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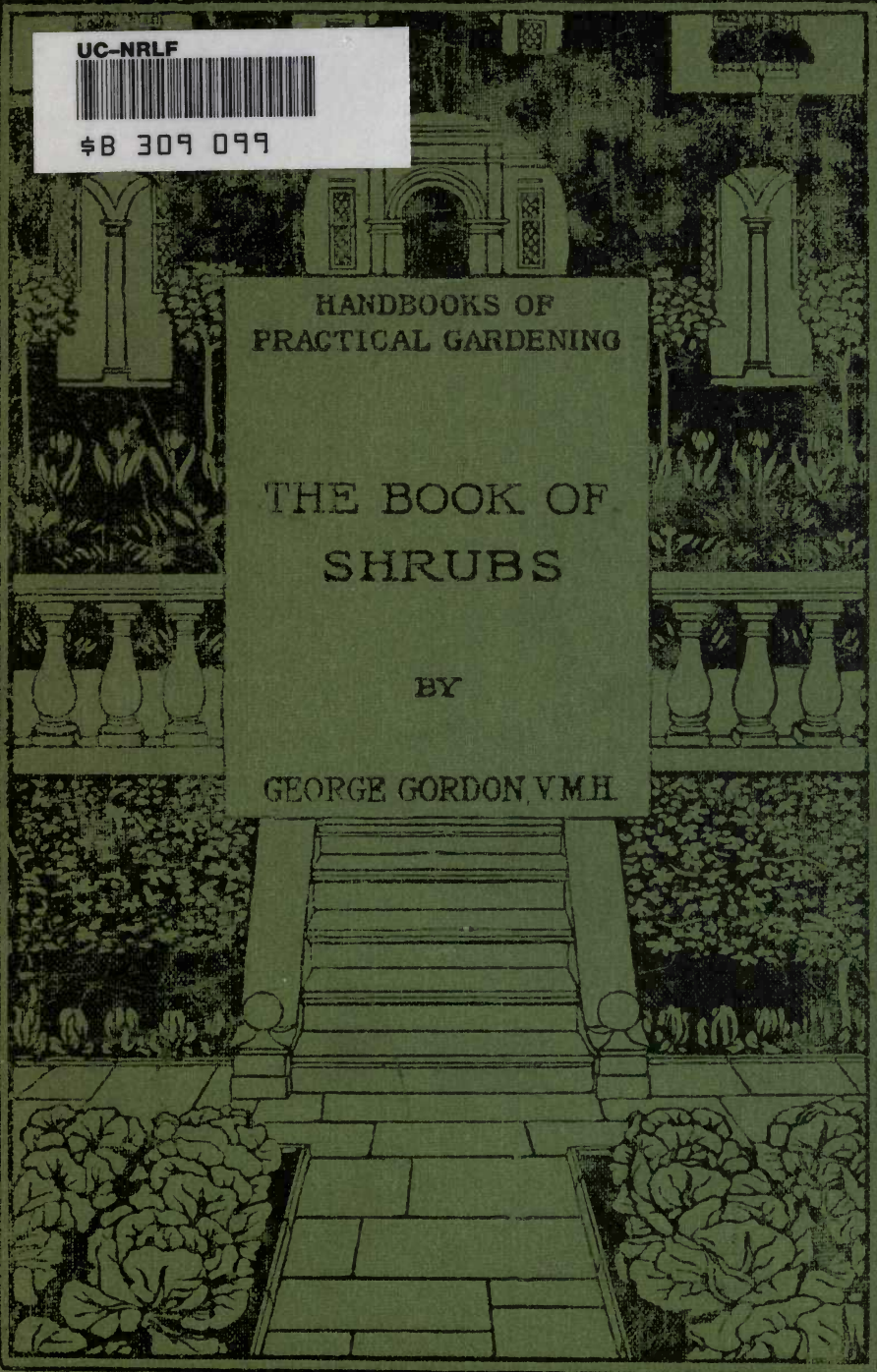
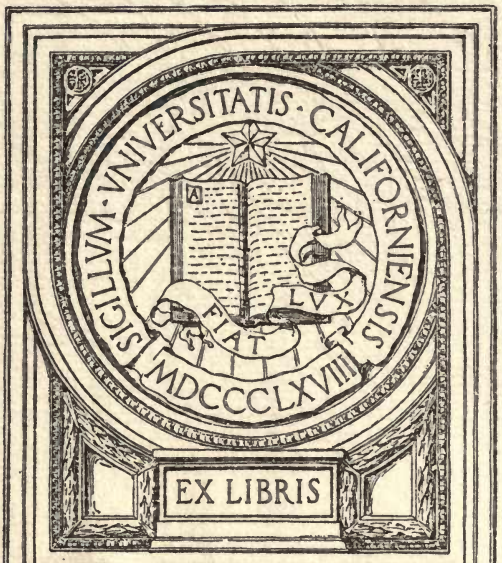


HANDBOOKS OF
PRACTICAL GARDENING

THE BOOK OF SHRUBS

BY

GEORGE GORDON, V.M.H.



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HANDBOOKS OF PRACTICAL GARDENING—XV
EDITED BY HARRY ROBERTS

THE BOOK OF SHRUBS

MAGNOLIA

THE BOOK OF SHRUBS

BY

GEORGE GORDON, V.M.H.

EDITOR OF *The Gardener's Magazine*

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THE BOOK OF SHRUBS

INTRODUCTION

To those who take something more than a superficial view of the ornamental aspects of the garden and are well acquainted with the more beautiful shrubs and the trees of small growth, it has long been a matter for regret that there should, in relation to arborescent vegetation, be so much poverty in gardens of all classes. They have known that botanical gardens and many of the leading nurseries have abounded in shrubs and trees of wondrous beauty, while gardens were being more or less given up to the growth of such as properly belong to the hedgerow and the rustic woodland. In some cases the planting of these kinds in the garden has been due to a desire to effect a small saving in the initial cost of the gardens; but in others the errors in planting have resulted from a want of knowledge of the many beautiful forms that properly belong to the garden.

Of late years owners of gardens and those responsible for their formation and management have become better acquainted with shrubs and trees, and have effected considerable improvements in their selections, but much has yet to be learned before the choicer kinds at the command of planters can be taken full advantage of and properly utilised in the formation of garden scenery. It is hoped, and, indeed, believed, that this work will do

much to extend the knowledge of the many beautiful forms, and thereby promote the development of a taste for them, and assist in a material extension of their cultivation. From the following pages it will be readily gathered that there is an immense variety of forms at command, a variety so large as to more than suffice for affording a succession of delights to those who make a proper distinction in the selection of their shrubs and trees between the shrubbery border and the hedgerow and the dressed grounds and the rustic woodland. It will be seen that there are shrubs and trees of moderate and miniature growth; forms that flower in spring, fruit in summer, and that assume the most brilliant hues when autumn passes her hand amongst the leaves; forms that enrich the artistically planted garden with their deep tones of colour, and forms with variegated leaves that light it up with their golden and grey and silvery hues, and forms with leafage like lace in their lightness, and that there are forms with foliage of the most massive character.

The wealth of material that was at the command of planters a quarter of a century ago, and, unfortunately, so indifferently utilised, has been greatly increased of late years by the enterprise of British nurserymen and the well-directed efforts of hybridists. During the past twenty-five years a considerable number of distinct and beautiful trees and shrubs have been received from Japan, North America, and other parts of the world; and within the same period the shrubs remarkable for the beauty of their flowers have been greatly increased by the efforts of the hybridists. The lilacs, the philadelphus, and the dentzias have been enormously improved, while hardy azaleas and rhododendrons have had so many important additions made to them as to have had their usefulness increased to a very appreciable extent.

There should be no difficulty in obtaining any of the plants that are mentioned in this book, for the persistent advocacy by the author of the merits of garden shrubs and trees has brought them into sufficient prominence to induce nurserymen in all parts of the United Kingdom to include them in their stocks. It may not be possible to see them all growing in the same nursery, but any nurseryman of position should be able to supply them all, and at a price within the means of the majority of those who own gardens. Intending planters should, as far as practicable, see the kinds they purpose planting growing in the nurseries or in neighbouring gardens, and in the case of those grown for their flowers when in bloom. Tastes differ, and while all are more or less beautiful, some will be preferred to others; and by making a selection when in full growth the purchaser can not only select those most in accordance with his taste, but he can form a much better idea as to the suitability of the respective kinds for the position they are intended to occupy.

CULTURAL

THE cultivation of shrubs and trees is a very simple matter, and the principal details can be readily mastered by those who have an elementary knowledge of gardening. Unless the circumstances are quite exceptional and the nursery is within a few miles of the garden, plants of medium size should be preferred to those that have attained to large dimensions. The latter are costly because of the large amount expended in labour upon their preparation by the nurseryman, and they are much more difficult to establish. Sometimes with considerable care they die in the summer after they are planted. In other cases they are so slow in becoming established that they make but little growth for two or three years; and when they readily take to their new quarters, it is not unusual for them to be overtaken by plants several years younger at the time of planting. Speaking in a general way, the plants offered at the usual catalogue price are the best, having regard to their cost and the rapidity with which, under ordinary care, they become established and fill the positions assigned them.

The preparation of the soil for the reception of the shrubs and trees must be thorough, for upon the manner in which this is done depends in a large measure the after success. If the whole of the bed or border is to be planted at the same time, the ground should be broken up to a depth of eighteen inches or two feet, but unless the soil is good and friable throughout the whole depth, the bottom spit should not be brought to the surface,

but be well broken up with the fork or spade, and be left in the bottom of the trench. These things do not require a rich soil, but if the soil is poor a moderate dressing of well-rotted manure or decayed vegetable refuse should be dug in during the preparatory process. Leaf mould may also be used for the same purpose, but that material is seldom available in sufficient quantities to admit of it being used as a dressing for shrubbery or other borders. When planted singly or on the lawn, the stations should be of a sufficient diameter to allow of the roots being spread out horizontally, and the soil be broken up as in the case of beds and borders, and with or without manurial matter added to it, as may be considered desirable.

The autumn is the best season for planting and purchasing deciduous shrubs and trees, and those who begin early will have the best prospect of obtaining satisfactory results. To be more exact, the four weeks commencing with the middle of October is the most suitable period. In the mild autumnal days, when the soil is warm and the showers are frequent, newly planted shrubs and trees proceed to make new roots in their fresh quarters with great rapidity, and in the following spring grow so vigorously as to afford no indication of having lately had their roots disturbed. With every day's delay there is an increase in the check which they must inevitably suffer by removal. By early planting the damage done to the roots is slight and the recovery rapid. The longer the planting is deferred the more serious is the injury and the recovery is slow, and in the case of those transplanted in spring, when the sap is becoming active, as indicated by the swelling buds, there is a risk of the injury being so great as to result in death. August and September are the two best months for transplanting evergreens, but the work may be done in October with a good prospect of success.

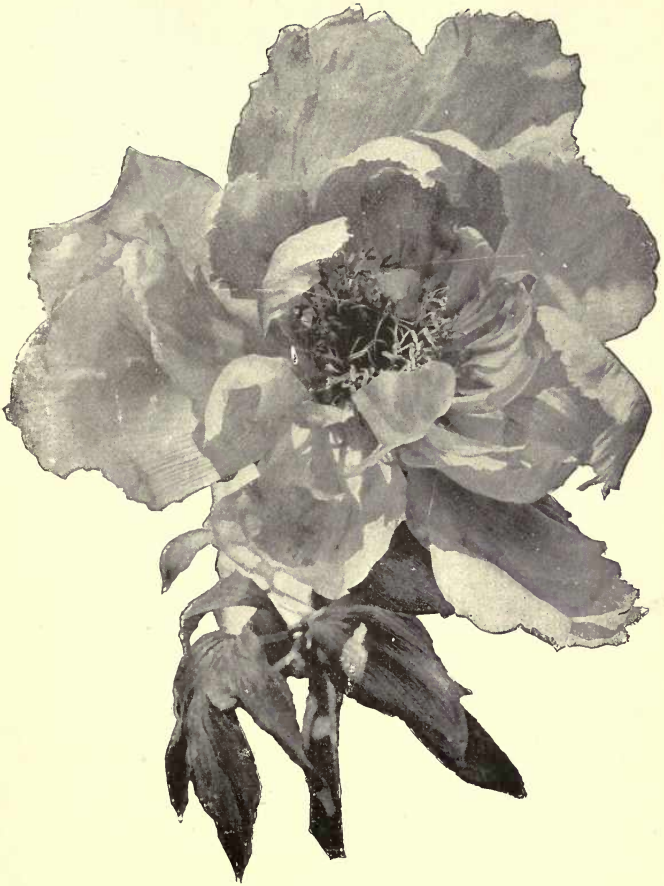
It is a good rule in planting operations of all kinds to expose the roots to atmospheric influences as little as possible, therefore the ground should in all cases be ready for the reception of shrubs or trees immediately they arrive. When they are unpacked dip the roots if dry in a vessel of water, place them together in a position convenient to the bed or border in which they are to be planted, and lay a mat or a piece of canvas over the roots. In planting make the holes large enough to admit of the roots being spread out horizontally and deep enough for the stem to be about an inch or so lower in the soil than it was previously as indicated by the soil mark. Place rather fine soil immediately over the roots and then proceed to fill in the hole and tread the soil firmly as this is being done, and if the soil is close and retentive, a barrowful of old soil from the potting bench and frame ground should be at hand for placing immediately over the roots. All the roots that have been injured in lifting or transit should be cut back to an inch or so above the wound, a sharp knife being used as a clean cut is of primary importance. Whether any pruning of the branches should be done at the time of pruning will depend upon the kinds and the size of the examples. Generally speaking a shortening of the branches of the deciduous kinds will be desirable, and in the case of large specimens rather severe pruning will be beneficial for the purpose of reducing the leaf area and consequently the evaporative surface in the succeeding spring and summer. There are exceptions to all rules, and large specimens that are only moved from one part of the garden to the other, or are lifted in the nursery with exceptionally good roots at the best time for planting operations and packed and planted carefully will so quickly recover as to be able to take up the amount of moisture necessary to produce a satis-

factory growth. In many cases considerable assistance will be derived from two or three liberal root waterings in May and occasional overhead syringings. Evergreens moved in August should be syringed overhead three or four times a week in dry weather for the purpose of reducing the evaporation until the roots are able to take up moisture in quantities sufficient for the requirements of the plants.

It is important to avoid overcrowding, and there are two courses open to the planter; one to arrange the plants far enough apart to allow for several seasons' growth and the other to plant somewhat closer and remove a certain proportion of the plants when they are beginning to touch each other. The first is the preferable of the two courses, and until the shrubs occupy the whole space, the borders can be made bright with bulbs in spring and annuals in summer. The annuals should be dwarf in growth so that they will not interfere with the development of the shrubs and also be rather thin on the ground. Anemones, chinodoxas, muscari, snowdrops and other spring flowering bulbs may be grown permanently amongst shrubs as they will produce beautiful displays of flowers without in the slightest interfering with their growth.

