

SPRING.

THE spring may now be said to be giving place to the warmer and richer days of summer, and our gardens assume a more brilliant aspect than in the earlier months of the year. In May and June many greenhouse plants may be bedded out in the open ground; and happy are those who now reap the reward of the winter's care and patience. The camellias and azaleas make a wonderful show, and masses of the rich deep-coloured rhododendrons are now blooming in full glory where the soil and situation suits them. No one can have seen Mr. Waterer's splendid collection of these plants without a vivid recollection of the effect of such masses of colour as they display. Rich deep crimson, delicate rose, and tinted mauve, with pure transparent white, blend together in wondrous beauty; and we are struck with the brilliancy only to be seen in a mass of living colour. It is difficult to distinguish between the azaleas and rhododendrons at first sight; but we soon observe that the rhododendron has a larger head of flowers than the azalea, and that the leaves of the latter are almost entirely deciduous.

Great advances have been lately made in the cultivation of both these beautiful shrubs, and we have had some most magnificent varieties introduced into our gardens from America and also from the mountains of the Himalaya, in India. The rhododendron was well known to the Greeks by the name of rose laurel. The Romans were also acquainted with it, but, as Pliny observes, they had not the good fortune to give it a name—for it was in ancient Italy, as it is in Europe at the present day, known by its original Greek name, which signifies a "rose-tree." The ancients were well acquainted with the poisonous qualities of the flowers of the rhododendron and the azalea, both of which are abundant in Pontus; and the flowers had such an influence on the honey of the country that the Romans would not receive it as tribute, but obliged the inhabitants of that part of Pontus to pay a double portion of wax instead of it. Both the rhododendron and azalea were abundant in the neighbourhood of Trebizond in the time of Xenophon, and they are still so. We all know the story of his army of 10,000 Greeks being poisoned with the honey of which they partook; and historians tell us that the ground was strewn with the bodies of soldiers as if after a battle. They gradually recovered, however, and twenty-four hours after the attack nothing remained of it but excessive weakness. Botanists consider that the flower which did all this mischief was that of the *Azalea pontica* and not of the rhododendron. The name of the azalea comes from a Greek word *αζαλεος*—*azaleos*—dry, arid, in reference to the habitation of the plant. In works on gardening we find azaleas and rhododendrons treated of indifferently. The same soil appears to suit both—a sandy peat; but the azalea is more delicate and tender than the rhododendron, never attains so large a size, and requires more protection. Azaleas are chiefly white and different shades of pink, while the colours of the rhododendron seem to assume every tint but blue. London tells us that the splendid specimens of these plants, which annually attract so much attention at our flower shows, are grown in a rich soil and frequently watered with liquid manure. This treatment stimulates the plant, and produces those magnificent pyramids of blossom which are so much admired. On the other hand, when they are to be placed out in our gardens and shrubberies, and to be regarded as half-hardy plants, they ought not to have a rich soil, and should be kept rather dry. The situation most suitable for rhododendrons and azaleas appears to be a border in front of a wall facing the east, for the native position of most of them is in a shaded wood on a mountain. Our common rhododendron is very hardy, and will stand the cold of our winters very well. In some parts of the country it grows so luxuriantly as to be almost wild; and in Suffolk, in the neighbourhood of Bury St. Edmunds, we have seen acres of heath land covered with its purple clusters of flowers and rich dark leaves. The species of azalea and rhododendron which come from warmer climates might possibly resist the cold of our mild winters, but it is best to keep them in pots, and place them in the greenhouse, before the approach of cold weather. In our Plate we have a spray of the bright and beautiful *Pyrus japonica*, or Japan quince-tree. It is known to modern botanists as the *Cydonia japonica*, and belongs to the same family as our apples and pears. It is a native of Japan and China, and grows to the height of five or six feet, and flowers throughout the greater part of the year if well supplied with water during the hottest months. It was introduced into our gardens in 1815, and has been adopted as a general favourite. Trained against a wall or on a palisade, it is one of the most ornamental of flowering shrubs. Mr. Loudon tells us that it has also been trained up with a single stem as a standard, and in this manner its pendent branches and numerous flowers give it a rich and striking appearance, especially in early spring. It is difficult to mate with its congeners by grafting; but if it could be grafted standard high on the pear, the hawthorn, or even the common quince, it would form a most delightful little tree. It has ripened fruit both as a bush and against a wall; but the fruit, even when ripe, is unfit to eat, though it has so fragrant a smell as to induce persons to keep it among their clothes. The plant is readily propagated by layers or suckers, and it also grows by cuttings. An authoress, in writing of this shrub, calls its flowers "fairy fires"—

That gleam and glow amid the wintry scene;
Lighting their ruddy beacons at the sun
To melt away the snow. See how it falls
In drops of crystal from the glowing spray.
Wreathed in deep crimson buds—the fairy fires.

The large deeply-coloured corolla of the garden anemone does not merit the appellation of windflower, as does our own native little *Anemone nemorosa*, one of the earliest harbingers of spring—

When earth, exulting, from her wintry tomb,
Breaks forth with flowers.

The delicately-pencilled flowers of this little plant are natural barometers, and close and hang down their heads at the approach of rain. We hardly recognise as belonging to the same family the gay anemones of the garden. *Anemone coronaria* and *hortensis* are well known as florists' flowers, and are very elegant ornaments in the garden borders. Their colours are deep rich purple, blue, violet, yellowish, or white, and many new varieties are constantly being introduced by the cultivator. Double or semi-double flowers are much in repute, and our Drawing represents a fine specimen of the kind. The soil preferred by the anemone is a fresh loam, rather heavy than light. The usual time of planting is in October, covering the roots three inches; but to have earlier bloom they may be planted in September; and to have bloom every month in the year plant every month. The finer sorts require protection from violent storms and excessive light and heat; but many varieties do exceedingly well in borders, and the anemone is really harder than the garden ranunculus. We seldom find very bright and attractive colours in flowers combined with delicious scents. If we consider the sweetest perfume of our gardens we shall find that the rose is perhaps almost the only flower which is cherished alike for its beautiful appearance and delicious scent. The perfume of our bouquet is due to the little sprig of heliotrope that has been

