

**WALL & WATER
GARDENS**



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WALL AND WATER GARDENS





A GARDEN OF WALL AND WATER.

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WALL AND WATER
GARDENS.

BY

GERTRUDE JEKYLL.



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P R E F A C E

THERE is scarcely an English country home where some kind of gardening is not practised, while in a very large number of country places their owners have in some degree become aware of the happiness that comes of a love of flowers, and of how much that happiness increases when personal labour and study work together to a better knowledge of their wants and ways.

In this book a portion only of the great subject of horticulture is considered, namely, simple ways of using some of the many beautiful mountain plants, and the plants of marsh and water. It is intended as a guide to amateurs, being written by one of their number, who has tried to work out some of the problems presented by the use of these classes of plants to the bettering of our gardens and outer grounds.

The book does not attempt to exhaust the subject, neither does it presume to lay down the law. It is enough, in the case of the rock and wall plants, for instance, to name some of the best and easiest to grow. Those who will make such use of it as to

work out any of the examples it suggests, will then have learnt so much for themselves that they will be able to profit by more learned books and more copious lists of flowers.

The large quantity of pictorial illustration is in itself helpful teaching. "I like a book with pictures" is not only an idle speech of those who open a book in order to enjoy the trivial intellectual tickling of the thing actually represented; but the illustrations are of distinct educational value, in that they present aspects of things beautiful, or of matters desirable for practice, much more vividly than can be done by the unpictured text.

I am indebted to the proprietors of *The Garden* for the use of some of the illustrations, and for a valuable list of plants and other particulars communicated to that journal by Mr. Correvon of Geneva; also to the proprietors of *Country Life* for a still larger number of subjects for illustration; to Mr. G. F. Wilson of Weybridge and Wisley for several photographs for reproduction; and to Mr. W. Robinson for two photographs of unusual interest. I have also to acknowledge the kind help of Mr. James Hudson, who compiled the list of Water-Lilies at the end of the last chapter.

In some cases I have made critical observations

PREFACE

vii

on pictures showing portions of various English gardens. If any apology is due to the owners of these gardens I freely offer it, though I venture to feel sure that they will perceive my intention to be not so much criticism of the place itself as the suggestion of alternatives of treatment such as might also be desirable in places presenting analogous conditions.

G. J.



CONTENTS

	PAGE
CHAPTER I	
THE DRY-WALLED TERRACE GARDEN	I
CHAPTER II	
DRY-WALLING AND ROCK-GARDEN CONSTRUCTION	10
CHAPTER III	
THE ROCK-WALL IN SUN	16
CHAPTER IV	
THE ROCK-WALL IN SHADE	28
CHAPTER V	
NATIVE PLANTS IN THE ROCK-WALL	36
CHAPTER VI	
TERRACE AND GARDEN WALLS	42
CHAPTER VII	
TERRACE AND GARDEN WALLS (<i>continued</i>)	51
CHAPTER VIII	
SOME PROBLEMS IN WALL-GARDENING	59
CHAPTER IX	
WHEN TO LET WELL ALONE.	63

CONTENTS

	PAGE
CHAPTER X	
THE STREAM-GARDEN AND MARSH POOLS	66
CHAPTER XI	
THE ROCK-GARDEN—GENERAL ARRANGEMENT	80
CHAPTER XII	
THE ROCK-GARDEN (<i>continued</i>)	90
CHAPTER XIII	
THE ALPINE GARDEN	100
CHAPTER XIV	
LAKES AND LARGE PONDS	109
CHAPTER XV	
SMALL PONDS AND POOLS	111
CHAPTER XVI	
TUBS IN SMALL WATER OR BOG GARDENS	128
CHAPTER XVII	
TANKS IN GARDEN DESIGN	135
CHAPTER XVIII	
A LILY TANK IN A FORMAL GARDEN	141
CHAPTER XIX	
WATER MARGINS	154
CHAPTER XX	
WATER-LILIES	160

LIST OF ILLUSTRATIONS

A GARDEN OF WALL AND WATER	<i>Frontispiece</i>
CERASTIUM IN THE DRY WALL	<i>To face page 1</i>
EASY STEPS WITH DRY-WALLING	" " 2
ERINUS AND OTHER WALL PLANTS	" " 3
DWARF LAVENDER	" " 4
ROSE AND PINKS IN THE DRY WALL	" " 5
ACHILLEA UMBELLATA	" " 6
ACHILLEA UMBELLATA IN WINTER	" " 7
ICELAND POPPY ON THE DRY WALL	" " 8
ARABIS IN A DRY WALL	" " 9
DIAGRAM (SECTION) OF FACE OF ROCK-WALL	" " 10
ROCK-WALLING CONSTRUCTION	" " 11
ROCK-WALLING CONSTRUCTION	" " 12
ROUGH STEPS	" " 13
ROUGH STEPS IN A GRASS BANK	" " 14
ERINUS IN ROUGH STEPS	" " 15
ALPINE PLANTS IN SUNNY WALL	" " 16
CERASTIUM IN A SUNNY WALL	" " 17
CAMPANULA GARGANICA	" " 18
CAMPANULA ISOPHYLLA	" " 19
IBERIS AND CERASTIUM	" " 20
STONECROP IN A SUNNY WALL	" " 21
LAVENDER-COTTON IN WINTER	" " 22
WAHLENBERGIA DALMATICA	" " 24
STOBÆA PURPUREA	" " 25
OUTER WALL, ALHAMBRA, GRANADA	" " 26
FOLIAGE OF IRIS, &C., AT FOOT OF WALL	" " 26
SAPONARIA, &C., IN SUNNY WALL	" " 26

SAXIFRAGA LONGIFOLIA, &C., IN SUNNY WALL	<i>To face page</i>	27
FERNS AT A NORTHERN WALL-FOOT	" "	28
ANEMONE AND PRIMROSES AT WALL-FOOT	" "	30
WHITE ERINUS IN A SHADY WALL	" "	31
RAMONDIA PYRENAICA	" "	32
SMILACINA BIFOLIA	" "	33
CAMPANULA PUSILLA	" "	34
PRIMULA VISCOSA	" "	35
STITCHWORT IN A ROCK-WALL	" "	36
CORYDALIS LUTEA	" "	37
RED VALERIAN IN OLD CASTLE WALL	" "	39
CORYDALIS AND FERN IN OLD WALL	" "	40
AN OLD MOAT WALL	" "	42
OLD MOAT WALL WITH INNER WALL	" "	43
A DOUBLE TERRACE	" "	44
OLD GARDEN WALL ENCLOSING WILDERNESS	" "	45
OLD OUTER GARDEN WALL	" "	46
AN OLD H.P. ROSE	" "	47
RUBUS DELICIOSUS	" "	48
PEONY BORDER AND OLD BUILDINGS	" "	49
BOWLING-GREEN OF A TUDOR HOUSE	" "	50
A WELL-PLANTED WALL AND BORDER	" "	51
TERRACED GARDEN ON STEEP SLOPE	" "	52
MIDDLE TERRACE, LOOKING EAST	" "	52
MIDDLE TERRACE, LOOKING WEST	" "	52
LOWER TERRACE	" "	53
CREEPERS ON A BEAUTIFUL OLD HOUSE	" "	54
CAMPANULAS IN STONE STEPS	" "	55
GARDEN STEPS OVERGROWN	" "	56
GROUPING OF TREE AND WALL	" "	56
BRIDGE WITH WILD OVERGROWTH	" "	57
ARCHES, PESCIANA ANAGNI, ITALY	" "	58
FLAGGED PASSAGE WITH PERGOLA	" "	59
AN OLD WALL WITH OPEN JOINTS	" "	60
DIAGRAM: GROUPING OF WALL PLANTS	" "	61
BRICK WALL THAT COULD BE PLANTED	" "	62
ARABIS, TYPE OF HANGING WALL PLANT	" "	63

LIST OF ILLUSTRATIONS xiii

A FINE HOUSE WITH UNBROKEN LAWN, &C.	<i>To face page</i> 64
A WOOD POOL	65
A STREAM GARDEN	66
IRIS LÆVIGATA	68
IRIS LÆVIGATA IN JAPAN	69
WATER BUTTERCUP	70
STREAM BY WILLOWS AND ALDERS	71
GALAX APHYLLA	75
XEROPHYLLUM ASPHODELOIDES	76
ZENOBIA SPECIOSA	80
STEPS IN ROCK-GARDEN	82
A VALLEY-SHAPED ROCK-GARDEN	83
ROCK-GARDEN CROWNED WITH SMALL SHRUBS	85
MENZIESIA, THE IRISH HEATH.	86
PLAN OF THE ROCK-GARDEN	88
AUBRIETIA IN THE ROCK-GARDEN	90
LITHOSPERMUM PROSTRATUM	91
ARENARIA BALEARICA	92
LONDON PRIDE	93
ANDROSACE LANUGINOSA	94
A WILD ROCK-GARDEN	94
DOUBLE SEA CAMPION	94
HARDY RED-FLOWERED OPUNTIA	95
IN THE ROCK-GARDEN AT KEW	96
BANK OF SPRING FLOWERS AT BATH	96
POOL IN MESSRS. BACKHOUSE'S ROCK-GARDEN	96
IN MESSRS. BACKHOUSE'S ROCK-GARDEN	97
WHITE HOOP-PETTICOAT NARCISSUS	98
TYPE OF THE SMALLER SILVERY SAXIFRAGES.	99
SAXIFRAGA LONGIFOLIA	100
SAXIFRAGA BURSERIANA	101
GENTIANELLA	102
SILENE ALPESTRIS	104
SEMPERVIVUM LAGGERI	106
SCOTCH FIR ON LAKE SHORE	109
ROYAL FERN (OSMUNDA).	110
RIVER EDGE. RANUNCULUS FLORIBUNDUS, &C.	112

BUCKBEAN AND CHAIR-RUSH	<i>To face page</i>	114
GUNNERA MANICATA	" "	115
NYPHÆA ODORATA WITH BUCKBEAN, &C., AT MARGIN	" "	116
RHODODENDRONS BY WATER	" "	117
POPLARS AND WATER VIOLET	" "	119
STREAM AND POOL GARDEN, BY MESSRS. VEITCH OF EXETER	" "	120
ROCK POOL, BY MESSRS. VEITCH OF EXETER	" "	121
CASTLE MOAT WITH WILD GROWTHS	" "	123
ROCK AND POOL GARDEN	" "	125
POOL AT THE VILLA D'ESTE	" "	126
ROCK-BANK AND TANK IN BOG-GARDEN	" "	132
ROUGH SEAT AND FLOWERS IN BOG-GARDEN	" "	133
GARDEN-TANK WITH ROUGH KERB	" "	135
GARDEN-TANK WITH SLIGHTLY RAISED KERB	" "	136
POOL IN A BRICK-WALLED GARDEN COURT	" "	136
POOL IN A GARDEN COURT	" "	136
DIAGRAM: POOL WITH DANGEROUS EDGE	" "	137
COURT IN THE GENERALIFE GARDENS, GRANADA	" "	138
POMPEII, ATRIUM AND PERISTYLIUM	" "	139
FERN-CLAD ROCK-WALLS AT THE VILLA D'ESTE	" "	140
BALUSTRADED POOL IN AN ITALIAN GARDEN	" "	141
PLAN OF THE GARDEN DESCRIBED	" "	149
STAIRWAY AT THE VILLA D'ESTE	" "	151
ROCK AND STREAM-GARDEN IN DEVONSHIRE	" "	154
IRIS LÆVIGATA IN MR. WILSON'S GARDEN	" "	156
COW-PARSNIP (HERACLEUM)	" "	157
A FLOWERY POND EDGE	" "	158
A POND THAT MIGHT BE IMPROVED	" "	159
WATER-LILIES IN A SHELTERED POND	" "	161
WATER-LILIES	" "	162



Hudson & Kearns

CERASTIUM IN THE DRY-WALL.

WALL AND WATER GARDENS

CHAPTER I

THE DRY-WALLED TERRACE GARDEN

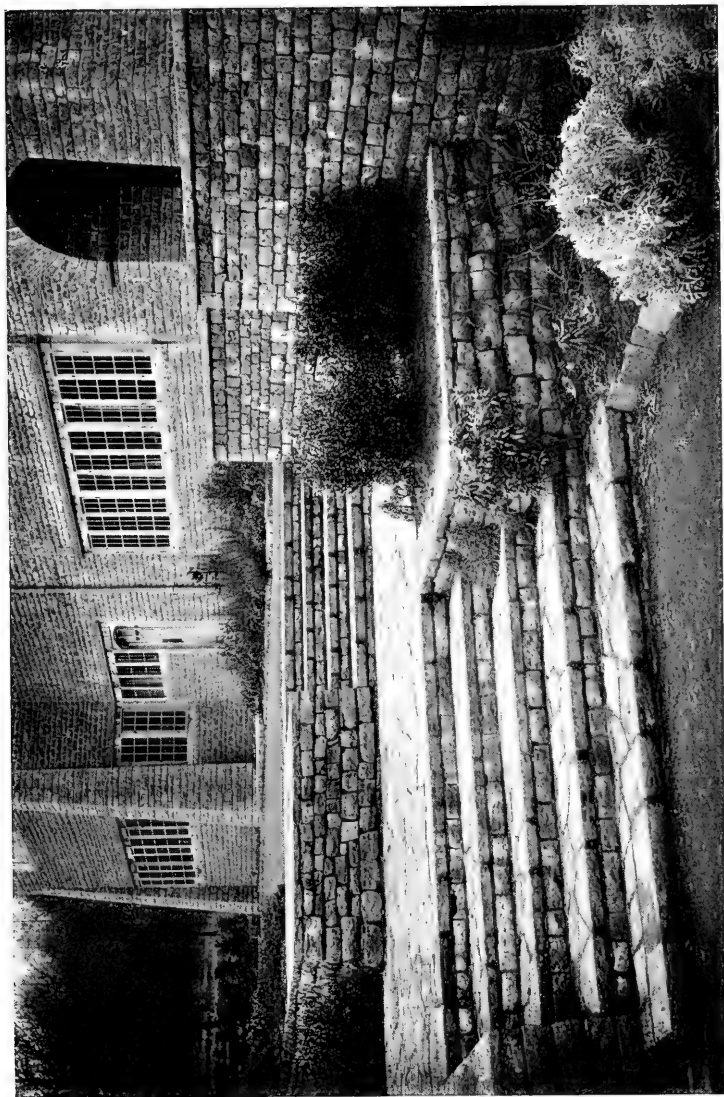
MANY a garden has to be made on a hillside more or less steep. The conditions of such a site naturally suggest some form of terracing, and in connection with a house of modest size and kind, nothing is prettier or pleasanter than all the various ways of terraced treatment that may be practised with the help of dry-walling, that is to say, rough wall-building without mortar, especially where a suitable kind of stone can be had locally.

It is well in sharply-sloping ground to keep the paths as nearly level as may be, whether they are in straight lines or whether they curve in following the natural contour of the ground. Many more beautiful garden-pictures may be made by variety in planting even quite straightly terraced spaces than at first appears possible, and the frequent flights of steps, always beautiful if easy and well proportioned, will be of the greatest value. When steps are built in this kind of rough terracing the almost invariable fault is that they are made too steep and too narrow in the

2 WALL AND WATER GARDENS

tread. It is a good rule to make the steps so easy that one can run up and down them, whether of skilled workmanship, as in the present illustration, or rough, as in that at p. 14. There is no reason or excuse for the steep, ugly, and even dangerous steps one so often sees. Unless the paths come too close together on the upper and lower terraces, space for the more easy gradient can be cut away above, and the steps can also be carried out free below; the ground cut through above being supported by dry-walling at the sides of the steps, and where the steps stand up clear below, their sides being built up free. If for any reason this is difficult or inexpedient, a landing can be built out and the steps carried down sideways instead of up and down the face of the hill. In fact, there is no end to the pretty and interesting ways of using such walling and such groups of steps.

Where the stairway cuts through the bank and is lined on each side by the dry-walling, the whole structure becomes a garden of delightful small things. Little Ferns are planted in the joints on the shadier side as the wall goes up, and numbers of small Saxifrages and Stonecrops, Pennywort and *Erinus*, *Corydalis* and Sandwort. Then there will be hanging sheets of *Aubrietia* and Rock Pinks, *Iberis* and *Cerastium*, and many another pretty plant that will find a happy home in the cool shelter of the rocky joint. In some regions of the walling Wallflowers and Snapdragons and plants of Thrift can be established; as they ripen their seed it drifts into the openings of other joints, and the seedlings send their roots deep



EASY STEPS IN CONNEXION WITH DRY-WALLING.



ERINUS, STONECROPS AND TUFTS OF SILENE ACAULIS.

DRY-WALLED TERRACE GARDEN 3

into the bank and along the cool backs of the stones, and make plants of surprising health and vigour that are longer lived than the softer-grown plants in the rich flower-borders.