Very little pruning will be required, and in the case of flowering shrubs should be limited to the removal in the winter of the old and exhausted growths. When shoots are cut back annually as is done in many cases under the erroneous impression that an annual pruning is a necessary part of the management of shrubs they produce but few if any flowers and present a formal and unsatisfactory appearance. Branches that are likely to spoil the contour of a specimen or invade a neighbour's territory should as a matter of course be cut hard back. Much the same practice should be followed in the case of evergreens, and they are here referred to specially

for the purpose of saying that they should invariably be pruned with a knife as where shears are used as is so frequently the case the leaves are usually so disfigured as to more or less spoil the appearance of the specimens until the new growth is sufficiently advanced to hide them.



SINGLE FLOWER OF TREE PÆONY

One-third diameter

DECIDUOUS FLOWERING SHRUBS

THE deciduous shrubs remarkable for the beauty of their flowers are so numerous, so varied in character and so wondrously beautiful when yielding of their floral wealth as to form the most important of all the groups of ligneous vegetation. From the opening of the singularly formed and attractively coloured flowers of the Hamamelis in January until the later Philadelphus attain the zenith of their beauty about midsummer there is a continuous procession of flowers of the most delightful description. Some few kinds produce their flowers at a later period, but the fact that these shrubs contribute with remarkable prodigality to the charms of the garden for fully six months of the year should be sufficient to ensure their being largely planted in both large and small gardens, and in country and town districts. More especially should this be the case when it is remembered that those most effective when in bloom are at least as attractive at other seasons of the year as kinds with inconspicuous flowers. Those enumerated in this chapter do not include all that are worth the attention of planters, but they comprise the very best in their respective classes and are more than sufficient to produce the most delightful effects in gardens large enough to afford full scope for the display of taste by the garden artist.

ABELIAS.—These form a small group of deciduous and evergreen shrubs that are less generally useful than the majority of shrubs remarkable for the beauty of their flowers; but they are sufficiently attractive to justify their being planted where the conditions are favourable

to their making a vigorous growth and flowering freely. They attain a height ranging from three to five feet, are elegant in habit and produce funnel-shaped flowers, these being borne in clusters in the axils of the leaves. They, however, are not sufficiently hardy to be successfully grown in the open border except in the south and west of England, and in the more southern districts of Ireland. In the midland counties of England they may be grown against walls with a southern aspect provided they are given a little protection in severe winter. With so large a number of perfectly hardy shrubs available, shrubs that are somewhat tender should as a rule be planted in those districts only in which they can be satisfactorily grown without protection. They require a well-drained border and a light soil, a soil somewhat sandy to which liberal additions of peat and leaf mould have been made being the most suitable.

The most desirable of the deciduous species are *A. chinensis* (syn. *A. rupestris*), a dwarf-growing species bearing clusters of tubular, fragrant, pale pink flowers; the season of flowering extending from early in August until the end of September. *A. triflora*, a charming species from the Himalayas, flowering throughout the summer months; the flowers are borne in clusters of three, the corolla rose-pink on the outer, and pale yellow on the inner side.

Berberis or Barberry.—The finest of the barberries are so extremely beautiful and effective that they should be liberally planted in gardens of all sizes, more particularly as they are quite hardy and can be grown to a high degree of perfection without special attention. Several of the finest of the species and their hybrids have persistent leafage, and will be found enumerated in the chapter devoted to ornamental evergreens. All the deciduous species may be planted in any ordinary garden soil with the assurance of their making a vigorous growth

and flowering profusely, but as in the case of the majority of shrubs they are the most satisfactory when planted in soil that is moderately rich and well drained. They may be propagated by means of layers and suckers which should be taken off when nicely rooted late in the autumn; and also by means of cuttings of well-ripened shoots, which should be taken in October and rooted under hand-glasses in the open. The following autumn they will be rooted sufficiently to be planted in nursery lines to strengthen previous to their being put in their permanent quarters.

The best of the deciduous Berberis are: *B. canadensis* or Canadian Barberry, an elegant shrub attaining a height of about four feet and having a profusion of drooping racemes of yellow flowers during the spring months; *B. chinensis* or Chinese Barberry, a distinct species growing to a height of from four to six feet and flowering in May, the flowers bright yellow and borne in pendent racemes; and *B. Thunbergi* or Thunberg's Barberry, a very handsome Japanese species of dwarf spreading growth, and not less remarkable for the splendid colouring of its leaves and fruits in autumn than for the effectiveness of its flowers in spring. The growths are slender, gracefully arching, and in April they bear along the greater part of their length pendent yellow and red flowers, which are followed by fruits that in the autumn become of a bright scarlet colour. In the autumn the leaves change to bronze, crimson and red, and when the plants are of considerable size they produce a very rich effect. This species should have a place in the front row of the shrubbery border and on the margin of beds and groups of shrubs. *B. vulgaris* or Common Barberry is a robust growing shrub attaining, under favourable conditions, a height of eight or ten feet. It blooms freely during the spring months, the flowers being yellow and produced in short racemes. These are succeeded by clusters of

fruit, which in the autumn change to a bright coral red colour and are very effective. Only suitable for large gardens, in which it should be assigned a position at the back of the borders.

CALYCANTHUS.—Although not particularly attractive in colour, the flowers are so delightfully fragrant as to fully justify the two species of calycanthus in cultivation being grown in gardens where there is sufficient space for planting a somewhat comprehensive collection. They range from six to eight feet in height according to the conditions under which they are placed, and they are quite hardy. They will grow freely in any ordinary soil, but they prefer a position where they can have an abundance of moisture at the roots and enjoy partial shade. Hence they are well adapted for planting where the shrubbery is partially shaded by trees and alongside paths and drives through woods and plantations forming part of the pleasure grounds. Propagation may be effected by means of seed sown in an unheated frame in spring, by offsets taken off early in winter, or by layers made early in the autumn.

The fragrant *C. floridus* or Carolina Allspice reaches a height of five or six feet and produces its purple-red and delightfully fragrant flowers in May. *C. occidentalis* or Californian Allspice is more robust than the first named and decidedly the most attractive. When the plants have the advantage of a deep moist soil and plenty of space, they will attain a height of eight or nine feet and bloom freely. The flowers are about three inches in diameter, dull red-crimson, sweetly scented, and produced from midsummer until late in the autumn.

CHIMONANTHUS.—The only species of Chimonanthus in cultivation is *C. fragrans* or Winter Flower. The plant attains a height of five or six feet, has slender shoots, and produces during the winter months a profusion of its greenish yellow, highly fragrant flowers. The

TREE PÆONY FLOWER, PARTLY OPEN

One-third diameter

flowers are somewhat bell-shaped about three quarters of an inch in depth, and are borne along the leafless shoots. It is an advantage to plant the Chimonanthus on the sunny side of a wall and train the branches over the surface, as the shelter the wall affords is sufficient to protect the flowers from the adverse influence of the weather.

CLERODENDRONS.—With two exceptions the Clerodendrons grown in British gardens are natives of tropical regions, and require the warmth and shelter of a plant stove or greenhouse for their successful cultivation. The exceptions are the Chinese Clerodendron (*C. fœtidum*), which is not sufficiently hardy to be grown except in sheltered position in the south and west of England, and *C. trichotomum*, a hardy and remarkably handsome species introduced from Japan. The last named only can be recommended for general cultivation, and its distinctness and beauty should obtain for it a prominent position in the shrubbery border. It has a stout upright habit of growth, large dark green leaves, and bears in September a profusion of flowers which are white with rose purple calyx and sweetly scented.

The chief points in their cultivation are a well-drained and moderately light soil and just sufficient thinning to prevent overcrowding, the latter operation being done by the removal during the winter of the weakly and exhausted growths.

CORNUS OR DOGWOODS.—The deciduous dogwoods are all more or less attractive and useful for the shrubbery, more especially in the semi-wild parts of the garden and in moist positions. They, however, differ materially in relative merit, and a comparatively small selection will suffice for any one garden. They will grow freely in any ordinary garden soil, but they have a preference for a position where they will have an abundance of moisture at the roots, and are therefore most useful for

planting alongside running streams and on the margin of lakes and ponds. Some of the species have a brilliant red bark, and consequently present a bright effect when leafless during the autumn and winter months. They may be readily increased by cuttings, layers, or seeds. Cuttings of the well ripened shoots taken early in the autumn and inserted in sandy soil in an unheated frame or under a hand-glass will usually root freely. If any difficulty is experienced in striking the cuttings of either of the kinds, select medium-sized shoots as soon as the leaves have fallen and peg them down round the plant, previously making a transverse cut half-way through the shoot in an upward direction, and then cover the portion pegged down with two or three inches of soil. The seed should be sown in the autumn or early in the spring in an unheated frame and planted out in nursery lines in the kitchen garden when a few inches in height. The several species differ in height and should be assigned positions in the shrubbery according to their stature, the dwarf-growing kind being planted along the front. They appear to the greatest advantage when planted in rather large groups on the water's edge or in the semi-wild positions, and should be sparingly planted in small gardens.

The most noteworthy of the several species are: The White-fruited Dogwood (*Cornus alba*) a rather handsome species with white flowers and fruits, and red stems. Height about nine feet. Round-leaved Dogwood (*C. circinalis*) a distinct form with cymes of white flowers followed by blue fruits, and purple bark; height about seven feet. Japanese Dogwood (*C. Kousa*) a handsome Japanese species, attaining a height of about five feet, and bearing clusters of small yellow flowers, each with four large white bracts. The bracts have a diameter of about three inches and are the most attractive part of the inflorescence. Cornelian Cherry (*C. Mas*) a handsome

free-growing species, attaining a height of about twelve feet, and producing during February and March umbels of yellow flowers, which are succeeded by red, purple, or yellow fruits according to the variety. Broad-leaved Dogwood (*C. macrophylla*) a Japanese species, growing from three to five feet high, bearing clusters of white flowers in June. Common Dogwood (*C. sanguinea*) a free-growing species, attaining a height of six or seven feet, and bearing in June and July terminal cymens of white flowers. The bark is bright red, and very effective in winter.

CORYLOPSIS.—A small group of shrubs of medium growth, valuable for the early period of the year in which they bloom. They are similar in growth and leafage to the Hazel and Filbert nuts, and produce their yellow flowers in short pendent racemes in advance of the leaves. They are all quite hardy, and may be successfully grown in good garden soil. They should be planted in the first or second row in the shrubbery border and be given sufficient room for the development of their branches, as when crowded, they fail to bloom freely or be in any way satisfactory. Propagation is readily effected by layering the well ripened shoots in the autumn.

Each of the species in cultivation is well worthy of a place in the shrubbery border. *Corylopsis himalayana* is as indicated by its specific name a native of the Himalayas; it attains a height of about six feet, has large light green leaves and pale yellow flowers borne in racemes at the ends of the branches. *C. pauciflora*, a Japanese species, two or three feet high, blooming in March and April, the flowers primrose yellow, and produced in short racemes. *C. spicata* also is of Japanese origin, and attains a height of about three feet; the flowers are pale yellow, pleasantly scented, and produced in February.

CYDONIA OR JAPANESE QUINCE.—A handsome shrub, growing to a height ranging from five to eight feet, and flowering profusely during the first four months of the year. It is slender in growth, and is highly attractive whether grown in bush form along the front of the shrubbery or planted against a wall and the branches trained to its surface. For low walls it is one of the most useful shrubs we have. A west aspect is the most desirable, for owing to the early period in the year in which the flowers are produced there is a risk of their being damaged by frost when they are exposed to the direct rays of the sun early in the day. For the same reason it is an advantage to select positions in the shrubbery where they will be screened from the sun in the morning.

The type *Cydonia japonica* has bright scarlet flowers; and there are numerous varieties with flowers ranging from white to purple-crimson. Of these the most desirable are *Cardinalis*, rich scarlet; *nivalis* white, and *rosea* bright rose. Maule's Quince (*C. Maulei*) is very similar in general character to the Japanese quince, but it is dwarfer, attaining a height of four feet, has smaller leaves and blooms in April. The flowers are rich orange red and borne in great proportion, and they are succeeded by yellow fruits which make a delicious preserve. It is admirably adapted for the formation of beds on the lawn, and for low hedges, and in the shrubbery its proper place is in the front line, where it should be arranged in groups of three or four plants.

Maule's quince is not suitable for walls, and with reference to the Japanese quince it must be said that when the species and its varieties are trained to walls the lateral growths should be allowed to extend naturally to a distance of twelve or eighteen inches from the surface instead of being nailed close to it in accordance with the practice that so generally obtains.

CYTISUS PRAECOX

CYTISUS OR BROOMS.—The Brooms, of which six or seven kinds are wondrously effective, are of much value in the creation of garden scenery, and should be freely planted, more especially in gardens extending over a large area. They all agree in having erect or decumbent slender shoots of a deep green tone, and pea-shaped flowers; but they differ materially in stature and in the size and colour of the flowers. They may for the most part be readily raised from seeds sown early in the spring in the open border, or in an unheated frame, the latter course of procedure being necessary only when the supply of seeds is small and it is desired to raise the largest number of plants possible. The choice kinds may be increased by grafting them on the commoner species, and such handsome decumbent forms as *Cytisus kewense* and *C. purpureus* have an attractive appearance when grafted on the common laburnum about six feet from the ground. All the Brooms thrive on a light, sandy soil, and are therefore of great value for planting on dry banks of sand or chalk, where but few other shrubs would thrive. They produce the finest effect when arranged in groups of from three to twelve plants, according to the area of the garden and the size of the border or other space in which they are to be planted. As the Brooms have a tendency to become bare at the lower part after a few years' growth, it is desirable to maintain a succession of young plants to replace the old specimens as they become unsightly.

The most beautiful of those available for planting in the garden are—*C. albus*, or the White Spanish Broom, is a slender growing shrub, reaching a height of five or six feet before it becomes bare at the base, and bears its small white flowers at the end of May or early in June, and in such great profusion that the slender growths are enwreathed in flowers. *C. ardoini*, a distinct species of decumbent growth, and not exceeding six inches high.

The flowers are golden yellow, rather large, and borne in clusters in the axils of the leaves. It is admirably adapted for planting on dry, warm ledges in the rock garden, and produces a rich colour effect during April and May. *C. kewense*, a hybrid between the two foregoing species, and its decumbent habit renders it of special value for planting on banks and on broad ledges in the rock garden. The flowers are produced in April and May, and are large in size and of a pleasing shade of primrose yellow. *C. præcox*, a charming species of slender growth, and forming a dense bush. The flowers pale yellow, and produced in great profusion, the slender growths being studded nearly their whole length with them. *C. purpureus* has a trailing habit, and is very useful for banks and on the rockery; the flowers are large and of a rich purple hue. *C. purpureus albus*, white; and *C. purpureus ratisbonensis*, yellow, are desirable forms. Common Broom (*C. scoparius*) is very effective in park scenery when arranged in bold masses; but its variety, *Andreanus*, is the best for the garden. The flowers have a yellow keel and crimson wings, a very effective combination of colour.