introduced, and which, indeed, is almost too powerful and peculiar to combine well with other scents. In appearance the heliotrope is very unpretending. Its clusters of tiny purple flowers are surrounded by leaves not of the brightest green; but its qualities cause it to be sought after and largely cultivated in gardens and greenhouses. Its popular name, "cherry pie," indicates the sort of odour which it emits, but we think it more resembles nouseau than anything else. As a late autumn flower there is nothing worthier of the garden; if kept in the greenhouse it will grow six or eight feet high, and put forth its lilac nosegays all through the winter. Its name comes from two Greek words, signifying "to turn to the sun." Both Pliny and Dioscorides assert that the flowers are always turned towards the sun. It belongs to a family of plants which was formerly included in Boraginaceae, and has received the name *Ehretia cæca*. The heliotrope was called *verrucaria* by the old Romans, because the juice of the leaves mixed with salt was said to be efficacious in removing warts. One of the best greenhouse plants we have for bearing the confined atmosphere of a sitting-room is the *Cineraria*, of which we see so many varieties of colour in every collection of plants. It belongs to the family of composite plants, and is related to the ragworts of our hedges; indeed, it may fairly be considered nothing more than a patrician ragwort. It is a native of the Canary Isles, whence it was introduced about eighty years ago. The name of *Cineraria* was originally given to the large yellow-flowered *Cineraria maritima*, the whole surface of which is covered with greyish white down the colour of wood ashes or *cineræ*. This species is excellent for garden edgings and "ribbons," and for bouquets where a dash of grey is desirable. When old and with plenty of branches it makes the finest possible centre for a bed of scarlet or crimson flowers. The *Cineraria* of our Plate, however, is one of the innumerable varieties which add such brightness to the earliest days of our floral season, and enable us to decorate our tables and our houses before the summer flowers burst upon us. Do not the delicate little milk-white flowers in our bouquet remind us of bridal breakfasts and fearful partings as well as of merry makings? Sprays of this pretty little shrub enter largely into the composition of nosegays for such occasions. It is the *Deutzia gracilis*, and belongs to the mock orange family or *Philadelphaceæ*. We have not a British species of the genus; they are all small trees and ornamental shrubs, and known only in gardens and greenhouses; but then we familiarly know them in the fragrant syringa, with its peculiar scent and pretty white flowers. The leaves have the flavour of cucumber, and so hardy is it, and so easily propagated, that it is found in every shrubbery from St. Petersburg to the Mediterranean. The blossoms are sometimes substituted for those of the orange-tree, and are then frequently called citron-blossoms. The *deutzias* are a very interesting group of plants; the leaves of one of the species supply a well-known and extremely beautiful microscopic object in the white silicious stars that bestrew the surface. In our shrubberies the *Deutzia scabra* attains a height of six to eight feet. *Deutzia gracilis* is a pretty little greenhouse shrub, with ovate lanceolate leaves and a profusion of milk-white, scentless flowers, in delicate, half-pendulous racemes, the buds before expansion resembling caraway comfits. It is a native of Japan. The filaments of the ten stamens are extremely broad and flat, and have two little pointed shoulders, between which stands the yellow anther; the number of styles varies from three to four, or even five. For the binocular microscope the calyx is a charming object, being covered with stars like those upon the leaf of the *scabra*, but more delicate.

These pretty little yellow balls in our nosegay claim notice now; and we believe that of all greenhouse plants none are more conspicuous or elegant in the early spring than the charming Australian *acacias*, of one of which these are the fruit. In some species these golden globes are often deliciously fragrant, and borne in every variety of inflorescence, from the solitary and axillary up to immense panicles that float in the air like golden clouds. These globes are not solitary or individual flowers, but heads of numerous very small ones, sessile, and in shape rosaceous, as is plainly seen in the unopened buds. The chenille soft appearance which they present when fully expanded is owing to their very numerous stamens. The *acacias* belong to the leguminous family of plants, and our specimen is a sprig of *Acacia dealbata*. It is one of the hardest species of the genus, and also one of the most rapid growth. It has been tried in the open air as a standard in various parts of Britain, and has stood out for several winters, growing to the height of 30ft. Some of these trees have stood in the Botanical Gardens at Kew since the year 1828. Mr. Loudon mentions one growing in the Norwich Nursery 16 ft. high, it having attained that height in four years after being planted out. We read in Loudon's works of an *acacia* of this sort at Beachamp Parsonage, in Somersetshire, which, in March, 1835, had attained a height of 16 ft. or 17 ft. It had only been planted out two years; when planted it was turned out of a small pot and was put into a border of peat earth, where it grew to a height of 8 ft. the first summer and showed blossoms the following autumn. It is one of the most beautiful of all the *acacias*; its light delicate foliage, of a pale green colour, and the fine bloom which covers its branches with fairy-like golden balls, render this tree a valuable addition to any collection either indoors or out in the shrubbery. It is difficult, however, to keep it fresh and bright in a sitting-room: the atmosphere appears to be too dry for it, and, in spite of all our care, the little yellow balls will fall off, till at last none are left on the branches. This annoyance can only be avoided by having a retreat for sickly plants at hand in the shape of a conservatory, or by agreeing with some florist to keep your rooms well supplied with fresh plants. This is done to a great extent in London, and many of the pretty gay windows and balconies we see are produced without much care or trouble from the inmates of the house, but by the wise expenditure of an annual sum in order to secure the gardener's skill and taste in this delightful substitute for real country flowers. It would be a difficult matter to sum up all the social qualities of flowers. Do we not feel always welcome when on entering a room we find a display of flowers upon the table. Assuredly, of all domestic ornaments flowers have the first place. "Better hang a wild rose over the toilette than nothing," says Leigh Hunt; "the eye that looks in the glass will see there something beside itself, and acquire something of a religious right to respect itself in thinking by how many objects in the creation the bloom of beauty is shared." Put but a rose, or a lily, or a violet on your table, and you and Lord Bacon have a custom in common, for it was the habit of that great and wise man to have flowers set daily on his table when he ate. We had the opportunity last year of mentioning and describing a Wardian case as obviating all the difficulties of growing plants in a London atmosphere; and to those who cannot have a conservatory we say get a Wardian case. Numerous plants will live and flourish well in it, and with one in the window of the darkest room there is an air of brightness which must please all comers. We have seen very elegant and lasting table ornaments in use on the table of a tasteful friend, who cannot get a supply of flowers, by arranging elegant ferns and mosses in a glass vase or stand in peat mould, and allowing them to root and grow there. This stand is kept in a little Wardian case all day and night, except when required to decorate the breakfast and dinner table with its freshness.

