both freely and early. It is useful to constitute *the* attractive flower in the centre of a pretty bouquet. In pruning, thin out the twigs rather than shorten them: you will thus obtain a sort of weeping Rose. *Harrisonii*, as it is sometimes called, reached the Old World from America. *The Persian Yellow* is also a beautiful semi-double briar, which was highly vaunted on its first introduction. It is questionable, however, whether it will supersede Harrison's. It has scarcely bloomed so freely, nor submitted to the restraints of pruning and the proximity of towns with so good a grace; but still deserves a fair trial and persevering attention on the part of the amateur. Persia has yet other Roses to send us, if some enterprising collector will only fetch them. The large species there called the Nustarund, which grows to a considerable height, throwing out garlands of highly-scented flowers, would be a valuable acquisition to our pleasure-grounds; the Misk-eeja is also a very pretty delicate cream-coloured Rose. From a red kind, highly scented, the best rose-water is distilled.

The *White Rose*—*R. alba*—is the parent of a very distinct little party, recognisable by their grey glaucous leaves, their vigorous shoots, with smooth bark and stout thorns not too closely crowded, and their peculiar perfume. They often make handsome plants in moderate-sized towns, grown on their own roots and trained against a wall, a large surface of which they will cover. The *Old White* is an early and a welcome rose; its semi-double and single varieties are often to be seen in out-of-the-way gardens and shrubberies, as if the plant had stolen away to the wilderness, and had resumed the habits of savage life. Everybody knows and loves the *Maiden's Blush*. *Celestial* is a very beautiful flower when half-opened; afterwards, its charms diminish. Madame Audot is a fine double creamy pink hybrid between the *Alba* and something else. *Princesse Lamballe* is a lovely pure white rose, sometimes delicately tinged with flesh. *The Queen of Denmark* is another

charming hybrid; *La Séduisante* is a fine flower. Hybrids from the White have produced several mottled roses; amongst which are *Madame Campan*, *Effie Deans*, and *Marie de Bourgogne*. The Old White and the Maiden's Blush furnish excellent stocks to bud on.

The French Rose—*R. Gallica*—a highly-scented species, of robust growth and thrifty habit, in any tolerable soil; is largely grown in the environs of Provins, in France, to make conserve; it is thence sometimes called the *Rose de Provins*, which has caused a confusion with Provence roses. A well-known type is the medical rose, grown for the apothecaries to dry and make decoction of roses with, and for the preparation of rose-water by distillers. Another wide-spread variety is the coarse, semi-double, striped rose, which ought to be called *Rosamond*, or *Rosa mundi*, the *World's Rose*, though it is often wrongly styled the *York and Lancaster*. French roses will often succeed in towns. From them have been raised several beautiful striped and spotted varieties; as the *Village Maid*, *Carnation*, *Abbesse*, *Duc d'Orléans Ponctué*, *Harlequin*, and others. The spots are less to be depended on than the stripes. Many of the French roses are admirable as exhibition flowers; take as instances, *Enchantress*, light pink; *D'Aguesseau*, bright crimson, very large and full; *Boula de Nanteuil*, dark crimson; *Kean*, crimson-scarlet shading into purple; *Grandissima*, rosy crimson; *Briseis*, brilliant rose; *Comte Lacépède*, rosy lilac; *Guerin's Gift*, vivid rose; *Madame Dubarry*, crimson-scarlet; *Œillet Flamand*, distinctly striped with pink and rosy lilac; *Pamela*, large, rose, and very double; *Tricolor*, striped crimson and purple, of which there are several successive improvements; *Tuscany*, dark velvety-crimson; and scores of others. The petals of the French roses are the best for making *pot-pourri*. In pruning, thin out the heads well, and shorten the shoots moderately. The nurserymen's catalogues of French roses are immense; but, as Mr. Rivers observes, "it is perfectly useless, in the present advanced state of rose-culture, to burden these

pages with a long list of varieties which are, or ought to be, obsolete. Autumnal roses must very shortly entirely supersede all the summer roses, with the exception of a few select varieties of the Moss Rose;" and, let me add, the Yellows, the Whites, and the Scotch.

Damask Roses—*R. Damascena*—are of rough, twiggy, thorny habit, with light green, somewhat downy leaves, and hardy constitution. A good example is the true *York and Lancaster*, a double, flattish, striped rose, which occasionally produces blooms wholly white on one half of their area, and wholly red on the other, thus symbolizing the union of the Houses after the bloody wars of the White and Red Roses. They are fragrant flowers, but the bushes on their own roots are of irregular, scrubby, and inelegant growth. Budded as standards, they may be treated in the same way as the French Roses. Show Damasks which deserve mention, are *Madame Hardy*, pure white, but with a green eye too conspicuous; *Semiramis*, fawn in the centre, shaded with glossy pink; *La Féroce*, or *Ferox*, very large, full, pink flowers, with an extra allowance of thorns on the branches; *La Constance*, or *Pæony-flowered*, very large, flattish, full, pink, darker in the centre, makes a showy standard; *La Ville de Bruxelles*, pink, very large and double; *La Chérie*, delicate blush, cupped, very double; *Madame Zoutman*, delicate cream-colour; and *Pulcherie*, pure white. Do not prune these in too closely; let them run on, to form large heads, unless they are getting shabby and naked near the original bud.

Scotch Roses—*R. spinosissima*—have small leaflets, small twiggy branches thickly set with small spines, producing undersized, globular, double, and semi-double flowers, sweetly scented, and blooming before summer roses in general. They have a great tendency to throw up suckers, which blossom profusely the following summer; hence, some growers cut out the old wood annually, almost as strictly and completely as they would do with raspberry-canes. All the Scotch roses resemble each other very much in their habit of growth; they are less

easy than other members of the same genus to distinguish, when leafless in winter, by the aspect of the wood. A collection of the different varieties makes, therefore, a nice even hedge of roses, which only requires looking over once or twice a year to keep it compact and in order. Budded as standards, they make pleasing heads when full in bloom, but require considerable patience to prune, which must be done by thinning out rather than by cutting back. The blooms are better adapted for outdoor enjoyment, and for bouquets, than for exhibition. A few distinct varieties are *The Queen of May*, blush; *True Yellow*, a hybrid, sulphur-coloured fading to white; *The King of Scotland*, petals purplish red within, light without; *Venus*, dark and double; *William IV.*, large white; *Sulphurea*, straw-coloured; *Guy Mannering*, double blush; *La Neige*, white and double; and *Daphne*, pink. The *Stanwell Perpetual* is a true Scotch rose, very light blush fading to white, sweetly scented, and the only one worth notice belonging to its group which is really what the French call a *rose remontante*, or ever-flowering rose. It begins as early as any of its brethren; and the frosts are sure to destroy advancing buds, which would open in their turn, "weather permitting." It would be worth trying the *Stanwell* in plunged pots, to be transferred to the greenhouse at the approach of winter.

The wild *Sweet Briar*—*R. rubiginosa*—has been introduced to our pleasure-grounds for the exquisite fragrance of its leaves; the flowers are scarcely more highly scented or prettier than those of the common Dog Rose, *R. canina*, and in all cases where its blossoms have been improved by intentional or accidental hybridizing, or by the sporting either of germinating seedlings or suckers from old-established plants, the improvement has been obtained at a sacrifice of some good quality in the foliage; such as diminished vigour and suppressed perfume. Those who like, may try the *Carmine Sweet Briar*, the *Monstrous*, the *Scarlet* or *La Belle Distinguée*, and the *Splendid*; but for the purpose for which Sweet Briars are grown, there is nothing to equal the Sweet Briar of the hedge.