Daphnes. — The deciduous daphnes, suitable for general cultivation, do not form a large group, but they include a few that are so useful as to entitle them to a place in the smallest garden. They are of moderate growth, and appear to the greatest advantage when arranged in small groups along the front of the shrubbery border or on the margin of beds and groups on the lawn. The few that will be mentioned as the most desirable may be most successfully grown in any good garden soil that is sufficiently drained to prevent the moisture remaining in a stagnant state about the roots. Propagation may be effected by means of layers or cuttings, and the best time for layering the shoots or taking cuttings is early in the autumn, when the

shoots of the current year have become firm and moderately ripe.

The Japanese species, *Daphne Gwenka*, forms a compact shrub, ranging from two to three feet in height, has lanceolate leaves and fragrant lilac flowers, which are produced in clusters in March and April in advance of the leaves. Common Mezereon (*D. mezereum*) is neat in growth, attains a height of three or four feet, and blooms in February and March, or March and April, according to the weather experienced early in the year. The flowers are produced along the growths of the previous year, and are rose-red and pleasantly fragrant; they are followed by a crop of berries which assume a brilliant red colour when they attain maturity. There are several varieties of the Mezereon, and the most noteworthy are *atropurpureum*, rich purple; *autumnale*, rose red, flowering during the autumn; and *flore albo*, the flowers white, followed by yellow fruits.

Deutzias.—All the deutzias are remarkable for their elegant habit and freedom of flowering, but they differ materially in their value for the embellishment of the flower garden. They will thrive in any good garden soil; but the best soil is a sandy loam, to which a dressing of stable manure or leaf mould is applied every second or third year, as may appear necessary, to maintain the plants in a vigorous state without promoting an unduly vigorous growth. Judicious pruning is necessary because of the tendency of the plants to become so crowded with old wood as to prevent the new growths attaining their full development and flowering so freely as they should do. The best course of procedure is to examine the shrubs towards the end of the autumn, and then cut away the weakly spray and exhausted wood with which they invariably become crowded, but leave the young growths untouched. Deutzias can be readily increased by means of cuttings of the partly ripened shoots in

summer and well matured shoots in the autumn. The former should be made three or four inches in length, inserted in pots filled with sandy soil, and placed in a pit or frame; while the autumn cuttings should be six or eight inches long, and be rooted in the open border. They contribute most liberally to the attractions of the flower garden when arranged in groups of three plants in the first or second row of the shrubbery according to their height.

The species and varieties that can be specially recommended for their distinctness and beauty are: *Deutzia corymbosa*, a Himalayan species reaching a height of about three feet, having large leaves and producing corymbose panicles of pure white flowers. *D. crenata*, a surprisingly beautiful species of Japanese origin, forming a large compact bush ranging from four to seven feet in height according to the soil and other conditions. The flowers are white and produced in short racemes along the shoots of the previous year or on the spurs formed on the older wood. The finest varieties are *Candidissima*, a very beautiful form, producing a profusion of double white flowers; *flore plena* has double flowers, white tinged with rose-purple; and *purpurea plena* an effective variety with flowers deeper in colour than those of the variety immediately preceding it. *D. discolor*, a distinct Chinese species, reaching a height of about five feet and blossoming freely, the flowers which are white being produced in small corymbs at the ends of the main branches and lateral growths; the variety *purpurascens* has white flowers suffused with rose-purple but is hardly so desirable as the specific form. *D. gracilis* so well known and largely cultivated for flowering under glass early in the year is seldom satisfactory in the shrubbery because of the injury so frequently done to the growths of the previous year by the frosts; this species is still unsurpassed for conservatory decoration and the plants

required for forcing should be either grown in pots or in an open position in the kitchen garden. *D. Lemoinei*, a beautiful hybrid between *D. gracilis* and *D. parviflora*, attaining a height of four or five feet and producing a profusion of pure white flowers which are borne in short semi-erect racemes at the tops of the growths; it should be grown in every garden.

EUCRYPHIA.—The extremely beautiful *Eucryphia pinnatifolia* is one of the few Chilian shrubs that can be successfully cultivated without protection in this country. The species attains a height of ten or twelve feet, is elegant in growth, has pinnate rose-like foliage, and bears in July and August pure white single flowers with large clusters of golden anthers. A well-drained friable soil is desirable, and conspicuous positions in the shrubbery or on the lawn should be selected for the specimens.

EXOCHORDAS. — The Exochordas are not generally grown although elegant in aspect and extremely beautiful when in bloom. They require for their successful cultivation a well-drained position and a rather light but moderately rich loam; and a rather sheltered position in the northern counties is desirable. A prominent position on the lawn is preferable, and they should be planted singly or in small groups to allow them to assume their naturally elegant habit. They may be propagated by means of cuttings of the partially ripened shoots, suckers or layers.

There are two species in cultivation, and both can be strongly recommended for their great beauty; they differ chiefly in height. *Exochorda Alberti*, a Persian species, is the most robust of the two and attains a height of ten or twelve feet and is somewhat pyramidal in outline. The flowers are pure white, nearly an inch in diameter, and borne in rather small racemes. *E. grandiflora*, a Chinese species, forms a neat bush about six feet

high and produces a profusion of pure white flowers similar in form and size to the first-named.

FORSYTHIAS.—A small group of remarkably elegant and free blooming shrubs of great value for enhancing the attractions of the flower garden early in the year. The forsythias are equally adapted for growing in bush form in beds and borders and for training to walls and trellises as they grow freely and bloom profusely in any position that may be assigned them provided they are sufficiently exposed to the direct rays of the sun to ensure the ripening of the wood. When they are grown against walls or trellises the leading branches should be trained fifteen or eighteen inches apart to allow plenty of space for the development of the lateral growths, and to maintain a continuous supply of young flowering wood cut the shoots back to two or three buds from the base. These must be allowed to grow unchecked, as in the following year they will be enwreathed in flowers throughout their whole length. In cultivating the forsythias in bush form they may be arranged in medium-sized beds on the lawn or in groups of three or more plants along the front of the shrubbery border. When so grown the common practice is to restrict the pruning to the removal of the weakly shoots where much crowded; but the best results are obtained by keeping them free from old wood and cutting the flowering shoots back to within a few buds of the base immediately the flowers have lost their beauty. Following this pruning strong shoots will be produced, and these if allowed to grow unchecked will rise to a height of several feet in the course of the season, will become well ripened, and in the months of February and March will be enwreathed in the elegant nodding flowers. Propagation may be effected by means of cuttings or short firm shoots under glass in summer and well ripened shoots in the open border in autumn and by layering in the last-named season.

BUDDLEIA GLOBOSA

The finest of the several forms is *Forsythia intermedia*, a hybrid between *F. suspensa* and *F. viridissima*, with robust habit, reaching in beds and borders a height of five or six feet when allowed to grow unchecked and several feet higher when trained to a wall or trellis; the flowers are bright yellow and very freely produced. *F. suspensa* (syn. *F. Fortunei*), an elegant species, native of China and Japan, is rather more slender in growth than the preceding hybrid, and free flowering, the flowers yellow, and borne on the young shoots and the spurs in February and March; the best for walls and trellises. *F. viridissima*, a strong growing species of Japanese origin, and free in blooming, the flowers greenish yellow; its stout growth renders it unsuitable for culture otherwise than in bush form.

GENISTA.—These are closely allied to the Brooms, and like them are most suitable for culture where the soil is light and sandy or thin, resting upon the chalk. The number of species in cultivation is large, but of these a small selection will suffice in any one garden. They may be successfully grown in any well-drained soil, but their chief value consists in their adaptability for light soils and dry banks where but few other shrubs grown for their flowers will thrive. They produce the best effect when arranged in groups of three or four each, on banks or on ledges in the rock garden. Propagation is effected by means of seeds, and as the plants become somewhat bare after the third or fourth year, a few seedlings should be raised at intervals to take the place of the established plants as they become unsightly.

Of the large number of species available the following are the most desirable:—The Etna Broom, *Genista ætnensis* (syn. *Spartium ætnensis*), a strong growing species, attaining a height of ten feet and upwards, blooming from June to August, the clusters of pea-

shaped yellow flowers being freely produced. A frequent renewal of stock is desirable as old plants become bare and unsightly. *G. cinerea*, a charming species, reaching a height of about three feet, elegant in growth, and blooming freely in July, the flowers yellow. *G. hispanica*, a handsome species of dense growth, ranging from twelve to eighteen inches high and most profuse in flowering, the flowers yellow and produced in clusters at the points of the growth; *G. hispanica fl. pl.* is a handsome form with double yellow flowers, and like the species, specially adapted for prominent positions in the rock garden. *G. pilosa* has a prostrate habit, bears an abundance of yellow flowers, and is most useful for raised banks and the rock garden, and *G. virgata*, a handsome species, five or six feet in height, blooming from April to July, and bearing a profusion of yellow flowers.

Hibiscus.—The varieties of *Hibiscus syriacus* (syn. *Althæa frutex*) are very attractive when grown under favourable conditions, and these briefly stated are a light warm soil and a sunny position. They are readily raised from seed, and a packet of seed will yield plants giving a diversity of colours. The plants range from five to seven feet in height and bloom freely during the summer months, in light soils and sunny positions, but in heavy soils and in positions where they are screened from the sun they are most unsatisfactory. The flowers are campanulate, four inches or so in shape, and those of the type are deep rose with crimson brotch at the base of each petal.

Hamamelis or Witch Hazels.—These interesting shrubs deserve special attention for their singularly formed flowers, and the fact that they bloom at mid-winter. The several species in cultivation resemble the common hazel nut more especially in the foliage which takes on a rich colour in the autumn. They will grow

freely in any good garden soil, and they should be planted in positions, not too prominent in the shrubbery, the second and third rows affording them the most suitable sites.

The Japanese Witch Hazels are the most ornamental, and two of these are deserving of a place in shrubberies of even moderate extent. *Hamamelis arborea* has attractive spider-like flowers, the long strap-shaped twisted petals being golden yellow and revolute whorls of the calyx dark red. *H. japonica zuccariniana* has flowers similar in size and shape to those of the first-named, but differing from them in the petals, being pale yellow.

Hydrangeas.—These are all so well known as not to require much praise or description. *Hydrangea hortensis* (Common Hydrangea) is unfortunately not sufficiently hardy to be successfully grown except on warm soils and in a kind climate. It is at home in the southern and western counties of England and in the warmer parts of Ireland, and is one of the best of seaside shrubs. Where it thrives it is one of the finest of flowering shrubs, being especially valuable for the wealth of colour it affords in late summer. The colour ranges from rose-pink to cærulean blue according to the soil, a moderate amount of iron being favourable to the development of the latter hue. The variety *Otaksa* has blue flowers, and *Thomas Hogg* white flowers. *H. paniculata grandiflora* is more robust than *H. hortensis* and its varieties, and it has the great advantage of being quite hardy. It produces panicles pyramidal in outline, twelve inches or so in length and pure white, and groups on the grass or in front of the shrubbery are very effective. The panicles remain in good condition for two months or more, the flowers changing with age to rose-red.

The flowers of the hydrangeas are produced on the young shoots, and a moderate amount of pruning is necessary to ensure strong growths and finely developed

flower heads. They should be provided with a rich loam and long-established specimens be assisted with liquid manure or manurial top dressings, the amount of the assistance to be determined by the condition of the plants, those showing signs of a decline in vigour requiring the most liberal supplies of plant food.

HYPERICUMS.—These are useful for planting on the margins of shrubbery borders and alongside woodland walks, and as an undergrowth to some of the larger shrubs. They will thrive in any ordinary loam, that which contains a liberal percentage of sand being preferable. They are readily increased by division and also by means of cuttings of moderately firm shoots inserted in pots filled with sandy soil, and placed in an unheated frame.

A large selection is not required for any one garden, and of the comparatively large number in cultivation preference should be given to *Hypericum aureum*, *H. calycinum*, *H. elatum*, *H. floribandum*, *H. hircinum*, *H. Moserianum*, and *H. patulum*. These are all of lowly growth, and have flowers of various shades of yellow.

INDIGOFERAS.—Although large numbers of species of Indigoferas are known to science, but few are sufficiently hardy to be grown in the open in this country. Those that may be so cultivated are of somewhat straggling habit, and are better suited for walls, pillars and wood fences than for the border. They will thrive in a rather light and moderately rich soil, and require but little attention beyond thinning out the old and training in the new growths as occasion requires.

All the species have pea-shaped flowers, which are produced in neat racemes. *Indigofera decora* is a pretty Chinese species with rose-pink flowers, but it is too tender to be grown in the open. *I. decora alba*, a charming variety with long racemes of white flowers is much hardier and may be successfully grown in the southern

and western parts of England and in the more favoured parts of Ireland. *I. Gerardiana* thrives under the same conditions as the white form of *I. decora*, and should be planted in the warmer parts of both England and Ireland. The flowers are bright rose and borne in short racemes, the flowering season extending from May till August.

KERRIAS.—The handsome *Kerria japonica* is seldom met with, but its double variety *K. japonica fl. pl.*, is one of the commonest of shrubs. The species forms a dense bush two or three feet in height and blooms in great profusion, the bright yellow flowers being single, salver-shaped, and about one and a half inches in diameter. The flowers of the double variety are rosette-like and bright orange. This is usually grown against walls, but it forms a handsome bush in the border. Kerrias will thrive in all descriptions of soil, and can be readily increased by means of cuttings of the ripened shoots in the autumn.

MAGNOLIAS.—The majority of the magnolias are of arborescent growth and will therefore be included with the small growing trees. There are a few that are strictly speaking shrubs, and three or four are so attractive that they should freely be planted in both large and small gardens. Magnolias should be planted in warm, sheltered positions, and where they will obtain the prominence which, by reason of their great beauty, they so well deserve. A deep rich loam is the most conducive to their welfare, and in all cases the proper preparation of the stations is desirable. This may be done by marking out a circle three feet or so in diameter, then taking out the soil to a depth of two feet and replacing with a compost consisting of good turfy loam with which has been incorporated leaf-mould and well-rotted manure, the proportions being one part each of the leaf-mould and manure to six parts of the loam. If the soil of the garden is fairly good it will suffice to

remove a small portion of the least satisfactory and then add the leaf-mould and manure. Magnolias may be propagated by layering in the summer, which is the most simple method of increase, and cuttings of the half-ripened shoots with a small portion of the old wood at the base. They present a very attractive appearance arranged singly or in small groups on the lawn or along the front of the shrubbery.

The most desirable of the shrubby species are *Magnolia obovata*, a handsome species about five feet high and bearing large tulip-shaped flowers, white on the inner and purple on the outer side, in April and May. *M. obovata purpurea* has flowers larger in size and deeper in colour than those of the type. *M. parviflora*, a distinct species, about six feet high, and bearing globular white flowers suffused with rose, in April and May. *M. stellata*, a most valuable species growing from two to four feet high, and bearing in great profusion star-like fragrant flowers with numerous strap-shaped petals in March and April. This is the finest of all the white flowered shrubs blooming thus early in the year, and is very effective grown in beds. There is a beautiful variety with rose-pink flowers known as *M. stellata rosea*. *M. Watsoni* is a desirable Japanese species, it attains a height of about six feet, and bears at the tips of the young branches in June cream-white flowers, which are about six inches in diameter and highly fragrant.