SUMMER.

NO class of plants is so remarkable as that in which are included the many and curious forms of orchids. The anomalous structure of the flowers, their amazing variety, and the manner of life proper to most of the species would alone give interest to this race of plants. The representatives of the family that are found in Britain grow like other plants upon the earth; but the tropical forms mostly perch themselves upon the branches of trees, or in the clefts of rocks, procuring their nourishment partly from the atmosphere and partly from the decaying organic matter that casually accumulates about their roots. To denote this existence, and to distinguish them from "parasites," these tree-inhabiting orchids are called "epiphytes." No plants produce blossoms of more rare and transporting beauty, or of figures more fantastic, of colours more delicious, or of colours more rich and vivid. They seem to take pleasure in deviating from all the ordinary types of structure; and in many cases resemble insects, birds, and reptiles, and even quadrupeds and the human figure. Several of these vegetable mimics reside in our own country, England giving us in this respect, as in most others, a miniature representation of the whole world. They are distributed all over the globe, growing in all latitudes but the very coldest and the very driest. In temperate countries like our own they are exclusively terrestrial, and ornament our meadows and marshes with their fairy forms; but in the hot damp woods of the tropics they are chiefly aerial and decorate the trees with natural jewellery. No plants better recompense a florist than do the epiphytic species, nor do any impart so magic a beauty to our hothouses. They require, however, special treatment; they do not mix well usually with other flowers, so that an "orchid house" becomes a distinct necessity when they are to be cultivated. The distinguishing peculiarity of the structure of these wonderful plants is the blending of the filaments of the stamens with the styles and stigmas. The nature of this blending is in itself peculiar, and, in order to understand it, we will quote from a work recently published by Mr. Leo Grindon, lecturer on botany in Manchester, on "British and Garden Botany." He says:—"Being indigenous, the type or plan of the flowers of orchids is ternary. This is generally plain enough in the three sepals; but leaving these, we seem to lose it almost immediately; and, in fact, it is only by observation of the exquisite external structure pointed out by Mr. Darwin, that the ternary structure of the remainder of the flower becomes evident. This keen observer shows us that an orchid flower consists of fifteen elementary parts, many of them in a much modified and confluent condition, and that every one of these fifteen is indicated by a group of vessels (microscopic of course) which runs into it from the general axis." Mr. Darwin's researches on the orchids are of a highly interesting character, and he has perhaps thrown more light on their structure than any but a naturalist of such general information could have done. The facts connected with the life-history of these plants, as set forth by Mr. Darwin, are most extraordinary. He shows that most, if not all, of the British species absolutely require the aid of insects in order that the ovules may be fertilized—in other words that an orchid is incapable of producing ripe seed by virtue of its own powers merely, and that the structure is actually opposed to it; and that were moths and similar insects not to visit these plants when in bloom, they would be sterile. Moths he calls their "marriage priests." Deviations, the most extraordinary from the customary condition and size of the plants, appear to involve no exception to this rule. If the flower be so constructed as to require some special adaptedness on the part of an insect the insect is forthcoming. Mr. Darwin makes use of this instance as favouring some of his views with regard to the origin of species. Thirty-six orchidaceous plants are indigenous to Great Britain. In colour they are mostly red or lilac, sometimes white or green, and often beautifully marked. Many of them exhale a pleasant perfume, especially in the evening. Spring is the chief season of their appearance, and a search for them will well repay the collector. A few belong to summer, and the "ladies tresses" to advancing autumn. They grow in woods, meadows, and pastures; in marshes, upon hills, and on grassy banks near the sea. They are not very particular as to soil, so that the place is left undisturbed—the insectiform species, however, are nearly confined to chalk and limestone. The cultivation of tropical orchids under glass houses in England can only be successfully carried out by a careful study of the habits and circumstances of these plants in their native regions. A high mean temperature, and a climate either constantly humid or at least periodically so, are eminently favourable to the production of these plants. When the conditions are favourable, Oriental travellers speak of a whole tree being overrun by a single species; and Henselman assures us that on the Spanish Main he saw the epiphyte, called the Spread Eagle, clasping enormous trees and covering them from top to bottom. It is said that the topmost branches of trees are the favourite positions for these erratic plants, and they may be seen swinging in the air from the top of old patriarchs of the forest or exposed to all the violence of storms in the most elevated position. In the early days of the artificial culture of orchids it was supposed that great heat and moisture were essential to their existence; but it has lately been proved that very many species will do quite as well under "cool treatment;" and from recent satisfactory trials we may expect that not a few will become ere long inhabitants of the conservatory or be seen growing on the parlour table, mingling their exquisite blossoms with those of the fuchsia and the geranium. The specimen given in our Plate—*Dendrobium Devonianum*—belongs to one of the grandest tribes in the great family of orchids; they require considerable heat and moisture during their period of growth, and a season of complete repose in a cool and dry atmosphere. Strong contrasts of seasonal influences will, as a rule, ensure the best results in their growth and their bloom. The other orchid of our bouquet—*Cattleya leopoldi*—is one of a remarkable family, the noble forms and brilliant colour of which distinguish the species as exhibition plants. To grow them well requires care and skill. They thrive best in pots, which may be filled up above the rim on a deep stratum of bits of brick with a mixture of fibry peat and cocconut dust, and on the mound so formed the bulbs are planted. Others require blocks or baskets with a little moss. In watering care should be taken not to wet the bulbs, and the roots should have but moderate supplies—sufficient, in fact, to keep the soil moist and no more. The finest species of *Cattleya* have prodigious blossoms of two or more shades of deep rich lilac and purple, the lip coloured intensely and faintly fringed. Mr. Grindon, when writing of the uses of plants, says:—"Uses for so large a tribe the orchids can scarcely be said to possess, except that in supplying keys to profounder knowledge of the structure and physiology of plants in general that could possibly be obtained were they absent, they do in fact subservise the highest and grandest of all uses. Any plant that contributes to the advancement of physiological science is in that respect inestimably useful." Economic orchidaceous products are the delicious spice called Vanilla; Salep, prepared from the farinaceous tubers of certain orchids, consisting almost entirely of the chemical principle called Bassorin; and a kind of vegetable glue, made from the roots of the species used for several purposes in Brazil.

