

ON MIXED PLANTATIONS.

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For this Essay the Author was awarded the Medium Gold Medal of the Highland and Agricultural Society of Scotland.

IN TWO PARTS.—PART I.



HE skilful landscape gardener must be considered as a true artist. His art is a combination of the florist's, forester's, land-surveyor's, architect's, and painter's; for he is called upon at times to exercise the skilfulness which belongs to each of these several professions, or to give an opinion on matters practically connected with some of their departments.

The effect which is produced in the appearance of a landscape by a judicious grouping of trees is very remarkable. Besides being in themselves objects of great beauty, they impart an agreeable variety of colouring and shading to the landscape, and serve to show off with advantage all other objects seen along with them, whether in their immediate neighbourhood or at a distance. A level plain, however well cultivated, looks tame and monotonous unless appropriately relieved by strips or groups of planting; and even a single tree in a park is often acknowledged to be a decided outset. An exposed cottage on a rising ground looks solitary, cold, and cheerless; but peering out from amidst trees, the same dwelling seems the very picture of peaceful comfort and happiness. In this latter aspect there appears to be a most appropriate and even necessary connection between the house and the trees, not merely because the planting is required for shelter, but it seems to be absolutely demanded for the sake of its ornamental character. Such an example may serve to bring out the general principle, that a cottage being shown to more advantage when surrounded by a planting of trees, it should always be so provided and exhibited; and if this may be assumed as a general principle, it suggests the existence of certain laws of ornament as belonging to the art of the landscape gardener. The application of these laws, however, must always depend on circumstances; for they cannot be so clearly defined as to entitle them to be considered as absolute, neither are they so doubtful and unsatisfactory as to warrant their being altogether neglected.

In the formation of new plantations, much might be done to secure the beauty of the scenery by such an arrangement of the different varieties of trees as would form an agreeable shading to the landscape. The lights and shadows shown in a great picture are its principal attractions; and, as they give expression to the design of the artist, it is upon them that his chief attention is bestowed. In the same way, the harmony of colouring presented in the natural landscape must likewise be considered one of its most engaging features; and it should be the aim of the landscape gardener to

follow, in every particular, such a method of operation as will bring out this distinguishing quality to the best advantage, and at the same time prevent the exhibition of what may seem incongruous and inconsistent with the scene regarded as a whole. The motley mixture of the Scotch fir, the spruce, and the larch, shown in many plantations, in promiscuous position, even after the trees have attained their maturity, is far from producing a fine effect; and, although such an arrangement might have been found necessary when planting, for the sake of providing suitable nurses, there is no reason why that order should continue to be maintained with the permanent trees.

Viewed from a short distance, a plantation presents the most imposing appearance when the trees are grouped or massed together according to their several varieties, and when all the irregularities of the ground are taken advantage of in order to suit the most efficient display of the various kinds. And where the policies are of even limited extent, and the material placed at his disposal is comparatively scanty, the landscape gardener who has taste and judgment will always make the most of his resources; and it is surprising, when skill is enlisted, how far slender means may be made to go, and how moderate-sized plantations can be made to look much more extensive than they really are. The opportunities afforded for the opening-up of scenery worthy of being shown, or the shutting out from view such objects as are disagreeable, or in bad keeping with the general prospect, by the judicious use of deciduous or evergreen varieties of trees, and preserving the sky-line perfect and unbroken, while at the same time it may be kept waving or undulating, are all points which the eye of the practical man will readily seize upon and turn to account.

Let us take for granted that the mansion-house is the standpoint from which the landscape should take its rise. In the laying-out of our ancient Scottish country seats, the most seems to have been made of such material as could be obtained at the time—the oak, the ash, the beech, and the lime, with here and there a silver and Scotch fir, and perhaps a chestnut. But, for the adornment of our modern parks, a much more extensive assortment is demanded; and when so many valuable additions have been made to our list of trees, which now embraces foliage of the most beautiful and varied shape, and all shades of green, yellow, purple, and scarlet, much wider scope can be given to the taste for rural embellishment than could formerly be afforded. The style and grouping of the policies around the mansion-house must, of course, always be regulated by the situation and the nature of the ground, respect being had to the perspective view; while every knoll or elevation should be made available for the purpose of increasing the effect of the scene, and any notable prospect should be carefully kept open, with here and there a peep at such romantic-looking rocks or mountains as the vicinity can show.