I doubt if there is any way in which a good quantity of plants, and of bushes of moderate size, can be so well seen and enjoyed as in one of these roughly terraced gardens, for one sees them up and down and in all sorts of ways, and one has a chance of seeing many lovely flowers clear against the sky, and of perhaps catching some sweetly-scented tiny thing like *Dianthus fragrans* at exactly nose-height and eye-level, and so of enjoying its tender beauty and powerful fragrance in a way that had never before been found possible.

Then the beautiful details of structure and marking in such plants as the silvery Saxifrages can never be so well seen as in a wall at the level of the eye or just above or below it ; and plain to see are all the pretty ways these small plants have of seating themselves on projections or nestling into hollows, or creeping over stony surface as does the Balearic Sandwort, or standing like *Erinus* with its back pressed to the wall in an attitude of soldier-like bolt-uprightness.

In place of all this easily attained prettiness how many gardens on sloping ground are disfigured by profitless and quite indefensible steep banks of mown grass ! Hardly anything can be so undesirable in a garden. Such banks are unbeautiful, troublesome to mow, and wasteful of spaces that might be full of interest. If there must be a sloping space, and if for

4 WALL AND WATER GARDENS

any reason there cannot be a dry wall, it is better to plant the slope with low bushy or rambling things ; with creeping Cotoneaster or Japan Honeysuckle, with Ivies or with such bushes as Savin, *Pyrus japonica*, Cistus, or Berberis ; or if it is on a large scale, with the free-growing rambling Roses and double-flowered Brambles. I name these things in preference to the rather over-done Periwinkle and St. John's-wort, because Periwinkle is troublesome to weed, and soon grows into undesirably tight masses, and the *Hypericum*, though sometimes of good effect, is extremely monotonous in large masses by itself, and is so ground-greedy that it allows of no companionship.

There is another great advantage to be gained by the use of the terrace walls ; this is the display of the many shrubs as well as plants that will hang over and throw their flowering sprays all over the face of the wall.

In arranging such gardens, I like to have only a very narrow border at the foot of each wall to accommodate such plants as the dwarf Lavender shown in the illustration, or any plant that is thankful for warmth or shelter.

In many cases, or even most, it will be best to have no border at all, but to make a slight preparation at the wall foot not apparently distinguishable from the path itself, and to have only an occasional plant or group or tuft of Fern. Seeds will fall to this point, and the trailing and sheeting plants will clothe the wall foot and path edge, and the whole thing will look much better than if it had a stiffly edged border.

I suppose the whole width of the terrace to be four-



DWARF LAVENDER AT THE FOOT OF THE DRY-WALL.



AN OLD GARDEN ROSE AND HYBRID ROCK PINKS IN THE DRY-WALL.

DRY-WALLED TERRACE GARDEN 5

teen feet. I would have the path six feet wide, allowing an extra foot for the rooting of plants next the wall; then there would be a seven-foot width for the border, planted with bushy things towards its outer edge, which will be the top of the wall of the next terrace below. These would be mostly bushes of moderate growth, such as Lavender, Rosemary, Berberis, and *Pyrus japonica*, with the plants suitable for partly hanging over the face of the wall. Among these would be *Forsythia suspensa*, *Phlomis fruticosa* (Jerusalem Sage), and the common Barberry, so beautiful with its coral-like masses of fruit in October, its half-weeping habit of growth, and its way of disposing its branches in pictorial masses. There would also be *Desmodium penduliflorum*, and above all the many kinds of Roses that grow and flower so kindly in such a position. No one can know till they try how well many sorts of Roses will tumble over walls and flower in profusion. *Rosa lucida* and Scotch Briars come over a wall nearly five feet high, and flower within a foot from the ground; *Rosa wichuriana* comes over in a curtain of delicate white bloom and polished leafage. There is a neat and pretty evergreen form of *R. sempervirens* from Southern Italy, in leaf and habit not unlike *wichuriana*, but always more shy of flower, which hangs over in masses, and in warm exposures flowers more freely than on the flat. If one had to clothe the face of a wall twelve feet high with hanging wreaths of flowering Roses, there is a garden form of *R. arvensis* that, planted at the top, will climb and scramble either up or down, and will ramble through

6 WALL AND WATER GARDENS

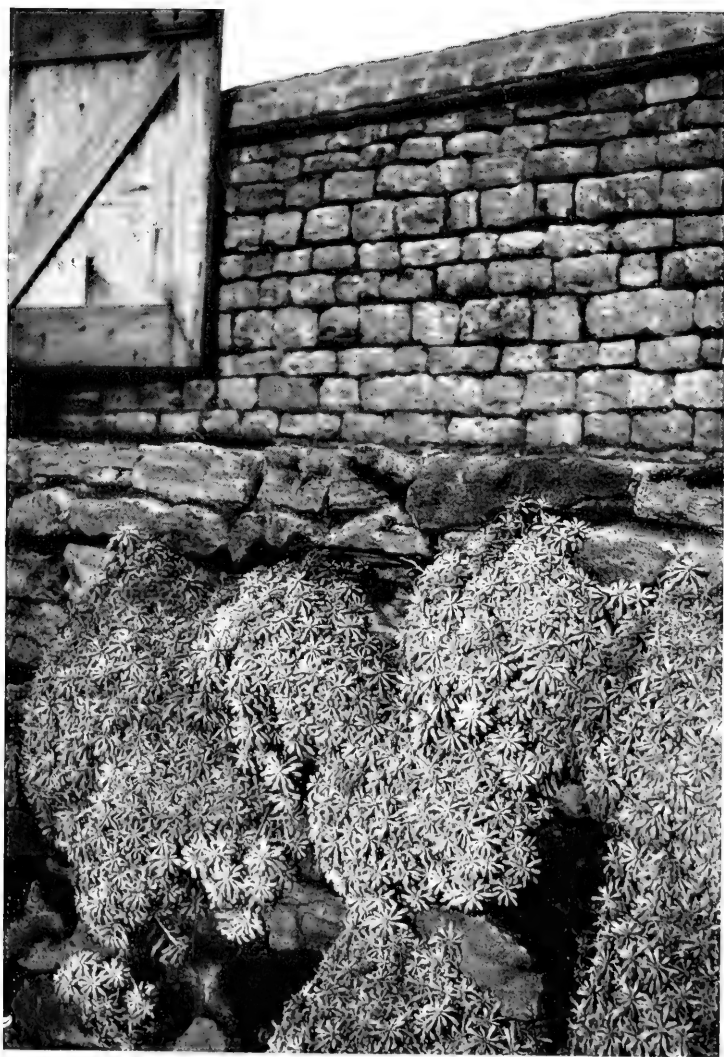
other bushes to almost any extent. I know it as the kitchen Rose, because the oldest plant I have rambles over and through some *Arbor-vitæ* just opposite the kitchen window of a little cottage that I lived in for two years. When it is in flower the mass of white bloom throws a distinctly appreciable light into the kitchen. The Ayrshire Roses are delightful things for this kind of use.

Where in steep ground the terraces come near together the scheme may comprise some heroic doings with plants of monumental aspect, for at the outer edge of one of the wall tops there may be a great group of *Yucca gloriosa* or *Y. recurva*, some of it actually planted in the wall within a course or two of the top, or some top stones may be left out; or the Yuccas may be planted as the wall goes up, with small kinds such as *Y. flaccida* a little lower down. Another such group, of different shape but clearly in relation to it, may be in the next terrace above or below. When the Yuccas are in flower and are seen from below, complete in their splendid dignity of solid leaf and immense spire of ivory bloom against the often cloudless blue of our summer skies, their owner will rejoice in possessing a picture of perhaps the highest degree of nobility of plant form that may be seen in an English garden.

The garden of dry-walled terraces will necessarily be differently treated if its exposure is to the full southern or south-western sunshine, or to the north or north-east. In the case of the hot, dry, sunny aspect, a large proportion of the South European



ACHILLEA UMBELLATA NINE MONTHS AFTER PLANTING.



ACHILLEA UMBELLATA IN MID-WINTER, SIXTEEN MONTHS
AFTER PLANTING.

(Half of the same group that is shown at p. 6, scale rather larger.)

DRY-WALLED TERRACE GARDEN 7

plants that are hardy in England and like warm places in our gardens, can be used. Many of these have greyish foliage, and it would be greatly to the advantage of the planting, from the pictorial point of view, to keep these rather near together. It should also be noted that a large proportion of these, of shrubby and half-shrubby character, are good winter plants, such as Lavender, Rosemary, *Phlomis*, *Othonopsis*, and *Santolina*; the latter, as may be seen in the illustration, being specially well clothed in the winter months. These can be as well planted at the top edge of the wall, at the bottom, or in the face. With these plants well grouped, and the addition of some common white Pinks, and the useful hybrids of Rock Pinks; with a few grey-leaved Alpines such as *Cerastium*, *Artemisia nana*, *A. sericea*, the encrusted Saxifrages, and *Achillea umbellata*, a piece of the best possible wall-gardening can be done that will be as complete and well furnished in winter (all but the bloom of the plants) as it is in summer. *Achillea umbellata* is a plant of extreme value in wall-planting in all aspects. It grows fairly fast, and from a few pieces of a pulled-apart plant will in a short time give the result shown in the illustrations; it should be replanted every three years. There is no need in such a case to remember the exact date of planting. The plant is at its best in its first and second year; then it begins to look a little straggly and over-worn. This may be taken as the signal for replanting, as in all such cases with any other plants.

The above selection of plants would serve for quite

8 WALL AND WATER GARDENS

a long section of wall. The character of the planting might then change and gradually give way to another grouping that might be mainly of Cistuses. With these, and in the hottest wall-spaces, might come some of the South European Campanulas; *C. isophylla*, both blue and white, *C. garganica*, *C. fragilis*, and *C. muralis*. These gems of their kind live and do well in upright walling, whereas they would perish on the more open rockery, or could only be kept alive by some unbeautiful device for a winter protection.

Not only does the wall afford the shelter needed for plants that would otherwise be scarcely hardy, but the fact of planting them with the roots spread horizontally, and the crown of the plant therefore more or less upright instead of flat, obviates the danger that besets so many tender plants, of an accumulation of wet settling in the crown, then freezing and causing the plant to decay.

In many places where these rather tender southern plants are grown, they have to have a covering of sheets of glass in the winter, whereas in the wall they are safe and have no need of these unsightly contrivances.

SOME OF THE PLANTS AND SHRUBS FOR DRY-WALLED TERRACES

IN A COOL PLACE

Saxifrages, Mossy.	<i>Corydalis</i> .
Wall Pennywort.	<i>Erinus alpinus</i> (cool or warm).
<i>Arenaria balearica</i> .	Small Ferns.



ICELAND POPPY AT THE TOP OF THE ROCK-WALL.



ARABIS IN A DRY-WALL.

DRY-WALLED TERRACE GARDEN 9

TO HANG DOWN

Rock Pinks.	<i>Aubrietia.</i>
<i>Iberis.</i>	<i>Cerastium.</i>
<i>Alyssum.</i>	Mossy Saxifrage (cool).

IN SUN OR SHADE

Wallflowers.	Thrift.
Snapdragons.	<i>Dianthus fragrans.</i>

SHRUBS TO HANG OVER FROM THE TOP

<i>Cistus cyprius.</i>	<i>Phlomis fruticosa.</i>
<i>C. laurifolius.</i>	<i>Santolina chamæcyparissus.</i>
Lavender.	Rosemary.
<i>Othonnopsis cheirifolia.</i>	<i>Berberis vulgaris.</i>
<i>Desmodium penduliflorum.</i>	<i>Pyrus japonica.</i>
<i>Rosa lucida.</i>	<i>Rosa wichuriana.</i>
<i>R. sempervirens</i> , vars.	<i>R. arvensis</i> , garden vars.

GREY-LEAVED ALPINE PLANTS FOR THE WALL

<i>Cerastium tomentosum.</i>	<i>Achillea umbellata.</i>
<i>Artemisia nana.</i>	<i>Artemisia sericea.</i>

PLANTS FOR HOTTEST PLACES

<i>Campanula isophylla.</i>	<i>Campanula garganica.</i>
<i>C. fragilis.</i>	<i>C. muralis.</i>
<i>Yucca gloriosa.</i>	<i>Yucca recurva.</i>
<i>Y. flaccida.</i>	<i>Opuntia</i> , in var.

CHAPTER II

DRY-WALLING AND ROCK-GARDEN CONSTRUCTION

A ROCK-GARDEN may be anything between an upright wall and a nearly dead level. It is generally an artificial structure of earth and stones, and alas! only too often it is an aggregation of shapeless mounds and hollows made anyhow. Such a place is not only ugly but is very likely not suitable for the plants that are intended to grow in it. If any success in the cultivation of rock-plants is expected, it is only reasonable to suppose that one must take the trouble to learn something about the plants, their kinds and their needs, and it is equally necessary to take the trouble to learn how their places are to be prepared. Happily for the chances of success and pleasure in this delightful kind of gardening the right way is also the most beautiful way. There is no need to surround every little plant with a kind of enclosure of stones, set on edge and pointing to all four points of the compass; it is far better to set the stones more or less in courses or in lines of stratification, just as we see them in nature in a stone quarry or any mountain side where surface denudation has left them standing out clear in nearly parallel lines. It matters not the least whether the courses are far apart or

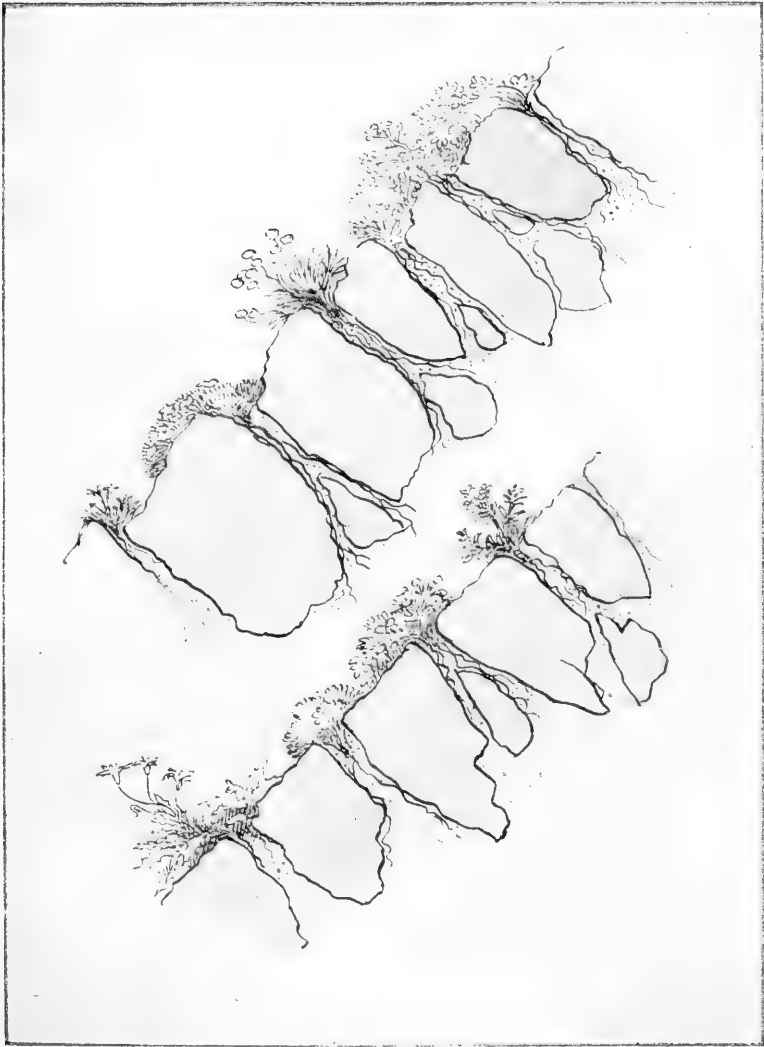


DIAGRAM (SECTION) SHOWING ALTERNATIVE ARRANGEMENT
OF THE FACE OF THE STONES IN A ROCK-WALL
AT AN ANGLE OF 45° . (See p. 11)



DRY ROCK-WALLING, SHOWING HOW THE STONES TIP BACK.

ROCK-GARDEN CONSTRUCTION 11

near together; this is naturally settled by the steepness of the ground. In a wall they are necessarily close, and in very steep ground it is convenient to build them with the courses rather near each other. In such a case as a steep slope with an angle of 45 degrees, the face of the rock-bank could be built in either of the two ways shown in the diagram. Both will suit the plants. The flatter the angle of the ground the further apart may be the rocky courses, as the danger of the earth washing away is diminished. If the stone is not in large pieces, it will be found a good plan in rather steep banks to begin at the path level with a few courses of dry-walling, and then to make an earthy shelf and then another rise of two or three courses of walling, using the two or three courses to represent one thickness of deeper stone. But in any case the rock-builder should make up his mind how the courses should run and keep to the same rule throughout, whether the stones lie level or dip a little to right or left as they generally do in nature. But whether a stone lies level or not as to the right and left of its front face, it should always be laid so that its back end tips down into the ground, and its front face, when seen in profile, looks a little upward.