Philadelphus or Mock Oranges.—The species and varieties of Philadelphus constitute a group of shrubs of immense value. They are all of moderate growth, elegant in character and free in blooming, and the flowers are produced during the summer months when there are but few hardy shrubs in bloom. They all thrive in any ordinary garden soil and require but little assistance from manurial matter, a top dressing of well-rotted stable or farmyard manure every second or third

year being sufficient to maintain them in a sufficiently vigorous state. Bone dust spread over the surface at the rate of four ounces to the square yard will be a good substitute for manure from the farmyard. A moderate amount of thinning will occasionally be required, and this should be done by the removal of weakly and exhausted shoots. As they bloom on shoots of the previous year, none of these must be removed when pruning, except for some special reason. They can be propagated from suckers which rise freely about the base, also from cuttings of ripened shoots in the autumn, which should be cut into lengths of seven or eight inches and inserted in the open border, where they should remain for twelve months and be then transplanted.

The Philadelphus frequently fail to bloom satisfactorily and contribute so liberally to the attractions of the garden, as they should do, owing to their being crowded up with other shrubs. They are eminently satisfactory when planted in rather large beds on the lawn by themselves, and when so arranged a few can be removed or some of the branches cut away, as they show signs of becoming overcrowded. They present an attractive appearance when arranged singly or in groups in the shrubbery, provided care is taken to prevent their becoming overcrowded by cutting away the other shrubs growing near them. The finest of the forms are: *Philadelphus coronatus*, a beautiful species ranging from six to ten feet in height, and producing in May a profusion of white fragrant flowers an inch or so in diameter; *P. coronarius Keteleeri* has double white flowers, and is the best of the double Mock Oranges; *P. Gordonianus*, a very fine species rising to a height of eight or ten feet and bearing in July large pure white flowers; it is especially valuable for the large size and purity of its flowers and for the late period at which it blooms. *P. grandiflorus* is similar to the last-named, but the flowers are hardly

so large and they are produced in June. *P. Lemoinei* is a beautiful hybrid, elegant in growth, and attaining a height of four or five feet. It blooms in June and the flowers are white and about an inch in diameter. *Boule d'Argent* is an extremely elegant form, bearing double white flowers; and *Gerbe de Neige*, another variety of *P. Lemoinei*, is extremely beautiful, being of moderate stature with slender growth, and free in blooming, the flowers of medium size and pure white; *P. mexicanus* is a desirable species, with an average height of six feet, the flowers two inches in diameter, pure white with conspicuous yellow stamens.

PRUNUS.—The Plums remarkable for the beauty of their flowers, and especially desirable are all shrubs of moderate growth. They will thrive in any ordinary soil, and can be the most readily propagated by budding, as in the case of the plums grown for their fruits.

Two only will be recommended and they are so meritorious that they should be grown in the smallest garden. The first is the Double Sloe or Blackthorn (*Prunus spinosa fl. pl.*). The growth is light and elegant, and the flowers are white, perfectly double, resembling small rosettes, and the second, *P. triloba*, a Chinese species of compact, erect growth, and remarkably free in blooming. The flowers are double, about an inch in diameter, and bright pink, and produced nearly the whole length of the shoots of the previous season. It should have a warm and conspicuous position in the shrubbery border, and it is very effective when grown against a wall and somewhat loosely trained.

RUBUS, OR BRAMBLES.—The Brambles form a rather large group, and in extensive pleasure-grounds where wild gardening receives attention, half a dozen or so may be planted; but for the majority of gardens *Rubus deliciosus* (Rocky Mountain Bramble) and *R. odoratus*

(Purple-flowering Raspberry) will suffice. The first-named is of slender growth, attaining a height of from three to five feet, and produces in May large white salver-shaped flowers. The second is erect in growth, and has fragrant foliage, and bears corymbs and purplish red flowers during the summer.

RIBES, OR FLOWERING CURRANTS.—These are desirable for the bright colouring they give to the shrubbery early in the spring. They resemble in general character the currants grown for their fruit, and will thrive in almost all soils and situations. They should be arranged singly in the second row of the shrubbery.

The most desirable are *Ribes sanguineum*, which has deep red flowers, with its varieties *atro-rubens*, deep ruby red; *album*, white; *flore pleno*, double red; *grandiflorum*, light pink.

SPIRÆAS. — The shrubby species of Spiræa are numerous and form a large group, of which a considerable proportion are so attractive when in bloom as to be deserving of general cultivation. They will all grow freely and bloom satisfactorily when planted in ordinary garden soil, and assisted with annual top dressings of leaf-mould and well-rotted manure. Propagation may be effected by means of cuttings of the young shoots inserted in pots filled with sandy soil, and placed in a frame or pit where they can be kept close, and by layering in autumn, the lower shoots being selected for the layers. A somewhat light and comparatively rich soil is the most suitable.

Shrubby spiræas are very effective when arranged in beds on the lawn, and also produce a charming effect when in groups of from three to five plants along the front of the shrubbery. The strong growers make excellent specimens planted singly on the lawn. Those which can be specially recommended comprise: *Spiræa arguta*, a beautiful hybrid, attaining a height of three or

four feet and profuse in blooming, the flowers pure white, not unlike those of the hawthorn, and produced in May; *S. bella*, a pretty species from the Himalayas, flowering in July and August and producing its flowers in terminal corymbs, colour, bright red; *S. bracteata*, an elegant species, growing to a height of five or six feet, the flowers white and freely produced during the summer months; *S. canescens*, a handsome species, of a similar height to the last-named, the flowers white, in dense corymbs, and produced during the summer; *S. discolor* (syn. *S. ariæfolia*), a handsome species, reaching a height of six feet, and having white flowers arranged in elegant panicles; *S. Douglasi*, a handsome species, about three feet high, and in August bearing terminal clusters of rose-coloured flowers; *S. japonica*, a pretty species, ranging from three to four feet high, and flowering in June and July, the flowers rose-red and produced in spreading terminal corymbs. There are numerous forms of this species and the best is *Anthony Waterer*, which has brilliant red flowers, and attains a height of about two feet high; *S. Lindleyana*, a robust species, reaching under favourable conditions a height of ten feet, the flowers are white and borne in large feathery panicles; this species attains its highest state of development in a moist position; *S. prunifolia fl. pl.*, an elegant form, with long slender shoots, along which the white button-like double flowers are borne very freely in March and April; *S. Thunbergi*, an elegant species, two or three feet high, flowers small, white and freely produced in April; *S. Van Houttei*, a valuable form, height about five feet, blooming in May and bearing white flowers.

STYRAX OR STORAX.—The several species of Styrax assume an arborescent form in their native countries but in the United Kingdom they do not exceed in stature a height of from five to eight feet. They will grow freely in a deep loam and derive much benefit from an annual

or biennial top dressing of well-rotted stable manure. The flowers are produced in axillary racemes.

They are admirably adapted for arranging in moderate sized groups on the lawn and in prominent positions in the shrubbery, but when arranged in the latter they must not be allowed to be overgrown by other shrubs. *S. Obassia* and *S. serrulatum* are the most beautiful of the species; they both bloom in spring and have white flowers.

Syringas or Lilacs.—The lilacs constitute one of the most valuable of the several groups of hardy shrubs grown for their flowers and should be largely planted and given the small amount of attention necessary to have them in their highest state of development. They will thrive in any garden soil and they are at home in both town and country gardens, but because of their accommodating character they should not be subjected to systematic neglect as is so frequently the case. The chief point in their cultivation is to keep them free from suckers which are annually produced in large numbers, and if allowed to grow unchecked they push up into the head and so crowd the growths as to render a satisfactory display of bloom impossible. When the suckers are kept down, and this can be readily done with the hoe when a few inches high, they will form handsome bushes that will produce finely developed thyrses of flowers in great prodigality. If the plants have been grafted, the suckers from the stock will, in the course of a few years, wholly usurp the place of the variety planted. A moderate thinning by the removal of the weakly shoots will occasionally be beneficial, but when the suckers are kept under very little pruning will be necessary or desirable. They may be increased by cutting, suckers and graftings, but the most simple course of procedure is increase by suckers. When it is desired to increase the stock the suckers

should be allowed to grow unchecked until the autumn when they should be removed and planted in nursery lines in the kitchen garden to acquire strength. In the case of choice varieties it will be necessary to ascertain whether the plants have been grafted, and thus avoid the vexation of devoting time and attention to the preparation of a stock that may be one of the common instead of a superior form. The common is frequently used as a stock, and when that is the case the suckers should be at once rejected. Cuttings of the ripened wood taken as soon as the shrubs are leafless and inserted in an outside border will root freely.

Lilacs produce a beautiful effect when arranged singly or in groups of three or more on the lawn and in the shrubbery and along the margins of plantations. The most desirable of the lilacs for general cultivation are: *Syringa rothomagensis* (Rouen or Varin Lilac) an extremely elegant hybrid ranging from six to eight feet high and bearing large panicles of rose-lilac flowers. *Alba* with French-white flowers and *Rubra* with rose-red flowers are both desirable and excellent varieties, and the following varieties of *S. vulgaris*. Single *Alba grandiflora* and *Marie Legrange* two beautiful white forms. *Charles X.*, *Dr Lindley*, *Fürst Lichtenstein* and *Ville de Troyes*, shades of rose-red. *Dr Von Regel*, *Gloire de Lorraine* and *Gloire de Moulins* shades of lilac, and *Souvenir de Leon Späth* rich crimson-purple. Double *Madame Abel Chateney* and *Madame Lemoine*, pure white. *Charles John*, red-purple, *Comtesse Horace de Choiseul*, light-blue lilac, *Emilie Lemoine*, rose-lilac, *Jean Bart*, rose-carmine, *La Tour d'Auvergne*, violet-purple, and *Michel Buchuer*, pale lilac.

Viburnums.—The species of viburnums are numerous and the greater proportion are more or less attractive and worthy of attention where a large area is available for hardy shrubs, but for planting generally and where

LILAC

the space is limited a very few will suffice. All that will be here recommended are quite hardy and will thrive in any good garden soil, although a deep moist loam is the most suitable for them. They can be readily increased by layering at the end of the summer or by cuttings of the ripened wood in the autumn.

They are admirably adapted for the formation of groups on the grass and they materially improve the shrubbery when planted singly or arranged in small groups in prominent positions. The strong growers make fine lawn specimens when planted singly. The two of special value are *Viburnum Opulus sterilis* and *V. plicatum.* The first-named is the well-known Guelder Rose and is the sterile form of a fairly common British shrub. It reaches a height ranging from six to twelve or more feet according to the conditions under which it is grown, and when it has space for development it is decidedly elegant in contour, and it moreover produces its snowball-like flowers in greater profusion. Very frequently this handsome shrub proves unsatisfactory owing to it being planted in shrubberies where it is crowded up with other things. The only pruning necessary is the removal of the weakly wood during the winter. The second of the two forms mentioned is of Japanese origin and is especially useful for medium-sized lawn groups. When grown in the open it attains a height of from four to six feet, and when trained against a wall it will rise three or four feet higher. It blooms with wondrous freedom in May and the flowers are produced in globular heads and are pure white. *V. macrocephalum* if not so generally useful as the foregoing possesses considerable beauty and is well deserving of culture. The species is of Chinese origin, forms a large bush and blooms in June, the flowers being white and arranged in pyramidal trusses.

WEIGELA OR DIERVILLA.—A small genus of Japanese

shrubs which has been greatly improved by the art of the hybridist. They range from three to six feet in height, and are free in blooming, their flowering season being June and July. They are not particular with regard to soil, provided the drainage is good, but a deep friable loam to which a moderate addition of leaf-mould or well-rotted manure has been added, is the best suited to their requirements. They can be increased by means of cuttings of well-ripened shoots in the autumn.

They are highly attractive in lawn groups and in groups on the margin, or the first row of the shrubbery, but in neither case ought overcrowding to be permitted. The only pruning necessary will be the removal of weak and exhausted wood. Especially desirable for their beauty are *Weigela candida*, pure white; *W. Eva Rathke*, bright purple-crimson; *W. P. Duchartre*, amaranth; *W. rosea*, bright rose; *W. rosea*, amabilis pink; *W. rosea Desboisi*, deep rose; *W. rosea Gustave Mallet*, deep rose.

Other Deciduous Shrubs.—Only a selection of representative shrubs has been described in this chapter. There are many others of equal beauty and importance. Nothing, for instance, has been said of that remarkable Chilian shrub, *Buddleia globosa*, which is quite hardy in the southern counties, and can be grown in most parts of Britain, if a sheltering wall be afforded to it. No mention again has been made of the beautiful race of Tree Pæonies which Mr Kelway and other workers have done so much to improve. But enough has been said to enable the common-sense gardener to grow with success any hardy shrub he may desire.

DIERVILLA ROSEA

DECIDUOUS FLOWERING TREES

ALTHOUGH less numerous than the shrubs grown for the beauty of their flowers, the trees of small growth distinguished by their charms during their season of flowering, include so many possessing a high degree of merit, that they must have a full share of attention when the question of selecting garden trees is under consideration. Some are so effective when in bloom that they should be included in selections, whether for large or small gardens, the number of trees being, as a matter of course, adapted to the space to be planted.

ÆSCULUS.—The chestnuts remarkable for the beauty of their flowers comprise some of the most handsome deciduous trees that have been introduced into Great Britain, but several are of much too large a growth to admit of their being included in this selection. Propagation is readily effected by budding, the common Horse Chestnut (*Æ. hippocastanum*) being used as a stock. Budding is best done in July when the bark parts readily from the wood, and the buds should be inserted on the main stem from six to ten feet above the ground level. The double flowered Red Chestnut is admirably suited for the formation of comparatively short avenues, when it should be planted about twenty feet apart. On the lawn it should have a prominent position, where its growth will not be influenced in any way by other trees.

The finest of all the forms for the garden and pleasure grounds is the double-flowered Red Chestnut (*Æ. rubicunda flore pleno*) which attains a height of about

twenty-five feet when fully developed, forms a compact roundish head, and produces in great profusion medium-sized spikes of bright red flowers. Few objects are more attractive when in bloom than this fine tree, and it is especially adapted to the requirements of suburban gardens. It commences to produce its handsome flower spikes at an early age, is comparatively slow in growth, and suffers but little from atmospheric impurities. The variety known as *Æ. rubicunda Briotti* has flowers deeper in colour than those of the ordinary form, and is of much merit.

The chestnuts belonging to the Pavia group are of much smaller growth than the foregoing, and are desirable in gardens of considerable extent. They form small trees or large shrubs, ranging from eight to twelve feet high, and have a neat spreading habit. The flowers are borne in erect spikes at the tips of the branches, and resemble in general character those of the Horse Chestnut.