Perhaps no part of landscape gardening operations is more difficult to deal with than those which are proper to that portion of the policies which lie in the immediate vicinity of the mansion-house;

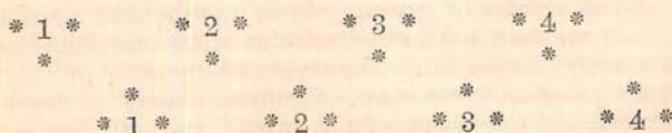
and for the obvious reason, that the laying out and planting of that part of the grounds is subjected to a more frequent and closer inspection, and, as a matter of course, to more severe criticism, than the others; and, forming as it does the foreground of the picture, it necessarily bears the responsibility of setting off the background to the best advantage. I merely refer to these facts in order to show the importance of considering well the whole ground and its bearings before commencing work at all, and also the effect likely to be produced upon those parts of the scene where

“Distance lends enchantment to the view,”

by any changes which may be proposed to be made close at hand.

But the mention of a subject by way of illustration may serve to make the above remarks more easily understood. And as it is difficult to make choice of a private demesne for such a purpose without perhaps giving offence, or running the risk of describing a place not generally known, I shall endeavour to obviate this by naming a mansion-house and grounds with which every Scotchman at least is familiar, and the esteemed proprietor of which is not likely to quarrel with us for so doing—I refer to Holyrood Palace, the mansion of our beloved Queen; taking, also, the Park, Salisbury Crags, Arthur’s Seat, and surrounding ground into account.

The east front of the Palace, extending to the approach gate from the London Road, including both sides of the drive, might with great advantage be planted to a certain extent. On the north side there are perhaps only two views worthy of being kept open; the first, a peep by the corner of the Royal Terrace across the Forth, and having the Fife hills as a background; the other, a prospect along the Forth, by the Bass Rock and seawards. If these two views were preserved, the remaining portion of this line should be closely planted up, so as to exclude some unsightly buildings and public works; and, to do this effectively, a double row of trees in group would be required, consisting of deciduous and evergreen varieties alternately—the inner or wall line being composed of deciduous, and the outer or park line of evergreen varieties; and, as the ground is somewhat narrow, it would be necessary to group the trees in triplets, and plant in zigzag form, as shown in the annexed diagram:—



Such a double line of trees, consisting of eight groups of each variety, would, I think, be sufficient for the purpose above mentioned, and they might be composed and ranged as follows:—Inner line (deciduous), commencing at the foot of the Royal Chapel,—group 1, purple beech (*Fagus s. purpurea*); 2, scarlet oak (*Quercus coccinea*); 3, purple sycamore (*Acer purpurea*); 4, large-leaved maple (*A. macrophyllum*); 5, scarlet-flowering horse-chestnut (*Es-*

culus rubicunda); 6, variegated sycamore (*A. variegata*); 7, birch (*Betula alba*); 8, Spanish chesnut (var. Knight's prolific, *Castanea vesca*). Outer line (evergreen),—group 1, black American spruce (*Abies nigra*); 2, Cembra stone pine (*Pinus Cembra*); 3, Menzies' spruce (*A. Menziesii*); 4, mountain Weymouth pine (*P. monticola*); 5, the Douglas pine (*A. Douglasii*); 6, Austrian pine (*P. Austriaca*); 7, the Albert spruce (*A. Albertii*); 8, Lobb's arbor-vitæ (*Thuja Lobbii*).

As the ground becomes too narrow to admit of grouping being continued the entire way to the gate, the form of planting would therefore require to be altered, and carried on only in a double row, say of *Pinus Austriaca* and *Abies nigra*; but, at the gate itself, a fine large terminal group might be formed, composed of the beautiful weeping birch, acacia (*Robinia pseudo-acacia*), and Lombardy poplar (*Populus fastigiata*) intermixed.

The above would appropriately screen off from view all that is necessary to be excluded from the prospect in this direction; and the remaining portion of the park, on the same side, would admit of a few additional groups and some single specimens being inserted, and these might be planted parallel with, but at a suitable distance from, the railing in east front of the palace. The specimens should comprise (1) *Picea nobilis*, (2) *P. Nordmanniana*, (3) *P. pinsapo*, and (4) *P. lasiocarpa*—which four would probably be found quite sufficient to form this line; and in front of these, eastward, let two groups be planted, consisting of (1) *Acer Pennsylvanica* and (2) double scarlet, double white, and single scarlet thorn; this latter group should be placed towards the drive; while right in centre of these two, but extending to west end of drill-ground, another group, composed of *Cedrus deodara*, would show with immense effect.