The above-mentioned (and there are none better) are quite worthless as exhibition, and nearly so as bouquet flowers. Hybrids from the Sweet Briars, whose flowers have any pretensions *as roses*, have their leaves nearly or quite scentless, and would not be suspected to come of odoriferous parentage. The *Double Marginated Hip* (there is a single one) has an abundance of small, tolerably double, creamy-white flowers edged with pink. *Riego*, light carmine, large and double, has all the air of a Hybrid China. Mr. Rivers advises to re-cross this with the Splendid Briar, in the laudable endeavour to produce seed from which large and very fragrant double roses might be obtained, partaking largely of the characters of the true Sweet Briar in other respects. It is only by these repeated attempts and approximations to a given model that floricultural perfection can be attained. On gazing at a lovely flower, or tasting an exquisite fruit, few persons dream of the patient years and skilful combinations it has cost. The wild Sweet Briar is not to be recommended as a stock to bud on.

Hybrid Roses, from and between the Provence, the French, the Damask, the Bourbon, the China, the Noisette, and others, have hitherto furnished the staple materials of our Horticultural Shows and our professed Rosaries. The climate of the Continent is better adapted than our own for the fertilization and ripening of hips; and from thence the majority of new roses come; but still, those processes are not only possible, but many fine varieties have originated here. One curious fact thus demonstrated is, that in crosses between summer and ever-flowering or autumnal roses, the progeny is almost always a summer rose only, losing its power of continuing in bloom during autumn. To obtain a hybrid perpetual rose, you must cross between *two* perpetual parents. Professed and long-experienced raisers of new varieties from seed have discovered other very curious facts and practical rules. Mr. Rivers instructs us that "when it is desirable the qualities of a favourite rose should preponderate, the petals of the flower to be

fertilized must be opened gently with the fingers; a flower that will expand in the morning should be opened the afternoon or evening previous, and the anthers all removed with a pair of pointed scissors; the following morning, when this flower is fully expanded, it must be fertilized with a flower of some variety of which it is desired to have seedlings, partaking largely of its qualities. To exemplify this, we will suppose that a climbing Moss Rose with red or crimson flowers is wished for: the flowers of the Blush Ayrshire, which bears seed abundantly, may be selected, and, before expansion, the anthers removed; the following morning, or as soon after the operation as these flowers open, they should be fertilized with those of the Luxembourg Moss; if the operation succeed, seed will be procured from which the probability is, that a climbing rose will be produced, with the habit and the flower of the Moss Rose, or at least an approximation to them; and as these hybrids often bear seed freely, by repeating the process with them the at present apparently remote chance of getting a climbing Moss Rose may be brought very near. It requires some watchfulness to open the petals of the expanding flower at the proper time: if too soon, the petals will be injured in forcing them open; and in hot weather in July, if delayed only an hour or two, the anthers will be found to have shed their pollen. To ascertain precisely when the pollen is in a fit state for transmission, a few of the anthers should be gently pressed with the finger and thumb; if the yellow dust adheres to them, the operation may be performed; it requires close examination and some practice to know when the flower to be operated upon is in a fit state to receive the pollen; as a general rule, the flowers ought to be in the same state of expansion, or, in other words, about the same age. It is only in cases where it is wished for the qualities of a particular rose to predominate that the removal of the anthers of the rose to be fertilized is necessary. Thus, if a yellow climbing rose is desired by the union of the Yellow Briar with the Ayrshire, *every* anther should be removed from

the latter, so that it is fertilized solely with the pollen of the former. In some cases, where it is desirable to have the qualities of both parents in an equal degree, the removal of the anthers need not take place; thus, I have found by removing them from the Luxembourg Moss, and fertilizing that rose with a dark variety of *Rosa Gallica*, that the features of the Moss Rose are totally lost in its offspring, and they become nearly pure varieties of *Rosa Gallica*; but if the anthers of the Moss Rose are left untouched, and it is fertilized with *Rosa Gallica*, interesting hybrids are the result, more or less mossy." By working out the foregoing hints, every intelligent rose amateur may aspire to the honour of raising some long-wished-for flower.

But many handsome hybrid roses have been the result of accident; for instance, Rivers's George the Fourth, an English flower, very dark and velvety, raised from seed more than thirty years ago. The original plant is still living. Not to enter further into pedigrees, first-rate Hybrid Roses are *Brennus* or *Brutus*, very large and double, uniformly tinted with bright crimson; makes an admirable pillar, and is so vigorous as to form a tree if budded on a tall stout stock; *Brown's Superb Blush*, very large and double, dark-crimson centre, with the outer petals blush, apt to fail by monstrosity in shape; *Fanny Parissot*, answers to the above description, but is more to be depended on; *Chénédolé* brilliant red, large, double, very vigorous growth; *Blairii*, No. 2, very large, blush, a free grower, with handsome foliage; *Beauty of Billiard*, middle-sized, of compact form, colour like a burning coal, one of the most vivid roses existing, it actually shines as if it were on fire; *Duke of Devonshire*, rosy lilac, striped with white, well-shaped, imbricated; *Hebe's Cup*, or simple *Hebe*, full pink, large, cupped, a captivating flower in point of form and colour, but deficient in perfume,—a highly-scented perpetual Hebe would be a great acquisition; *Lamarque*, velvety crimson-purple, one of the darkest roses, should be shaded in hot sunshine; *New Globe Hip*, white, at first tinged with the

palest yellow, cupped; *L'Ingénue*, creamy white, imbricated, ranunculus-shaped, the *first* flowers apt to come defective or monstrous; *Triomphe d'Angers*, bright carmine, large, cupped, of weak and rampant growth, adapted for a weeping standard; *Pompone bicolor*, small, very double, rich velvety crimson, apt to have an ugly green eye in the centre, vigorous growth; *Tourterelle*, bluish dove-colour, on the outer petals fading to slaty grey; *Mordaunt Delaunay*, pruned long or scarcely at all, produces garlands and bouquets of small blush roses fading to white, of very pleasing effect. The above may be depended on as excellent varieties.

Of *Climbing Roses*, useful for pillars, temples, verandahs, and running over the front of a cottage, there are several groups. The *Boursault Roses*, *R. Alpina*, the *Alpine* or *Thornless* Roses, are very distinct. They are perfectly hardy, of exuberant growth if well fed, and afford a good foundation on which to bud other varieties, either as standards or trained against a wall. The *Crimson Boursault*, or *Anadis*, has an abundance and a long succession of semi-double effective flowers, and makes a gay covering for an arbour or a rustic arch. The *Blush Boursault*, or *Calypso*, or *De l'Isle*, or *Florida*, or the *White Boursault*, is still more rampant. Its *perfect* bloom is extremely beautiful, very double, of delicate texture, deep blush in the centre, shaded to white outside; but the majority of flowers produced are imperfect and misshapen, as if some one had burst by a kick of the foot a cambric handkerchief rolled tight into a ball. These are the two leading types; other Boursaults are *Drummond's Thornless*, *Elegans*, *Gracilis* and *Inermis*, all of them different shades of rosy crimson and cherry-colour. As standards, they make enormous heads, which become pendent and weeping if allowed to run on.

The *Ayrshire Roses*—*R. arvensis*—are nearly as vigorous as the preceding, quite as hardy, and will serve the same purpose. They are mostly shades of blush and white. *Rosa Ruga*, or the *Double Ayrshire*, the *Queen of the Belgians*, the *Dundee Rambler*, and *Splendens*, are the best of these, and very elegant they are in their peculiar style.

The *Evergreen Roses*—*R. sempervirens*—are named according to what we wish them to be, rather than to what they are. They have smooth, shining, handsome foliage, which looks as if it *ought* to be as evergreen as a laurel-leaf; and the habit of their growth gives you the idea that they certainly *might* flower all the autumn through. But they don't. The best of them is *Félicité Perpétuelle*, an elegant climber, with clusters of small, very double, pinky white blossoms. *Donna Maria* is very pure white, as if the petals were made of rice-paper, with graceful foliage, but more tender than the above. Grown as weeping standards, they should be suffered to make a cataract of drooping branches, without restraint. *Adélaïde d'Orléans* is not very, if at all, distinct from *Félicité*. *Brunonii* has the merit of being rosy-crimson. Beware how you prune any of the above. They may be made to climb up trees, like honeysuckle.