We recognise in our Plate the beautiful wax-like flowers of the *Stephanotis*, suitably named from *στέφανος*, a crown, known as the Madagascar chaplet flower, the odour of which wafts out when the hothouse door is opened. As an artificial flower in wax or other material the *Stephanotis* is very successful, and we associate its white, long-tubed, rich-looking flowers with thoughts of bridal veils and orange blossoms, so frequently does it enter into the composition of bouquets and wreaths on such occasions. To the same family as the *Stephanotis* belongs the waxflower, the old-fashioned *Hoya*, which we remember from childhood longing to crush between our fingers, it looked so rich and crisp in its waxy pinkness. The regularity of the furry petals, with a hard and shining star in the centre, moulded to appearance out of the finest porcelain, and a gem of translucent honey depending from it like a drop of dew, scarcely realises one's notion of a living growing plant. The unopened buds of the *Hoya*—thick, flat, and glossy—present the most accurate pentagons in floral nature. No conservatory is complete without a due supply of beautiful foliage, and some plants are esteemed chiefly on account of the elegance and singularity of their leaves. Such are the *Begonias*, natives of the East and West Indies and the Island of Madagascar, and named after Michael Begon, a Frenchman, born in 1628; he was an Intendant of Marine and a promoter of botany. The *Begonias* are under shrubby, rather succulent, and moisture-loving plants. The leaves are alternate, simple, petiolate, usually undivided, but often serrate and for the most part oblique or larger on one side of the midrib than the other, with a form something like the sea shell called *Halioles*, from which circumstance the species that show this peculiarity well are popularly called "elephant's ears." Many varieties of *Begonia* are cultivated, some having very curiously marked leaves, and some are hairy and of a deep red colour underneath. In other species the leaves are smooth, spotted with white or light green on both surfaces, and shining; while in *Begonia fuchsoides* they are so glossy as to look as if recently oiled. When held between the eye and the light, so as to become transparent, the leaves of the deep-coloured varieties present an extremely rich appearance, which in many is not lost by being dried. The flowers grow in panicles or corymbs, which are elegantly light and slender, almost always more or less pendulous. The buds are remarkably flat before expansion, resembling little circular shells, slightly convex on the surfaces. In colour they are usually pink or white, rarely red or yellow, and never blue or purple. Most of the species have the stamens and pistils in separate flowers, and occasionally these organs are produced on separate plants. *Begonia parviflora* is a delicate little species, with light green leaves and pure white blossoms, exceedingly pretty for ladies bouquets. We associate the name of *Rondeletia* with perfumers' shops and delicious scents; yet the flower of this name is equal in perfume to any that is to be found in such apotheciums, and has the advantage of being more permanent. *Rondeletia odorata* has flesh-coloured flowers with an orange throat, the flowers being disposed in broad corymbs. Many of the flowers which are included in our Plate can scarcely be cultivated by any but an experienced gardener, with appliances for the purpose, which is a certainly costly. The *Rondeletia* belongs to the coffee tribe of plants—*Cinchonaceae*—a most valuable and extensive family. From its members we have not only the invaluable coffee-tree, but the *Inocacantha* and the *Cinchona*, which yields the priceless medicine *quina*. In these plants require special temperatures and care to grow them in British soil; as also do the species of another tropical family, *Melastomaceae*, to which belongs our lovely flower the *Medinilla magnifica*. The blossoms form a grand rose-coloured chandelier, 12 in. to 20 in. in depth, and nearly as wide at the base. No greenhouse is complete without its vine, and we believe it is a fallacy to suppose that grapes will not ripen and grow in the same house with flowers. The one need not to interfere with the other, for at the season when the grapes are thickest and require most heat, and the vine-leaves exclude the light partially from the house, our plants are chiefly out in the open air removed from their winter quarters. Mr. Grindon calls the vine the most "illustrious tree in nature," and tells us that its birthplace is on the shores of the Caspian Sea. The beauty of the foliage of the vine, especially when the sun has purpled the fruit, has given it a place in art from time immemorial. "Vignettes" are so called because originally consisting of little sketches surrounded with *viticulae*, or vine trails. To the same family as the vine *Vitaceae* belongs that most beautiful of hardy creepers the *Virginian creeper*, or *Ampelopsis* *hercynica*. It forms a summer tapestry for walls in the country and in towns, and we have often marvelled at its luxuriant growth in the thick smoky atmosphere of London. Nothing seems to kill it. We have one now peeping in at our window which has defied the worst efforts of a clumsy gardener. After growing for years in the heart of the west end of London, and transforming a back yard into a shady bower with its beautiful green foliage extended over copper wires, it was cut out to remove into the country, and call an acre our own. Our beautiful and faithful *Ampelopsis* must, of course, have the benefit of the change as well as ourselves; but it was an inclement and bitter December day when he was removed; half his long roots were ruthlessly cut asunder, and notwithstanding the fresh air and virgin soil of his new location, his life was despaired of. Gradually, as the spring came on, however, he showed signs of revival. His upper branches certainly succumbed to the bad treatment he had received, but his original energy burst forth, and he is now covering a naked wall with his rich green leaves so n, however, to assume the deep red colour which marks the approach of autumn. We rejoice in this plant; and although in the winter its leaves are shed, there is such a richness in the bursting out of the new ones in the early days of summer that they are worth waiting for. A third plant of this vinous family is the *Cissis discolor*, the creeper represented by our artist. It has very long and slender stems; large ovate, pointed, and velvety leaves; puce coloured below and on the upper surface beautifully flushed with grey and crimson. It is a great favourite in hothouses and greenhouses, and makes a beautiful covering for the wall of a conservatory.

Poets tell us of the "vine-clad hills" of grape-growing and wine-making countries, and our imaginations are led to believe in vineyards as the most beautiful and picturesque of scenes. It is only when we have passed through the districts where they grow that we feel how much is due to the surroundings of the position and not to the vines themselves. Cultivated, as they are, around short poles and planted in regular rows, they lose half their imagined luxuriance; and a vineyard is not to be compared in beauty to one of our Kentish hop-yards, with its pale green tassels and light feathery panicles of flowers. When allowed to grow naturally and without regard to the production of fruit the vine is certainly a luxuriant and beautiful plant. In climates suited to it, as in the south of Europe, it covers whole houses with its charming foliage, and forms shady bowers of a few bits of trellis-work, which are so inexpensively and easily constructed by the poorest of the children of the sun. In such conditions let us first see the time-honoured vine and not when trained, and trimmed, and cut, and twisted round a tiny pole no much higher than a walking stick, as we see it on the hills of the Rhine, where its qualities are best appreciated and most to be admired in a glass of Cabinet Steinberger.