Crossing the drive to the foot of the hill, extending from the elbow of the crags eastwards to St. Anthony's Chapel, a great group of abies, sorts, would stand with much advantage on the level ground. Norway spruce (*A. excelsa*) might be given as a background to show with greater effect Menzies's spruce (*A. Menziesii*), Douglas spruce (*A. Douglasii*), the white spruce (*A. alba*), the black spruce (*A. nigra*); while the lake in front of the chapel I would surround with birch (*B. alba*), Abele poplar (*P. alba*), the Huntingdon willow (*Salix alba*); and at intervals *Abies nigra* and the hemlock spruce (*A. Canadensis*). The two last named would contrast favourably in summer with the foliage of the deciduous trees, and serve as a winter clothing when the others had shed their leaves. This towering clump would have a grand effect; and the old ruins of the chapel would be considerably lightened up by having a few plants of the gold and silver striped elder (*Sambucus var.*) interspersed about it.

West of the lake we leave a wide entrance to Hunter's Bog, where a group of limes (*Tilia Europæa*) and scarlet horse-chestnut (*Æsculus rubicunda*) would be in fine keeping; and advancing in the direction of the lodge, a few single specimens of the upright elm (*Ulmus montana fastigiata*), the golden ash (*Fraxinus aurea*), the purple beech (*F. s. purpurea*), with small groups intermixed of

Pinus Austriaca and *Pinus maritima*, might be planted with advantage. At the south corner of the lodge, a large cluster intermixed, and in a pear-shaped form, of Turkey oak (*Q. cerris*), scarlet oak (*Q. coccinea*), purple beech (*F. s. purpurea*), and sycamore (*A. pseudo-platanus*), would show extremely well, extending from the lodge southwards, and returning to the palace along the drive in an avenue of the sycamore, scarlet horse-chestnut, the lime, and beech (*F. sylvatica*), in equal proportions, sufficient space being left between each to admit of one *Cedrus deodara* on both sides of the drive, and onwards the gold and silver striped holly (*Ilex variegata*) and common holly (*I. aquifolium*).

Passing round to the south-west front by Dumbiedykes, and on by St. Leonards, the whole of the buildings in sight require to be shut out from view of the park, and for this purpose I would plant a line of the Lombardy and black Italian poplars along the entire length of the wall; in front the Weymouth pine (*P. strobus*), *Abies Douglasii*, *A. excelsa*, and *P. Austriaca*, intermixed, would form a magnificent screen. The tall pyramidal Lombardy poplar, with the broader set and more majestic black Italian poplar, and *Pinus* in front, would effectually conceal what is not wanted in the view at this point, and at the same time form in themselves very attractive objects.

The flat ground here, extending to both sides of the drive and old meadows, would make a splendid pinetum, the soil and situation being suitable for almost all the varieties. The magnificent Wellingtonia would be entirely at home here, as also the deciduous cypress (*Cupressus distichum*), the pines, and abies; while the piceas, excelled by none of the others in beauty, would, as a whole, luxuriate in this part of the ground; likewise the cupressus, thujas, etc., etc. The pinetum could be finished off by a plantation of *Pinus Austriaca* and larch (*Larix Europæa*) sloping up to and finishing at St. Leonards railway station.

Turning now to Salisbury Crags for the purpose of planting, the more rugged portions and jutting rocks ought to be left open and freely exposed. The *Pinus mughus* and *P. montana* might be interspersed here and there, but by no means so thickly as to conceal the wild beauty of the crags. These two varieties get bushy and hang out from the rocks, and they would therefore be in fine keeping with the general outline. Where a suitable spot offered, one or two larch should be slipped in, and these would make tolerable trees, and at the same time form a mixture with the *P. mughus*; the bright green of the larch in spring and yellow in autumn would contrast well with the more sombre foliage of the mughus.

The steep braes sloping down from the Crags towards the valley might be appropriately covered with a wild intermixed mass of such as the sloe (*Prunus spinosa*), the hazel (*Corylus avellana*), the bird-cherry (*Cerasus padus*), thorns of sorts, double and single scarlet and double white cratægus, laburnum (*Cytisus laburnum*), elder (*Sambucus*) of sorts, intermingled with whin (*Ulex Europæa*) and broom (*Cytisus scoparius*). In these we should have such a magnificent mass of wild luxuriance as would hide the present barren,

uncouth-looking acres of quarry debris, and perfume the air for several months in the year; while the same bold outline of the crags being preserved, assisted by the few pines dropped in as proposed, would render the entire scene very different in appearance from what it is at present. Of course some labour and expense would be incurred in accomplishing these improvements, but both would be well bestowed. It would be necessary, in clearing out the shivers, to form pits and fill them with good soil for planting, which would give the trees a fair start, and I have no doubt they would continue to thrive extremely well.