Of the *Prairie*, or *Bramble-leaved Rose*,—*R. rubifolia*,—from North America, the best perhaps is the *Queen of the Prairies*; but florists apologize for them, by stating that "the group is in its infancy."

The *Banksian Roses*,—*R. Banksiæ*,—from China, white and yellow varieties, are half-hardy climbers which must have plenty of space to ramble over, and a sheltered situation. If kept in bounds with the knife, they will only make the more wood, and *won't* flower. Dead wood and irregular shoots must be rectified with finger and thumb. In all the *Banksias*, the blossoms are very small, in clusters, and very fragrant. Were they hardy, they might be budded on the tallest procurable stocks, to make trees of the magnitude of Weeping Ashes. For instance, at Toulon, there is a White *Banksiæ* which, in 1842, covered a wall 75 feet broad and 18 feet high; when in full flower, from April to May, there were not less than from 50,000 to 60,000 flowers on it. At Caserta, near Naples, there is another plant of the same variety, which has climbed to the top of a poplar-tree sixty feet high. And at Goodrent, near Reading, there is a Yellow *Banksiæ* which, in 1847, produced above two thousand trusses of

flowers, with from six to nine expanded Roses on each truss.

The *Many-flowered Roses*,—*R. multiflora*,—from Japan and China, are very pleasing climbers, with numerous clusters of small flowers, of shades often changing and fading in the same cluster, from full pink to white. Unfortunately their hardihood is not to be depended on, and they can only be trusted as conservatory plants here, or to be budded and grown as standards in large pots. Beautiful varieties are *Grevillei* or the *Seven Sisters*, *Laure Devoust*, *Rubra*, *Elegans*, and *Alba*, which will make a grateful return for whatever protection it may be thought fit to bestow upon them.

Of *Fortune's Yellow*, the high-spirited traveller himself complains:—"In the first volume of the *Journal of the Horticultural Society*, I noticed the discovery and introduction of a very beautiful yellow or salmon-coloured rose. I had been much struck with the effects produced by it in the gardens of Northern China, where it was greatly prized, and I had no doubt that it would succeed equally well in this country. But from some cause—probably ignorance as to its habits, or the treatment required—my favourite Wang-Jan-Ve, as the Chinese call it, was cried down. It had been planted in situations where it was either starved or burnt up; and in return for such unkind treatment, the pretty exotic obstinately refused to produce any but poor miserable flowers. Then the learned in such matters pronounced it quite unworthy of a place in our gardens amongst English roses; and I believe, in many instances, it was either allowed to die, or was dug up and thrown away. Five or six years had elapsed since the introduction of this fine climber, and it had never been seen in its proper garb. But the results in two places proved it to be a rose nearly as rampant as the old Ayrshire, quite hardy, and covered from the middle of May with hundreds of large loose flowers, of every shade between a rich reddish-buff and a full copper-pink. The old standard plants in the open ground were one mass of

bloom, the heads of each being more than four feet through. The successful cultivators would inform you that no great amount of skill was necessary in order to bring the rose into this state. It is perfectly hardy, scrambling over old walls; but it requires a rich soil, and plenty of room to grow. The Chinese say that night-soil is one of the best manures to give it. Only fancy a wall completely covered with many hundred flowers, of various hues,—yellowish, salmon, and bronze-like, and then say what rose we have in the gardens of this country so striking; and how great would have been the pity if an introduction of this kind had been lost, through the blighting influence of such ignorance and prejudice as have been shown by the person to whose care it was first intrusted." It would thus appear that even roses, at the commencement of a promising career, are subject to the ill-will of envious enemies, who try to put them down, and to keep them in the background.

Useful, hardy, and vigorous *Hybrid Climbing Roses*, of unknown or uncertain origin, are *Madame d'Arblay*, or *Wells's White*, raised by Mr. Wells, of Redleaf, Tonbridge Wells, a blush rose, which attains a gigantic growth in strong soils; *the Garland*, changing from pink to white after expansion, also raised by Mr. Wells; and *Sir John Sebright*, raised by Mr. Rivers from Italian seed, which produces an abundance of very fragrant flowers in large clusters, of a light vivid crimson, nearly double. The brilliant hue of the blooms of the last is rare and valuable amongst Climbing Roses, as their prevailing hues are white and pale pink. To the above may be added *Astrolabe*, with very double, compact, bright-rose flowers, and Watts's Climbing Provence, really a good flower, double, opening well, full pink with the slightest tinge of purple, and richly and somewhat peculiarly scented.

There are several very distinct species of exquisite Roses, from insular and continental Asia, which merit all attention as conservatory climbers, on trellises in

large pots, or against a south wall, according to their degree of robustness ; but they are none of them suited for wintering in the open garden.

The White *Chinese Anemone-flowered Rose* (all that is simple and pure in bloom, and neat in foliage), is not sufficiently known to be appreciated. *R. microphylla*, or the *small-leaved Rose*, "a decided curiosity," according to Mr. Paul, bears most voluptuous rosy flowers amidst delicate foliage ; yet it is, like the cuckoo-bird, seldom seen, though often heard of. "The leaves are composed of numerous small leaflets, sometimes as many as fifteen ranging on the sides of the petiole ; the branches are of a whitish brown, the outer bark often peeling off in autumn. They are almost destitute of prickles ; but the broad sepals of the calyx are densely covered with them, owing to which the flower-buds are as rough as a hedgehog. The *Microphylla* appears to delight in a warm sandy soil ; it is [more than] rather tender, and requires a wall to insure the production of its flowers in full beauty. It requires very little pruning. No varieties have yet been raised to surpass the original."

The original single *Rosa bracteata* was brought from China by Lord Macartney, on his return from his embassy, and was, in consequence, named the *Macartney Rose* ; this, though single, is showy, and very desirable for its apricot-like perfume, its ivory petals, its late period of flowering, and its singular, shining, evergreen foliage. It is somewhat hardier than the preceding Asiatic Roses, but still should be indulged with a trellis against a south wall. *Maria Leonida* corresponds to the above with considerable exactness, except that its creamy-white flowers are double. In fact, it is the Double Macartney : others have been raised, but they are not to be warmly recommended. Apropos of the Macartney, Mr. Rivers says, "I think it not too much to anticipate that, ultimately, we shall not be satisfied unless *all* our roses, even the Moss Roses, have evergreen foliage, brilliant and fragrant flowers, and the

habit of blooming from June to November. This seems to be an extravagant anticipation; but perseverance in gardening will yet achieve wonders." The first Double Macartney raised from seed is totally worthless, its flowers constantly dropping off without opening; while Maria Leonida is now an established favourite. *R. berberifolia Hardii* is a most interesting rose, raised from seed by M. Hardy, of the Luxembourg Gardens, from *R. involucrata*, a variety of *R. bracteata*, fertilized with that unique rose, *R. berberifolia*, or the Single Yellow Persian Rose. This curious hybrid, like its Persian parent, has single bright-yellow flowers with a dark eye, a deep-chocolate spot at the bottom of each petal, much like *Cistus formosus*, and evergreen foliage. It is not quite hardy. It will probably be the parent of an entirely new group; and what can be imagined more interesting in roses than varieties with double yellow flowers and evergreen leaves?

Autumnal and *Winter* Roses may be divided into two grand battalions,—the perfectly hardy and hard-wooded kinds, of stiff and moderate growth; and the free-growing, softer-wooded sorts, tenderer in various degrees, according to constitution, comprising the *Noisettes*, the *Bourbons*, the *Chinese*, the *Tea-scented*, and the *Fairy* or *Laurencean* *Roses*.