AUTUMN.

THE sweet summer time, "when the leaves are green and long," can alone produce such a galaxy of colour as is seen in our bouquet. Never do we long for the free country fields as we do at this season. We long to lie down beneath the low bending and high overhanging branches beside the stream, and watch the blue dragon-fly sport above the bluer forget-me-nots that nod their tufted heads to every breeze. How delicious and tempting are some of the shady gardens and pleasure-grounds which abound in our favoured country! Nowhere is a garden thought so necessary as in England, and nowhere are they so carefully attended to or so thoroughly appreciated. Unfortunately, but few of us can develop the true theory of gardening in the neighbourhood of towns, for the terrace, the lawn, the fountain, and the shrubberies occupy more space than can be obtained except by the lords of manorial acres. Yet this is not to deter us from the adoption of correct taste in planning and ornamenting our circumscribed grounds. We object to the heterogeneous mixing of all styles of gardening, and we think that in a small space much depends on the judicious blending of colours in the flowers with which our beds are filled. The Dutch garden consists of a geometrical display of vivid and various colours—squares, ovals, or grotesque figures, each exhibiting a separate colour. Masses of such flowers as we have in our Plates are much more effective than when mixed heterogeneously with others in the flower-bed. Greenhouses, without which no great display of flowers can be expected, are often very ugly without occasion, for it is not more expensive to erect a structure in which elegance is an element than one in which it is entirely sacrificed, if the matter be well considered and not trusted to workmen, who regard only the rule of thumb in their operations. There is a fashion in flowers as well as in other matters, and we see very different favourites now from those which were admired in our younger days. The colours of flowers seem almost to have grown deeper and brighter, and the tints to have assumed peculiar richness, just as the discoveries of chemistry have given to the dyers artificial colours peculiar to the present time. Who ever heard of magenta twenty years ago, or mauve, or solferino? yet we have new species of garden flowers with all these special colours. We have before us a lovely *Petunia*, the colour of which is neither lilac nor purple, but undoubtedly mauve. The name *Petunia* was given to the genus of plants to which this flower belongs from *Petun* or *Petum*, the name of tobacco in Brazil, of which country it is a native; and the affinity of the genus to *Nicotiana*, the tobacco plant, suggested it. They both belong to the same natural order *Solanaceae*. There are several species of *Petunia*, all of which are exceedingly elegant plants when in blossom. In the open border they succeed very well from May to September, and large patches of them have a very gay appearance. On the Continent they are very commonly grown in distinct beds; and we notice that in all the public gardens in Germany great attention is paid to the cultivation of this bright flower. On the Rhine-walk, near Coblenz, the gardening operations are greatly encouraged by the personal attention of the Queen of Prussia; and never have we seen such charming effects produced by the judicious grouping of masses of colour and training in various pretty and skilful fanciful designs such climbing plants as the vine, the Virginian creeper, and the rose. The care and skill shown to render this public walk beautiful is worthy of imitation. In autumn a few plants of each species should be put into pots and removed to the greenhouse, so that they may be preserved from the frost of winter. All succeed best in a light, rich soil, and are readily propagated from cuttings. Seeds of them are also sometimes ripened in this country, by which they may be increased. No family of plants of a limited extent supplies so many pretty flowers for our gardens as *Polemoniaceae*, and the genus *Phlox* contains about forty or fifty species of beautiful coloured flowers, which blossom early in the summer and last till the very end of autumn, when their large panicles of white or lilac corollas, shaped like those of the primrose, mingle beautifully with the golden rod and China asters. The specimen in our Plate, *Phlox drummondii*, is a native of Mexico, in the Texas. The name *phlox* comes from $\phi\lambda\omicron\varsigma$ (*phlox*)—flame—in reference to the bright colour of the flowers. To this same family belongs a very beautiful luxuriant climbing plant called *Cobaea scandens*. The fine glaucous green of the smooth and ample foliage, and the large, solitary violet or purple and bell-shaped flowers, followed by ovoid berries, place this plant in the front rank of desirable conservatory plants. It is easily raised from seed, though sometimes cuttings are preferred. One of the favourite plants of the gardener at the present time is the *calceolaria*, with its great variety of colour and spots. Its name signifies little slipper, in allusion to the shape of the corolla, and children call the fallen blossoms "grandmother's pockets." How often have we filled our laps with the scattered flowers, looking like bits of curiously-coloured velvet and presenting every tint except orange and blue, from a delicate cream colour to deep maroon, and often speckled in the most quaint and charming manner! This genus of plants has but two stamens, and it belongs to the natural order *Scrophulariaceae*, the foxglove family, the same in which we find the purple *digitalis* of our hedges, the hoary mullein, the pretty toad flax, the delicate speedwell, and numberless other inhabitants of our fields and waysides, besides the favourite little musk plant and mimulus, and the pentstemon of the greenhouse. The *calceolarias* are natives of South America chiefly, the *pentstemons* likewise. The *pentstemon* is distinguished by its fifth but antherless filament, and its name signifies the fact—coming from the Greek words $\pi\epsilon\pi\tau\epsilon$ *pen-te* five, and $\sigma\tau\eta\mu\omicron\nu$ (*stemon*) a stamen. In this charming family of plants blue, purple, scarlet, rose, and white are the prevailing tints. *Pentstemon cordifolius*, unlike all the rest, is a trailer. The common upright *pentstemon*, with long, narrow scarlet flowers, is *P. gentianoides*, from Mexico.

Verbena is a name of immemorial antiquity, and was originally applied to a plant held in great esteem in magic. *Medea* used *verbena* when she gave youth again to *Æson*; the priests bound it about their temples on the morning of the death of *Æneus*. It was the herba sacra of the ancients, in honour of which *verbena* were annually held. It is represented in our British flora by the vervain, and the Druids instilled a veneration for the vervain nearly equal to that for the mistletoe. *Mason* describes their solemn incantations:—

Lift your boughs of vervain blue,
Dipt in cold September dew,
And dash the moisture, chaste and clear,
O'er the ground and through the air;
Now the place is purg'd and pure.