This, it will be seen, carries the rain into the ground instead of shooting it off as it would do if it were laid the other way, like the tile or slate on a building.

As for the general shape or plan of the rock-garden, it must be governed by the nature of the ground and the means and material at disposal. But whether it

12 WALL AND WATER GARDENS

will be beautiful or not as a structure must depend on the knowledge and good taste of the person who plans it and sees it carried out.

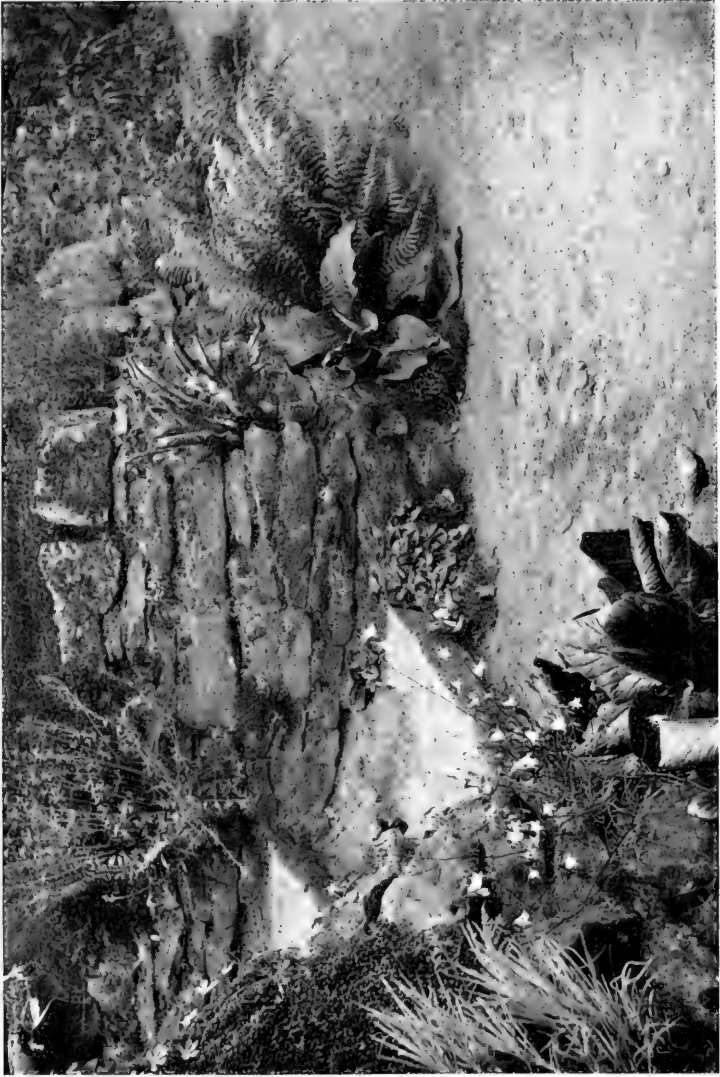
As mentioned elsewhere, it is both highly desirable and extremely convenient to have different sections of the garden for the plants from different geological formations, therefore we will suppose that a portion is of limestone, and another of granite, and a third of sandstone with peat. If this sandstone and peat is mainly in the shadiest and coolest place, and can have a damp portion of a few square yards at its foot, it will be all the better. Of course if a pool can be managed, or the rock-garden can be on one or both banks of a little stream or rill, the possibilities of beautiful gardening will be endless.

In making the dry-walling the stones should all tip a little downwards at the back, and the whole face of the wall should incline slightly backward, so that no drop of rain is lost, but all runs into the joints. Any loose earth at the back of the stones must be closely rammed. If this is done there is no danger of the wall bursting outward and coming down when there is heavy rain. Any space backward of newly moved earth behind the wall must also be rammed and made firm in the same way.

The two illustrations of a bit of dry wall freshly put up give an idea of the way it is built. The one containing the angle shows how the stones are tipped back, while the one with the straight front shows how spaces at some of the joints and between the courses are left for planting. If the scheme of planting is



DRY ROCK-WALLING, SHOWING HOW SPACES ARE LEFT BETWEEN THE STONES



ROUGH STEPS BETWEEN DRY-WALLED TERRACES

ROCK-GARDEN CONSTRUCTION 13

matured and everything at hand as the wall goes up, it is much best to plant as the stones are laid. The roots can then be laid well out, and larger plants can be used than if they were to be put in when the wall is completed.

In making the steps that go with such dry-walling it will not be necessary that they should be entirely paved with stones. If the front edge is carefully fitted and fixed the rest can be levelled up with earth and the sides and angles planted with bits of Mossy Saxifrages or other small growths. This is also a capital way of making steps in steep wood paths. In such places the use of thick wooden slab as an edging is a much worse expedient, for in wet or wintry weather it becomes extremely slippery and dangerous.

The steps themselves will become flower gardens ; only the front edges need be cemented ; indeed, if the stones are large and heavy enough to be quite firm there need be no cement ; but if two or three stones are used to form the edge of a four-foot-wide step it is just as well to make a cement joint to fix the whole firmly together. This fixing need not be made to show as a conspicuous artificial joint ; it can be kept well down between the stones, and spaces left above and below to form many a little nook where a tiny Fern may be planted or a little tuft of some other small plant—any plant that one may most wish to see there. If the space is cool and shady the little *Saxifraga Cymbalaria* is a charming thing. It is an annual, but always grows again self-sown ; in the depth of winter its cheerful tufts of little bluntly-lobed

14 WALL AND WATER GARDENS

leaves look fresh and pretty in the joints of stones. It flowers quite early in the year and then withers away completely, but the seeds sow themselves, and so without any one taking any thought or trouble it renews itself faithfully from year to year. Many small Ferns will also be quite happy in the front joints of the shady steps, such as *Cheilanthes vestita*, *Cystopteris fragilis* and *C. dickieana*, *Asplenium Trichomanes*, *A. Ruta-muraria*, *Ceterach*, and the Woodsias.

The little creeping *Arenaria balearica* will grow up the cool side of the wall or the front edge of steps and be a carpet of vivid green in deepest winter, and in June will show a galaxy of little white stars on inch-long thread-like stalks that shiver in the prettiest way to the puffing of a breath of wind or the weight of raindrops of a summer shower.

In a couple of years or even less, small Mosses will appear on the stones themselves, and the spores of Ferns wind-blown will settle in the stony face and in the joints; then will come the delight of seeing these lovely things growing spontaneously, and coming willingly to live in the homes we have made ready for them.

No little flowering plant seems more willing to take to such a place than *Erinus alpinus*. As soon as steps grow mossy (even if they are of solid bricklayer's work with mortar joints), if a few seeds of *Erinus* are sown in the mossy tufts they will gladly grow as shown in the illustration, where this cheerful little plant has been established on some solid steps of rough sandstone leading to a loft, and now scatters its own seed



STEPS IN A ROUGH GRASS BANK; STONES CEMENTED AT FRONT.



ERINUS IN ROUGH STONE STEPS TO A LOFT; THE STEPS HAVE CEMENTED JOINTS.

ROCK-GARDEN CONSTRUCTION 15

and is quite at home as a well-settled colony making natural increase. This is an extreme case, for the little Alpine has nothing whatever to grow in but the mossy tufts that have gathered of themselves within the time, some eight years, since the steps were built. Had the steps been of dry-walling, such as was described in the early part of the chapter, they would have grown all the quicker, having the more favourable conditions of a better root-run.

CHAPTER III

THE ROCK-WALL IN SUN

MANY of the most easily grown Alpines are just as happy on a sunny wall as in the shade. So beneficent to the roots is contact with the cool stone, that plants that would perish from drought in the lighter soils and fierce sun-heat of our southern counties remain fresh and well nourished in a rock-wall in the hottest exposure. Moreover, in walls all plants seem to be longer lived. Those of the truly saxatile plants, whose way of growth is to droop over rocks and spread out flowering sheets, are never so happy as in a rock-wall. But it cannot be too often repeated that to get good effects a few kinds only should be used at a time. So only can we enjoy the full beauty of the plant and see what it really can do for us; so only can we judge of what the plant really is, and get to know its ways. In many of those rock-plants that are grown from seed, individuals will be found to vary, not only in the colour and size of the bloom, but in other characters, so that the plant cannot be judged by one example only. Look at the variety in trees—in Birches, in Hollies, in Oaks! Still more is this natural variation noticeable in small plants that are close to the eye. In



ALPINE PLANTS IN A SUNNY LIMESTONE WALL AT THE
JARDIN ALPIN D'ACCLIMATATION, GENEVA. SAXIFRAGA
LONGIFOLIA, ERINUS, PHYTEUMA COMOSUM, ETC.

(For *Saxifraga Longifolia* in Flower see p. 100.)



CERASTIUM IN THE SUNNY ROCK-WALL.

watching a number of the same kind one learns how to judge them ; one sees in *Cerastium*, for instance, such as one of the many tufts hanging out of the wall in the picture, that one tuft has a brighter and better appearance than the next one. Then one sees that the flower, which at first one had thought was whiter than its neighbour, is not different in colour, but has rather wider petals, and that they open more and lie a little flatter, and that the leaf is somewhat broader and its downy covering slightly heavier and therefore whiter looking.

Nothing is a better lesson in the knowledge of plants than to sit down in front of them, and handle them and look them over just as carefully as possible ; and in no way can such study be more pleasantly or conveniently carried on than by taking a light seat to the rock-wall and giving plenty of time to each kind of little plant, examining it closely and asking oneself, and it, why this and why that. Especially if the first glance shows two tufts, one with a better appearance than the other ; not to stir from the place until one has found out why and how it is done, and all about it. Of course a friend who has already gone through it all can help on the lesson more quickly, but I doubt whether it is not best to do it all for oneself.

Then the hanging plants, *Cerastium*, *Alyssum*, *Aubrietia*, *Silene*, *Arabis*, *Gypsophila*, *Saponaria*, Rock Pinks and the like, though they grow quite happily on the level, do not show their true habit as they do when they are given the nearly upright wall out of which they can hang. There are plenty of plants for the

18 WALL AND WATER GARDENS

level, and this way of growing in hanging sheets is in itself a very interesting characteristic, pointing to the use of many beautiful things in circumstances that could not otherwise be dealt with so satisfactorily.

The Rock Pinks and their hybrids are very important wall-plants of the hanging class. The hybrids for such use are derived from *Dianthus cæsius* (the Cheddar Pink), *D. plumarius*, *D. superbus*, *D. fragrans*, and possibly others. *D. fragrans* and its double variety are delightful wall-plants; the double is that wonderful tiny white Pink whose scent is like the quintessence of that of Jasmine; a scent almost too powerful. Seed of these hybrids can be had by the name of Hybrid Rock Pinks; it is easily grown and yields interesting varieties, all capital wall and rock plants.

The Rock Pinks are equally happy in a wall in sun or shade; but as we are just now considering the plants that will bear the hottest places, among the most important, and at the same time the most beautiful, will be some of the tender Campanulas of Southern Italy, and others that are usually found tender or difficult of culture in England. *Campanula garganica*, a native of rocks and walls in that curious promontory of Gargano that stands out into the Adriatic (the spur on the heel of Italy), is often an uncertain plant in our gardens. But planted in a cleft in very steep, almost wall-like rock-work, or still better in an actual wall in the hottest exposure, where it cannot suffer from the moisture that is



CAMPANULA GARGANICA IN SUNNY ROCK-WORK.



CAMPANULA ISOPHYLLA IN THE ROCK-WALL IN SUN. (Flowers one inch diameter)

so commonly fatal to it, it will thrive and flower abundantly.

This species, with other Campanulas that are absolutely saxatile, should in England always be grown in a wall or perpendicular rock-work. The same treatment suits *C. Raineri*, the yellow-flowered *C. petræa* of the Tyrol, and Campanulas *muralis*, *Elatine*, *elatinoides*, *excisa*, *macrorhiza*, and *mirabilis*. That the same plan is suitable to *C. isophylla* may be seen by the illustration showing a tuft flowering in a wall facing south-west, in a garden thirty-five miles south-west of London.

Places should also be given to the tenderer of the Lithospermums, *L. Gastoni* and *L. graminifolium*. *Graminifolium* is a neat bushy-looking plant; both have the flowers of the fine blue colour that is so good a character of the genus. In hottest exposures in Devon and Cornwall and the Isle of Wight there would even be a chance of success with *L. rosmarinifolium*, the "Blue Flower" of the Island of Capri. Its colour may be said to be the loveliest blue in nature. It has not the violent intensity of the Gentian, but a quality entirely its own. If one may without exaggeration speak of a blue that gives the eye perfect happiness, it would be this most perfect blue of the lovely Gromwell of the cliffs of Capri. But it *must* have sun and air and full exposure, or the colour is wanting in quality, therefore it is not a plant for the unheated greenhouse. The easily grown *L. prostratum* likes a rather cooler place, and is more a plant for the rock-garden or for

grassy banks. This most useful trailer is not particular about soil, though the *Lithospermums* as a genus are lime-loving things.

Another important race of plants for the hot wall are the various kinds of *Iberis*. All will do well. The commonest perennial kind, *I. sempervirens*, shows new beauties in the wall. Still better is the handsomer *I. correaefolia*, larger both of leaf and flower. In the south of England we may also have *I. gibraltarica* and *I. tenoreana*, both white, tinted with pink or lilac, and *I. Pruiti*, pure white, all South European plants. These are short-lived perennials, scarcely more than biennials, but they come well from seed which should be sown in the wall; the unmoved seedlings will do much better than any transplanted ones.

Closely allied to the Iberises and capital wall-plants, doing well in all soils, but preferring lime, are the *Æthionemas*, mostly small neat plants with bluish leaves and pretty pink flowers. *Æ. coridifolium* or *pulchellum*, from Asia Minor, is charming against grey stones, while the Syrian *Æ. grandiflorum* is like a beautiful little pink-flowered bush. Rabbits are very fond of this family of plants, indeed they seem to favour the *Cruciferae* in general. When I first grew the *Æthionemas*, forgetting their relationship to Iberis, I put them in a place accessible to rabbits; the rabbit being the better botanist recognised them at once, much to my loss. But in the wall they are safe.

The sunny wall is also the true place for the Stone-



IBERIS AND CERASTIUM IN THE DRY-WALL.



STONECROP (*SEDUM SPURIUM*) IN THE SUNNY ROCK-WALL.

crops large and small, from the tiny *Sedum glaucum* and the red-tinted *S. Lydium* and brittle *dasyphyllum*, through the many good kinds of moderate size, of which *pulchellum*, *kamtschaticum*, and *Ewersii* are important, to the large-sized *S. spectabile* blooming in September. Among these, one of the most useful is *S. spurium* in three colourings; pink, a deeper colouring near crimson, and a dull white. It is one of the easiest plants to grow; a few little pieces (they need scarcely be rooted) will quickly take hold, and a year hence make sheets of pretty succulent growth smothered with bloom in middle summer.

The pretty Phloxes of the *setacea* group are capital plants in the hot wall; in their second and third year hanging down in sheets; the only one that does not hang down is the charming pink "Vivid," which has a more tufted habit. The free-growing *P. stellaria*, one of the same family, should not be forgotten. Its colour, a white tinged with faint purple, makes it suitable for accompanying Aubrietias, which do well both in sun and shade.

There is a lovely little labiate, *Stachys corsica*, which is a delightful small plant to grow in level joints; it is not much known, but is desirable as a gem for the warm wall. *Arnebia echioides* is also a good wall-plant.