The most beautiful of the species are *Æ. parviflora* (syn. *Pavia macrostachya*) which has long spikes of fragrant white, with long stamens and red anthers, and *Æ. pavia* (syn. *Pavia rubra*). These two species will thrive in any ordinary soil, but where the soil is light and sandy they should receive a top dressing of well rotted stable manure every second year, the manure to be applied to the space kept free from grass, and be lightly pricked in. They appear to the greatest advantage when occupying isolated positions on the lawn.

Amelanchier or Snowy Mespilus.—These form a small group of extremely elegant spring flowering trees. The most beautiful of the species in cultivation is *Amelanchier canadensis*, introduced from Canada about the middle of the eighteenth century, and this should have a place in gardens of even small size. Under

PAVIA MACROSTACHIA

(Natural size)

exceptionally favourable conditions the tree will reach a height of over thirty feet; but it is of small growth, and specimens from fifteen to twenty feet are the most general. The flowers are snow white, and produced in short racemes during April. The trees may be arranged in small groups or as single specimens, on the lawn or in the shrubbery, but they should have a sheltered position, as the keen easterly winds so damage the flowers as to shorten their period of beauty. A moderately rich soil is advisable.

AMYGDALUS.—The Almonds and Peaches comprise some of the most beautiful of the small growing deciduous trees, and they are of much value because of the early period of the year at which they bloom. They are indeed so precocious that they produce a welcome display of colour in the garden well in advance of the other trees. They commence flowering at a very early age and continue for an almost indefinite period, increasing in effectiveness concurrently with the increase in age and size. Well developed specimens range from fifteen to twenty-five feet, and from their peculiarity of growth they appear to the best advantage when arranged singly or in small groups in the shrubbery. As far as practicable they should be planted where they will be sheltered from the easterly winds.

The Common Almond (*A. communis*) is the earliest to bloom and has bright pink flowers and with its double variety (*A. communis flore pleno*) is most desirable; the double form is the most effective. The Sweet Almond (*A. dulcis*) is extremely beautiful during its season of flowering, and should be generally planted. Most desirable also are its varieties. *Purpurea*, bright red, *macrocarpa*, the flowers white tinted with pink and very large, and *pendula* which has a pendent habit.

The White Chinese Almond (*A. Davidiana*) which has pure white flowers, and the Pink Chinese Almond

(*A. Davidiana rubra*) with pink flowers are of exceptional value both for grouping on the lawn and for planting singly or in twos and threes in the shrubbery. They attain a stature similar to that of the almonds and are equally as early in contributing of their floral wealth which is very great, the branches being literally enwreathed in blossom. The Double-flowered Peach (*A. persica flore pleno*) and its varieties are smaller in growth than the foregoing and if anything more effective as the flowers are much larger and some deeper in colour. The forms with crimson, brilliant carmine (*A. persica magnifica*) rose and white flowers are the most desirable. These are all of moderate stature and are well suited for lawn groups; when planted in the shrubbery care must be taken to prevent their being injured by more robust growing subjects.

CATALPAS.—There are few more beautiful flowering deciduous trees than *C. bignonioides* (syn. *C. syringsephia*) which under ordinary conditions attains a height of about twenty-five feet, with a spread of branches about equal to its height. The general aspect of the tree is extremely elegant, the leaves are large and handsome, and the flowers are somewhat tubular, an inch or so in diameter, white marked in the throat, with purple and yellow and borne in spikes that resemble those of the horse chestnut. It blooms in July and August according to the season and district, and is when in flower very attractive. Unfortunately this species is not quite hardy in northern latitudes and on cold heavy soils, and where it does not succeed *C. speciosa* should be substituted. The latter is not quite so beautiful but it is hardier and very similar in character and in the colour of the flowers. Prominent positions with sufficient room for the spread of the branches should be selected for the catalpas.

CERASUS.—The double-flowered cherries are so

marvellously beautiful that the smallest garden should contain one or more specimens of the more distinct forms. In many gardens, even in those with a considerable area, they are wholly unrepresented, a fact difficult to understand except on the assumption that planters are not acquainted with them.

The cherries will thrive in soils of all descriptions but they attain their fullest development in a soil containing a liberal percentage of calcareous matter. A little lime rubble or chalk added to the soil when being prepared for the reception of the trees or an occasional top dressing of slaked lime will give them the necessary supply of calcareous matter. The weeping varieties should be planted in isolated positions on the lawn where there will be no interference with their natural growth. The others may be arranged singly or in small groups on the lawn and in the shrubbery and along the margins of plantations.

One of the finest of these is *C. aviam multiplex*, an elegant tree reaching a height of thirty feet or more and most profuse in blooming ; the flowers are pure white, quite double and an inch or more in diameter and they are produced in such large numbers that the branches are simply wreaths of the snow-white blossoms. *C. mahaleb pendula* is an elegant weeping form bearing myriads of small single flowers. *C. sinensis pendula rosea* is another weeping cherry equally as elegant in aspect as the last-named but with much larger flowers which differ also in being of a pleasing rose shade. *C. pseudocerasus* (syn. *C. Sieboldi rosea plena*) is quite different in character to the foregoing and although less graceful is very handsome. The trees are relatively dwarf and range from ten to fifteen feet, the branches are stout and rigid, and the flowers are large, pale rose, and produced in short racemes. *Waterer's* variety has larger and more brightly coloured flowers, and the Japanese

variety *J. H. Veitch* has flowers of a deep rose colour and is two or three weeks later in blooming.

CRATÆGUS.—The thorns form one of the most beautiful of the groups of small growing trees, and as they are so neat in growth as to occupy comparatively little space they should be largely planted in the garden and in park and meadow land immediately outside its boundaries. Atmospheric impurities have but little effect upon them, and they are therefore well suited for town and suburban gardens. The usual height of thorns ranges from ten to fifteen feet, but specimens twenty feet and more high are not uncommon. The varieties of the hawthorn (*C. oxycantha*) are the most useful for general planting, and the best of these are Double Pink (*C. oxycantha rosea*), the flowers bright pink and quite double; Double Scarlet (*C. oxycantha coccinea plena*), brilliant red, one of the finest of all the flowering trees with red blossoms, and should have a place in every garden; Double White (*C. oxycantha multiplex*), pure white, the flowers perfectly double and produced in dense masses; Single Scarlet (*C. oxycantha punicea*), bright scarlet, very beautiful; Weeping Thorn (*C. oxycantha pendula*), a charming variety, the growth graceful and the flowers single and pure white. The varieties of the Cockspur Thorn (*C. crus-galli*) rank next in importance, and should be freely utilised in the creation of garden scenery where the area will admit of a somewhat full representation of flowering trees. The most desirable of these are Carrier's variety (*C. crus-galli Carrieri*), which has large single flowers, white on opening, changing to flesh colour; Lay's variety (*C. crus-galli Layi*), bright pink, and *C. crus-galli splendens*, bright pink. The flowers of the typical form are white, and these are followed by large clusters of crimson berries which are very attractive during the autumn. The tansy-leaved thorn (*C. tanacetifolia*),

although seldom planted in gardens, is very elegant in aspect, and bears in great profusion large clusters of pure white flowers about a month after the blossoming of the hawthorn.

The several thorns here mentioned are readily increased by grafting or budding, the common hawthorn being used as a stock. As grafted and budded thorns have a tendency to produce growths below the junction of stock and scion it is important to remove the shoots produced by the stock as fast as they make their appearance.

HALESIAS OR SNOWDROP TREES. — These are so exquisitely beautiful that it would be difficult to overpraise them. Neat in growth and free in flowering, they are of special value for small gardens. *Halesia tetraptera* is the most handsome of those in cultivation. It attains a height of eight or ten feet, is graceful in habit, and has pure white flowers that have a close resemblance to those of the snowdrop. The flowers are borne in clusters of six or eight each, and are produced in April or May according to the season and district. *H. hispida*, which was introduced from Japan in 1875, is very similar to the first-named species, and is vigorous in growth and free in blooming, the flowers being white, with a resemblance to the snowdrop, and are produced during the spring months.

The snowdrop trees should be given prominent positions along the front of the shrubbery and care be taken to prevent them being crowded by strong growing subjects. A well-drained light soil is essential to success, and the stations should be properly prepared; the first-mentioned species should, where practicable, be grown in a mixture consisting of peat and light loam.

LABURNUMS.—The laburnums are so well known for the glorious display of golden flowers they produce

during the spring months as not to need a word of praise being said in their favour. It is, however, necessary to point out that the laburnums in cultivation differ so widely in their beauty and effectiveness that special care should be taken in their selection. Although thousands of unflowered seedlings are annually planted, they are utterly unfit for the garden, but seedlings that have flowered are admissible when they produce racemes equal in size and colour to the finest forms that can be obtained under name. The difference in the cost of a seedling and a named variety will be a few pence only and not worth being taken into consideration. The Scotch laburnum (*L. alpinum*) and its varieties, *Parksi* and *Watereri*, are somewhat more erect in growth than the common laburnum, and are two or three weeks later in flowering; the flowers are of a deep golden hue and produced in racemes ranging from twelve to sixteen inches in length. The two finest forms of the Common Laburnum (*L. vulgaris*) are *giganteum*, distinguished by the large size of its racemes, and *pendulum*, a weeping form, very graceful in habit, and remarkable for the freedom with which it blooms and the size of the racemes.

The laburnums will thrive in soils of all descriptions, and they are very effective whether arranged in groups or planted singly on the lawn or in the shrubbery. In comparatively small gardens they should be planted singly and in positions where they have room to develop their natural characteristics. The choice varieties can be readily multiplied by budding or grafting, and large trees of inferior forms can be speedily changed in character by grafting. Laburnums should not be planted in meadows or paddocks, because the seed pods are poisonous to cattle and many animals have died from the effects of eating pods that have fallen among the grass.

MAGNOLIAS.—The deciduous Magnolias that attain the

stature of trees comprise several of such great beauty that a few of them should be given a place in the smallest of gardens. The most handsome and desirable are: The Yulan (*Magnolia conspicua*), a handsome species, ranging from fifteen to twenty-five feet in height, and producing in great profusion early in the spring large pure white flowers. Soulange's Magnolia (*M. Soulangeana*) is a very handsome hybrid, closely resembling in general character, and in the size and shape of the flowers, the species first mentioned. It however differs from it in the flowers being of a bright rose colour, and produced a fortnight or so later. There is a darker coloured form of the last-named known as *C. Soulangeana nigra.* Lenné's Magnolia (*M. Lenné*) is another hybrid of great beauty; the growth resembles that of the Yulan, and the flowers are of large size and of a bright rose colour.

The deciduous magnolias here mentioned should be assigned a prominent position on the lawn, and it will be an advantage to plant them where they will be slightly sheltered from the easterly winds, which sometimes damage the flowers. In preparing the stations make a liberal addition to the soil of turfy loam, peat and leaf-mould.

Pyrus or Flowering Crabs.—The crabs remarkable for the beauty of their flowers should be largely planted in the pleasure grounds. They are all more or less elegant in growth and free in flowering, and range from fifteen to twenty feet in height. *Pyrus floribunda* is extremely graceful and has pale pink flowers, bright red in the bud. The varieties of *P. mălus*, known as *coccinea* and *rosea*, are both desirable, the flowers red and rose respectively. *P. spectabilis* is hardly so graceful as the foregoing, but it has larger flowers, these being of a bright rose colour, and very effective, and *P. baccata*, a handsome species with white flowers.

While very effective grown as single specimens on the lawn, *P. floribunda* and *P. malus* and their varieties appear to the greatest advantage when arranged in small groups in the shrubbery. *P. baccata* and *P. spectabilis* are equally adapted for lawn specimens and the shrubbery. They will thrive in all descriptions of soil, and can be readily propagated by means of budding and grafting.

Robinias.—These constitute an ornamental and useful group of trees, but only two of the species have much value for the beauty of their flowers. These are the Rose Acacia (*R. hispida*) and the Mexican Locust (*R. neo-Mexicana*), both of which have racemes of rose-coloured flowers, but are quite distinct. They have elegant leafage, and attain a height of eight or more feet. They present an attractive appearance, whether grown singly or in groups, but in small gardens single specimens will be preferable. Plants from layers should be selected because of the risk of grafted plants having their heads blown out open by rough winds.

AMERICAN SHRUBS

THE hardy shrubs commonly known in gardens as American plants comprise the azaleas, kalmias, rhododendrons and some other genera of less importance, and form a group that is unsurpassed in freedom of flowering and in the richness and effectiveness of their colours. They are, it must be stated, somewhat peculiar in their requirements and cannot therefore be grown, as in the case of so many other hardy shrubs, almost anywhere without having the beds and borders specially prepared for them. But as they are so extremely beautiful and produce such marvellous colour effects when growing under conditions favourable to the full development of foliage and flowers, they fully justify the expenditure on labour and material necessary to provide them with a suitable soil.

They all grow vigorously in a good bed of peat as exemplified by the splendid growth they make in gardens and nurseries on the peat formations, and where peat is so readily accessible that beds and borders can be made wholly with it. Therefore where peat can be obtained at a comparatively small cost it should be used either alone or in association with leaf-mould or other decayed vegetable matter. In making beds or preparing stations for single specimens remove the soil to a depth of eighteen inches or two feet and replace with peat broken up into large lumps, or with peat and vegetable matter in the proportion of four parts of the former to one of the latter. If the soil of the garden is a stiff clay lay three inch drain pipes across

the bed and connect them with the nearest outlet for water, or take out the soil to a depth of one foot, and obtain the requisite depth of peat by raising the surface twelve inches above the level.

As there are comparatively few gardens where peat can be obtained except at considerable expense it is satisfactory to know that azaleas and rhododendrons which are by far the most important of the American plants can be successfully grown without its aid. They will thrive in any friable garden soil to which a liberal addition of leaf soil and partly decayed leaves has been made; if a moderate quantity of turfy loam is used with the decayed leaves it will be a material advantage. In the case of the choice varieties fibrous loam should be used instead of the ordinary soil or with it, the proportions in the latter case to be equal. American plants have a strong objection to lime and therefore where the soil is impregnated with calcareous matter of any description it is useless to attempt their culture without providing wholly new material for them to root in.

ANDROMEDA.—These are neat growing evergreens, bearing spikes of small bell-shaped flowers useful for planting on the margin of beds of azaleas, kalmias and rhododendrons. *Andromeda floribunda* is dwarf and dense in growth and blooms early, the small white flowers being freely produced above the foliage. *A. japonica*, *A. polifolia major* and *A. speciosa cassinæfolia* are rather stronger in growth and more elegant in aspect and produce campanulate white flowers half an inch or so in diameter.

AZALEAS.—The hardy azaleas are free in blooming and the rich shades of buff, coppery yellow, orange, salmon-scarlet and yellow produce a brilliant effect during the latter part of the spring season when rich colour is appreciated. The leaves take on a rich colour in the autumn and their bright tints are hardly less

effective than are the hues of the flowers in the spring. Azaleas present an attractive appearance when arranged in groups on the lawn and in bold masses in the first or second row of the shrubbery. They produce a fine effect in association with the rhododendrons and should by reason of their dwarfer habit be planted on the margin or in the second row. Like the rhododendrons they enjoy a liberal degree of moisture in the soil throughout the season of growth, and they may be propagated by means of grafting and layering and from seeds. Seedling plants of *Azalea pontica* are used as a stock in grafting.