The gay autumnal flower of our gardens is the *Verbena melindres* or *chamaedrifolia*, a native of the neighbourhood of Buenos Ayres. The various colours it assumes render it a general favourite, as there is scarcely any contrast except yellow that it will not supply when it is desired to have a mass all of one hue.

Verbena tenacoides, from Montevideo, has purple flowers, with the odour of *jasmine*. Indoors the favourite genera are *Lantana* and *Clerodendron*. The flowers of the former are borne in little umbels or hemispherical heads on the

summit of long peduncles, every head while young an inch or two across. Their colours are exceedingly pretty and delicate, and two or more often mingle in the same head, as lilac and primrose in the *Lantana mutabilis*. In the *Lantana crocea* the heads are of a fine, rich orange colour. Unfortunately, the odour of these flowers is like that of lucifer-matches, and the plants are apt to be of an untidy appearance, and in some species a little prickly. The lemon *verbena*, or *aloysia*, is a native of *Chili*. Though in the colder parts of England it is an indoor shrub, in the south of Devonshire and in the Island of Guernsey it becomes tree-like, and has long, pendulous branches. The insignificant white or lilac flowers which we are accustomed to see on it grow in erect panicles; the lanceolate leaves, as in many other *Chilian* plants, are produced in whorls of three; hence the original name of *Verbena triphylla*. The *fuchsia* is known to British gardeners as one of the most beautiful half-hardy plants in cultivation. Whether it be in the cottager's little garden or the squire's well-kept parterre, the pretty hanging blossoms of the *fuchsia* are equally to be admired and attainable in both situations. Few plants are neater than the little *Fuchsia microphylla*, the flowers of which are only half an inch long. Originally treated as a hothouse shrub, then tried in the greenhouse, then in the open air, the *fuchsia* has eventually proved hardy enough to bear the winter with little or no protection; and in sheltered situations near the sea, as in the Isle of Man and the Isle of Wight, it becomes a grand circular bush, many feet high, and loaded with crimson blossoms till the close of the year. Few flowers are more protean in the form and colour of the calyx and corolla, or so remarkable for an equal splendour of hue in the two portions; nor is it less worthy of note that when doubted by the art of the gardener they still retain the same pistil and stamens. Individual blossoms are very commonly pentamerous; others may be formed in odd, morphological conditions, the stamens becoming petaloid and the lobes of the calyx changing into a bonâ fide green leaf. The seeds easily ripen, and are oblong berries, having a very sweet taste. In some species the berries are so sweet that the missionaries at one time tried to introduce the plant into *Otaheite* as a sugar plant, but were unable to procure seeds, as in *New Zealand* the berries are eaten greedily by the pigs as soon as they appear. All species of *fuchsia* are very easily propagated by cuttings. One of the most expeditious modes is to put a plant into heat in January, and take off the shoots for cuttings as soon as they are three inches long. Abundance of plants may be thus raised every spring for turning out into the open garden in May, and these plants in cold situations or in moist soils may either be taken up and preserved in a cellar during winter or left to perish and their places supplied by others raised in the same manner. In propagating *fuchsias* by cuttings it is very important to remember that a twig with the leaves in threes or fours will always make a much more elegant plant than one in which the leaves are only in pairs. The ordinary common crimson *fuchsia* is the only one that will grow well in the open ground; those with white or tinted flowers with purple corollas or sepals, &c., of which there is an infinite variety, belong to the conservatory. One sort is especially pretty—the *F. globosea*. It looks like a coral earring, and is remarkable for the globular shape of the calyx before it bursts. In the *fuchsia*, it is necessary to remember that the calyx is not green but crimson or white as the case may be; the petals are frequently purple and the sepals red or crimson. The *fuchsias* belong to the family *Onagraceae*. Most of the plants belonging to it are gay and ornamental. It includes the willow herbs, the pretty evening primrose, *cenothera*, and the *clarkias*, all of which are favourites with gardeners.

The flowers belonging to the *solanaceae* tribe of plants are all recognised immediately by their starlike corollas and the cone of yellow anthers in the centre. *Solanum jasminoides* of our Plate has great bunches of pure white flowers, and scrambles in greenhouses to the height of ten or twelve feet. The genus is commonly known as producing our favourite root the potato, which originally came from the *New World*. The nightshades, too, belong to this genus; not only the deadly nightshade—*Atropa belladonna*—but the *Solanum dulcamara*, the bitter-sweet or woody nightshade, which it is now contended is not poisonous. The *Atropa belladonna* suggests by its name the practice of Italian belles who make use of its properties to enhance their personal charms. A portion of the extract when placed in contact with the pupil of the eye causes it to dilate, and gives a brilliancy and lustre to these speaking orbs which is much coveted and admired. We hear that this practice is not confined to the land of cloudless skies and summer breezes, but that in our own country the preparation is to be seen on the toilette-tables of our fashionable ladies. Happily, this property is turned to good account by modern science, and in examinations of the eye it is found to be of great service in dilating the pupil, as well as previous to the operation for cataract. Numberless are the instances where death has ensued from partaking of this plant or its berries. The very powerful nature of its poisonous qualities has directed the attention of modern professors of *matéria medica* towards it, and at this time it is considered to be a valuable medical agent. The *Atropa mandragora*, known as *mandrakes*, belongs to the same genus of plants, the roots of which are superstitiously connected with numerous fancies, and are still sold on the continent of Europe as ingredients in love philtres and charms.