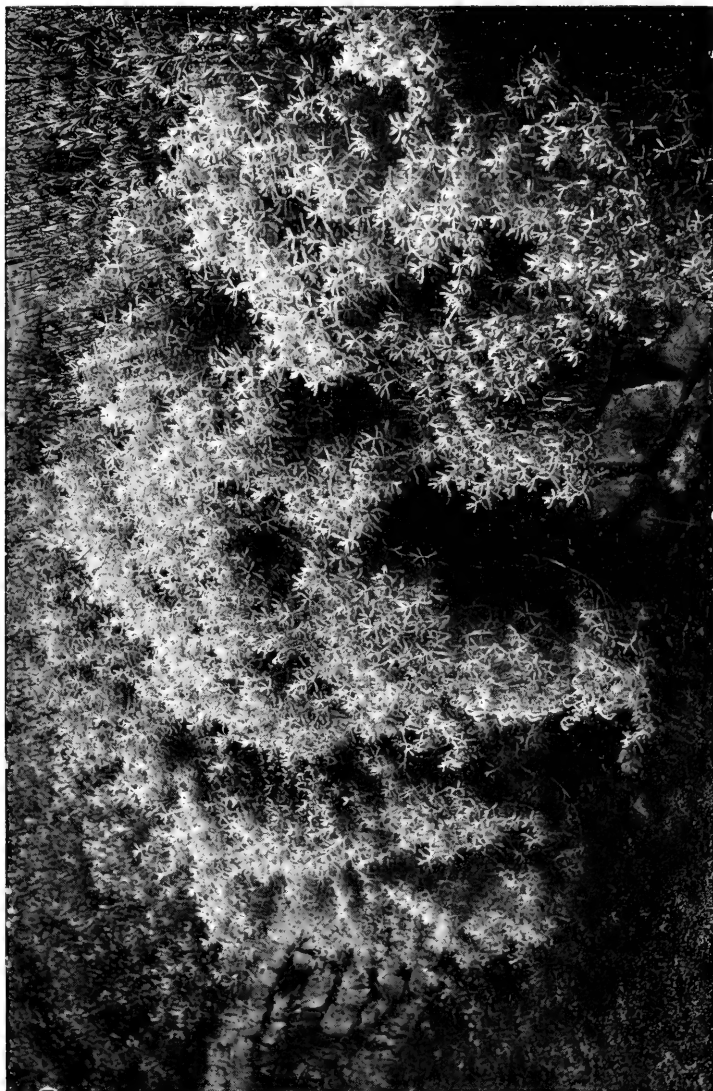
It will be important that the wall, especially if it is of any height, should have a crown of bushy things at its top, and not a crown only, for some shrubby and half-shrubby plants should come down the face here and there to a depth of two or three joints, and

22 WALL AND WATER GARDENS

occasionally even more. The plants for this use will be *Cistus* and *Helianthemum*, Lavender, both the large and the dwarf kinds, Rosemary, *Phlomis*, *Santolina* (Lavender Cotton), Southernwood, *Olearia Haastii*, *Eurybia gunniana* (hardy only in the south of England), *Cassinia fulvida*, *Berberis Aquifolium* and *B. vulgaris* (the common Barberry with the beautiful coral fruits), Scotch Briers, *Rosa lucida* and *Rosa wichuriana*, and any other beautiful small shrubs, preferably evergreen. Also some of the pleasantest of the Sweet Herbs, Hyssop and Catmint (beloved of cats), both beautiful garden plants, and Rue for the sake of its pretty growth and blue leaves. These, or rather a few of them at a time, in very carefully selected association, would be grouped upon the top and a little way down.

It will have a good effect, if one of these more important bush-like plants, in the case of a dry wall from eight to ten or more feet high, swept right down with a broken or slightly curving diagonal line from top to bottom, with some more plants of the same on the lower level at the wall's foot. For this use *Othonnopsis*, *Nepeta*, Hyssop, dwarf Lavender, and *Santolina* would be among the best; *Santolina* being especially valuable, as it is excellent in winter and never untidy at any time.

The neat little *Scabiosa Pterocéphala* must have a place; it is a good plan to have a section of the wall devoted mainly to plants of grey foliage; here would be the place for this, in company with *Achillea umbellata* and *Artemisia sericea* and others of this



LAVENDER COTTON (SANTOLINA) IN THE DRY-WALL IN MID-WINTER



warmth-loving genus; and in the grey part of the wall there will be Southernwood and Catmint (*Nepeta Mussini*), Hyssop and Lavender Cotton, and the curious, almost blue-leaved, *Othonnopsis cheirifolia*. Many of these will be among the plants just named, but to make this clear and easy for reference they will be put together in the list at the end of the chapter.

The hardy Fuchsias will also be good plants for the head and foot of the wall, and the pretty little *F. pumila* for the wall itself.

There are two of the small St. John's-worts that must not be forgotten, *Hypericum coris*, a perfect gem among dwarfer shrub-like plants, and *H. repens*, its exact opposite in habit, for *H. coris* stands up erect, and *H. repens* hangs straight down like Moneywort in a window-box.

It would be tempting in Cornwall to try the Caper plant (*Capparis spinosa*) and the hardier of the Mesembryanthemums that do so well in the Scilly Islands; the best to try would be *M. blandum* in its two varieties—*album* and *roseum*, seldom entirely out of bloom; the straw-coloured *M. edule* and its handsome crimson-flowered ally, *M. rubro-cinctum*; *M. glaucum*, one of the hardiest and finest, with large canary-yellow flowers; and *M. deltoides*, which forms a dense curtain when it is allowed to hang, and fills the air in spring with the vanilla-like scent of its small but countless pink blossoms.

With these, and in a part of the wall specially prepared with rather larger spaces between the stones in

24 WALL AND WATER GARDENS

the courses, some of the hardy *Opuntias* would be particularly suitable ; they are mentioned more at length in the chapters on rock-gardens. Here would also be the most suitable place for the *Euphorbias*.

Several of the *Edraianthus* (now better known as *Wahlenbergia*), pretty plants of the *Campanula* family, that are often lost in gardens from winter damp, will be safe in the sunny wall. The best will be *W. dalmatica* and *W. Pumilio*. Another branch of the *Campanulaceæ*, the *Phyteumas*, are of special value in the wall, and will do nowhere so well. The most usually cultivated are *P. comosum*, *P. hemisphæricum*, and *P. orbiculare*. Other pretty plants, also often lost in the usual forms of rock-garden, are *Acantholimon venustum* and *A. glumaceum* ; allied to Thrift.

Many of these plants are best propagated by fresh seed, which can be sown as soon as it ripens in adjoining joints and crevices. It should also be remembered that there are several annuals that can with advantage be sown in the wall ; some of the most suitable would be *Iberis odorata*, *Saponaria calabrica*, and *Silene pendula*, also the little blue Stonecrop (*Sedum cæruleum*).

The lovely little *Petrocallis pyrenaica* is a true plant for the sunny wall in its upper joints. The larger growth of *Stobæa purpurea* will also suit the top joints of the upper courses, or the warm place at the wall-foot. It is a thing that will not only do well in such places, but that so used will look quite at its best. To those who are unacquainted with it it may be described as a thistle-like plant with silvery-green spiny foliage



WAILLENBERGIA DALMATICA, NEARLY LIFE-SIZE.



STOBÆA PURPUREA AT THE SUNNY WALL-FOOT. (Flowers three inches across.)

and leafy stems, and an abundance of pale purplish wide-open bloom, large for the size of the plant. Most of the Thistles, however handsome in leaf, are disappointing in flower. This good plant, on the contrary, surprises by the size and quality of its bloom. It is not a plant to mix up with other things in a border, but exactly right for the hot rock-wall.

Parochetus communis must not be forgotten. It is one of the flowers of perfect blue, a delight and surprise to see on a little plant that looks like a humble Clover. Being a native of Nepaul, it is not always hardy in English gardens, but the shelter of the wall will preserve it in any of our southern districts.

The foot of the wall will be best if it is not planted closely all along, but if occasionally some handsome warmth-loving plant is there in a tuft or group. Some of the plants most suitable for this place will be *Acanthus*, *Iris stylosa*, *Crinum*s and *Plumbago Larpentæ*, and of smaller plants, *Anomatheca cruenta*, *Anemone fulgens*, and in the south, *Amaryllis Belladonna*, *Pancreatium illyricum*, and *Zephyranthes carinata*. An occasional bush at the wall-foot would also come well, such as Rosemary, *Cistus lusitanicus*, *Veronica hulkeana*, *Ozothamnus rosmarinifolius*, or *Griselinia littoralis*.

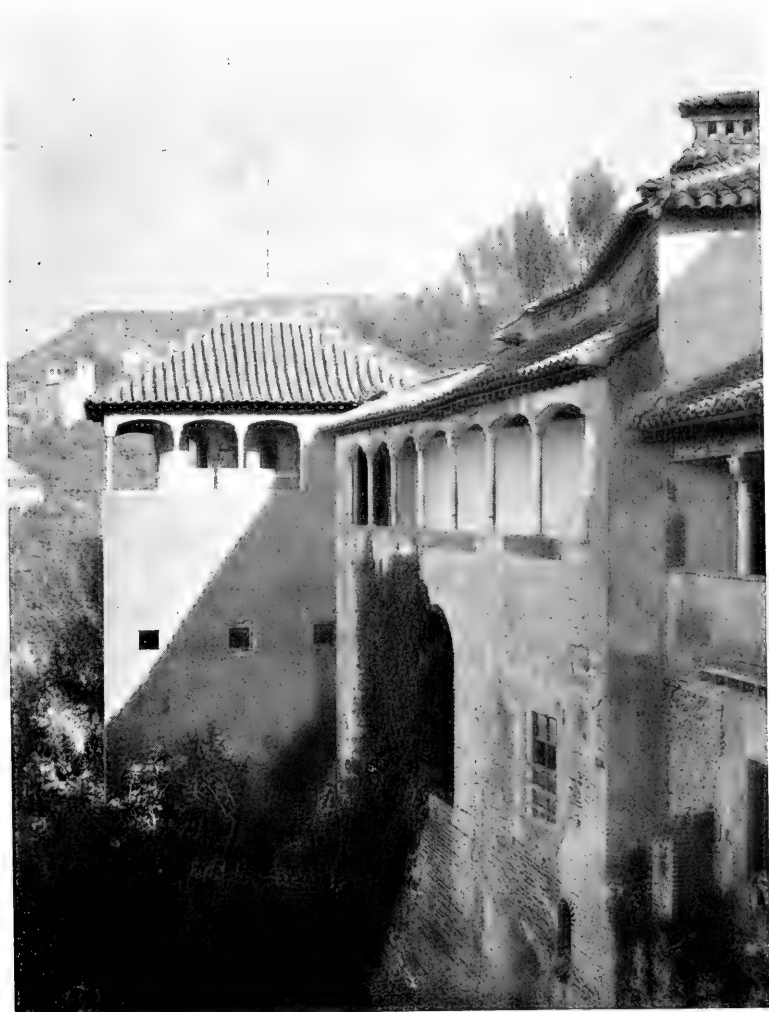
Wonderful is the pictorial quality of Ivy, and its power of assimilation with the forms and surfaces of ancient buildings. For a permanent covering of anything ugly of brick or stone it is also a most helpful auxiliary, and though I am just now considering ways

26 WALL AND WATER GARDENS

of using what are more of the nature of flowering plants, the merits of this grand climber must never be forgotten. There are often places where such a wall-garden as has been described may need some dark and quiet background. If at the end of such a scene any wall or building returned forward square with the wall, here would be the place for Ivy. Indeed there are many vast piles of building whose grim severity could endure the presence of nothing of a less serious character. Thus this great outer wall of the Alhambra, towering up in its massive simplicity, could have borne no other climbing plant than its one great sheet of Ivy.

PLANTS FOR THE SUNNY ROCK-WALL

- | | |
|---|--|
| <i>Cerastium</i> , <i>Alyssum</i> , <i>Aubrietia</i> , | <i>Fuchsia gracilis</i> , <i>Riccartoni</i> , |
| <i>Silene</i> , <i>Arabis</i> , <i>Gypsophila</i> , | <i>pumila</i> . |
| <i>Saponaria</i> , <i>Dianthus hybs.</i> , | <i>Hypericum coris</i> , <i>repens</i> . |
| <i>D. fragans</i> , <i>plumarius</i> , <i>super-</i> | <i>Mesembryanthemum blandum</i> , |
| <i>bis</i> . (These will hang down.) | <i>edule</i> , <i>rubro-cinctum</i> , <i>glaucum</i> , |
| <i>Campanula garganica</i> , <i>Raineri</i> , | <i>deltoides</i> . |
| <i>petræa</i> , <i>muralis</i> , <i>Elatine</i> , <i>ela-</i> | <i>Wahlenbergia dalmatica</i> , <i>Pu-</i> |
| <i>tinoides</i> , <i>excisa</i> , <i>macrorhiza</i> , | <i>milio</i> . |
| <i>mirabilis</i> , <i>isophylla</i> . | <i>Phyteuma comosum</i> , <i>hemisphæri-</i> |
| <i>Lithospermum Gastoni</i> , <i>gra-</i> | <i>cum</i> , <i>orbiculare</i> . |
| <i>minifolium</i> . | <i>Acantholimon glumaceum</i> , <i>ve-</i> |
| <i>Iberis sempervirens</i> , <i>correæfolia</i> , | <i>nustum</i> . |
| <i>tenoreana</i> , <i>gibraltarica</i> , <i>Pruiti</i> . | <i>Stachys corsica</i> . |
| <i>Æthionema coridifolium</i> , <i>grandi-</i> | Lavender. |
| <i>florum</i> . | <i>Santolina</i> . |
| <i>Sedum glaucum</i> , <i>Lydium</i> , <i>dasy-</i> | <i>Eurybia gunniana</i> . |
| <i>phyllum</i> , <i>pulchellum</i> , <i>kam-</i> | <i>Hyssopus officinalis</i> . |
| <i>tschaticum</i> , <i>spurium</i> , <i>Ewersii</i> , | <i>Scabiosa Pterocephala</i> . |
| &c. | <i>Othonnopsis cheirifolia</i> . |



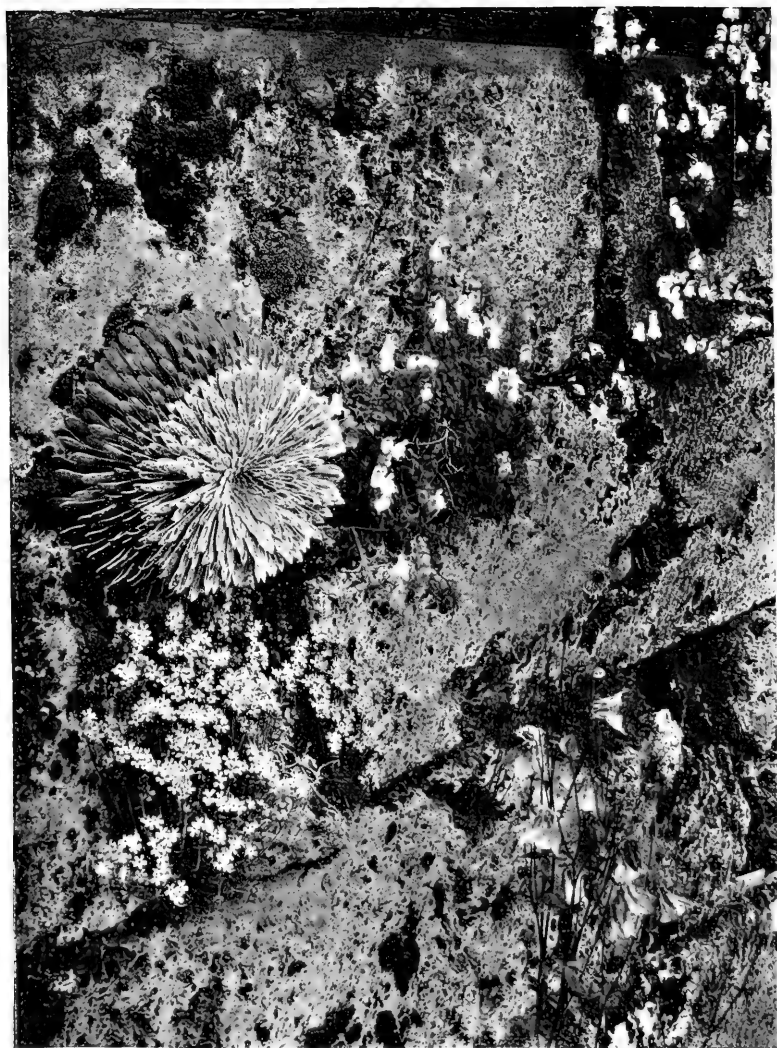
PEINADOR DE LA REINA; ALHAMBRA, GRANADA.



FOLIAGE OF IRIS AND DAY-LILY AT THE FOOT OF AN OLD WALL.



SAPONARIA OCYMOIDES, GYPSOPHILA REPENS, ETC., IN A SUNNY LIMESTONE WALL.
(Jardin Alpin d'Acclimatation-Geneva.)



SAXIFRAGA LONGIFOLIA, (See also p. 100.) *ANTIRRHINUM*
GLUTINOSUM, *AQUILEGIA JUCUNDA*, *ERINUS HIRSUTUS*
IN A LIMESTONE WALL. (See opposite p. 100.)

<i>Phlox setacea</i> and vars., <i>P. stelararia</i> .	<i>Artemisia sericea</i> .
<i>Cistus</i> , <i>Helianthemum</i> and vars.	<i>Parochetus communis</i> .
<i>Berberis Aquifolium</i> , <i>vulgaris</i> .	<i>Arnebia echiioides</i> .
<i>Rosa spinosissima</i> , <i>lucida</i> , <i>wichuriana</i> .	<i>Rosmarinum officinale</i> .
<i>Olearia Haastii</i> .	<i>Artemisia Abrotanum</i> .
<i>Cassinia fulvida</i> .	<i>Achillea umbellata</i> .
<i>Nepeta Mussini</i> .	<i>Petrocallis pyrenaica</i> .
	(By seed) <i>Iberis odorata</i> , <i>Saponaria calabrica</i> , <i>Silene pendula</i> , <i>Sedum cœruleum</i> .