Of the former, the Scotch Stanwell Perpetual has been mentioned. A first-rate flower is *The Crimson Perpetual*, or *Rose du Roi*, or *Lee's Crimson Perpetual*, perfect in form, full pink, finely scented. It requires cutting back freely every year, and highly-manured soil, as do all the autumnals. The reputed parent of this great beauty is the *Portland*, or *Pastan*, or *Four Seasons Rose*, a bright semi-double fragrant flower, which deserves cultivation, as it will put forth welcome blooms in November. *Hybrid Perpetuals* are more in-number than excellence; to open well, they must not be too double, and the petals must have a peculiar texture; otherwise they are glued together by the dews and rain; and the blooms, instead of expanding, fall off in the shape of a mouldy ball. This is

the great fault of *The Queen* (a fine flower) in the climate of England. *Madame Laffay* and *Prince Albert*, both crimson, are good. *Julie de Krudner* and *La Favorite* are delicate pink, fragrant, and pretty. *Celina Dubos*, nearly white, deserves favour, as a sporting branch from the Crimson Perpetual. The *Géant des Batailles*, deep bright crimson; *Comte Bobrinsky*, vivid scarlet; *Gloire de Rosomanes*, velvety crimson-scarlet; *Comte de Montalivet*, violet and red; *Sir John Franklin*, *Gloire de la France*, *Baronne Hallez*, *Alexandrine Bachmeteff*, *Paul Duprez*, *Triomphe de Paris*, and *General Castellane*, all rich crimson; *Jules Margottin* and *Lady Alice Peel*, cherry-colour, are all admirable.

The *Bourbon Roses*, derived from the original bright pink, semi-double *Ile de Bourbon*, are very persevering bloomers, with handsome foliage, of free growth mostly. The following will give satisfaction:—*Madame Desprez*, double, pink, globular, in clusters, with very vigorous growth, and of great hardihood,—a most useful rose, either for a standard, a wall, or a pillar; *Souvenir de Malmaison*, a magnificent flesh-coloured vigorous rose; *The Queen of the Bourbons*, delicate pinky buff, double, and very fragrant; *Paul Joseph*, rich dark crimson, a remarkable flower, of moderate growth, thriving best as a dwarf; *Acidalie*, white; *Menoux*, carmine; *Dupetit Thours* and *La Quintinie*, dark crimson.

The *Noisette Roses*, whose original, the *Blush*, was raised from American seed, are named after the French nurseryman to whom they owe their introduction. The *Blush* met at first with undue favour; in this country it opens badly in damp weather, and is injured by severe winters, as are most of its progeny. They are free growers, bloom abundantly and late, but are mostly deficient in odour. Good varieties are:—*Aimée Vibert*, pure white, with glossy light-green foliage; *Fellenberg*, semi-double, bright cherry; *Jaune Desprez*, fawn-coloured or salmon-pink, very rampant in growth, should have its spring shoots stopped when about two feet long, very fragrant, rather tender, safest against a wall; *La Biche*,

large and white; *Lamarque*, pale straw-colour; *Cloth of Gold*, or *Chromatella*, creamy white with yellow centre; *Sir Walter Scott*, rosy lilac; *Solfaterre*, creamy white, with a bright sulphur centre; besides others, as *Octavie*, *Ophirie*, *Cerise*, and *Vicomtesse d'Avesne*. Many of the latest-flowering Noisettes are loose in their blooms, which is a merit in them, as they open with less difficulty. Inexperienced gardeners are apt to prune their Noisettes, and other vigorous-growing roses, too freely; if cut back too severely, they will produce foliage instead of flowers, year after year. Instances of the effects of such ill-treatment may be seen in the suburban villas that surround large cities, where people get ignorant jobbing gardeners to prune their roses by the year, the result being a collection of verdant standards with flowers to be hoped for when the good time comes.

Those invaluable roses the *Common Pink China*, or *Monthly Rose*, *R. Indica*, and the *Crimson China*, *R. semperflorens*, whose flowers grace the cottage-garden nearly all the year round, have given birth to numerous beautiful offspring, which are more adapted for pot-plants, or for bedding, than as standards. Many of them, though hardy at root, are cut down to the ground by severe frost, or if not so cut down, require close pruning. Against a wall they will often cover a considerable area. *Alba*, white, double; *Cramoisie Eblouissante*, vivid crimson; *Fabrier*, crimson scarlet; *Belle Emelie*, blush; *Madame Bréon*, rich rose; *Mrs. Bosanquet*, blush; *Eugène Beauharnais*, rosy purple; *Clara Sylvain* and *Madame Bureau*, white; *Carmin Superbe*, or *d'Yebles*, raised by M. Desprez, deep carmine; and *Prince Charles*, brilliant crimson, will constitute a good and select collection.

The *Blush* was the first *Tea-scented China Rose*—*R. Indica odorata*—introduced to this country, followed by the *Yellow China*. They are good; and we now have others of great excellence. All are more fitted for pots and greenhouses than for out-door culture; they are grateful for light rich soil, good drainage, warmth accompanied by moisture, an atmosphere not liable to extremes

of temperature, and bold yet judicious pruning. When they can be grown outdoors in a south border, there is a perceptible heightening of their tints and perfume. Choice varieties are *Devoniensis*, creamy white, raised by Mr. Foster, of Plymouth; *Safrano*, pale yellowish buff; *Souvenir d'un Ami*, rosy salmon; *Adam*, ditto, very superb; *Goubault*, bright pink, very sweet; *Bougère*, deep salmon, a good pot-rose, forces well; *Vicomtesse de Cazes*, bright orange-yellow, very beautiful; *Moiret*, yellowish fawn; *Elise Sauvage*, pale yellow; *Josephine Malton*, rich cream-colour; and *La Renommée*, white, with a pale-lemon centre. These are the roses to cultivate in frames and greenhouses, for late-autumn, winter, and early spring. Some (as *Barbot*, cream, suffused with rose and salmon; *Princesse Marie*, rosy pink; *Reine des Belges*, *Princesse Hélène*, and others) force well, although uncertain (that is, certain to fail) out of doors. They give a little trouble to grow them well; but then, how lovely and exquisite they are!

The *Fairy* or *Miniature Roses* are the Pompons of the China group. They may be made to serve as an edging, in favourable spots; in that case, cut them back to within two inches of the ground every spring. In pots they must be cut back freely; quite to the ground every other year, and shifted. The young wood will make handsome little bushes, and bear abundant bloom in long succession. The *Blush*, or *Fairy*, is the most generally cultivated; *Alba*, *Blanc*, or the *White Fairy*, is still smaller, but delicate; *La Désirée* is crimson; *Pompon Bijou*, pale pink; *Gloire des Laurenceanas* is dark crimson, and contrasts well with the above.

All roses, to do themselves justice, must have a rich soil; many are even gross feeders. The hardier and robuster kinds do well in deep alluvial loams, and will not object to heavy clayey land if well manured, and not too wet and cold. The Chinas, and many of the Hybrids, when on their own roots, must have a lighter, warmer, better-drained soil, with a considerable proportion of sand and rotten animal and vegetable remains. In theory, all

roses may be propagated by cuttings; in practice, non-professional gardeners find certain kinds, such as the Mosses, the Provence, and the Cabbage Yellow, of a difficulty which approaches the impossible. Many Hybrids, the Bourbons, the Chinas, the Noisettes, and others, strike readily, especially if assisted by a hand-light and bottom-heat. Species, like the Cabbage Yellow, which will neither bud nor strike well, must be increased by layers, the shoot being "tongued." The grafting of roses is mostly practised by market-gardeners, for forcing for sale. Immediately the stocks are taken from the hedges in January or February, they may be grafted and potted in the forcing-house, or in a gentle hotbed in a common frame. But by far the most prevalent mode of propagation is by budding on the *Rosa Canina*, or common Dog Rose, which is much the best for general purposes. Others, as the *Rosa Manettii* (a rampant variety raised in Italy), the *Boursaults*, the *R. alba*, and the *Common China*, have been recommended for special purposes by high authority; in which advice the writer takes the liberty of cautioning the reader not to place too much confidence. The robust "Red, Red Rose" of Scotland, which grows so vigorously in the valleys of the Grampians, merits a fair and extensive trial as a stock whereon to bud vigorous varieties. Wild rose stocks are now an article of commerce. By giving an order to proper persons, you may obtain a supply to any reasonable amount. The nearer home they are found, and the sooner they are replanted in your nursery the better. November is the month of months for the purpose. Let them be clean-stemmed, well-rooted, and taken from an exposed situation. Remove all straggling roots and whatever is likely to sprout into suckers. Plant them at exactly the same depth as you observe them to have grown in their native site. Fasten each individual stock either to a stake of its own, or to a long horizontal twig supported at each end by two upright posts. In spring, watch the swelling buds that show themselves the whole way up the stem. When they are about a quarter of an

inch long, cut off all but two, which will be allowed to grow, to be budded, at the height required, selecting strong healthy buds, as near to and as opposite to each other as possible. Into these the whole vigour of the briar will be directed.