Extending up the hill beyond the crags, but before entering on the higher slope, the larch and Scotch fir (*P. sylvestris*) could be massed in solid squares, so to speak, according as the several levels or inequalities occurred, and following the whole circle of the hill in one mass of Pinus Austriaca and Scotch fir, leaving the poll or summit bare and open, as at present, that the magnificent view from it may not be interfered with.

(To be continued.)

HEATING SMALL PLANT-HOUSES.

BY WILLIAM COLE,

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N making a few remarks on heating small plant-houses, I shall say but little about portable contrivances for keeping the frost out of these structures, for I have had no occasion to make myself acquainted with them. Moreover, I believe them to cost more money and trouble than the results justify. I can well understand the anxiety of people with small gardens to have a little house in which to keep a few plants during the winter, but I would steadily set my face against the erection of houses which will not afford accommodation for sufficient plants to compensate for the cost of fuel and the trouble of attending to the fire. I would also strongly advise those about to build, to either erect a house of sufficient size to be of service, or leave it alone. It would not be difficult to explain my reasons for so doing, but it will suffice on the present occasion to say that little houses are such a constant source of worry and vexation and anxiety, that but little pleasure can be experienced in attending to the plants. The erection of plant structures in a position near the dwelling-house where it is a work of extreme difficulty to fix a heating apparatus, cannot be condemned too strongly. It is as well to face these matters boldly, and say at once that all portable contrivances require quite as much attention as a properly-constructed flue, or a service of hot-water pipes, and are moreover less economical in working.

For plant-houses of all kinds there can be no doubt that a hot-water apparatus is the best, for the pipes take up but little room, and the heat diffused is of a most genial character. It must also be added that houses fitted with a service of hot-water pipes may be

vided with but little trouble, and without having to make a havoc amongst the flowers in the conservatory. The pans may of course be used an indefinite number of times, and dressed up differently each time. Small tin tubes, for holding water, should be inserted at regular distances apart in the pans, as the flowers can then be more satisfactorily arranged, and they remain in a fresh condition a much longer period than when they are inserted into the soil. Large shallow pans of earthenware, provided they are well furnished, will be useful for the sideboard or for side tables when dressed with flowers; but they are too heavy-looking for the dinner-table. The *épergnes* may also be filled with wet sand, and covered with moss or *Selaginella* in a careful manner.

Amongst the plants producing flowers suitable for gaslight entertainments, the following may be mentioned as worthy of special notice for the Christmas season:—*Scarlet Geraniums*, *Chinese Primulas*, *Camellias*, *Salvias*, *Euphorbia jacquiniæflora*, *Poinsettia pulcherrima*, *Gesnera zebrina*, and *G. exonienses*, *Azalea amœna*, and *Erica hymæmalis*. The most useful of the ornamental-leaved plants are *Dracena Cooperi*, *D. terminalis*, *Croton angustifolium*, *C. undulatum*, *C. Weismanni*, and one or two others. A number of Palms are also of great value, especially those with light pinnate fronds, such as *Areca lutescens*, *Chamædora graminifolia*, *Euterpe edulis*, and *Kentia Canterburyana*.

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IN TWO PARTS.—PART II.



F such a plantation as that described in the preceding number were formed, the valley beneath should be bordered off, in a circuitous winding line, with birch, hawthorn in variety, willow, purple beech, purple sycamore, *Acer negundo variegata*, and scarlet oak. These might be massed according to circumstances, while at suitable intervals single specimens might be inserted, which would preserve a view here and there of the braes and cliffs; while along the same line a fine undergrowth could be given of ivy (*Hedera helix*), the honeysuckle or woodbine (*Lonicera* of sorts), sweet clematis or virgin's bower (*Clematis flammula*), *Mahonia aquifolia*, etc. The opposite side, to the west and south, on same level, ought to be made the counterpart of the margin now described along the drive; while the knoll tapering towards St. Leonards should be massed with birch and larch, which might be extended to the plantation ending at the pinetum. In finishing in this manner we have the most beautiful