The following comprise a good selection. Pontic or Ghent varieties: *Admiral de Ruyter*, red; *Altaclarensis*, orange; *Aurore de Royghem*, yellow; *Bouquet de flore*, salmon-pink; *Coccinea speciosa*, orange-red; *Duc de Provence*, vermilion; *Grand Duc de Luxembourg*, dark red; *Guelder Rose*, orange; *Josephine Klinger*, crimson; *Madame Joseph Baumann*, pink; *Mathilde*, blush; *Unique*, golden yellow; *Viscocephala*, white; Mollis varieties: *Alphonse Lavallée*, orange; *Alma Tadema*, rose-pink; *Anthony Koster*, yellow; *Charles Darwin*, bright red; *Chevalier A. de Reali*, pale yellow; *Comte de Gomer*, pink; *Comte de Quincey*, yellow; *Consul Pecher*, pink; *General Vetter*, orange; *Madame Anthony Koster*, orange-pink; *Oswald de Kerchove*, pink; *T. J. Seidel*, salmon-red.

KALMIAS.—These present a charming appearance when growing under conditions favourable to their full development, and are useful for planting on the margin of rhododendron beds. They, however, should not be allowed to be overgrown. The most desirable are *Kalmia angustifolio*, *K. A. rubra*, *K. glauca* and *K. latifolia*, all of which have flowers of a bright rose or pink colour.

RHODODENDRONS. — These comprise the most gor-

geous of all the hardy shrubs remarkable for the beauty of their flowers, and as they have the advantage of handsome evergreen leaves, they should be planted liberally in proportion to the space at disposal. The smallest garden should contain at least one group for their abundant and attractively coloured flowers produce a glorious effect during the flowering season, and their ample rich green leafage is very attractive at other periods of the year. In parks and meadows charming effects may be produced by planting masses of the vigorous growing and free blooming *Rhododendron pontica* which can be purchased at a very small cost. But in the garden and pleasure grounds, none but choice varieties, which are by no means expensive, should be planted.

Rhododendrons present a most attractive appearance, both in groups and as single specimens, when arranged in suitable positions, but when grown singly, well furnished bushes, three or four feet in diameter and as much in height, should invariably be selected. In the formation of groups, smaller plants can be used, and they should be arranged, with due regard to the tasteful distribution of the colours, just far enough apart to fill the bed without crowding. As they can be replanted during the autumn without check to the growth, they can be readily lifted and planted farther apart, and the surplus plants be used in the formation of other groups.

Rhododendrons require, when making their growth, an abundance of moisture at the roots, and they are greatly benefited by overhead waterings in the evening. To further assist them during the growing period, remove the seed pods soon after the flowers have fallen. The choice varieties are increased by layers which should be made early in the autumn, or by grafting, seedling plants of *R. pontica* being used as a stock. In the case

of grafted plants it is important to remove the suckers that rise from the stock.

The following are the finest of the choice hardy hybrids that are in general cultivation, and will form an excellent collection. Blush and White: *Album elegans*, *Album grandiflorum*, *Madame Carvalho*, *Minnie*, *Mrs John Clutton*, *The Queen*, *Mrs J. P. Lade*, *Lady Godiva* and *Sappho*. Pink and Rose: *James Nasmyth*, *John Spencer*, *Kate Waterer*, *Lady Armstrong*, *Marchioness of Lansdowne*, *Marie Stuart*, *Mrs R. S. Holford* and *Sylph*. Lilac and Purple: *Caractucus*, *Everstianum*, *Fastuosum flore pleno*, *Purpureum grandiflorum* and *King of the Purples*. Scarlet and Crimson: *A. B. F. Mitford*, *Doncaster*, *Fred Waterer*, *Marshall Brooks*, *John Waterer*, *Martin Hope Sutton*, *Mrs Milner* and *The Warrior*.

DECIDUOUS SHRUBS WITH ORNAMENTAL FOLIAGE

Deciduous shrubs with grey, golden or silvery leafage are extremely useful for lighting up masses of shrubs during the summer months, with their rich colouring, and should be judiciously employed. It is essential they should not be planted too largely, as when leafage, other than green, is given too great a prominence the eye quickly becomes tired of the colour, and the garden soon loses its place in the estimation of the owner.

Acers or Maples.—With the exception of the beautiful Japanese Maple (*Acer palmatum*) the maples are all of too great a stature to come within the scope of this book, or, indeed, to be suitable for gardens other than those with a large area. In its native country this species and its numerous forms are sufficiently robust to assume the form of small trees, but in this country they are less vigorous, and may be more properly classified with the shrubs. When the conditions are favourable to their making a healthy growth they form elegant bushes, ranging from six to eight feet high, and their light, finely-divided and attractively coloured foliage gives them a very pleasing appearance. They make charming lawn specimens when fully developed, but in consequence of their comparatively slow growth, plants of considerable age, that have been transplanted at intervals of two or three years to promote the production of fibrous roots, should be selected. Examples about three feet in height, and as much in diameter, are

the most suitable for planting singly on the lawn. The Japanese maples are highly attractive when planted in beds large enough to hold from twelve to eighteen plants, and their effectiveness is greatly enhanced by associating with them some of the choice golden-leaved shrubs that will be mentioned; groups comprising three or four plants each, arranged in the first or second row of the shrubbery, present a charming appearance. Each border group should consist of the same variety, but the beds may contain as many of the varieties as may be desired.

The Japanese maples require a comparatively light and well-drained soil, and they should have a sheltered position assigned them; more especially is some shelter desirable in the colder districts. *Acer palmatum dissectum*, *A. p. linearilobum* and *A. p. septemlobum*, are beautiful varieties, with finely cut leaves of various shades of green; *A. p. atropurpureum*, *A. p. linearilobium atropurpureum*, *A. p. roseo-marginatum*, *A. p. sanguineum*, and *A. p. septemlobum elegans purpureum*, have elegant leafage of various shades of bronze and purple-crimson, and *A. p. aureum* has leaves of a yellowish shade.

Cornus or Dogwoods.—The dogwoods comprise some of the most beautiful of the hardy shrubs with variegated leaves, and the finer forms should have a place in the smallest garden. They are the best adapted for planting along the front of the shrubbery border, and on the margin of lawn beds devoted to hardy shrubs. They are all highly effective when arranged in groups of three plants each, as the mass of leafage is then sufficient to produce a rich display of colour. They will thrive in any ordinary garden soil, one that is moderately light being preferable.

The most desirable are: *Cornus alba Späthi*, a very distinct variety, the leaves large, broadly margined, with gold. *C. mas aurea elegantissima*, a beautiful form,

richly marked with gold and tinted with bright red; *C. siberica variegata*, a beautiful variety, with silvery variegation, and stronger in growth than the other forms, with leaves margined with white; and *S. siberica Gouchaulti*, a golden-leaved form strong in growth and rich in colour. The dogwoods with coloured foliage make neat bushes, two or three feet high.

CORYLUS OR HAZEL.—There are three varieties of the hazel (*Corylus avellana*) with ornamental leafage, and they are all distinct and effective and worthy of a place in gardens of quite limited dimensions. They attain a height ranging from four to six feet, according to the conditions under which they are placed, and with space for their development they form handsome bushes. They appear to the best advantage when arranged in the middle or back row of the shrubbery, and the purple-leaved variety is singularly effective when associated with the golden elder.

The varieties are *Corylus avellana aurea*, a useful form with yellowish leaves; *C. a. purpurea*, a very handsome variety with large rich bronze-purple leaves; and *C. a. lacinata*, an interesting variety with handsomely cut leaves.

ENONYMUS OR SPINDLE TREE.—The European spindle tree (*Enonymus europæus*) has one variety with ornamental foliage that merits a place in the shrubbery. This is known as *Enonymus europæus atropurpureus*, and has bronzy-purple leaves which become purple and scarlet in the autumn. It is equally as vigorous as the specific form and attains a height ranging from seven to ten feet and grows vigorously in all descriptions of soil. The most suitable position for this shrub is towards the back of the shrubbery. Propagation can be readily effected by means of cuttings in the autumn.

HIPPOPHÆ OR SEA BUCKTHORN.—This distinct shrub is more remarkable for the rich effect produced by its

masses of orange-coloured berries during the autumn and winter than for the attractiveness of its foliage. Apart from the effective colouring of the fruits, it well deserves a place in this section for its distinct greyish leafage presents a very attractive appearance when several plants are grouped together, whether on the lawn or in the shrubbery. It is of special value for seaside gardens, and it thrives on the margin of lakes and ponds as well as on comparatively dry soils away from water. As there are two sexes in the sea buckthorn, and the berries are produced by the female plants, there should be at least seventy-five per cent. of these, the remainder being males to provide the pollen for fertilisation which is effected by insect agency. Unless care is taken to have plants of both sexes there will be no fruits or berries.

LIGUSTRUM OR PRIVET. — The variegated privet (*Ligustrum vulgare variegatum*) is unquestionably the most useful of the shrubs with golden leafage. It will grow vigorously under the most diverse conditions and is invariably richly coloured. This shrub is remarkably effective planted singly or in groups of three in beds and borders in association with shrubs having foliage of dark colour, and it makes an excellent hedge. It can be readily propagated by means of cuttings, which should be taken in autumn and inserted in lines in an open border. To ensure well furnished plants the shoots should be cut back to within two or three inches of the base when planted.

PHILADELPHUS OR SYRINGA.—There are two forms of the Mock Orange (*Philadelphus coronaria*) with ornamental foliage, and the best of them is *P. c. foliis aureis*, which has golden leaves. This variety will succeed under precisely the same conditions as the green-leaved form, but it should be planted near the margin of beds and along the front of shrubberies, and be pruned

rather severely every second or third year to maintain a continuous succession of new growth.

SALIX OR WILLOWS.—Several of the willows are so light and elegant in appearance during the summer and have bark so brightly coloured in the winter as to be of much value for planting on the margin of lakes and ponds and alongside running streams: *Salix cardinalis*, with bright green leaves and red bark; *S. purpurea*, with dark green leaves and purple bark; and *S. vitellina*, with bright green leaves and yellow bark, the best of those with brightly coloured bark, and *S. rosamarinifolia* is a remarkably elegant variety with dark green leafage. The willows should be cut back to within a few inches of the surface each spring just before they commence to make new growth.

SAMBUCUS OR ELDER.—The elders comprise several useful forms with ornamental foliage. The most useful is the Golden Elder (*Sambucus nigra aurea*), which has rich golden leaves and is nearly, if not quite, as vigorous as the green form, and one of the best of the golden shrubs for seaside gardens. In many cases it is planted too largely, more especially in gardens of small size. The Silver Elder (*S. n. foliis argenteis*), which has leaves margined with white, is also pleasing and desirable. *S. n. heterophylla* and *S. n. lacinata* are two elegant cut-leaved forms. The leaves of these elders attain the highest development when the plants are somewhat severely pruned.

WEIGELAS. — There are two handsome weigelas with coloured leafage that should have attention. One is *W. hortensis Looymansi*, which has golden leaves, and *W. rosea variegata*, with variegated leaves. These should be planted on the margin of shrubberies or beds and be cut back every two or three years to promote the production of strong growths and large well-coloured leaves.

DECIDUOUS TREES WITH ORNAMENTAL FOLIAGE

WHILE the foliage of all deciduous trees is more or less beautiful, some have leaves that are so distinct in form and colour from those of the ordinary type that they are generally described as ornamental-leaved. This is a very convenient way of differentiating between trees having green leaves characteristic of the respective types, and the varietal forms with leaves that are elegantly cut or richly coloured, and it will be followed in this chapter. With them will be associated the few trees of a pendent or "weeping" habit that should have a place in gardens.

Much might be written in praise of the many fine trees with golden, purple or silvery leaves, and with respect to the rich effect they produce in garden scenery when judiciously arranged, and also of the additional charm given to a garden by the proper use of trees with distinctive green leaves or of pendent habit. But it must suffice to say that those with coloured leafage should be planted in moderate numbers and in positions where they will produce the most pleasing effect when in contrast with the various shades of green, and those of distinctive character in limited numbers, and assigned a position where their distinctive foliage or habit will afford the desired variety. Trees with coloured leaves must not be planted too liberally, but be so disposed as to light up as it were here and there the masses of green. In large gardens it will be advisable to plant them in small groups, but in small gardens single

specimens will suffice. The weeping trees appear to the best advantage when arranged as single specimens on the lawn.

GOLDEN-LEAVED.—The finest trees with golden leafage are: The Golden Alder (*Alnus glutinosus foliis aureis*) useful for planting on the margin of ponds and lakes. Golden-leaved Laburnum (*L. vulgare aureum*), bright in colour and useful in small gardens. *Negundo* (*Acer*) *fraxinifolium aureo variegatum*, a free growing tree of small growth, the leaves edged with bright gold. Golden Poplar (*Populus monilifera canadensis aurea*), a richly coloured tree of free growth which by annual prunings can be readily kept to any desired size. Golden Oak (*Quercus pedunculata concordia*), the finest of all the golden trees for choice positions. The tree is of comparatively slow growth and the leaves are of the richest golden hue. Golden Elm (*Ulmus campestris aurea*) is a capital companion to the Golden Oak being of moderate growth and very rich in colour.

BRONZE AND PURPLE-LEAVED.—The most effective trees with bronze and purple leaves are—Purple Birch (*Betula alba purpurea*) an elegant tree with purple leaves. Purple Beech (*Fagus sylvatica purpurea*) the finest of all the purple-leaved trees and too well known to need comment. There is also a form of the Purple Beech of pendent habit which also can be highly recommended. Purple Plum (*Prunus Pissardi*) is a much smaller growing tree than either of the foregoing and most desirable for small gardens, the leaves are of a rich purple hue.

SILVERY-LEAVED.—The silvery-leaved trees are few in number and three only will be mentioned. These are *Dimorphanthus mandschurica variegata*, a very handsome small growing tree with bi-pinnate leaves measuring two or more feet across the base, the leaflets broadly margined with white. *Negundo* (*Acer*) *fraxinifolium albo variegatum*, a well-known, small growing tree

PRUNUS PISSARDI

with effective white variegation and valuable also for its vigorous growth, and the Silvery Abele (*Populus alba argentea*) a distinct tree of medium growth with greyish leaves silvery white beneath, which produce a very pleasing effect when moved by the wind.

WEEPING.—The pendulous trees of special value in the garden are the Weeping Birch (*Betula alba pendula Youngi*), Cut-leaved Weeping Birch (*B. a. lacinata pendula*), Weeping Thorn (*Cratægus Oxycantha pendula*), Weeping Ash (*Fraxinus excelsior pendula*), American Weeping Willow (*Salix americana pendula*), a quite small tree with elegant greyish leaves. Kilmarnock Weeping Willow (*S. caprea pendula*), a handsome form with large leaves and the Camperdown Weeping Elm (*Ulmus campestris pendula*). For small gardens the Weeping Birch, the Kilmarnock Weeping Willow and the Camperdown Weeping Elm are preferable, while the Weeping Ash is the best when it is desired to form a living arbour.