Budding may be performed from June to September. Suppose that in July, after a thunderstorm, you receive a twig of a matchless rose. Take it in your left hand; look out for a plump, healthy, dormant bud; cut off the leaf, leaving half an inch of the footstalk; insert your knife a quarter or a third of an inch above the bud; cut downwards, and bring it out a quarter of an inch below; remove with your thumb-nail the woody portion, leaving a small shield of bark with a bud in the centre. This is the bud you want to make grow on your briar. To keep it moist, while you are preparing its new resting-place, you may drop it, if you like, into a glass of water; a snugger and more convenient receptacle is at hand—your mouth. Mr. Rivers says:—"The operation of budding is difficult to describe. A longitudinal cut, not so deep as to cut into the wood, but merely through the bark, should be made in the clear part of the shoot; thus, , making the diagonal cut at the top of the incision. I differ from most of those who have given directions for budding, as they make the incision thus, ; my practice has arisen from the frequent inconvenience sustained by shoots, from standard stocks being broken off by the wind when the cut is made at right angles: with the diagonal incision an accident rarely happens." Any suggestion from Mr. Rivers demands respectful attention; it is therefore mentioned here, before proceeding with *our own* instructions.

On the branch to be budded, make two slits in the bark like the two straight lines which form the letter T. The perpendicular stroke will run along the branch, and terminate where it springs from the main stem; it must be a little longer than the bud you intend to insert. The horizontal stroke will be formed by a cut across the branch, and must be a little wider than the bud you want

to put in. You must just cut through the bark, without dividing the wood beneath. Cut those slits with a pen-knife on a piece of paper, or on any fresh twig whose bark peels readily, and you will instantly see what their object is. With the handle of your budding-knife, gently push or lift the bark on each side of the perpendicular slit, or stem of the T, so as to cause it to rise. Or, you may do it with your thumb-nails. As fingers were made before knives and forks, so thumb-nails were invented before ivory-handled budding-knives. Do nothing that can injure or irritate the interior of the wound. If you poke inside it for half an hour, and plough up the skin, you will injure its delicate organization, and in nine cases out of ten you may whistle for your bud. Instead of that, the bark once raised, take the bud out of your mouth, and slip it in gently till it reaches its place. Be as quick as if you wished to spare your patient's sufferings. It is really a surgical operation. The bud once settled between the divided bark, bind up the wound with a ligature of softest lamb's wool. Mr. Rivers advises cotton twist, such as the tallow-chandlers use for the wicks of candles; the finest quality is best. This is certainly far preferable to the bast matting commonly used; but, with deference to that gentleman, not to lamb's wool, which is more elastic than cotton twist. If you have not been clumsy, the bud will grow; and then you must unbind it, and let nothing else grow on the briar either at top or bottom. At the end of two or three summers you will have a handsome-headed rose-tree, from which you may gather basketfuls of bouquets, if you prune it properly,—which sometimes consists in abstaining from pruning it. For more about the Rose, see "Paul's Rose Garden," and Rivers's "Rose Amateur's Guide." Distilled rose-water is an excellent wash when the eyes, not the eyelids, are inflamed by cold winds and dust.

Syringa—Mock orange, *Philadelphus coronarius*.—A bush, with deciduous leaves white strong-scented flowers, mostly propagated by suckers.

Tecoma radicans—Trumpet-flower, a vigorous creeper, with bunches of long cinnabar-red flowers. Must have a south aspect, is best propagated by cuttings from the root.

Virgin's Bower—*Clematis montana*, *Viticella*, and its varieties, are hardy climbers, pretty when trained over lattice-work, and grow easily from cuttings.

Wallflower—*Cheiranthus Cheiri*.—The single varieties, which are the most odoriferous, are raised from seed. There are yellow, brown, and purple Double Wallflowers, propagated by cuttings; severe frost kills them. To make sure, choice large-flowered single kinds may also be increased by cuttings. Keep a reserve of cuttings in pots every winter.

Weigela Rosea—A charming, perfectly hardy, wide-spreading shrub, from China, covered in spring with gay pink flowers. A great acquisition. Mostly propagated by layers.

Winter Flower.—*Chimonanthus fragrans*, from Japan, whose sweet-scented flowers appear before the leaves.

Wistaria—Purple Laburnum.—Half-hardy trailing shrubs, requiring the support of a wall, producing in spring drooping racemes of light-purple or lilac sweet-scented flowers. In light rich soil, sometimes flowers twice a year.

Yucca—Adam's Needle.—In appearance, something between dwarf Palm-trees and Aloes, with evergreen leaves, and white flowers borne in enormous numbers on tall flower-stems. *T. gloriosa*, *filamentosa*, and *draconis*, are hardy in England. Propagate by seed and by rooted sucker-sprouts.

ANNUAL FLOWERS.

These, with biennials, and bedding-plants, constitute a legion of auxiliaries, which help to keep the garden gay. There is no room here except to mention the names of *Amaranth*, *Aster*, *Balsam*, *Convolvulus*, *Coreopsis*, *Clarkia*, *Cuphæa*, *Gillia*, *Hawkweed*, *Heliotrope*, *Hibiscus Trio-*

num, Hound's-tongue, Honesty, Jacobæa, Lupine, Love-in-a-Mist, Larkspur, Love-lies-bleeding, Marigold, Marvel of Peru, Mallow, Mignonnette, Nemophila, Nolana, Pea, Petunia, Poppy, Ricinus, Schizanthus, Salpiglossis, Stocks, Stramonium, Sunflower, Spurge, Tobacco, Vetch, Venus's Looking-glass, Verbena, Virginian Stock, Zinnia. The nurserymen annually put forth most admirable and tempting lists, from which to select. There is also amusement to be derived from *not* selecting, but to take your chance of what you get. Thus, Thomas Veitch and Co., Western Counties Seed Depôt, 195, High Street, Exeter, offer Collections of Pretty Flower-Seeds, in twelve varieties, at one, two, and three shillings the collection, according to quality and quantity. Some of the Catalogues are really worth reading, for *instruction's* sake.

FLOWERING TREES.

Acacia, Almond (Double and Single), Arbutus, Catalpa, Cherry (Double), Crabs, Elder, Horse-Chesnut, Judas Tree, Magnolia, Mountain Ash, Paulownia, Peach (Double and Weeping), Robinia, Snowdrop-tree, Sophora, The Thorns, Tulip-tree, and others.

THE CALENDAR:

MONTHLY HINTS IN FLORICULTURE.

OCTOBER.