AT THE FOOT OF THE WALL

<i>Acanthus</i> .	<i>Iris stylosa</i> .
<i>Crinum</i> , vars.	<i>Plumbago Larpentæ</i> .
<i>Anomatheca cruenta</i> .	<i>Anemone fulgens</i> .
<i>Amaryllis Belladonna</i> .	<i>Panocratium illyricum</i> .
<i>Zephyranthes carinata</i> .	Rosemary.
<i>Cistus lusitanicus</i> .	<i>Veronica hulkeana</i> .
<i>Ozothamnus rosmarinifolius</i> .	<i>Griselinia littoralis</i> .
<i>Stobtea purpurea</i> .	

CHAPTER IV

THE ROCK-WALL IN SHADE

A DRY wall with a northern or eastern exposure offers just as free a field for beautiful planting as one that looks towards the sun, and it may be assumed that quite two-thirds of the plants advised for the sunny wall will flower and do well in the cooler one also, while this will have other features distinctly its own. For whereas on the sunny side many South European species, and members of the sun-loving succulent families, will find a suitable home, the cool wall will present a series of garden-pictures almost equal in number though dissimilar in character.

What will be most conspicuous in the cool wall will be a luxuriant growth of hardy Ferns, both native and exotic ; indeed the main character of its furnishing will be cool greenery in handsome masses, though flowers will be in fair proportion. Here again, if the wall-garden is to be seen at its best, and if the plants are to be shown as well as possible, it will not do to throw together one each of a quantity of kinds, but a fair number of two or three kinds at a time should be arranged in a kind of ordered informality. No actual recipe or instructions can be given for such planting, though somewhat of the spirit of it may be appre-



FERNS AT A NORTHERN WALL-FOOT.



hended from the diagram at p. 61, in which the groups of each kind of plant are represented by the different ways of hatching.

It would be well to get into the way of this kind of planting as a general rule, though here and there one isolated plant of very distinct character would have a good effect.

At the foot of the wall would be grand tufts of the largest of the British Ferns, Male Fern, Lady Fern, Harts-tongue, Osmunda, and Shield Fern, and with these, handsome foreigners such as *Struthiopteris germanica* and several North American kinds. The cool pale fronds of Harts-tongue (*Scolopendrium*), in form and texture so unlike most other Ferns, are valuable not only for their own sake but for fostering the feeling of shade and coolness that is the main character of this portion of the garden. When established at the wall's foot they are of all Ferns the most willing to increase by the sowing of their own spores, though this can easily be helped by shaking a frond whose fructification is mature along some joint where a young growth of it is desirable. Be it remembered that though most Ferns love a bit of peat, Harts-tongue rejoices in a strong loam, also that *Polypodium calcareum*, as its specific name says plainly, will be thankful for lime. The little *Ruta muraria* is also a lime lover. The common Polypody is hardly ever so handsome as in a cool wall, while its relatives the Oak and Beech Ferns will be quite at home in wide joints.

If a specially cool and moist spot is noticed while the wall is building it will be well to leave out a block

30 WALL AND WATER GARDENS

or two in a couple of courses, and to form a little Fern cave for the delicate Filmy Ferns (*Hymenophyllum*), and if the garden should be near the sea on our south coast there would be a chance of success with the Sea Spleenwort (*Asplenium marinum*) planted in a deep joint.

The delicately beautiful *Cystopteris*, in several kinds, will be some of the best things in the wall, also the dainty little *Woodsias*. The difficult Holly-Fern will do well in a deep horizontal wall joint, and Parsley Fern (*Allosorus*) will be contented with a cool cleft if liberally fed with chips of slate.

The wide family of Saxifrages will be largely represented in the cool rock-wall. This is a group of plants that presents so many different forms that it is one of the most puzzling to amateurs, but it is much simplified, if, putting aside some of its outlying members, one thinks of it in its relation to the wall as mainly of three kinds; the London Pride, the mossy, and the silvery or encrusted kinds. Everybody knows London Pride (*Saxifraga umbrosum*) as a pretty plant in garden edgings and for ordinary rock-garden use, but I doubt if it is ever so charming as when grown in the cool wall, when its dainty clouds of pink bloom are seen puffing out from among Fern-frond masses. Then, once seen, it is easy to recognise the Mossy Saxifrages, of which *S. hypnoides* of our northern mountains is the best known. Then no one who has once seen any examples of the silvery or encrusted Saxifrages, with their stiff, mostly strap-shaped leaves bearing along their saw-like edges



ANEMONE APPENNINA AND PRIMROSES AT THE COOL WALL-FOOT.



WHITE VARIETY OF *ERINUS ALPINUS* IN A SHADY WALL. (Half natural size.)

that miracle of adornment of limy incrustation, could fail to recognise the others of this branch of the family. Most of them thrive in calcareous soil. They vary in size from the tiny *S. cæsia* to the large *S. longifolia*, whose huge rosette, so well shown in the illustration at p. 27, is followed by a great panicle of creamy white flower sometimes two feet long (see p. 100). No plant, except perhaps *Ramondia*, is more grateful for the upright position.

The Mossy Saxifrages may be at once recognised by their mossy appearance. They are for joints near the bottom and the foot of the wall. The close mossy form seems to open out and stiffen as it leads to the handsome *S. Camposi* and to *S. ceratophylla* and others of this intermediate class. Another section of the Saxifrages, somewhat mossy in appearance though not classed with them, are *S. burseriana* and *S. juniperina*. They are the earliest to bloom, the flowers opening in February; large and pure white, in striking contrast to the close thick tufts of dark green foliage. Others of the smaller Saxifrages that will find a place in the wall are the yellow-flowered *S. sancta*, not unlike the last as to its leafy tuft; *S. oppositifolia*, forming spreading or hanging sheets with red-purple bloom; and the double-flowered form of the native *S. granulata*. *S. Cymbalaria* is an annual that will always sow itself; the seedlings are bright and pretty through the depth of winter. Several of these Saxifrages, such as *S. longifolia*, will do well on the warm wall also, but they are better seen and enjoyed on the cool one.

32 WALL AND WATER GARDENS

In an important position in the cool wall will be a good planting of *Ranondia pyrenaica*. This excellent plant cannot be too highly estimated. Its home in nature is in cool clefts in mountain gorges, where it constantly receives the mountain mists or the spray of the torrent. It is best in the lower part of the wall, but if the wall is of fair height and backed by a cool mass of earth, it is well to have it on the eye level. Near it should be a plant of the same family, *Haberlea rhodopensis*, smooth-leaved, and with much the same habit of growth and yet of quite different appearance.

The wall will give an opportunity for succeeding with many Alpine Primulas, some of them difficult in ordinary rock cultivation. Alpine Auriculas and any garden Primroses will be charming in some of the lower joints, and the lovely *P. Monroi*, or more properly *P. involucrata*, one of the most dainty of its family, will here do well. Others worth growing in the wall will be *P. Allionii*, *P. glutinosa*, *P. marginata*, *P. nivalis*, and *P. viscosa*.

The beautiful Androsaces, good alike in sun and shade, will have their place in the wall. The Himalayan *A. lanuginosa* seems to be one of the most willing to grow in English gardens, where its silky rosettes of foliage and pretty heads of pink flowers will fall over the face of the rocks, clothing them in a charming manner (see p. 94). *A. Laggeri* of the Pyrenees and *A. carnea* and *A. chamæjasme* of the Swiss and Austrian Alps should also have a place.

Anemone apennina should be planted in the lower



RAMONDIA PYRENAICA. (Flowers an inch across.)



SMILACINA BIFOLIA. (One-third life-size.)

THE ROCK-WALL IN SHADE 33

joints and also *Anemone sylvestris*, while *A. hepatica* is never so well pleased as when its roots are close to or among stones.

Snapdragons are grand wall-plants, both in sun and shade. I think the tender colourings, white, yellow, and pinkish, are the most suitable for the cool exposure, and the fine dark crimson reds and mixed colourings for the warm one.

The many kinds of Houseleek (*Sempervivum*) are perhaps better suited for joints in the warmer side of the wall and warm spaces in the rock-garden, though many will thrive in the cool wall.

Many a plant that one would scarcely have thought of putting in the wall will come there of its own will. Such a lesson I learnt many a year ago from the pretty little *Smilacina bifolia*, which is by nature a woodland plant. I had put some on the top of a piece of dry-walling facing north, to fill the space temporarily while some Andromedas were growing that were to crown the wall-top. The little plant grew downward into the chink as the picture shows and then spread along the next lower course, making itself quite at home.

Two of the *Acænas* will be welcome, namely, *A. microphylla* and *A. pulchella*. The first is the one most commonly grown, but *A. pulchella* has merit, not only on account of the pretty form of the delicately-cut leaves, but from their unusual bronze colouring. In the wall also one can more easily escape their burrs, which are always too ready to catch hold of clothing.

34 WALL AND WATER GARDENS

Moneywort (*Lysimachia nummularia*) will be beautiful hanging down among the Ferns, and associated with *Corydalis capnoides*. *Waldsteinia fragoides*, with its bright yellow bloom and brightly polished leaves, must not be forgotten.

Campanula, that large genus that yields species of the highest beauty for nearly every kind of gardening, will be represented by several; by *C. carpatica* and *C. turbinata*, as good in shade as in sun, by the tallest of all, *C. pyramidalis*, a grand wall-plant in the milder parts of our climate, and by the handsome *C. latifolia* (best in the white form) and by some of the smaller kinds, which will include *C. pusilla* and the lovely dwarf *C. cæspitosa*, both pale blue and white. They run along the joints, throwing up their little bells in such quantities that they jostle one another and are almost overcrowded. The branch of the same family detached under the name of *Symphyanthra* contains some charming flowers that thrive in such a place as the cool dry wall, *S. pendula* doing well; here also *S. Hoffmanni* would be at home.

Arenaria balearica is described elsewhere as a capital cool wall-plant, growing up from below; not only rooting in the joints but clothing the whole face of the stones with a kind of close skin of its tiny stalk and leaf, so that every stony hollow and projection can be clearly traced through it. *A. montana* has larger flowers and a different way of growth, but it is a good plant for the wall.

Two little plants of neat growth and small white bloom should have a place—*Hutchinsia alpina* and



CAMPANULA PUSILLA. (One-third life size.)



PRIMULA VISCOSA. (Two-thirds life size.)

THE ROCK-WALL IN SHADE 35

Cardamine trifoliata. They suit admirably as companions to some of the smaller Ferns. The Double Cuckoo-flower (*Cardamine pratensis*) is an excellent wall-plant.

The accommodating *Cruciferae*, *Arabis*, *Alyssum*, and *Aubrietia* will flower just as freely in the cool as in the warm wall, also the Wallflowers, whether the garden kinds or the species.

An autumn sowing of *Ionopsidium acaule* will give next season a good crop of this charming little plant. *Linaria alpina* can also be sown, and *Erinus alpinus*, which seems willing to grow in any position. Garden Primroses and Anemones are thankful for a place at the cool wall-foot.

PLANTS FOR THE ROCK-WALL IN SHADE

Ferns, native and foreign.	<i>Lysimachia nummularia</i>
Saxifrages.	(Moneywort).
<i>Ramondia pyrenaica</i> .	<i>Corydalis capnoides</i> .
Alpine Auriculas.	<i>Waldsteinia fragoides</i> .
<i>Primula involucrata</i> , <i>Allionii</i> ,	<i>Campanula carpatica</i> , <i>turbinata</i> ,
<i>glutinosa</i> , <i>marginata</i> , <i>nivalis</i> ,	<i>pyramidalis</i> , <i>latifolia</i> , <i>pu-</i>
<i>viscosa</i> .	<i>silla</i> , <i>cæspitosa</i> .
<i>Androsace lanuginosa</i> , <i>carnea</i> ,	<i>Symphphyandra pendula</i> , <i>Hoff-</i>
<i>chamæjasme</i> , <i>Laggeri</i> .	<i>manni</i> .
<i>Anemone appenina</i> , <i>sylvestris</i> ,	<i>Arenaria balearica</i> , <i>montana</i> .
<i>Hepatica</i> .	<i>Hutchinsia alpina</i> .
<i>Antirrhinum majus</i> (Snap-	<i>Cardamine trifoliata</i> .
dragon).	<i>Cardamine pratensis</i> fl. pl.
<i>Sempervivum</i> , in variety.	<i>Ionopsidium acaule</i> (seed).
<i>Smilacina bifolia</i> .	<i>Linaria alpina</i> (seed).
<i>Acæna microphylla</i> , <i>pulchella</i> .	

CHAPTER V

NATIVE PLANTS IN THE ROCK-WALL

WHEN a wall-garden has been established for some years one may expect all kinds of delightful surprises, for wind-blown seeds will settle in the joints and there will spring up thriving tufts of many a garden plant, perhaps of the most unlikely kind. Foxgloves, plants that in one's mind are associated with cool, woody hollows, may suddenly appear in a sunny wall, so may also the great garden Mulleins. When this happens, and the roots travel back and find the coolness of the stone, the plants show astonishing vigour. I had some Mulleins (*Verbascum phlomoides*) that appeared self-sown in a south-west wall ; they towered up to a height of over nine feet, and were finer than any others in the garden ; while everything that is planted or that sows itself in the wall seems to acquire quite exceptional vigour.

It sometimes happens also that some common native plant comes up in the wall so strongly and flowers so charmingly that one lets it be and is thankful. The illustration shows a case of this where the wild Stitchwort (*Stellaria Holostea*) appeared in the wall and was welcomed as a beautiful and desirable plant. Close to this tuft, which has now for five years been one of the



STITCHWORT IN A ROCK-WALL. WELSH POPPY AND HART'S-TONGUE FERN AT FOOT.



CORYDALIS LUTEA.

best things in the place at its own flowering-time, is a colony, also spontaneous, of the Shining Cranesbill (*Geranium lucidum*), whose glistening, roundish, five-lobed leaves turn almost scarlet towards the end of summer. These are both common hedge-weeds, but so dainty is their structure and kind of beauty that we often pass them by among the coarser herbage of the country lanes and hedges, and only find that they are worthy garden plants when we have them more quietly to ourselves in the rock-wall. There are other wild plants that are also worthy of wall space. The Wall Pennywort (*Cotyledon Umbilicus*), so common in the south-west of England, is a precious plant, and is especially happy in combination with hardy Ferns. *Linaria Cymbalaria* is a gem in a rough wall, and, though a doubtful native, is so generally found as a wild wall-plant that it takes its place in books of British botany. The yellow Toadflax (*Linaria vulgaris*) is also a grand wall-plant, and so is the yellow Corydalis (*C. lutea*), though the paler flowered and more daintily leaved *C. capnoides*, also known as *C. ochroleuca*, is a better plant; just a good shade more delicate and more beautiful throughout. In considering the best of the native plants for wall-gardening, the Welsh Poppy (*Meconopsis cambrica*) must not be forgotten; its place is at the foot of a wall, and in its lower courses among Ferns. Nearly all the British Ferns can be grown in walls, many of them acquiring great luxuriance. As nearly all are plants that love shade and coolness and some degree of moisture, they should be in walls

38 WALL AND WATER GARDENS

that face east or north; the larger kinds in the lower joints and quite at the foot, and many of the smaller ones in the upper joints. The Common Polypody runs freely along the joints, and the shelter preserves the fronds from winter injury, so that often, when severe weather kills the wild ones in the lanes and hedges, those that have the protection of the wall will carry their fronds, as will also the Harts-tongue, green and perfect throughout the winter.

It would be well worth having a bit of cool wall for British plants and Ferns alone; its beauty would scarcely be less than that of a wall planted with exotics.

There are two small English Ferns that do not object to a dry and sunny place, namely, *Asplenium Ruta-muraria* and *Asplenium Trichomanes*. They seem to be fond of the lime in the joints of old mortar-jointed walls, and able to endure almost any amount of sunshine. Of the other English plants that like warm wall-treatment three come at once to mind; all of them plants so good that for hundreds of years they have been cultivated in gardens. These are Thrift, Wallflower, and Red Valerian. In a sunny wall all these will be at home. Wallflowers never look so well as in a wall, where air and light is all around them and where they grow sturdy and stocky, and full of vigour. Compare a close-growing, bushy Wallflower in a wall, with its short-jointed, almost woody stem, stout and unmoved in a gale of wind, with one



RED VALERIAN (CENTRANTHUS) IN AN OLD CASTLE WALL.

planted out in a bed. The garden-nurtured plant will be a foot and a half or two feet high, and its large heavy head will be beaten about and twisted by the wind till it has worked a funnel-shaped hole in the ground, and is perhaps laid flat. Thrift, that lovely little plant of rocky seashore and wind-blown mountain top, is indispensable in all rock and wall gardening, neat and well clothed all through the year, and in summer thickly set with its flower-heads of low-toned pink. It loves in nature to grow along rocky cracks, sending its long neck and root far down among the stones. There is a garden form with bright green leaves and darker coloured flowers, but, though it is undoubtedly a more showy plant it is scarcely an improvement on the type; much of the charm is lost.