EVERGREENS

THE more beautiful of the trees and shrubs that retain their foliage throughout the year are so useful in the production of pictorial effects in the garden that they should be taken full advantage of in the formation and rearrangement of shrubberies. The dense growth and rich colouring of the majority of the evergreens with green foliage renders them of much value for contrasting during the summer months with the graceful growth and lighter tints of deciduous kinds, and during the winter their foliage adds much to the charms of the garden at that season. Some have beautifully variegated leaves and others produce brightly coloured fruits, and the most striking of these should be planted rather freely, more particularly the former which are highly attractive throughout the year. Those with green leaves that do not produce conspicuous fruits must be planted rather sparingly because of the risk of their giving to the garden a somewhat sombre and monotonous appearance.

ARBUTUS OR STRAWBERRY TREE.—The species of Arbutus and their hybrids are neat in growth, and their greyish-green leafage, and clusters of pale-coloured flowers render them very attractive. They are not hardy in the northern parts of England, or indeed in the Midlands, where the soil is naturally cold and heavy. In the southern and western counties they make a vigorous growth, and produce their campanulate or bell-shaped flowers and bright red strawberry-like fruits in great abundance. They form neat bushes, and under

ARBUTUS UNEDO

ordinary conditions attain a height of five or six feet, but in Cornwall and Devonshire they attain to a much greater height, rising in some cases to twenty feet or more. The arbutus appear to the best advantage in the shrubbery, where so arranged that they are not overgrown by more robust shrubs. A well-drained soil is essential to success in their culture, and, where practicable, a liberal quantity of leaf-mould or other decayed vegetable matter should be added to the soil, previous to planting.

The most desirable for general cultivation are *Arbutus Unedo* and its varieties. The species blooms in September, and produces a profusion of pale white flowers succeeded by brilliant red fruits resembling the strawberry. The two varieties that can be specially recommended are, *rubra*, which has red flowers, and *Croomei*, a strong grower with pink flowers. *A. Andrachne hybrida* is worthy of a place in large gardens; it has narrow leaves and greenish white flowers, the latter being produced in summer; the fruit bright red.

Aucubas.—These enjoy a well-deserved popularity, for they will thrive in soils of all descriptions, and in any position, and they are equally at home in town and country gardens. The common variegated form, *Aucuba japonica variegata*, is the most generally useful; but the green-leaved *A. japonica vera* is desirable, the growth being bold and the leaves rich glossy green. The brilliant red berries produced by the female forms so greatly enhance the appearance of bushes of all sizes, that one or two or three plants of the green-leaved male plant should be grown, the number being determined by the area of the garden to provide the pollen necessary for the fertilisation of the flowers, which is effected by insect agency. Aucubas can be readily propagated by cuttings and seeds, the former being taken in August

and inserted in a shady border, and the latter sown in boxes under glass.

AZARA.—The species of azara do not form a very important group, but the low growing *Azara microphylla* is a distinct and elegant shrub with small dark green foliage, and useful for planting on the margin of the shrubbery.

BERBERIS.—The berberis include some of the most attractive of the hardy shrubs with persistent leaves, being for the most part elegant in aspect and surprisingly beautiful when in bloom. They produce a pleasing effect whether arranged in small or medium-sized beds on the lawn, one kind in each, or planted singly, or in groups along the front of the border. While not requiring specially prepared soil, they make the most satisfactory growth when the beds and borders receive a liberal addition of leaf-mould, or other decayed vegetable matter previous to planting.

The most useful for garden culture are: *Berberis Darwini*, an elegant species with small glistening green leaves and bright yellow flowers, which are produced in great abundance on the short spurs, and the whole length of the long slender shoots of the previous year. Even more elegant is *B. stenophylla* which is extremely graceful in growth, and has dark green leaves and rich orange flowers which are borne in great profusion. There are single and double-flowered forms of the last-named, and both should be grown in gardens of the smallest size as well as those of large area.

BUXUS OR BOX.—The variegated varieties of *Buxus sempervirens* are desirable for giving brightness to the shrubbery, and one or two of the green-leaved varieties are useful in the formal garden because of the readiness with which they can be kept to any desired size and shape. They will thrive in all descriptions of soil, and can be readily raised from cuttings which

CEANOTHUS DENTATUS

should be taken in September and inserted in a shaded border.

The finest of the variegated boxes are: *Buxus sempervirens argentea* with silvery variegation, and *B. s. aurea*, and *B. s. margination* with golden variegation, and *B. japonica aurea*, a very dwarf form with golden leafage. The best of those with green leaves are *B. sempervirens latifolia* and *B. s. salicifolia*. The boxes are best adapted for the front of the shrubbery, but they should be planted very sparingly.

CEANOTHUS.—These are not sufficiently hardy to be grown in the open except in favoured districts in the southern and western counties of England and Ireland, and should as a rule be grown against walls and be allowed considerable latitude in making their growth, as they lose much of their beauty when closely trained to the wall. In districts where they succeed in the open, they form handsome bushes and bloom profusely.

Ceanothus pallidus is the hardiest, and should be first planted. If it succeeds plant the following: *C. azureus*, *Albert Pittet*, *Gloire de Versailles*, *grandiflorus* and *Marie Simon*, which have rose-coloured lilac, blue and rose-white flowers respectively. They should be planted in sheltered positions in the shrubbery, where they will have a very drained soil, and be fully exposed to the sun's rays. A sunny position should also be assigned those grown against walls.

CISTUS OR GUM CISTUS.—The species of cistus are not sufficiently hardy to be successfully cultivated, except in warm districts, and they should not therefore be planted in large numbers, even in gardens of considerable size. The most handsome of the species are *Cistus ladaniferus* and *C. laurifolius*, which have white and yellow-white flowers respectively, and range from five to seven feet high.

COTONEASTERS.—The cotoneasters form a small group

of interesting and attractive evergreens of low growth, and more or less remarkable for their bright red berries. They make a vigorous growth, and fruit freely in all descriptions of soil and in the most diverse situations. They produce a pleasing effect when arranged in small groups on the lawn, and also in groups on the margin of beds and borders devoted to shrubs, but they appear to the greatest advantage when judiciously employed for the latter purpose. They are also most useful for planting on rock-covered banks and by the side of rustic and other steps, *C. horizontalis* being the best for the latter purpose. They can be readily increased by means of cuttings and seeds.

The most useful of the several species with evergreen foliage are: *Cotoneaster buxiflora*, *C. horizontalis*, *C. pannosa* and *C. thymifolia*, and these range in height from one to four feet high.

CRATÆGUS.—The free fruiting *Cratægus Pyracantha* and its variety *Lelandi* are the most useful of all the evergreens other than ivies for covering wall spaces. They are not particular as to the soil or aspect, and are free in growth, clothing considerable wall spaces in a comparatively short time, and in the spring they produce a profusion of white hawthorn-like flowers, which are followed by large clusters of fruits that in the autumn change to crimson and orange-scarlet respectively. They should be trained closely to the wall until the area is covered, and then a little latitude should be allowed to the secondary growths to prevent flatness, but they must not extend more than twelve inches from the wall surface.

ESCALLONIAS.—These form a small group of evergreen, elegant in habit and free in flowering. In all but favoured districts they require the shelter of a wall with sunny aspect. They may be planted against the walls of a dwelling or other building, but they are the most

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pleasing when grown against walls five or six feet high as they are tall enough to cover these. Escallonias require a moderately light and well-drained soil and can be readily propagated by means of cuttings of the young wood, which should be taken in August and inserted in a bed of sandy soil made up within an unheated frame, or they may be inserted in boxes filled with soil of the same description.

There are a considerable number of species and varieties, and those of special excellence include *Escallonia exoniensis*, deep rose; *E. Langleyensis*, carmine rose; *E. macrantha*, rose; *E. m. sanguinea*, deep red; and *E. rubra*, deep rose.

Enonymus.—The Japanese enonymus and its variegated varieties are neat-growing shrubs that under ordinary conditions attain a height of three or four feet; in the southern and western counties, they grow considerably taller. Although usually regarded as quite hardy they suffer much from frosts in severe winters, and in cold districts the variegated varieties are sometimes killed. Their proper position is the front row of the shrubbery, but they should be planted rather sparingly. Propagation can be readily effected by means of cuttings. Near the sea where they are not liable to injury from frost they make capital hedges.

Enonymus japonicus aureo-marginatus and *E. j. aureo-variegatus* are two fine golden forms and *E. j. argenteo-variegatus*, and *E. j. latifolius albo-variegatus*, are attractive varieties with silvery variegation. *E. radicans variegatus* is a hardy form of prostrate growth, and most useful for marginal bands to beds and borders where a silvery-leaved plant would be appropriate.

Garrya.—Although not generally met with in gardens, *Garrya elliptica* has sufficient merit to justify its inclusion in gardens of even limited dimensions. It requires a warm, sunny position against a wall, where

it will attain a height of three or four feet, and produce in profusion during the winter months its large clusters of elegant catkins. Both the male and female forms should be planted.

ILEX OR HOLLY.—The hollies constitute the most valuable of all the evergreens with inconspicuous flowers, for they thrive in soils and situations of all descriptions, and succeed in both town and country gardens. Hollies are highly effective in association with deciduous and evergreen shrubs in borders, and they contribute materially to the attractions of the garden when grown as single specimens on the lawn. A well-drained soil is desirable, and in preparing heavy soils a liberal addition of road sand, the sweepings of walks, will greatly improve it. During the earlier stages, the leading shoots of the plants should be supported by neat stakes and other strong growths should be checked, and throughout their growth they should be pruned sufficiently to keep them compact without being unduly formal. Usually the removal of a portion of the very strong shoots will accomplish all that is desired. The pruning should be done in the spring, and with a knife, as the use of shears in pruning hollies is most objectionable.

The best of the green-leaved varieties of *Ilex aquifolium* for gardens are: *Angustifolia*, an elegant form with rather long narrow leaves; *Handsworthiensis*, a handsome broad-leaved form; *Hodginsi*, a distinct variety, with broad smooth leaves, very handsome, and the best for town gardens in smoky districts; *crenata*, an elegant variety with small myrtle-like leaves. The variegated forms that should have the preference are *Golden Queen* and *Silver Queen*, which are very bright and effective, and have golden and silvery variegation respectively.

LAURELS.—These are, for the most part, too robust in growth to be planted otherwise than sparingly in

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gardens of small or medium size. The varieties of the Common Laurel (*Cerasus Lauro-cerasus*) are useful for planting on the boundaries of the gardens, at the back of the shrubberies, and in small plantations between the trees. They will grow in all kinds of soil, and require no special attention except a little pruning annually to keep them neat and compact, and they should be done with a knife, as when shears are used the leaves are mutilated and the plants disfigured. The best varieties are *C. L.-c. colchica* and *C. L.-c. rotundifolia*.

The Portugal Laurel (*C. lusitanica*) has dark green leaves and is useful for the middle row of the border, and is attractive grown in standard form on the lawn.

LIGUSTRUM OR PRIVET.—The privets are useful for the formation of neat hedges, and the best for this purpose is *Ligustrum vulgare sempervirens*. There are several of a highly ornamental character, the most noteworthy of these being *L. japonicum macrophyllum*, which has large green leaves.

OLEARIAS.—These are neat dwarf-growing shrubs with greyish leaves, and producing a profusion late in summer of white daisy-like flowers. They are not particular as to soil and situation, and thrive in smoky districts. They can be propagated by means of cuttings of firm wood in autumn. *Oleara Haasti*, and *O. stellulata* are both highly meritorious.

QUERCUS OR OAK.—The evergreen oaks form in their earlier stages large compact shrubs, and at a more advanced period neat round-headed trees of medium size. The common form is, by reason of its dense habit, valuable for planting on the margin of the garden for the purpose of screening the inmates from winds from undesirable quarters. These oaks present the most attractive appearance grown as single specimens on the lawn.

The finest of the evergreen oaks for gardens are: *Q. acuta*, *Q. cuspidata*, *Q. glabra* and *Q. serrata*, all of

which are elegant in outline and have larger leaves than those of the common form.

Veronicas.—The veronicas are mostly dwarf in growth, have small glossy green leaves, and in sheltered positions in the southern and western counties of England they are useful for planting in the rock garden and along the margin of beds and borders devoted to shrubs. But in the midland and northern counties of England they are liable to injury from frost, and in some winters are killed.

Those likely to prove the most satisfactory in the garden are: *Veronica Colensoi*, *V. cupressoides*, *V. Hulkeana*, *V. Lindsayi*, and *V. salicifolia*.

Vincas or Periwinkles.—These lowly plants are of special value for clothing banks and planting spaces under trees on the lawn where grass will not grow. It will suffice to break up the soil and dibble out small plants about six inches apart. They should be well watered in and receive one or two waterings subsequently. Spring and autumn are the best seasons for planting *Vinca major* and its variegated variety. *V. m. variegata* are the best, the latter being highly ornamental, and useful for planting in medium-sized clumps along the margin of beds and borders devoted to shrubs.

Less Hardy Evergreens.—There are many other evergreen shrubs of great beauty which may be grown in the open in the warmer parts of Britain. *Magnolia grandiflora* and the Mexican *Choisya ternata*, for instance, though not hardy in the north, do well in the south and west especially with the friendly shelter of a wall. Their fragrant white flowers, and evergreen leaves make them very desirable plants where they can be grown. In very favoured localities, attempts may also be made to grow in the open such conservatory shrubs as the scarlet-flowered *Callistemon speciosus*, and *C. linearis*. A well-drained soil is an important factor in the cultivation of the less hardy shrubs.

CALLISTEMON SPECIOSUS

CONIFERS

Coniferous trees and shrubs include many kinds that possess much beauty; and when arranged with regard to their fitness for the positions assigned them they add much to the attractions of the pleasure grounds. Notwithstanding their distinctive characters and handsome appearance they must be planted sparingly in gardens of limited dimensions. They are for the most part formal in growth, many are sombre in colouring and a considerable proportion require a comparatively large space for their full development. Conifers are also peculiar in their requirements and will not thrive where the soil or atmosphere is exceptionally dry, or where the soil is cold and wet. When the conditions are not favourable to their growth they become unhealthy and thin, and when in that state they present a most unsatisfactory appearance. No conifers are able to withstand the deleterious effects of a smoke contaminated atmosphere and therefore they are quite unsuited for planting in town gardens or in gardens of the suburbs of large towns.

Generally speaking the larger growing kinds should be planted singly and in positions where they will have space for the development of their distinctive characteristics. Those of moderate growth may be planted singly or in groups, but in the latter they should be arranged far enough apart in each group to allow them to attain a considerable size before becoming overcrowded. Greater interest will be given to the groups when they are formed with several species and varieties closely allied to each other and agreeing more in their

general habit of growth. Conifers suffer in some districts from easterly winds, and therefore in their growth as single specimens it is desirable to plant them where they will receive some shelter during the earlier years of their life. It is most desirable to avoid planting them where they will be exposed to keen winds, as for example opposite openings in belts of trees and shrubs on the east side of them. Nor should they be near the corners of the dwelling-house as the winds that sweep along the walls are most injurious to them.