IF you enter upon a new tenancy, and are become the possessor of an old-established garden, in the first place look carefully round, to see what you have *visible* in it; and, secondly, delay any great changes or clearances till at least six or eight months have elapsed, and spring and summer shall have made you acquainted with whatever treasures may now lie concealed underground. Often, by forbearance in such cases, you become the master of specimens that would cost you years and years to rear; and sometimes, by merely turning the earth of an ancient border, you bring to light and vitality the seeds of rare plants that have lain buried for years. Read carefully the Calendar to our "Kitchen Garden." Plant hyacinths and other bulbs, if you did not do so last month. Look to your chrysanthemums in pots; see that they are regularly watered and neatly sticked, ready to be brought indoors at the first threat of a frosty night. Cut half-opened chrysanthemum-blooms, *a few* from each variety you have; reserve them in water, under shelter and warmth, and you may often produce a handsome bouquet when outdoor flowers are completely destroyed. Lay out all your planting arrangements for next month; prepare the holes, where the ground is vacant, and have ready the requisite soils and manures. Cut down dahlias as soon as the frost has blackened them; leave the tubers a little longer in the ground, to ripen. Clear away the leaves and stems of tender annuals as soon as they have shared the fate of the dahlias; chrysan-

themums, evergreens, and berry-bearing shrubs, will then show themselves to advantage. Save any well-ripened seed you may find; it will increase your stock of gardening capital. Sow annuals, such as *Nemophilas*, to stand the winter, and flower in spring. Pot off separately cuttings that have been struck during summer, whether they are to be wintered in a cold frame, or whether they are to be forced for spring flowers, such as China and tea-scented roses, double wall-flowers, *calceolarias*, winter jessamine, and *Deutzias*. Provide instantly comfortable lodgings for such greenhouse plants, out in beds, as you do not mean to abandon to the mercies of Old Father Nipnose; and remove them forthwith to their winter quarters. Look to your spouts and gutters overhead, and see that your drains do their underground work. Do not forget that *heliotropes*, *verbenas*, and their like, are liable to the disease of "damping off." Take up *gladiolus*, *tigridia*, and other tender bulbs.

NOVEMBER.

EMPLOY the long evenings in studying books, pamphlets, and periodicals connected with your profession. There is no royal road to floriculture; a poet may be *born*, but a gardener is *made* such. Keep an eye on your natives from the Island of Tender. Remove the earth from the ground which any projected American bed is to occupy, with the intention of filling the hollow with heath-mould when frosty weather comes to help your carting. Plant everything hardy; roses, flowering shrubs, flowering trees, evergreens, edgings, herbaceous perennials, and whatever will stand the winter. Take up dahlia-roots, and house them in a cellar secure from frost. Think of whatever dielytras, bulbs, polygalas, azaleas, moss roses, and the rest-of it, which you may want to force, so as to have in flower in the course of March. Let all pots and pans, which have been used during summer and are now enjoying their holidays, be well washed and scrubbed with a brush, and then set to dry

in an oven hot enough to bake all the germs of weeds, insects, and moss; let them then take their rest in a *recumbent* position, one within the other, not standing upright. Plant tulip-beds. Mulch liberally the roots of whatever you merely suspect will be the better for it, whether passion-flowers, Tecomias, Brugmansias, Macartney microphylla and multiflora roses, or elianthus and hibiscus; if you can thereby save and secure only one fine specimen out of half a dozen, you will be amply rewarded. Sweep up leaves from your walks and grass-plots, as if you were afraid you should never, never have leaf-mould enough. Dragging a garden-roll is capital gymnastic exercise; and your grass-plots and gravel-walks will be very much the better for it. Carefully cultivate the *foliage* of Cape bulbs and others that have flowered in autumn. See that such plants as take their rest now, be allowed to enjoy it undisturbed, without having their slumbers broken by unnecessary warmth and moisture; on the other hand, administer moderate refreshment and heat to such, as the cyclamens, which are beginning to wake up. Lay down turf for lawns and grass edgings. Put a covering of dead leaves, fern, furze, or light litter, over whatever wants it out of doors. Mind your Alpines. Give all the air you can at every favourable quarter of an hour. Keep grass short; you will sweep up your rubbish all the more easily. Stake and tie new-planted strangers: they are none the better for being rocked about by the wind. Trench and manure ground for next year's gross feeders, such as hollyhocks, dahlias, and perpetual roses.

DECEMBER.

PROCURE and plant rose-stocks for budding. See that they have well-ripened wood, of whatever species they may be. If of the common dog-rose, prefer such as have grown in exposed situations, to the smooth green stems drawn up under trees. A garden may be enjoyed in winter as well as in summer—think of that

Tidiness is the first point of comfort in a pleasure-ground ; after rightsiding everything, try what show you can make with evergreens and Christmas favourites. What is the condition of your hepaticas, winter aconites, snowdrops, crocuses, Christmas roses, and Mediterranean heaths ? Have you the Winter Jessamine, the *Chimonanthus fragrans*, and the Vernal Squill ? Will you want any cinerarias, Chinese primroses, forced bulbs, or camellias, for the drawing-room ? You may prune now *hardy* roses,—the moss, Provence, Gallica, damask, Scotch, crimson perpetuals, and other equally robust kinds ; leave the rest, to see how they look at the end of February. *Moss* is a good covering for the roots of tender things. Are your alterations nearly finished ? Dress well, and dig deep, beds that have been hard cropped with flowers during the current year ; the parterre must have manure and rotation of crops, as well as the wheat-field. Cover your frames with mats and boards, if the frost comes sharp. Divide and transplant stools of herbaceous perennials, such as rockets and salvias, which have already flowered finely, and have been admired, and which will not bloom finely nor be admired twice in the same place ; if you don't, where you once had a beauty, you will next time have a symbol of shabbiness and neglect. *Roots* grow now, though leaves may grow little, or not at all ; a plant will bloom all the better if, in spring, it finds itself provided with a nice tuft of fibrous roots, than if, when spring is arrived, those desirable fibres are still to be formed. Sort your seeds ; look over your tubers ; exchange with your neighbours ; study your *Chronicle* ; sing the air of "Away with melancholy !" to the words of "Away with damp and mildew !" Restrain rampant stragglers, and throw them into flower by *root*-pruning, leaving the tops much as they are. Manufacture heath-mould for your Americans, if none is to be had within reasonable carting distance. Pay frequent visits to your specimen-plants, whether in the open air or under shelter ; large myrtles, in tubs, may be wintered in a coach-house, if

allowed to enjoy all the light and air admissible. Prepare sticks and stakes, and repair trellises, verandahs, lattice-work, rock-work, and arbours, now that the plants which decorate them are dormant.

JANUARY.

THE work now mainly depends on the weather; but N.B. you have not so much time before you as you had in December. Look over your cold frames; give all the air you dare, and dust with flowers of sulphur at the first symptom of mildew. Your hyacinths in pots will be starting. Look sharp after wood-lice, slugs, and aphides; an ounce or two of Scotch snuff are well bestowed in doctoring the last. "Slow and sure" is the motto to affix over the portal of the forcing department. How are you off for silver-sand, pasture-loam, rotted cow, sheep, and rabbit manure, peat-earth, defunct and cold cucumber-beds, and good alluvial loam with a touch of clay in it? For horses, shut up in their stables during this dead season, slow carting is a healthy treat. What is the substance which Liebig and other learned men call "humus," and the French gardeners style "terreau?" What are its composition, uses, and application? Do you think you could contrive to compound a little "humus?" If a supply of it had not been made by somebody before your time, horticultural prospects would not look so bright as they do. See to your supply of pots, pegs, and labels. Thin out flowering shrubs, where too crowded. Keep everything indoors fresh, neat, dry, and well ventilated; under cover, at least, you may do nearly as you please. Call over your muster-roll for next summer's campaign; nurse the invalids in hospital, take care of the healthy, train the undisciplined, keep down the upstarts, restrain the wanderers without being afraid of pinching them hard, bury the dead decently, and raise up a new generation with all your might and main. Don't work the ground when it is sodden, muddy, or rendered sticky by a recent frost;

don't dig in snow or ice, for they will chill your borders for weeks to come. Level turf, where its unevenness threatens to interfere with mowing. Protect tulip-beds where the leaves are beginning to peep aboveground; also autumn-planted ranunculuses; hyacinths likewise. Cover them with hoops and mats, or canvass, when frost threatens to be at all severe. Don't suffer snow to lie on your walks. Search for the winter sleeping-places of snails. Air, cleanliness, and shelter from excessive wet, are necessary to the health of Carnations and Picotees. Think well what you mean to do next spring, and arrange accordingly; observe in *which* department you are strongest; endeavour to improve *that* to the utmost; make it your war-horse, your charger, your show collection, your speciality.