The egg plant—*Solanum melongena*—is a favourite representative of this family in greenhouses and conservatories. It is so named on account of the large, ovoid pendulous berries it produces, as large as the egg of a domestic fowl. They are generally white in colour, but there are varieties with coloured berries. In French and Italian cookery these eggs are used in stews and soups and for the general purposes of the love-apple or tomato. In cultivating the plants for use they should be reared on a hotbed in light, rich earth. After they have grown two or three proper leaves they may be either pricked out into another hotbed or planted in small pots, in which they will produce their fruit. If the plants, instead of being put into pots, are planted against a wall or in a warm border in June they will fruit in the open air, if the season be not unusually wet or cold. Whilst interested in the beautiful and petted flowers of our bouquets, we must not forget that they are the natives of warmer and more fruitful climes than ours, and that it is only with care and patience that most of them can be induced to take up their abode with us and to weather our winter skies. During the fine, bright days of spring and summer we may be attracted to work in the open garden or to seek for native beauties in the fields and hedges. It is when the cold autumnal nights come on and the clouded skies warn us of the approach of winter that we must industriously house our tender favourites, and we shall find ample occupation during the cold months of the year in attending to them. Cutting slips and potting them, cleansing their leaves and arranging them for the winter must now be the provident work of all who love a bright parterre or a gorgeous bouquet in the summer time. *Cowper* says, "Who loves a garden loves a greenhouse too!"—

Unconscious of a less propitious clime,
There blooms exotic beauty warm and snug,
While the winds whistle and the snows descend.

WINTER.

THE delights of spring are not confined to those who can breathe the fresh air of the country and search the meadows and hedge-banks for the harbingers of this charming season. We who live in large towns and seldom see a green field can by the appliances of art surround ourselves with the most admired of Flora's children, living and growing in all their native beauty. But few houses where a double window or modest conservatory cannot be obtained, and even with care and without the poisoning influence of gas many lovely plants may be nurtured and preserved in our open flower-stands at an ordinary window. Where do we see such gay displays of colour as in the windows of London during the early spring months, when rows of sweet-scented hyacinths fill every available position? And have not the well-trained creepers, with their bright green leaves forming a living framework for the pretty white drapery and flowers within, often caused a pang of envy even to those who possess acres of cultivated ground in the country? We suppose that concentration is the secret of success, and that the amount of attention bestowed on so small a space as is represented by a window brings all that is there attempted to perfection. During the last five-and-twenty years there has been great increase in the knowledge of wild flowers, and we welcome the sign. Until within that period even many reared up in country houses scarcely knew the names of the flowers which dappled the grass at their very doors, but now we have village flower shows and prizes for window plants, and the poorest among us can not only indulge his taste for the beautiful but can easily learn to understand the structure and history of the lovely flower he is tending with so much care. Those who live in the heart of great cities are not so forcibly reminded of the change of the seasons as those who are happy enough to have nature always before them, for, much as we may surround ourselves with the artificially-nurtured flowers of spring, the smoky atmosphere of a city prevents anything like the transformation that becomes gradually evident in a country scene as the year advances. Covent-garden Market, it is true, is an excellent index of what is going on in the lanes and hedges, the fields and gardens, miles away under the clear, blue sky; and as we see the magnificent bouquets of rare and expensive exotic flowers, or the prettily-arranged baskets of crocuses, hyacinths, jonquils, and snowdrops, we only wish for a purse long enough to fill our dingy London rooms with these brightest of all decorations. No matter how severe the winter has been, primroses are always abundant. Amid the din and jar of the busy streets of London the pleasant cry of "Come buy my pretty primroses" falls cheerfully on the ear.

It may be on account of its early appearance that we fancy there is no yellow flower so delightful to look upon as the delicately-coloured primrose for the deep golden hue of the buttercup and the celandine is glaring when compared with it. There is a beauty, too, in the form of its heart-shaped petals and its deep green foliage. In the country they speak of things happening at "primrose time": he died, or she was married, about primrose time, for so they mark the season that lies between the white ridge of winter and the pale green border of spring. Then it is a flower as old and common as our English daisies, and long before the time of Alfred must have gladdened the hearts of Saxon children by its early coming, as it does the children of the present day. We remember very recently seeing an attractive picture in the Royal Academy Exhibition of the arrival of a primrose plant from England in the far distant land of New Zealand. There the primrose had never grown, and the strength of association with the old country was so great among those who were seeking their fortunes on a new shore that burly men and delicate maidens vied with each other to get a glimpse of the well-remembered plant, and not without emotion did these emigrants gaze on this mute companion of their childhood and bygone days. The moment of its transport from the ship to the dock is chosen by the artist, and the eager faces he has depicted tell of a thousand memories awakened by the delicate yellow blossoms, of happy and sorrowful springs passed away amidst scenes of home and loved ones across the briny sea. The primrose is a type of the natural order Primulaceae. Botanically, it is an excellent example of a plant with regular monopetalous corolla, and is a good specimen for a first lesson in botany. It varies in its form from many other flowers in being united, for the star-shaped corolla cannot be separated without tearing the flower in pieces. By drawing out this corolla one may see the tube which incloses the seed vessel, the style of which is surmounted by its round stigma, also enclosing five stamens, the whole of which are sheathed in the beautiful calyx, and seated on the delicate footstalk which sways to and fro with every breath of wind. Honest Isaac Walton was a great lover of primroses, and no doubt they were the flowers which he thought were too good to be looked at "excepting on holidays." He tells us how he was sitting under a beech-tree when "the buds in an adjoining grove seemed to have a friendly contention with an echo whose dead voice seemed to live in a hollow tree near to the brow of that primrose hill." Who can tell what was passing through the mind of our great poet Milton when he wrote that strange, mystic line about the primrose in which he says—

Bring the rathe primrose that forsaken dies,

and numbers it among the flowers that "sad embroidery wear"?

Our Plate gives the polyanthus as the representative of the primrose family, which is believed to originate both from the primrose and the oxlip, or cowslip, but principally from the latter. The double and single varieties of this family of plants produced by culture seem to be almost endless. Florists prefer the rose-eyed polyanthus, or that wherein the anthers appear at the top of the tube of the blossom, to the pin-eyed, wherein the stigma of the pistil is most obvious.