variety of colours of foliage, with all the various intervening shades contrasting or blending together. Seen from the glen, the braes and crags form the lower sky-line, with here and there the pines dotted along, and allowing the eye to wander to the very summit of the seat, where again we have the pines as a margin between us and the sky. Covered with such a profusion and variety of trees, this romantic and classic mountain would stand out a much more attractive object in the beautiful landscape than it even now is; while its proximity to such a noble city as the Scottish metropolis, and its being seen to advantage from so many different points, would render it famous to an extraordinary degree. From the summit of the hill, sloping eastwards, a detailed and particular description of the various shelvings or plateaux that occur is perhaps not necessary to be given; it may be sufficient if we keep in view that, for the sake of preserving harmony of colour and general effect, each rising piece of ground of about the same level, although separated by ravines or hollows, ought to be planted with the same variety of trees, such as Scotch fir, *P. Austriaca*, etc., while the hollows themselves may be larch or hardwood alternating; so that from different points of view the lights and shades of the various foliage may be best seen, or even the entire mountain itself made to appear as one vast plantation of the same variety, or very nearly so.

Proceeding in a general way with this extensive planting, we continue our course eastwards by St. Anthony's Chapel and the Hunter's Bog; and for the back part of the chapel a mixture of trees would be required, although the ground should by no means be packed; and at a distance from the ruins the black American spruce (*A. nigra*), Norway spruce (*P. excelsa*), Acacia robinia, and Cedrus deodara; while, more in front, as already proposed, the variegated elder, bird-cherry (*C. padus*) and thorns of sorts. The two shelvings to the south and east of the chapel would have a pleasing effect if planted, the lower one with sugar maple (*Acer saccharinum*), ash-leaved maple (*A. fraxinifolium*), scarlet oak (*Q. coccinea*), and a nice belting of *Pinus laricio*; the upper with *Acer Pennsylvanica*, common oak, and purple beech, and a belting of *P. Austriaca*.

In passing to the south side of the hill from St. Leonards by Samson's Ribs, we come upon a splendid level, suitable for an oak and other hardwood plantation, together with several capital spots for some of our more notable pines. Again we climb the hill-side to the south, and plant in a manner similar to that suggested for the north and east—although the Ribs could be much more easily planted than the Crags; and in this locality there are also some excellent situations for clumps of pines of sorts. Descending to Duddington Loch, it should be surrounded with the Huntingdon willow, Abele poplar (*P. alba*), the black Italian poplar (*P. monilifera*), alder (*Alnus glutinosa*), and, at a short distance from the water, with the birch. At this beautiful sheet of water we stand at the southern boundary of the royal demesne, and here our planting operations terminate.

With such an extent and variety of surface to work upon, anything like a minute detail of the proposed planting operations would

extend this paper to an undue length; but the subject itself is extremely interesting, and the particular topic discussed is a most important matter. Attention is beginning to be directed throughout the country to the desirability and necessity of providing public parks for the recreation of the people, and in some of the cities and towns of Scotland these have already been laid out and planted, and are highly ornamental and much appreciated. I need not say how much the inhabitants of Edinburgh esteem their public parks and gardens, or how much these conduce to the embellishment and beauty of their otherwise magnificent city. But the grounds around Holyrood Palace, including Salisbury Crags and Arthur's Seat, present views of romantic interest and loveliness unsurpassed by any royal demesne in Europe; and their picturesque effect would be immensely increased by some such planting as I have now sketched. With her numerous and efficient educational and literary institutions, why should the "Modern Athens" not also have her "groves of the Academy," to which the sons of learning and science might conveniently retire and find soothing relaxation in the intervals of their severe studies?—

Where rears the ash his airy crest,
And shines the birch in silver vest,
And the beech in glistening leaves is drest,
While dark between shows the oak's proud breast,
Like a chieftain's frowning tower.

And surely for the tourist no greater attraction could be added to the many already abounding in the city and its suburbs than the grateful shelter which might be afforded by the sweet sylvan retreats around the famous Palace of Holyrood. Coming to inspect the stately structure and its historical curiosities, he might also mark

What time in many-coloured bowers,
Pale autumn wreaths the latest, loveliest flowers;
The rich luxuriance mark of every view,
The mild and modest tint, the splendid hue,
The tempered harmony of various shades!

THE CHRYSANTHEMUM AS A CONSERVATORY FLOWER.



THE cultivation of the Chrysanthemum has, within the last few years, been widely extended, and in November it is by no means unusual to meet with splendid displays of this noble autumnal flower in gardens, in which, a few years since, a few plants of the most inferior of the pompone varieties were alone to be found; notwithstanding this fact, it cannot be said that the Chrysanthemum as a conservatory flower is appreciated to the extent it should be. Its grandeur is unquestioned, and in its season it has no competitor, for there is scarcely anything to be seen in the way of floral beauty at the same time of year, for such things as we find in bloom are either past