FEBRUARY.

PRUNE and tie in climbers on walls and trellises, such as honeysuckles, clematises, birthworts, and American allspices. Plant ranunculus-beds. Sow sand on lawns, to make the grass come fine; roll them, to kill moss; mow them, to make them thick and elastic. Look over your Noisette, Bourbon, Hybrid China, and other free-growing autumnal roses; prune them moderately, thinning them out, but leaving the principal shoots *long*. Pray don't cut them back to two or three eyes, unless you prefer leaves to flowers. Now is the last time of asking, for planting ornamental trees and shrubs. Make sure that your supply of bedding-plants is likely to correspond to the demand for them. Remove dahlia-roots from their winter quarters, and put them into heat for propagation. Sow in small pots Maurandyas, Lophospermums, and other climbing annuals, to get strong by May. Do the same with sweet-peas, scarlet-runners, major convolvuluses, nasturtiums, and other less rare but popular flowers. Finish off every atom of undone winter work, and keep that belonging to spring close up to the mark, that you may have your hands at liberty to answer the

requirements of April, May, and June, when you will want every day to be six-and-thirty hours long. Make hotbeds for tender annuals; the list is long. Select a few striking, effective, unusual kinds, and display *them* in a large assemblage, rather than fritter away your strength on a multitude of incongruities. The ice-plant makes a remarkable bed in a south border; zinnias, balsams, and ipomœas, are good in their way. Trim grass edgings with a proper cutter; fill up any vacant gaps in borders of thrift, gentianella, dwarf campanula, double daisies, primroses, sedums, &c. Plant out seedling hollyhocks, in well-manured ground, where they are to bloom; strike cuttings of approved sorts. Never, for a single instant, forget the vast abyss of flowering plants which you will shortly be compelled to fill somehow, well or ill. If any choice novelties have lately come out, and are likely to be the rage, now is the time to make sure of them; by-and-by you may have for answer to your application, that "the execution of further orders must stand over till the following spring." Bedding-plants, propagated by yourself on the spot, in gentle heat, are worth double the number travelling from a distance, and forced at a high-pressure rate.

MARCH.

KEEP an eye on the jobbing gardener who undertakes to "right-side" your suburban parterre in spring; take care that he does not make it neat by making it empty; that the beds, which he leaves so beautifully raked, have nothing but rubbish growing in them. Hard winters do not cause the disappearance of *all* choice flowers. Clip box edges at the beginning of the month, supposing that it is not freezing sharp; turn a deaf ear to those who advise you to do it in June, or, infinitely worse, in September. Do all you can to remedy the ill effects of February's sleet, slop, and rain. You may plunge in borders, or in beds (to be filled hereafter with scarlet geraniums, or verbenas), hyacinths, and tulips, and

narcissuses in pots; they may be removed to perfect their foliage in the reserve ground. Hardy annuals may now be sown in favourable weather. Take stock, as it were, and appreciate accurately all your resources in hand. Auriculas will now be coming forward; give them a more liberal allowance of air and water. Tree Pæonies require temporary shelter in this month and the next, if at any time. Prepare the ground for dahlias, by digging it deep and manuring highly. Your stocks, China-asters, &c. &c., may now be sown under glass on a gentle hotbed. Finish pruning; cut your roses close to an eye by a clean stroke with a sharp knife, so as not to tear the bark. Above all, do not leave a long snag to die down to the bud; the hollow left by its pith will serve as the retreat and resting-place of the detestable grubs which will destroy your buds. If your gardener prunes a standard-rose, or any other ornamental shrub, with a pair of shears, or slashes at them with a carving-knife, like a French Zouave paying his compliments to a party of skirmishing Cosacks,—for the first offence, make your shrub-slayer a present of an excellent buckhorn-handled pruning-knife; for the second, turn him out of doors, “to seek a shelter in an humbler shed.” Disbud dog-rose stocks, leaving only those buds to shoot on which you intend to insert your bud. A covering of old fish-net, supported by hoops, over tulip, ranunculus, and hyacinth beds, does no harm. Have a peep at Kew, Chiswick, the Regent’s-Park Botanical, and the leading nurserymen about London. Let your gardener go too, if he is wide awake at the times when his eyes are usually open. But it is possible to visit even Kew, and to come away with a vague impression that it is a place where a few green-houses and hothouses are open to the public, gratis.

APRIL.

MAKE everything smart to welcome summer; gravel-walks rolled; beds neatly raked; spring flowers shown to the best advantage; not the ghost of a dead leaf remaining; prunings and trimmings swept away, to be burnt; edgings trimmed and mended; summer-houses and garden-seats painted, repaired, and cleansed from cobwebs; tumble-down rockwork dovetailed together again, and the wounds healed with houseleek, lovechain, or saxifrage; unsafe bridges rendered passable; leaning Pisa-tower-like posts and palings restored to their proud perpendicular. "April showers bring May flowers;" but if you don't sow and plant the flowers, they *can't*; likewise if you let them be scratched up by hens and pecked to morsels by sparrows. Therefore, any forgetfulness now, and previously, will rebuke you with its woful blank face staring at you by-and-by. Better provide yourself with too much than too little; cuttings (with a little bit of root to them) of cupheas, verbenas, heliotropes, petunias, anagallises, fuschias, pansies, and many more, can always be exchanged, or given away. Tie the full-bloomed stems of hyacinths to sticks as you want them. Sow Phlox Drummondii in a little heat: it makes an exquisite bed. Make as sure as you can that wireworms do not attack your Carnations and Picotees; for this, the compost must have been looked over by handfuls. It may seem a long and expensive task to do so; but it is true economy, if you grow high-priced varieties. If your garden is decorated with vases, see that they are filled with proper soil, and that you have wherewithal to plant in them. A *mixture* of plants with a long succession of bloom—some of pendent and trailing growth, others stiff and sub-shrubby like geraniums—produce the most artistic effect. Let your gardener look at a flower-piece painted by one of the first-rate masters, and he will catch the idea, if he is not a blockhead. He will see it well worked out at Kew. Water transplanted trees and shrubs, if drought threatens. Plant out wallflowers,

double rockets, and the perennial larkspurs, of which *Delphinium Hendersoni* is one of the finest. Do your best to obviate north-east winds and spring frosts. Attend to your dahlias, and to everything else that is now in the course of propagation. Sow successions of annuals; weed, rake, hoe, and trim.

MAY.

Don't cut off the long shabby leaves of crocuses and other early bulbs. If you wish for flowers next spring, you must leave them to wither on the plants. Remove gradually their great-coats of straw, leaves, or fern, from fuschias, tea-roses, &c. &c., which have been kept snug during the winter. Towards the end of the month you will be thinking about venturing out your bedding-plants; in fixing upon the exact time, the signs of the weather and your situation must guide you. It is better to be a week too late than a day too early. If you are near the coast, learn whether the warm water from the Gulf-stream has yet reached the shores of Britain; if it has (and the owners of bathing-machines will be able to tell you), you may plant in safety, without nightmare dreams of nipping frosts. Sow anemone-beds, as directed in the body of the book. Remove the awning from beds of hyacinths and tulips that have bloomed; the ranunculuses will want it soon. Transplant half-hardy annuals to the open ground, and whelm a flower-pot over them at night as a protection from frost, drought, and slugs, till they have taken hold of the ground and have made their start in life. Look over the patches of "hardies" sown last month, and repair any failures by sowing afresh. Plant out dahlias, *if* all is safe, on very rich and well-prepared soil. Freshen up your gravel-walks in dry weather, by chopping out with a hoe all weeds or grass that have intruded themselves; rake the surface well for several successive days, and then lay on a thin coat of new gravel, which must be made to combine with the old by assiduous rolling. Save anemone-seed

as it ripens ; if you don't, it will all blow away. Stick pinks, carnations, picotees, and plants in general whose flower-stems are rising ; it is folly to take infinite pains to raise and cultivate a plant, and then to leave its bloom to drabble in the dirt. Weed right and left ; break up with the rake and hoe the surface of any bed that has got hard and caked. Watering is often more requisite now than at any other time of the year ; very, very weak, clear manure-water will sometimes be a great help ; but it must not be indiscriminately administered ; for instance, to rhododendrons and azaleas.