The favourite tribe of auriculas, enriched

With shining meal o'er all their velvet leaves,

is said to be rendered of surpassing size and beauty by the application of pieces of raw meat near the roots, and Dr. Withering suggests that if such be the fact the same practice might be advantageously adopted for enriching the polyanthus, or even moistening the roots with the sanguineous fluid itself might probably produce the desired effect. The narcissus, the poet's narcissus—Narcissus Poesicus—belongs to the daffodil family, the Amaryllidaceae, and is well known to all lovers of spring flowers not only for its beauty but for its pleasant scent. It is more delicate and refined in appearance than its near relative the daffodil, and has, moreover, a history of its own and one of classic antiquity. The narcissus was so called from the word *ναρκη*, stupor, on account of the overpowering effect produced by the smell of that flower, a quality from which the daffodil is perfectly free. The narcissus was therefore consecrated to the furies, who were fabled to stupefy their victims by its means before attacking them. The Chinese, however, regard the narcissus very differently, decorating the shrines of their household gods with it, and

placing large china dishes of its blossoms before them on the first day of the new year, for which purpose the roots are planted in pots filled with pebbles and water, just in time to cause them to blow for this festival. The old fable of the youth Narcissus must always be associated with this flower, and we could almost fancy that this delicate strengthless-looking flower was a fit emblem of the weak youth who fell in love with his own image reflected in the water, and pined away until he was changed into the flower which bears his name:—

And on a bank a lonely flower he spied,
A meek and forlorn flower with naught of pride,
Drooping its beauty o'er the water's clearness,
To woo its own sad image into nearness;
Deaf to light Zephyrus, it would not move,
But still would seem to droop, to pine, to love.

Any spring garland would be incomplete without "the fair maids of February," as the snowdrops are often called. Springing as they do from the midst of the snow that surrounds them, they would be warmly welcomed by us even had their appearance nothing to recommend them; but, as it is, their beauty and elegance make us regret their disappearance, though we know that it is the signal of the nearer approach of spring. What dweller in the country has not watched assiduously for the appearance of the first snowdrop? But great as is the pleasure of finding it in the garden, perhaps it is heightened by discovering a little bunch of white flowers, "like pendant flakes of vegetating snow," nestling among the coarse grass in a warm corner of a hedgerow, or on the mossy ground at the foot of some sheltering tree. This pleasure is not for all, for the snowdrop does not grow wild everywhere, and Sir W. Hooker calls it "scarcely indigenous," but in some localities it is abundant. The snowdrop belongs to the same family as the narcissus, and its botanical name is *Galanthus nivalis*, which name is derived from two Greek words signifying milk and a flower, while the trivial name *nivalis* signifies snowy. The French names are *perce neige* and *la galatine*, while the Germans call it *schneeglöckchen*; literally, snow bells. There is an Old World legend which tells us how the snowdrop became the emblem of hope; that Hope, with her long, golden hair dishevelled, stood one day leaning upon her anchor, watching the snow fall as she looked down upon the earth, that Spring stood beside her, and Hope said the earth would look much more cheerful if instead of snow, which melted and left the woods and fields dark and damp, the flakes were changed into white flowers when the snow had melted; that Spring smiled as she listened to Hope, and sending her sweet, warm breath among the falling snow, it fell in the form of flowers, and so the snowdrop was first made; that Hope caught the first flower before it fell, and said it should be her emblem throughout all time.

Among the plants which adorn our greenhouses just now we find species of *Euphorbia*, and our Artist has figured *Euphorbia fulgens*. It belongs to the spurge tribe of plants, and received its name in honour of Euphorbus, who was physician to Juba, King of Mauritania, who is said first to have used some of the plants of the genus in medicine. It includes many curious and grotesque plants, but few of them having any use or beauty, and most of them acid, poisonous weeds. The species of *Euphorbia* have all a milky juice, which contains more or less caustic, and is so acrid that in many species it will blister or redden the skin, and is used to destroy warts. Dioscorides states that in old practice this juice was dropped into the eye to remove opacity of the cornea, and also into wounds to destroy the venom of the scorpion. It is purgative and emetic, if taken internally in small doses, and the concrete juices of several species form the gum resin used in medicine under the name of "euphorbium." The *Euphorbia fulgens* is also known as *jacquiniflora*. It comes from Mexico, and is valuable in all conservatories as blooming in the depth of winter. The stems are slender and thornless, the leaves of a dark green colour, mostly half pendulous, and the flowers not unlike those of the pimpinell, of the most intense and glowing scarlet. No spurge has an involucre more like a corolla, the five tracts being regularly disposed and forming a rounded star. Their long-endering substance and extreme brilliancy, the double or triple lines they form up the stem, and the flexibility of the latter, which allows of its being bent in any form, render this plant one of the most beautiful and striking ornaments for the head that a lady can wear, especially by artificial light. To the same family belongs the splendid *Poinsettia pulcherrima*, a native of Mexico, and unrivalled in its gorgeous tints of great scarlet lanceolate leaves which crown the stem and which, like the euphorbia, appear in winter. Fine specimens often measure twelve inches across, and we are told that plants have been grown in Philadelphia having crowns of leaves measuring twenty inches across. Occasionally these floral leaves are white or cream-coloured; the actual blossoms are insignificant and a reddish orange colour; the ordinary leaves are broad and angular, three or four inches long, and petiolate.

We have also in our bouquet the pretty, showy correa, so named in honour of Joseph Correa de Serra, a learned Portuguese, who, without publishing much, was one of the most profound theoretical botanists of his day. The *Correa speciosa* is a favourite greenhouse shrub, and has woolly foliage and tubular half-pendulous corollas an inch in length, crimson with the exception of the green margin, the whole surface of the flower being rough with microscopic stellate hairs.

The pretty, bright-coloured bulbs of the scarlet salvia are seen amidst our other flowers at this time of the year, and we are reminded of the origin of its name from *salvia*, to save, on account of the supposed healing properties of some of the species. It is an aristocratic connection of the common sage of our gardens and hedges, but it retains none of the peculiar odour suggestive of roast ducks and such like plebeian proclivities in its humbler relative. Beauty of form and colour is but one attraction in flowers; we naturally prize those most which appeal to our sense of smell as well as to the eye. Delicious perfumes are exhaled from numberless bright blossoms, none we think more delightful than that given out from the hyacinth of our gardens. The *Hyacinthus orientalis* is a native of South-Western Asia, and is one of the oldest inhabitants of the English parterre. The practice of growing it in glasses of water for parlour ornament dates from 1734, and was one of the happiest ideas ever conceived in connection with flowers. A few shillings wisely spent in the bulbs and a little taste in the arrangement of the glasses will make the dulllest apartment as bright as the Alhambra and as deliciously perfumed as Arabia.

There is but one flower, however, whose fragrance lingers after death and whose remains perfume and sweeten even as did its living presence. The rose is surely the type of an enduring and permanent affection,

because its breath
Is rich beyond the rest, and when it dies
It doth bequeath a charm to sweeten death.