The Red Valerian (*Centranthus ruber*) is a chalk-loving plant; it will grow in ordinary soil, but is thankful for lime in some form. In this, the garden form of deeper colour is a better plant than the type; the colour in this case being deepened to a good crimson. Another British plant of the chalk that will also be handsome in the rock-wall is the fine blue-flowered Gromwell (*Lithospermum purpuro-cæruleum*); it throws out long runners like a Periwinkle that root at the tips. They seem to feel about over the surface of the wall till they come to a joint where they can root.

Two of the British wild Pinks, namely, *Dianthus cæsius* and *D. deltoides*, are among the best of plants

for a sunny wall ; and another, not exactly showy but neat and shrub-like and of considerable interest, well worthy of a warm place, is the Wood Sage (*Teucrium Scorodonia*).

Another charming wild plant for sunny joints and places on a level with the eye, or for such wall-tops as would be only as high as eye level, is the Sheep's Scabious (*Jasione montana*) ; neat and pretty, and worthy of cultivation on wall or dry rock-garden, where the little plants, each with its large flower-head, can be grouped rather more closely than in the heathy wastes where they are generally in a thin sprinkle among short grass. Another plant for wall-top, growing willingly in any soil though preferring lime, is the yellow Rock Rose (*Helianthemum vulgare*), common on sunny banks in chalk districts, and one of the few species (the others rare or local) that are the representatives of the large Cistus tribe of Southern Europe. One more chalk-loving plant should also be in the sunny wall, *Reseda lutea*, the Wild Mignonette ; tall, graceful, and sweet scented. It is best sown in the wall if seed can be obtained.

There are still some native plants for the warm wall of the succulent class. The Houseleek, so frequent on the roof of the cottage outhouse ; the tall and stout *Sedum Telephium*, the Live-Long of old English naming (for a spray of it in a room without water will live a month almost unchanged) ; and the smaller Stonecrops, *S. anglicum*, *S. album*, and *S. acre*.

There are still to be named for a wild wall in a cool shady place some of our small wood plants ; indeed,



CORYDALIS LUTEA AND MALE FERN IN AN OLD WALL.



NATIVE PLANTS IN ROCK-WALL 41

they seem never happier than when they become established in the wall joints and chinks. Such a one is the Wood Sorrel, one of the daintiest of spring flowers, whether in wall, garden or wild. Primroses also take kindly to the lower joints on the shady side, and the cool wall-foot is the place of all others for one of the native Irises, *I. fœtidissima*, whose dark green sword-like leaves are good to see throughout the winter, while in October the seed-pods are opening and showing the handsome orange-scarlet fruit.

Then the Purple Columbine is a grand cool wall-plant; the delicate yellow-flowered Wood Pimpernel (*Lysimachia nemorum*) will trail happily in some lower joints; the larger Moneywort is one of the best of wall draperies; and even two moisture-loving small things, the Moschatel (*Adoxa*) and the Golden Saxifrage (*Chryso-splenium*) will be satisfied with the coolness of the lowest joints and the comfort of the mossy wall-foot.

CHAPTER VI

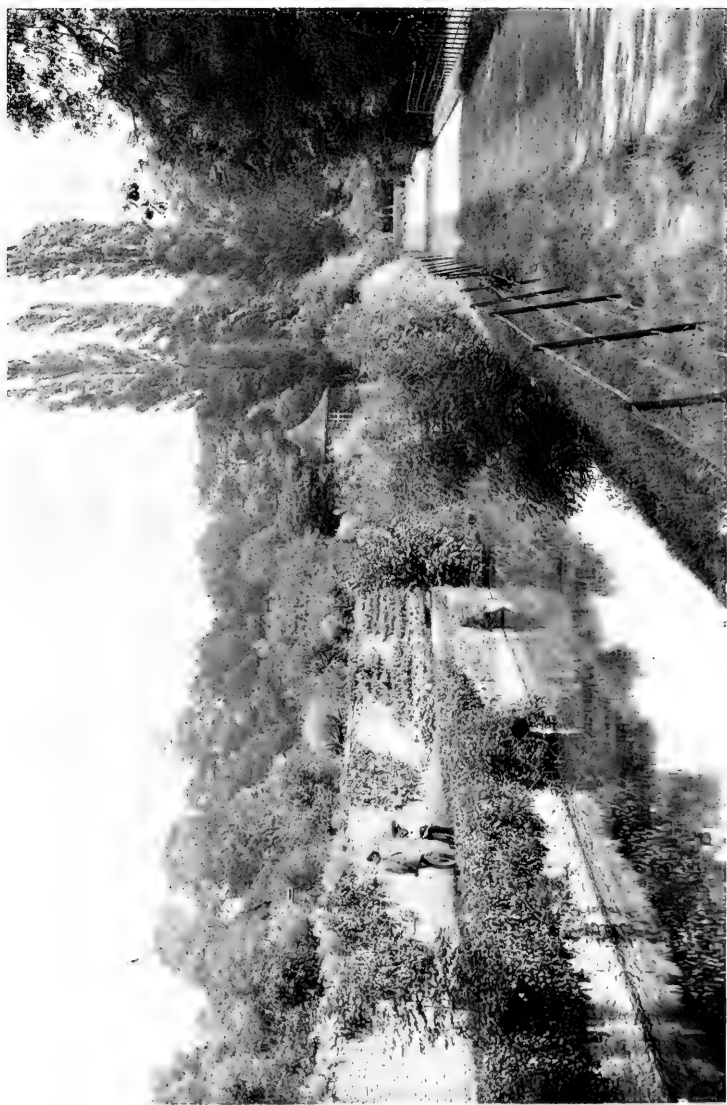
TERRACE AND GARDEN WALLS

A GRAND old wall is a precious thing in a garden, and many are the ways of treating it. If it is an ancient wall of great thickness, built at a time when neither work was shirked nor material stinted, even if many of the joints are empty, the old stone or brick stands firmly bonded, and, already two or three hundred years of age, seems likely to endure well into the future centuries. In such a wall wild plants will already have made themselves at home, and we may only have to put a little earth and a small plant into some cavity, or earth and seed into a narrow open joint, to be sure of a good reward. Often grasses and weeds, rooting in the hollow places, can be raked out and their spaces refilled with better things. When wild things grow in walls they always dispose themselves in good groups; such groups as without their guidance it would have been difficult to devise intentionally.

So if one had to replant the old moat wall how pleasant a task it would be to rake out the grasses and wild Lettuce and other undesirables, saving the pretty little pale lemon Hawkweed and the Ivy-leaved Toad-flax and the growth of flags by the culvert, and re-



AN OLD MOAT WALL



AN OLD MOAT WALL WITH INNER WALL SUPPORTING A RAISED BOWLING-GREEN.

placing the weeds with just a few of the plants that might occur in such a place ; among others Wallflower and Red Valerian and the native Stonecrops. In such a wall, which is outside the garden, and seems rather to belong to the park, it would be suitable to use these good native plants rather than exotics, such as would find a more fitting home within garden ground. A half-double rambling Rose planted inside, and a wild Clematis, both ramping and bounding over, and hanging half-way down to the water, would also make a pleasant break in the long line of the balustrade.

In the further portion of the same moat, in the picture showing the roof and window of the tea-house and the Lombardy Poplars, the lower wall is the continuation of the same, but here it is more within garden ground. The upper wall is the retaining wall of the raised bowling-green, and, but that in this case the wall is mostly used for fruit trees, would be a perfect place for many a little sun-loving rock-plant of Southern Europe ; for here is that cool backing of the mass of earth and that exposure to fullest sunshine that afford the surest prospect of success with such plants. It is to be hoped that this tempting double terrace, which seems only to invite the careful ministrations of the sympathetic gardener, may some day be worthily taken in hand.

The double terrace always offers special opportunities for good gardening, for whereas the single line of abrupt change of level, unless treated with some boldness, may in certain aspects have a thin and meagre appearance ; where it is doubled, there is an oppor-

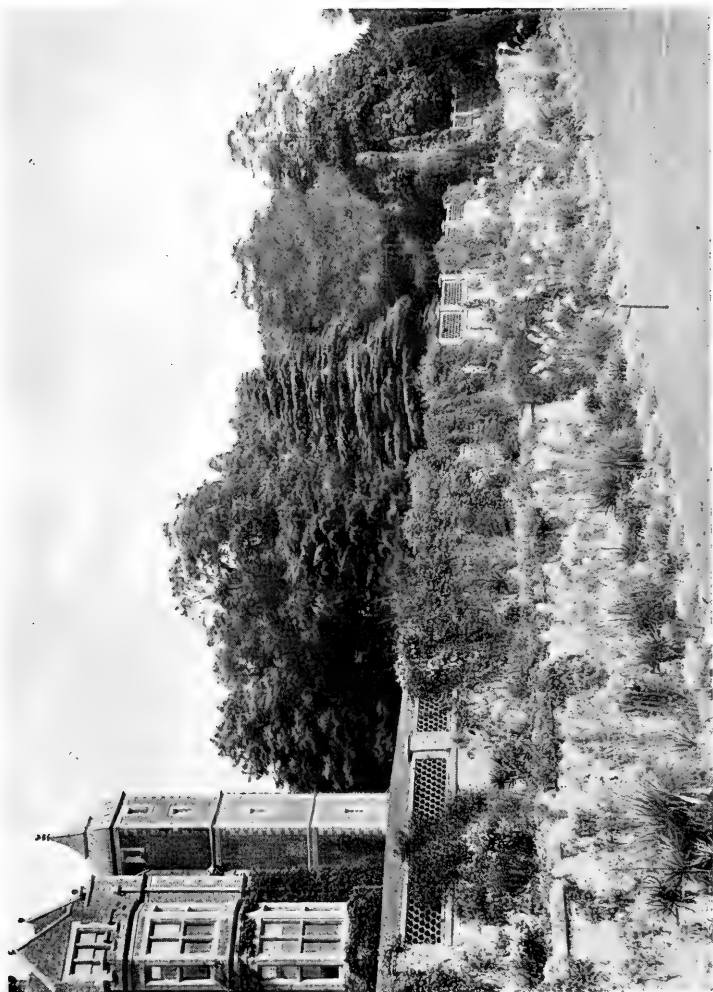
44 WALL AND WATER GARDENS

tunity of treating the two terraces in a much larger way horticulturally, while equally preserving their architectural value.

This richness of effect is plainly seen in the fine example illustrated, though it is open to question whether it would not have been better still had the upper wall been carried solid to the height of the coping of the balustrade, or even higher, and the upper ground levelled up to it.

But there are fine things in this piece of gardening. It shows plainly the salutary effect of rambling growths partly veiling the balustrade, and even of tall things of the Cypress class doing the same work, though this came possibly as a happy accident; such another accident as those that are of so high a value in the tree and shrub overgrowths of the old gardens of Italy. The defect of arrangement in this picture is a certain monotonous repetition of *Gyneries* alternating with *Yuccas* in the lower border. Here would have been a grand place for grouping the *Yuccas* as described in the chapter on the Rock-wall in Sun.

One can hardly imagine a more perfect site for a garden than a place where such an arrangement as this would be reversed on the further side of the lawn, so that there would be a range of double terrace on the shady side as well as on the sunny. Where new gardens are being made, such a disposition of the ground is well worth considering, for in many sites where ground comes awkwardly with regard to a house—sometimes sloping away diagonally—such a garden could be laid out.



A DOUBLE TERRACE.



*OLD GARDEN WALL ENCLOSING A SHRUB GARDEN
OR WILDERNESS.*

TERRACE AND GARDEN WALLS 45

Many a good old garden, not of the earlier times but dating from the latter half of the eighteenth century, has a large space of pleasure ground within walls. When these were planted, wire-netting, that temptingly cheap and useful abomination, had not been invented, iron was a costly commodity, and if the pleasant home grounds were to be given a more permanent fence against deer and cattle than a wooden one, it must needs be a wall. Here is such a wall, broken only by the tall piers of masonry and well-wrought iron gates that lead from the seclusion of the shady garden to the outer world. Where there are fairly long stretches of such walls the artist gardener has good scope for arranging large effects; for doing something thoroughly well and just sufficiently, and then passing on to some other desirable possibility; for making pictures for all the seasons in just such well-considered progression, and just such degree of change or variety as will be most pleasant and delightful to see.

Good walls often have their opportunities wasted. There is generally the usual planting of one each of one thing after another, a wearisome monotony of variety—a sort of exhibition of samples. Where there is little wall-space this may be a kind of necessity, but in these old gardens where the bounding walls run on for many hundred yards, there is no need for any such planting.

Thus one may plant in imagination a long stretch of such wall, beginning at one of the gateways. If the piers are well designed, the first consideration

46 WALL AND WATER GARDENS

will be not to let them be smothered by the climbing plants. One of the many beautiful Ivies, not the common Irish nor any other of the larger leaved ones, but such a lovely thing as the dainty Caenwood variety, is just the thing for the piers, and even this must be watched and perhaps thinned and suitably restrained every year or two. Next to it and partly growing among it, and climbing up one pier, a *Clematis Flammula* will do well; its delicate clouds of bloom lovely in September. Then would come some darker bushes, *Choisya*, Bay, or Laurustinus, and next beyond them something totally different; some pale pink Tree Pæonies grouped with Lavender, and on the wall with this group, which would be a longish one, the beautiful May-flowering *Clematis montana*, not stiffly trained, but only fastened to the wall here and there, when its blooming masses will cling together and hang in grand garlands wide-sprung from point to point; some hanging low so that they are in close association with the Pæonies, when one of the year's best flower-pictures will be to be seen.

Then we will have some garden Roses. The white Rose (*R. alba*), single and double, and Maiden's Blush—they are not climbing Roses, but such as will rise to this wall's height; at their foot will be more Lavender, and among it bushes of Cabbage Rose and of Damask and the striped Cottage Maid, perhaps more commonly known as York and Lancaster, a name which, however, belongs of right to a different Rose of rather the same class. Then we



OLD OUTER GARDEN WALL.



ONE OF THE OLDER HYBRID PERPETUAL ROSES; NAME LOST.

TERRACE AND GARDEN WALLS 47

would have a good stretch of white Jasmine, sweetest of late summer flowers.

Following this there should be a good length of Guelder Rose, delightful as wall clothing in addition to its usual business as a flowering bush in the open, and at its foot and flowering at the same season will be great clumps of the old crimson Pæony. As for Roses, their uses are endless, but for such a wall as this the best will be the free-growing Ayrshires. If any hybrid perpetuals are to have a place they had better be some of the older ones, not now admitted at shows, but such as are often found in old gardens growing on their own roots, and sometimes of great age. They are of the highest value in the garden as the picture well shows. Such a Rose, though not the one shown, whose name is lost, is Anna Alexieff; this would be trained free at full length upon the wall—it is not a climber but a free grower—and a group of the same at the foot would be pruned into loose bush form and grouped with the ever-charming Madame Plantier. This combination of pink and white good garden Roses is delightful. One or two Rosemary bushes would be among these, and then a thicker group of Rosemary, some of it trained to the wall. And so on for a good way, with Rosemary and any of the garden Roses that we may love best, and on the wall old favourites like Blairii No. 2, Climbing Captain Christy, and Climbing Aimée Vibert.

Two hundred yards of wall would soon be covered with even this limited choice of kinds, and then it

would be time to change the character of the planting, though perhaps still within the Rose family, so that next we might have that pretty thornless Tree Bramble *Rubus deliciosus*, and below it some of the other unarmed Brambles, the rosy *R. odoratus* and the white *R. nutkanus*. Then there might come a stretch of wall for winter bloom; the yellow Winter Jasmine (*J. nudiflorum*) and Winter Sweet (*Chimonanthus fragrans*) and *Garrya elliptica*; the evergreen branches of the *Garrya* partly protecting the naked bloom of the *Chimonanthus*.

These are only a few of the combinations that might be made; while long lengths of wall may well be given to Vines, with Lilies and Irises at their foot, and with here and there a thin climber such as one of the large-flowered Clematises, or *Rhodochiton volubile*, to run among their branches. For gate-piers of wrought stone that are in still more dressed ground nothing is more suitable than that splendid climber, the best form of *Bignonia radicans*, but it is too tender for the cold midlands.

When a garden prospect embraces the view of an ancient building it seems to reduce the range of choice to within much narrower limits. In the garden shown in the picture this has evidently been felt, in that here is a good planting of the June-flowering Pæonies and nothing much else. Had it suited the other needs of the garden as well, it might have been even better to have planted large masses of sober greenery, as of Yew and Box, with no other flowers than some bold clumps of white Lilies and a few bushes of white Roses, and



RUBUS DELICIOSUS.



A PEONY BORDER IN RELATION TO OLD BUILDINGS

TERRACE AND GARDEN WALLS 49

perhaps some Rosemary and China Rose or some other old garden Rose of tender pink colouring. But the bold forms of the flower and the important leafage of the Pæonies are good here also; the only thing that is unworthy of the scheme being the small row of Pansies next the grass. It would have been better to let the Pæonies bush over the edge of the grass; the row of small flowers is a petty intrusive incident in a scene where nothing should sound any note that jars upon the harmony of noble ancient building and simple dignity of garden practice.