JUNE.

THIS is the time for the main planting-out of dahlias, heliotropes, and other tender South Americans. Look carefully over your roses ; their enemies are legion,—of insect vermin the host is fearful ; *proper* pruning is *some* preventive. The maggots, and worms, and caterpillars, and grubs, which attack the buds, must be picked out patiently with finger and thumb. Other remedies are best described by the syllables uttered by the domestic duck. Aphides are comparatively harmless, though unsightly ; a thunderstorm proves an excellent cure for them. For want of a tempest, take the tip of each twig in one hand, and with a painter's brush in the other, brush off the clustering parasites. They can't stand a repetition of this regimen. An amateur has invented a double aphis-brush, closing with a spring-handle, which, says the advertisement, in a very simple and easy manner, instantly cleanses the rose from that destructive insect the green-fly, without causing the slightest injury to the bud or the foliage. Finally, encourage lady-birds and the sightless grubs of lace-wing flies, which eat or rather suck the aphides. Some of your earliest spring bulbs will soon be fit to be taken up. Save seed from Auriculas and Polyanthuses. You must work hard now to keep things in order ; grass has to be mowed, disbudding or summer pruning done by finger and thumb, and the

whole contents of the garden watched, because nearly the whole contents are advancing at once. Water still, if no summer showers have fallen. Thin out annuals where they come up too thick. Attend daily to your plants in vases; neglect now is almost irremediable. Hope to live to see next winter and spring, and provide for them by striking cuttings of roses, wallflowers, choice stocks, and whatever else is likely to be useful. The very trimmings and prunings may be economized in this way. Watch your beds of seedling anemones. Lose no time in striking chrysanthemums for this autumn's bloom. Cuttings of the young shoots of pansies, rooted under a hand-glass, will make nice little plants by the autumn. Sow Brompton Stocks, Sweet Williams, Foxgloves, Canterbury Bells, and other biennials which do not blow their first season. Peg down verbenas as they grow and spread. Lay bean-stalk traps for earwigs. Decide what seeds you will save, marking the stems of the flowers approved by tying a bit of coloured worsted round them.

JULY.

TAKE up hyacinths and other spring-flowering bulbs and tubers whose leaves are completely withered. After a soaking shower, bud roses; perform the operation as lightly and as quickly as you can. If you could blow the bud in—presto!—like a conjurer, you would succeed in nine hundred and ninety-nine cases out of a thousand. You may shade the bud afterwards by a laurel-leaf, if the sun comes out scorching. Save all sorts of seeds; raise all sorts of cuttings: with many of them, it is “now or never.” Still carefully tend your seedling anemones. You may take up old-established roots, as directed, if the leaves are quite withered, to be planted again as soon as you can. Tie the rising dahlias to their stakes; leave only a single stem, if they send up more than one; and cut out the bottom laterals and irregular shoots. The first two or three flowers are seldom good for anything; it is as well to cut them out while still in the bud, that

their successors may have the benefit of the sap. It will improve the summer roses, if, when they have quite done blooming, all the flower-shoots are cut back to the branch from which they started, unless it be desired to ripen hips, for seed. Train and tie in your vigorous creepers, weekly if possible. Mow grass-plots continually. Support your hollyhocks, and see that the stakes are firmly fixed in the ground; otherwise they will be as likely to pull down the flower-stems in a high gust of wind, as to keep them up. Pipe and layer carnations, pinks, and picotees. Take up tulips and ranunculuses. Help your autumnal roses by frequent doses of not too strong liquid manure. The garden is now in great beauty; let it not be disfigured by slovenliness. Remove faded flowers, withered stems, and over-luxuriant weedy growths: their absence will make way for the many lovely blossoms that are yet to come. Attend to your pinks and carnations from which you intend saving seed. Pot off your struck chrysanthemums. Take care that bedding-plants of trailing habit do not encroach too far, overlapping and smothering box edgings, and inflicting on your parterre a wound which is not easy to heal. You will now begin to appreciate the value of Bourbon, Noisette, and Perpetual Roses: treat them according to their deserts. Do not let a weed show a leaf, much less let it ripen seed.

AUGUST.

HYACINTHS and other Dutch bulbs will be beginning to arrive at the nurserymen's. Remember, first come, first served. Try for the chance of selecting the finest roots. See that your dahlias and hollyhocks are not snapped by the wind for want of tying up as they advance. Shift chrysanthemums in pots to one size larger; keep them frequently and freely watered. Tie those in the open ground to stakes. Save seeds, plant cuttings, and continue to bud roses on favourable occasions. Now is the time to take up and divide the clusters of bulbs and off-sets of Spanish Irises, Crowns Imperial, Fritillaries, and

others, which are none the better for being kept long out of the ground. We are beginning to turn a sort of gardening corner; we may look two ways, behind and before us; but we have not yet time to pause and rest, for a grammatical lesson has to be learned by conjugating the verbs *mow, rake, sweep, water, dig, roll, clean, and gather*. Sow the seeds of choice primulas, polyanthuses, and auriculas. Plant out rooted cuttings of pansies in a shady situation. Sow stocks for spring flowering. Visit the nurseries now, and select (before they have lost their foliage; and mark, or number, so that you have not to scramble for them by-and-by, or be obliged to take just what others choose to leave you) ornamental shrubs for planting in November, to try the effect of a spring-flowering bed. Many valuable plants have been introduced, which were unknown to our fathers in their youth. *Forsythia viridissima*, from China, forms a thick bush, with deep-green leaves which are odoriferous when rubbed, and produces an abundance of brilliant-yellow bell-shaped flowers. *Berberis Darwinii* has shining ever-green leaves, and drooping spikes of golden florets. The Siberian Rhododendron (*R. Dauricum atrovirens*) displays its cheerful violet-pink blossoms in March. *Rhododendron ciliatum* is a dwarf Himalayan species, with comparatively large and conspicuous white blossoms. *Rhodora Canadensis* (in heath-mould and shade) will put forth, before its leaves, a profusion of rose-scented, pinky-lilac blooms, which are exceedingly pretty, though not large in size. Remember, too, Dwarf Almonds and double-blossomed Peaches, and what has been already written respecting *Deutzia gracilis* and *scabra*, and *Jasminum nudiflorum*. If we never regretted any money worse than what we spend on flowering shrubs!

SEPTEMBER.

PLANT imported bulbs of Van Thol and Parrot tulips, hyacinths, narcissuses, crocuses, snowdrops, and other hardy early-flowering genera, as soon as you can possibly get them home from the seedsman's shop. Roses may still be budded with success; sometimes the latest budded do the best. Sow annuals to stand the winter. Make the most of your bedding-plants and half-hardy showy rambling things; they may be in their glory, but their sun is fast preparing to set. Take every care of your dahlias and hollyhocks; at the same time look forward to the Chrysanthemums. Remember still that seeds will be wanted next spring. Pot off the first-struck cuttings of the season. Gather half-opened annual Everlastings, for winter bouquets. Take cuttings and make layers of such things as strike in winter. Admire the lovely objects with which you are now surrounded; but bear in mind that a single night may deprive you of them, and that their beauty is but of a day. Be not selfish in your garden pleasures; show, explain, and communicate freely; and manifest by your manner, as well as by your money, your appreciation of those who prepare for you a PLEASURE-GROUND.

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