The smaller growing kinds that can be readily raised from cuttings such as the cupressus, retinosporas, and thuias, are extremely useful for filling flower beds during the winter and also for window boxes. The golden varieties of the above-mentioned kinds and of the yews may be used with excellent effect in the production of rich masses of colour in the shrubbery borders. Compact growing forms such as the Irish Yew and *Cupressus Lawsoniana erecta viridis* are extremely useful in geometric flower gardens for planting in lines alongside terraces and other walks.

ABIES OR SPRUCE.—This is a comparatively large genus and the species are mostly too robust in growth to be admissible to gardens other than those having an extensive area. Those of special value for the garden are: *Abies Englemanni glauca*, a remarkably handsome form with bright silvery-blue foliage. *A. orientalis*, a beautiful form of a bright green hue. *A. pungens glauca*, a beautiful variety with silvery-white foliage and very effective in contrast with the dark conifers. *A. p. g. pendula*, an elegant variety of pendulous growth with silvery leafage. *A. Nordmannian* and *A. Pinsapo* are both of rather large growth but they are exceedingly handsome at all stages. They have rich green leaves and the second of the two is formal in aspect but very beautiful.

CALLISTEMON SPECIOSUS

ARAUCARIA.—The well-known Chili Pine (*Araucaria imbricata*) is desirable for its distinct character and when in robust health is very attractive. The plants are raised from seed and vary considerably in growth, the best being those which indicate in an early stage a somewhat compact and free branching habit, as they as a rule make the most handsome trees.

CEDRUS OR CEDAR.—The cedars are all large growing trees, but they are so distinct in character and handsome in appearance that a few specimens should have a place in gardens of moderate dimensions. *Cedrus atlantica* is a handsome tree, but less elegant than the Deodar, and it is mentioned for the purpose of directing attention to its two varieties, namely, *C. a. aurea*, remarkable for the rich golden hue of the young foliage, and *C. a. glauca*, which has silvery grey leaves. *C. deodara*, popularly known as the Deodar, is one of the most elegant of the conifers, and of much value for avenues and for isolated positions in the pleasure grounds.

CUPRESSUS OR CYPRESS.—The cupressus are mostly of moderate or small growth, and are sufficiently numerous to afford scope for the exercise of judgment in making a selection from them. They are all more or less columnar in habit, and when of considerable height do not exceed five or six feet in diameter. *Cupressus Lawsonia* is a handsome upright growing species with dark green leafage, but for choice positions in the garden, the finest of its numerous varieties should alone be selected. The most noteworthy of the green varieties are: *C. L. erecta viridis*, erect in growth and of a brilliant green hue; *C. L. filifera*, distinguished by the slender and graceful branches; *C. L. gracilis pendula*, a distinct variety with pendulous branches; *C. L. Shawi*, a distinct variety somewhat globose in growth, and *C. L. Youngi*, a handsome form of rather vigorous growth with dark green fern-like branchlets. The best of the

silvery varieties are: *C. L. argentea*, an effective variety with silvery grey leaves, and *C. L. darleyensis*, a fine golden form in the way of lutea, but richer in colour. *C. macrocarpa* and *C. nootkatensis* are two handsome species that are worthy of a place in large gardens. The last-named is useful for seaside gardens on the south and west coasts.

JUNIPERUS OR JUNIPER.—These are all of very moderate growth, and a few should be selected as especially desirable in the garden. The Chinese Juniper (*Juniperus chinensis*) is a compact growing shrub of a bright green hue, and its golden form *J. c. aurea* is a beautiful golden form, neat in growth and bright in colour. The upright Irish Juniper (*J. communis hibernica*) is upright in growth and is useful for geometrical flower gardens and for planting alongside walks where a columnar tree of smaller growth than the Irish Yew would be appropriate.

RETINOSPORAS.—These are closely allied to the cupressus, and comprise some of the most useful of the conifers for gardens of small and medium size. *Retinospora obtusa* is one of the largest growing of the several species, but as the progress made is comparatively slow, many years elapse before it becomes too large for the smallest garden. There are several varieties of a highly ornamental character that are smaller in growth than the type, and preferable for gardens. *C. obtusa aurea* is a rather small growing slender form with rich golden foliage. *C. o. compacta*, a dwarf form, useful for its distinct character. *C. o. lycopodioides*, a handsome variety, distinguished by its dense growth which, as indicated by its name, resembles that of the strong growing lycopodiums. *C. o. pendula*, an elegant variety, with long slender pendulous branches. *C. pisifera* is a smaller growing tree than the preceding species, and is remarkable for its elegant aspect. The following

varieties are the finest of its several forms. *R. p. aurea*, bright golden yellow; *R. p. filifera*, an elegant variety with long slender branchlets; *R. p. prumosa*, a handsome form with dense feathery branchlets.

Taxus or Yew.—The Common Yew (*Taxus baccata*) is too gloomy in appearance to admit of it being planted otherwise than very sparingly in the garden, and under no circumstances should it be planted on the margin of ponds or small lakes, because of the dark shadow it casts on the water. It is useful for hedges and for forming a screen on the margin of gardens that are much exposed. There are numerous handsome varieties, and the most distinct of these are *T. b. aurea*, dense growing form, with bright golden leaves; one of the most effective of the golden conifers, and especially desirable because of the facility with which it can be kept to any desired size. *T. b. Dovastoni*, a handsome comparatively dwarf form with spreading, somewhat pendulous branches. *T. b. fastigata* is the Irish Yew so well known for its close columnar growth; there are golden and silvery forms, but the former is decidedly the most effective. *T. b. glauca* is remarkable for its greyish leafage, but not required except in collections, and *T. b. gracilis pendula* is not wanting in elegance, but it is not equal to some others of the weeping conifers.

Thuias.—These include a few desirable trees of moderate stature, and like the species of cupressus are compact and erect in growth. *Thuia dolabrata* is a beautiful species well deserving of being generally planted; it grows most satisfactorily in a deep loamy soil containing a liberal amount of moisture, and should be planted where it will not be exposed to easterly winds until well established. *T. gigantea* is a handsome tree, more compact in habit and of larger growth than the preceding species. The variety *T. g. aurea* has golden leafage, and *T. g. gracilis* is an elegant form of smaller growth than this

species. The American Arbor Vitæ (*T. occidentalis*) is a small tree or large shrub of pyramidal growth and not wanting in attractiveness. It is, however, not equal for garden ornamentation to some of its numerous varieties. The best of the green-leaved forms are: *T. o. Ellwangeriana* and *T. o. Wareana*, which are smaller in growth and of better colour than the type. *T. o. lutea* and *T. o. Wareana aurea* are the best of the golden-leaved forms. The Chinese Arbor Vitæ (*T. orientalis*) is of pyramidal outline, but the growth is hardly so erect as in the species immediately preceding it. *T. o. decussata* and *T. o. funiculata* are two beautiful green-leaved varieties, and *T. o. aurea* and *T. o. elegantissima* are two effective golden forms, the former globular in growth, and the latter has a compact erect habit.

WELLINGTONIA.—The well-known *Wellingtonia gigantea*, which rises to a height of 350 feet in Sierra Nevada, where the conditions are very favourable, is an excellent garden tree, although decidedly formal, where soil and climate are favourable to its development. It is of comparatively slow growth in Great Britain, and many years elapse before it becomes too large for a garden of moderate area.

A deep loamy soil and shelter from easterly winds are essential to success, therefore where the soil is gravelly or a heavy clay, or the position exposed to easterly winds, the Wellingtonia should not be planted, because of the lower branches dying off at an early stage and spoiling the appearance of the trees.

BAMBOOS

Of the large number of hardy plants remarkable for their elegant habit, nobility of aspect, or the distinctive colouring of their foliage that were brought into prominence during the last thirty years of the nineteenth century, but few are more deserving of the attention of the planter than the bamboos, of which there are so many beautiful kinds in cultivation. Unsurpassed in elegance of growth, they are so vigorous in constitution as to soon become established and develop their distinctive characteristics, and with a few exceptions they are sufficiently hardy to withstand the effects of the severest weather experienced during the British winters. They are indeed so beautiful and also so distinct from all the other hardy plants, whether herbaceous or shrubby, that it is not unreasonable to assume that some of the more formal objects usually met with in gardens and pleasure-grounds will be replaced by the feathery growths of the bamboos as they become better known. They have not, it must be admitted, proved so satisfactory in every instance as could be desired, but this has in a large measure been due to the conditions under which they attain their highest degree of development not being fully understood. Cultivators were aware that several of the finest species grew luxuriantly in certain parts of Japan, where in the coldest season the temperature falls so low as to justify the belief that they would withstand the effects of the winters in this country without injury.

They were in no way mistaken as to their hardiness, but they failed to recognise the fact that while the health of the bamboos is not impaired by exposure to severe frosts, the foliage is much disfigured during the winter months when the plants occupy positions exposed to easterly winds. When the plants have their leaves browned by exposure to cold winds, they present an unattractive appearance until the new growths are produced in the course of the summer. This being so, shelter is an important factor in the cultivation of bamboos, and when cultivators become fully acquainted with this fact a great improvement will be effected, with the result that they will contribute more liberally to the attractions of the garden than has yet been the case. To emphasize the importance of shelter from easterly winds, it may be well to state that except in the western counties they are quite unfitted for planting in exposed positions. Nothing could indeed be done more likely to bring them into disrepute than to plant them in open wind-swept positions where they will be immediately under the eye of visitors to the gardens in which such positions are assigned them.

The proper course in the cultivation of bamboos is to select a sheltered and somewhat secluded position, and within it so arrange the species and varieties selected as to form a distinct feature. There is no occasion to attempt the formation of a bamboo garden, although there is no objection to this being done if space will permit, as a few of the more distinct forms judiciously grouped on the lawn will produce a delightful effect. They should be planted from four to six feet apart and judicious grouping consists in so arranging the several forms that those of low stature will not be overgrown or hidden from view by those attaining a much greater height. If the position is contiguous to a pond or

lake it will be an advantage as bamboos require a liberal degree of moisture at the roots, and nowhere do they present a more attractive appearance than when on the margin of or near to a sheet of water. The chief advantages of assigning the bamboos a secluded position are, they create a more distinct effect than when associated with other things, and as they will not be constantly under the eye a little browning of the foliage by frost or wind will not be a matter of so much consequence.

Bamboos luxuriate in a rich moist soil that contains a liberal proportion of decayed vegetable matter, and there is no great difficulty in complying with their requirements, except it may be in the matter of moisture. Unless they are planted in a position where the whole of the soil is manured and trenched, or deeply dug, the stations should be from thirty to thirty-six inches in diameter, and be broken up to a depth of at least two feet. About one-third of the soil should be taken away and replaced with well-rotted stable manure and leaf-mould in about equal quantities. Well-decayed vegetable refuse may be utilised where there is a difficulty in obtaining manure or leaf-mould or both. May is the best month in which to plant bamboos as they are then commencing to make new growth and quickly become established in their new quarters. The more robust kinds spread with great rapidity after they have been planted two or three years, and repressive measures have to be adopted from time to time to prevent their spreading beyond the space allotted them, and crowding-out their less vigorous neighbours. The most effectual way of keeping them within bounds is to cut off, as they push through the ground, all suckers that make their appearance beyond a certain distance from the plant. Where the soil is naturally dry three or four thorough waterings at intervals of ten days or a fort-

night during May and June will be highly beneficial in promoting a vigorous growth.

The following comprise some of the most distinct and beautiful of the plants popularly known as bamboos.

ARUNDINARIAS.—A comparatively large group, comprising species ranging from two to fifteen feet high, and including some of the most beautiful of the bamboos. *Arundinaria auricoma*, a handsome species rising to a height of seven or more feet with short bright green leaves marked with yellow. *A. Fortunei variegata*, a dense growing form, ranging from two to three feet high, and having long leaves marked with longitudinal white stripes. *A. Hindsi*, an elegant species, attaining a height of seven feet, with long glaucous green leaves. *A. Hindsi graminea* is a charming variety of the last-named; it is not quite so tall as the type, the growths are smaller and more elegant, and the leaves are of a brighter green. *A. japonica* (syn. *A. Metaké*), a strong-growing species, attaining a height of fourteen or fifteen feet, and having leaves twelve inches or so in length. This is one of the best-known species, and well deserves the popularity it enjoys. It forms handsome specimens, and will grow in drier soils than the majority of the bamboos. *A. nitida*, a remarkably elegant species, rising to a height of eight or ten feet, with light feathery growths; it is quite hardy, and can be strongly recommended. *A. pumila* is a charming little species, less than eighteen inches in height, well suited for the margin of a group or a sheltered position in the rock garden. *A. Simoni* is one of the tallest and most robust of the Arundinarias, and very quickly forms a remarkably handsome specimen.

BAMBUSAS.—The bambusas are with few exceptions too tender in constitution to bear the cold of English winters, and the tender kinds should be planted very

sparingly and only in exceptionally favourable districts, as for example on the west coast. The finest of the hardy species is *Bambusa palmata*, a handsome species, attaining a height of five feet, and having large leaves. *B. pygmæa* and *B. tessellata* are two dwarf species, with comparatively large leaves, but not sufficiently attractive for planting where room for a small selection only can be found.

PHYLLOSTACHYS. — The species belonging to this genus include some of the most ornamental of the bamboos, and a selection should be made from them for the smallest of gardens. *Phyllostachys aurea* is an elegant species with erect stems rising under favourable conditions to a height of fourteen or fifteen feet. *P. Boryana*, a handsome and robust species, quickly forming large specimens. *P. flexuosa*, an elegant species, with a height of about eight feet, and of special value for small gardens. *P. Henonis*, a handsome species, attaining a height of seventeen or eighteen feet where the climate and soil conditions are favourable to its full development. This species is well-suited to planting in positions not specially favourable to bamboos, as it suffers but little from drought, and is perfectly hardy. *P. mitis* is perhaps the tallest of all the hardy bamboos. In Japan it grows to a height of fifty feet, and in this country the growths have attained a height of twenty feet. *P. nigra* merits special attention, for it quickly forms a large and handsome specimen, the height ranging from fifteen to eighteen feet. *P. viridi-glaucescens* has so much to recommend it that it may be described as one of the most desirable of the strong growing kinds. The much-branched stems attain a height of about eighteen feet, and the rich green leafage suffers less from exposure to cold winds than is the case in the majority of the bamboos.

THAMNOCALAMUS.—The species belonging to this

genus that are in cultivation are not sufficiently hardy to be successfully grown in the open. *Thamnocalamus falcata* and *T. Falconeri* are the best for growing without protection, they are both extremely elegant in growth, and quite hardy. The first mentioned has slender stems which rise to a height ranging from five to nine feet, and bright glaucous leaves from four to six inches in length. The second of the two species has graceful much branched stems with comparatively small bright green leaves. Planted in a sheltered position where their roots have access to a liberal amount of moisture, they soon reach specimen size and present an extremely attractive appearance.

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