The gardener may represent that, when masses of foliage of large herbaceous plant or shrub hang over the grass, it is difficult to mow to the edge — and to a certain degree he is right. It is undoubtedly easier to run the machine along a clearly defined and unobstructed edge. But if the gardener is the good fellow that he generally is he will at once understand that this is just one of the points that makes the difference between the best and most careful and thoughtful gardening, and gardening that is ease-loving and commonplace. In the case of such edges, instead of a man and a boy with a mowing-machine the man has a scythe and the boy has a bean-pole. Boy and man face each other a few paces apart, the boy moves backward, lifting the foliage with his pole, while the man advances mowing under the held-up leaves. There is nothing in it that the plainest labourer cannot understand, while the added refinement that is secured is a distinct gain to the garden. It is only where the

50 WALL AND WATER GARDENS

labour allowed is already insufficient that the gardener's plea should be allowed.

Nothing is more frequently to be seen, even in quite good and well-manned gardens, than this tyranny of the turf-edge. The same thing appears in the picture of the bowling-green of a fine old Surrey house ; the straight edge, which is right against the path, cutting much too harshly against the front of the flower border.

The illustration of another flower border in the same good garden as the one with the Pæonies, where all things seem to be so well done that there is little that can be criticised, shows the better way of letting the plants lap over the broad grass verge. Here is a wall about twelve feet high, with a noble flower border at its foot. Already it has an old growth of Ivy, while the young Magnolia towards the front, when it has had a few more years of growth, will repeat the mass of deep green foliage. Then its own great leaves will just suggest that larger scale of permanent foliage that will better suit the height of the wall. Wisely has the border been planted with just the very best things ; with Delphinium and white Lilies in generous masses, and bold groups of Flag-leaved Irises and bountiful clumps of Pinks. When the Roses on the wall have come to their strength and the Pillar Roses have covered their poles, this flower border will be a fine example of good hardy gardening.



BOWLING GREEN OF AN OLD TUDOR HOUSE, SHOWING A TOO STIFF EDGE TO FLOWER-BORDER.



A WELL-PLANTED WALL AND HARDY FLOWER-BORDER NOT YET MATURED.

CHAPTER VII

TERRACE AND GARDEN WALLS (*continued*)

To any one who has both practised and studied gardening for a number of years, and has at last acquired a glimmering of illumination as to what is best to be done in the many circumstances presented by various sites, it is immensely instructive to see gardens or even to see pictures of them. Perhaps the pictures are even the best, if there are enough of one place to give an idea of all its portions, or if there are several illustrations of some important feature. In the black and white presentment of a scene, that can be held in the hand and examined quietly and at leisure, without the distractions of brilliant sunshine or colour, or wind or rain, or the company of one's fellow-creatures (however charming and sympathetic they may be), the merits of the scene can be very fairly judged. It may therefore be useful to make a few remarks on a definite piece of gardening; an important wall-garden in a fine place in Somersetshire. The four pictures give an accurate idea of the steeply terraced garden. The first shows both terraces, with a glimpse of the walk on the third or lowest level, and the still steeply sloping grass below. The next two pictures show the middle level, looking both ways from nearly midway in its length.

The upper terrace shows not unskilful management of a rather abrupt transition from the wooded slope to pure formality by a nearly symmetrical line of evergreens. Next comes a grand retaining wall, buttressed at short intervals and planted with good wall-shrubs. The wall rises enough to form a parapet to the upper terrace. The point where each buttress rises and gives occasion to widen the coping above, is accentuated by an American Aloe in a pot. The pots are of plain flower-pot shape and look a little too plain for this use, although the character of the walling does not demand vases highly enriched.

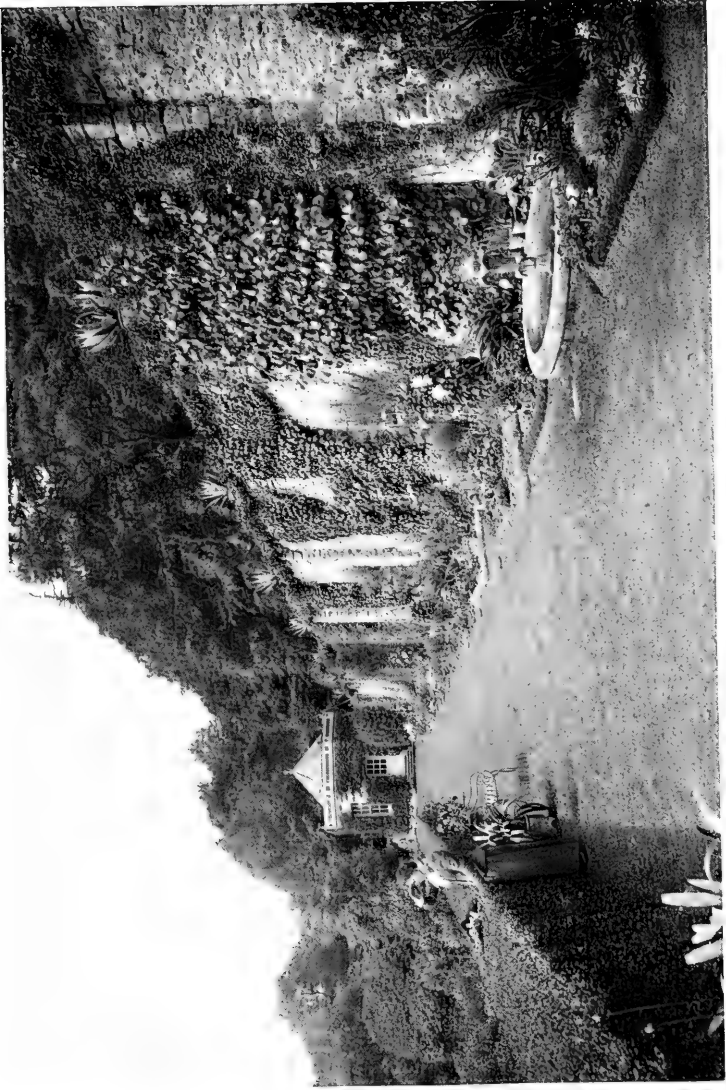
The weakest point in the middle terrace is the poverty of scheme in the succession of small square beds that break forward in each bay between the piers, and that seem to be planted without any general design or distinct intention, but with stiff little edgings showing an outer margin of bare earth. This would be much improved by putting all the beds together as to the space nearest the wall; and next the grass, by leaving the length of the front edge of two beds and the interval between them, and in the space represented by the front of the third, swinging the front line back in an arc (not a whole semi-circle but something shallower), in the centre of which the pot plants would stand; then continuing the treatment with the next pair of beds, followed by the segmental swing-back, and so on throughout. Moreover, the front line of the beds comes too far forward into the grass by about one-fourth of its projection, taken from the line of the front of the



A TERRACED GARDEN ON A STEEP SOUTHERN SLOPE. (No. 1.)



MIDDLE TERRACE LOOKING EAST. (No 2)



MIDDLE TERRACE LOOKING WEST. (No. 3.)



LOWER TERRACE. (No. 4.)

buttresses. The proportion would be much better with a greater width of grass and a lesser width of flowers.

The little fountain basin would then make a reversed figure in one of the arcs, and the planting on each side of it would be symmetrical and rather important. Such a rearrangement of the beds would much improve this terrace ; and would give the wall added dignity and offer more scope for the growing of handsome groups of plants.

The Yew hedge which forms the parapet of this terrace and stands just at the top of the lowest wall is a capital example of its kind, though the garden would have given a better impression of cohesion if the wall had been treated in the same way as the one above. But the planting at its base seems in these more horticulturally enlightened days to be quite indefensible. The foot of one of the noblest ranges of terrace walls in England is too good to be given over to the most commonplace forms of bedding, whereas it presents the best and most becoming site for some of the noblest of plants ; for *Magnolia* and *Bignonia*, *Yucca*, *Carpenteria*, *Choisya*, and *Romneya*. Here it would be better to have a much narrower border against the wall, about half the width of the present one, and to take some advantage of the open joints in the upper courses for the planting of some of the lovely things named in the chapter on the Sunny Rock-wall.

Perhaps I should offer some apology to the owners of this fine garden for my presumption in making

54 WALL AND WATER GARDENS

it an object-lesson ; but the many evidences of good gardening it displays seem an encouragement to the making of friendly criticism. It is already so good that it is tempting to contemplate how such a combination of pleasant conditions could be made even better or be differently treated.

Where there is beautiful architectural proportion and enriched detail, as in the example of the portion of a fine old Tudor house shown in the illustration, it is obvious that it would be most unwise to let it be over-run with coarse or common creepers. In this case there is evidence of watchful restraint ; the climbing plants are just enough to clothe sufficiently, while none of the beauty of the building is unduly smothered.

The whole question of the relation of vegetation to architecture is a very large one, and to know what to place where, and when to stop, and when to abstain altogether, requires much knowledge on both sides. The horticulturist generally errs in putting his plants and shrubs and climbers everywhere, and in not even discriminating between the relative fitness of any two plants whose respective right use may be quite different and perhaps even antagonistic. The architect, on the other hand, is often wanting in sympathy with beautiful vegetation. The truth appears to be that for the best building and planting, where both these crafts must meet and overlap and work together, the architect and the gardener must have *some* knowledge of each other's business, and each must regard with



*RESTRAINED USE OF CREEPERS ON AN OLD HOUSE THAT HAS
BEAUTIFUL ARCHITECTURAL DETAILS.*



CAMPANULA PYRAMIDALIS, ETC., IN THE JOINTS OF STONE STEPS.

TERRACE AND GARDEN WALLS 55

feelings of kindly reverence the unknown domains of the other's higher knowledge. By the gardener is not meant the resident servant, but the person, whoever it may be, who works with or directly after the architect in planning the planting.

The terraces just described have so little of special architectural design that they may be considered as belonging entirely to the garden, so that there is no reason why they may not be treated with absolute freedom.

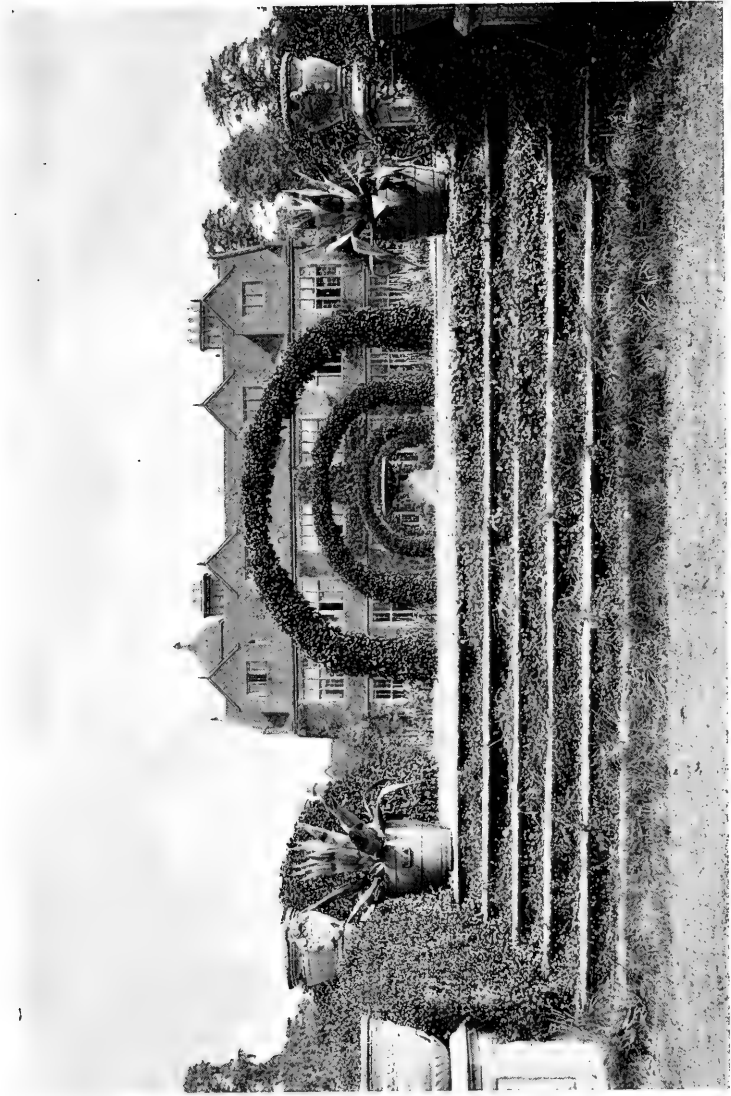
One of the careful gardener's duties is to watch, not the growth only, but the overgrowth of plants, trees, and shrubs. In many a garden some overgrowth of shrub or tree may be of the highest pictorial value. Sometimes wild plants will come in stonework and come just right, or seeds of garden plants will find lodgment in a crack or joint of masonry, and provide some new or attractive feature that had never been thought of. Often Ferns and small wild things will grow in the joints of walls and steps on any cool exposure. It is well worth while to notice the willingness of plants to grow in such places, and to encourage or restrain as may be needful. In the wide stone steps of the Gloucestershire house with the pedimented doorway are some seedling plants of several ages of the handsome white Chimney Campanula (*C. pyramidalis*); it also grows spontaneously in the wall of a shallow area to the basement of the same building. In these steps the growth of this and other plants has been encouraged. They are perhaps rather more scattered all over the

steps than is desirable. The sentiment conveyed by a shallow flight is one of welcome and easy access, and it is best that no plants should be allowed to invade the middle space, or at any rate none so large that they rise to the height of a single step. But the presence of such plants gives a keen delight to the flower lover, even though his sympathies with architecture may tell him that for plants to be in such a place is technically wrong. This picture calls to mind the story of how the common Harebell (*Campanula rotundifolia*) is said to have come by the specific name that seems so little descriptive of the very narrow leaves of the flower-stalks, though the less noticeable root leaves are roundish. It is said that Linnæus observed it as a little round-leaved plant, growing in the joints of the steps of the University of Upsala, and named it from its rounded foliage of winter and spring.

The Ivy-leaved Toadflax is a charming plant in the joints of steps, and so are some of the smaller Campanulas, such as *cæspitosa* and *pusilla*, and even some rather larger kinds, as *turbinata* and *carpatica*.

In the other example of weed and grass-grown steps, the overgrowth needs restraining and regulating. The lowest of the six steps badly wants the shears, and the invasion of the small-leaved Ivy, which would be desirable if not quite so thick, is also complicated and made to look untidy by many tufts of grass that would be much better away.

The Scotch walled garden, with its fine row of



GARDEN STEPS. TOO MUCH OVERGROWN.



BRIDGE WITH WILD OVERGROWTH, SHOWING A GOOD COMBINATION OF MASONRY AND VEGETATION.

TERRACE AND GARDEN WALLS 57

Pansies, shows the value of good groups of trees in connection with walls.

There is many a dismal wall, or court with paving right up to the wall, where the clever placing of some suitable plant in a chink of broken-cornered flag-stone, or empty joint close to the wall-foot, may redeem the dulness and want of interest of such a region of unbroken masonry. The plants most suitable for such a place are Male Fern and Harts-tongue, Welsh Poppy, and *Iris fœtidissima*; all but the Poppy having also the advantage of winter beauty. Just lately in my own home I have had an example of the willingness of a pretty plant to grow in the little space offered by the meeting of two paving-stones, one of which had lost an angle. Here a seed of *Mimulus cupreus* grew self-sown, and the neat little plant, with its rich, deep orange bloom flowering all the summer, is a joy to see. This would also be a plant for the stone-paved sunless court with others of its family, including the common Musk.

The picture of a fine stone bridge in the north of England shows how much a good and simple structure gains by the invasion of Ivy and wild things of even more bushy growth. Here is a beneficent piece of human work in a naturally beautiful landscape of wood and water. Stream and forest accept the man-wrought bridge and offer it welcome and brotherhood by adorning it with the friendly growths, whose masses are so admirably disposed, that the scene

58 WALL AND WATER GARDENS

becomes a picture that is very much the better for the presence of the bridge, while the bridge itself is much the more beautiful for the neighbourly invasion.

The same influence of vegetation in softening the aspect of rugged architecture may be seen wherever there are old buildings; its presence investing the ancient structure with a whole new range of qualities that excite the keenest interest in cultivated minds. For who can see the splendid work of human design and skill as shown in this grand rough-hewn masonry, absolutely adapted to its own work, and yet, from its complete sympathy with surrounding nature, seeming to grow spontaneously out of the rocky gorge; who can see this, made all the more perfect by the lovely work of God in the dainty Fern fronds of the Maidenhair, without a thrill of humble admiration and thankfulness?



ARCHES: PEScina ANAGNI, ITALY.



AN OUTDOOR FLAGGED PASSAGE WITH PLANTS IN DRY-WALL AND PERGOLA OVER.

CHAPTER VIII

SOME PROBLEMS IN WALL-GARDENING

THE illustration shows one of the many pleasant ways in which a little careful study of ground problems and ingenious adaptation of material can be worked out and made into a simple thing of beauty and delight.

A half-sunk garden passage leads on a gentle uphill slope from house to stables. The walls are of blocks of stone with wide joints, all laid a little sloping back, so that the whole face of the two walls lies back. The wall was planted, both as it was built, and also afterwards, with quantities of spring-flowering plants; Arabis, Aubrietia, Violets, Pinks, Cerastium, and others of early bloom. The crowning pergola, on which grow Vines only (late-leaving in England), does not over-shade the early flowers when they are in bloom, while later it rather gives them comfort by sheltering them from the summer sun-heat. The path is paved with flags so that it neither wants weeding nor repair from being washed out, while the very easiest sweeping keeps it clean.

Many are the unsightly and featureless places that by some such treatment might be made beautiful, and more quickly than in any other way of gardening;

for the wall-plants having their roots always cool seem to grow away quickly at once, and yet to be longer-lived than their own brother plants in the more level garden.

Indeed, wall-gardening is not only extremely interesting and soon rewarding, but it seems to quicken the inventive faculty; for if one has once tasted its pleasures and mastered some of the simpler ways of adapting it for use, others are sure to present themselves, and a whole new region of discursive delights offers itself for the mental exploration of the horticulturally inventive. One after another, pleasant schemes come to mind, soon to be fashioned, with careful design and such manual skill as may have been acquired, into such simple things of beauty and delight as this first flower-walled and then Vine-shaded pleasant pathway.

Besides the wall-gardening that may be designed and reared, there is also that which is waiting to be done in walls that are already in being. Sometimes there is an old wall from whose joints the surface mortar has crumbled and fallen. Such a wall as is shown in the illustration is indeed a treasure, for its rugged surface can soon be jewelled with the choicest of mural vegetation.

But so good a chance is not for every garden, for often the wall that one would wish to make the home of many a lovely plant is of the plainest brick or stone, and the mortar joints are fairly sound. Still the ardent wall-gardener is not to be daunted, for, armed with a hammer and a bricklayer's cold chisel, he knocks out



AN OLD WALL WITH OPEN JOINTS, WELL ADAPTED TO WALL GARDENING.

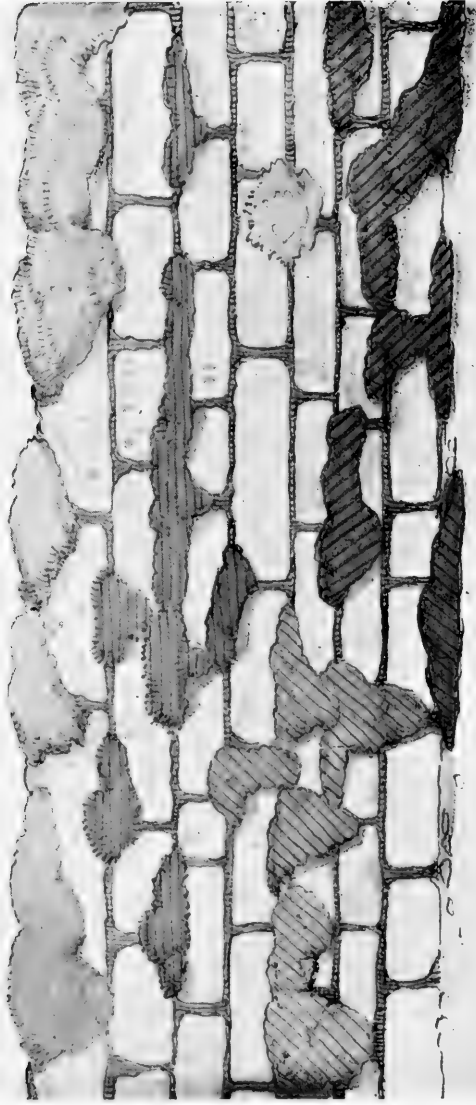


DIAGRAM SHOWING GROUPING OF FOUR KINDS OF PLANTS IN WALL JOINTS.

joints and corners of bricks (when a builder is not looking on) exactly where he wishes to have his ranges of plants.

A well-built wall, seasoned and solidified by some years' standing, will bear a good deal of such knocking about. In chiselling out the holes the only thing that had better be avoided is making much of a cavity just under an upright joint; nor is it ever needful, for even if one wishes to have a longish range of any one plant, as shown in the diagram in the case of the growth horizontally hatched, the plants will close up, though planted in the first place a little way apart, while there is nothing against widening any upright joint or making it gape funnelwise either upward or down.

The diagram gives a general indication of the way in which it is advised that plants should be disposed. It shows four kinds in a section of wall of from six to seven feet long. Three of the kinds are hatched across in different ways to distinguish them. Even this sort of arrangement would be monotonous unless it were varied by some wall spaces left almost blank, and then perhaps with one such range alone. The four kinds are almost too many at a time, and were only crowded in to illustrate the same kind of arrangement with slight variations. The way of growth must, of course, be taken into account, for it would be a grievous oversight to plant a range of Rock Pinks or Arabis or Alyssum, that in a year or two will hang down two feet, and to plant in the next course below them some other smaller things that would soon be smothered. So the upright growth of Wallflower, Snapdragon, and

62 WALL AND WATER GARDENS

Valerian must be considered and allowed for as well as the down-drooping of those that make hanging sheets. So also the neat stay-at-home habit of Thrift will be taken into account, and the way of running along a joint of Polypody and *Campanula cæspitosa*.

From March to May, or just after they ripen in the autumn, seeds are put in mixed with a little loamy earth, and if the cleft or opening is an upright one, unwilling to retain the mixture, a little stone is wedged in at the bottom or even cemented in. For a plant of rather large growth, like Valerian (*Centranthus*), a whole coping brick can be knocked off the top, and probably quite a nice rooting-place be made with the downward-digging chisel, to be filled up with suitable soil.

By some such means, and always thinking and trying and combining ideas, the plainest wall can in a couple of years be so pleasantly transformed that it is turned into a thing of flowery beauty. There is no wall with exposure so hot or so cold that has not a plant waiting for just the conditions that it has to offer, and there will be no well-directed attempt to convert mural ugliness into beauty whose result will not be an encouragement to go on and do still better.



A BRICK WALL, THE JOINTS OF WHOSE UPPER COURSES COULD EASILY BE PLANTED,



*ARABIS; TYPE OF A HANGING WALL PLANT FOR USES
DESCRIBED IN LAST CHAPTER.*

CHAPTER IX

WHEN TO LET WELL ALONE

IN garden arrangement, as in all other kinds of decorative work, one has not only to acquire a knowledge of what to do, but also to gain some wisdom in perceiving what it is well to let alone. The want of such knowledge or discrimination, or whatever it may be called, is never more frequently or more conspicuously shown than in the treatment of grassy spaces in pleasure grounds, that are planted at the discretion of some one who has not the gift of knowing what kind of placing, of what trees or shrubs, is the most advisable.

Such a one naturally says, "Here is a space of turf otherwise unoccupied, let us put there a specimen tree." It may be a place in which the careful and highly cultured garden critic may say, "Here is a space of turf, let us be thankful for it, and above all things guard it from any intrusion." I call to mind two good places where there is a dignified house, and groups of grand trees, and stretches of what should be unbroken level sward. In older days it was so; the spreading branches of the great Cedars and Beeches came down to the lawn, and on summer evenings the shadow of a noble grove of ancient trees swept

64 WALL AND WATER GARDENS

clear across the grassy level. The whole picture was perfect in its unity and peace, in its harmony of line and fine masses of form—full of dignity, repose, and abounding satisfaction.

Now the noble lawn-levels have been broken by a dotting about of specimen Conifers. One *Abies nordmannia*, one Thuya, one Wellingtonia, one Araucaria, one Taxodium, and so on, and so on. What once was a sanctuary of ordered peace is now a wearisome and irritating exposition of monotonous commonplace. The spiritual and poetical influences of the garden are gone. The great Cedars are still there, but from no moderately distant point can they now be seen because of the impertinent interposition of intruding "specimens."

Like many another thing done in gardens, how much better it would have been not to have done it; to have left the place unspoilt and untormented by these disastrous interlopers. If only it had just been let alone!

The illustration shows a noble house in South Middle England. The picture is complete. The great building is reflected in the still water, and the natural water margin, without any artificial planting, is wisely left alone. It is all so solemn, so dignified, that any added fussiness of small detail, however beautiful in itself, would be a kind of desecration. There are plenty of other opportunities for gardening about this fine place, already wisely treated, and though it is tempting to plant any edge of pool or



A FINE HOUSE, WITH UNBROKEN LAWN SPACE AND QUIET WATER-EDGE



A WOOD POOL, BEST LET ALONE.

river, happily it has those for its owners who, with wise discrimination, see that it is better let alone.

So again in the case of a wild forest pool, such as the one shown in the picture. Here is a glimpse of quiet natural beauty; pure nature untouched. Being in itself beautiful, and speaking direct to our minds of the poetry of the woodland, it would be an ill deed to mar its perfection by any meddlesome gardening. The most one could do in such a place, where deer may come down to drink and the dragon-fly flashes in the broken midsummer light, would be to plant in the upper ground some native wild flower that would be in harmony with the place but that may happen to be absent, such as Wood Sorrel or Wood Anemone; but nothing that would recall the garden. Here is pure forest, and garden should not intrude. Above all, the water-margin should be left as it is. Foreign Irises, so good to plant by many garden pools, would here be absurd and only painfully obtrusive, and as the place is already right it is far best left alone. There are many places that call aloud for judicious planting. This is one where all meddling is forbidden.

CHAPTER X

THE STREAM-GARDEN AND MARSH POOLS

WHERE there is a stream passing through the outskirts of a garden, there will be a happy prospect of delightful ways of arranging and enjoying the beautiful plants that love wet places. Even where there are no natural advantages of pictorial environment, given a little sinking of the level and the least trickle of water, with a simple and clever arrangement of bold groups of suitable plants, a pretty stream-picture may be made, as is seen by the illustration of the water-garden in a good nursery near London.

But where there is a rather wider and more copious stream, rippling merrily over its shallow bed, there are even wider possibilities. The banks of running water where the lovely Water Forget-me-not grows are often swampy, and the path that is to be carried near one of them may probably want some such treatment as is recommended in the early part of the chapter on Water Margins. When a water-garden is being prepared by the side of any such stream, the course of the path may well be varied by running first close against the water and then going a yard or two



A STREAM GARDEN, AT MESSRS. BARR'S NURSERY.



inland ; then it might cross on stepping-stones and again run inland and perhaps pass behind a little knoll and then again come back to the stream. Then the stream might divide, and the path be carried between two rills, and so on in a progression of varied incident that would be infinitely more interesting than if the path kept to one bank nearly always at the same distance from the water after the manner of a towing-path.

I am supposing my stream to run along the bottom of a little valley. Close to it the ground is open, except for a few tufts of low wild bushes. As the ground rises it is wooded, first with sparse copse-wood and groups of Birches and Hollies ; and after this a rather thick wood of Scotch Fir.

Having pleasantly diversified the path in relation to the stream, we have to think how best it may be planted. Some of the plants suited to the running stream edge will be the same as for the margins of stiller ponds, but some that have a liking for running water will be proper to the stream itself. Such a one is the Water Forget-me-not. If it does not occur in the neighbourhood it is easy to raise quite a large stock from seed ; and strong seedlings or divisions of older plants have only to be planted in the muddy soil at the water edge when they will soon grow into healthy spreading sheets and give plenty of the dainty bloom whose blue is the loveliest of any English plant. Next to the Forget-me-not on the water edge, and also a little more inland, I should plant the double Meadow-

Sweet, the double garden form of the wild *Spiræa Ulmaria*, and again beyond it, quite out of sight of the Forget-me-not, others of the herbaceous Spiræas, *S. palmata*, *S. venusta*, and *S. Aruncus*—all moisture-loving plants. Drifts of these might spread away inland, the largest of them, which would be of *Spiræa Aruncus*, being placed the furthest from the stream; they are plants of bold aspect, showing well at a little distance.

I should be careful not to crowd too many different plants into my stream-picture. Where the Forget-me-nots are it would be quite enough to see them and the double Meadow-Sweet, and some good hardy moisture-loving Fern, *Osmunda* or Lady Fern. The way to enjoy these beautiful things is to see one picture at a time; not to confuse the mind with a crowded jumble of too many interesting individuals, such as is usually to be seen in a water-garden.

Close by the stream-side and quite out of view of other flowering plants should be a bold planting of *Iris lævigata*, the handsome Japanese kind, perhaps better known as *Iris Kämpferi*. It is in varied colourings of white, lilac, and several shades and kinds of purple; but for this stream, where it is desirable to have the simplest effects, the single pure white alone will be best. There are double varieties, but in these the graceful purity of the form is lost and the character of the flower is confused. The best way to grow them in England is in the boggy margin, not in



IRIS LÆVIGATA, SYN. I. KAEMPFERI.



IRIS LAEVIGATA OR KAEMPFERI, AS IT GROWS IN JAPAN.

the stream itself; for though seeds will fall and germinate in shallow water, planted roots do better just out of it, but always with their heads in the full sunshine. This is one of the many cases where the natural ways of a plant cannot be followed in our gardens, for in Japan they commonly grow with the roots submerged. Some plants of bright green foliage, such as the handsome branched Bur-reed (*Sparganium ramosum*) will fittingly accompany groups of this noble Water Iris.

The yellow Mimulus (*M. luteus*) is a capital thing for the stream-side; once planted it will take care of itself; indeed it has become naturalised by many streams in England. Another interesting and pretty plant that would do well in its company is the only English representative of the Balsams, *Impatiens Noli-me-tangere*; it is an annual, but will sow itself again.

It should be noted that in such a stream-garden it will usually be the opposite side that is best seen, and this should be borne in mind while composing the pictures and setting out the path.

It is well worth while to consider some pleasant arrangement of colour in the way the varied flower-pictures will present themselves in the course of a walk; thus, after the blue Forget-me-not with the white Spiræas might come the pink and rosy colourings of *Spiræa venusta* and *S. palmata*.

As the stream leads further away we begin to forget

70 WALL AND WATER GARDENS

the garden, and incline towards a wish for the beautiful things of our own wilds, so that here would be, for the earliest water flowers of the year, the smaller of the wild kinds of Water Buttercup (*Ranunculus aquatilis*). The larger kind, more frequent near London, *R. grandiflorus*, is figured elsewhere. The smaller one is in better proportion to the size of the little stream. The picture shows how it grows in pretty patches, though the stream is not the one that is being described. Near it, but flowering later, are some strong patches of the native yellow Water Iris (*I. Pseud-acorus*), some of the same being in a swampy patch a yard or two from the bank on the other side of the path, with some of the handsome smooth-leaved rank growth of the Water Dropwort.

A little further the tall yellow Loosestrife (*Lysimachia*) will make some handsome patches; then will come a few yards of rest from bright flowers and a region of Fern-fringed stream bank, where the Lady Fern, one of the most delicately beautiful of water-side plants, should have a good space; some plants almost touching the water and others a little way up the bank.

After this the character of the stream shows a change, for here is a clump of Alders, the advance guard of a greater number that are to be seen beyond. Now it is time to make some important effect with plants of a larger size, that will prepare the eye, as it were, for the larger scale of the water-



THE WATER BUTTERCUP IN A MEADOW STREAM.

1897-1898



*WHERE THE STREAM PASSES UNDER THE WILLOWS
AND ALDERS.*

loving trees. Here, therefore, we have a widespread planting of these large things. By the stream on one bank a long-shaped mass of the rosy Loosestrife (*Lythrum*), and detached patches of the same handsome plant, and grouped near and partly with it the Giant Cow-Parsnip (*Heracleum*). The one so long in cultivation is a grand plant in such a place, but still better is the newer *H. mantegazzianum*. On the other bank is the native Butter-bur (*Petasites*) with its immense leaves, a striking contrast in leaf-form to its neighbours.

Now the stream passes into the swampy region of Willows and Alders, and the path follows it only a little way in ; but already we have been among great clumps of Marsh Marigold, some close down to the stream edge in the open, and some in wet hollows a yard or two away. But in the dark pools of mud and water under the Alders the clumps grow larger and more luscious, and in April they are a sight to see, showing sheets of rich yellow bloom, that look all the brighter rising alone from the black pools under the trees.

The path that has hitherto accompanied the stream now turns away from it, and on its return journey skirts the streamward side of some boggy pools and oozy places that lie at the foot of the wood's edge. The wood is mostly of Scotch Fir, with a lesser number of Oaks, Hollies, and Birches in the opener parts. It slopes down to the little valley, ending in a

ragged line of low scarp never more than four feet high, showing dark peaty earth, and below it whitish or yellowish sand more or less stained by the darker soil above. The drainage from the wooded hill seems to gather in the chain of pool and swamp at the foot. The pools lie perhaps two feet above the level of the stream ; here and there a sort of natural shallow ditch carries the water into it from them. The water seems to drain out of the hill very slowly, for nowhere does it run, and only near the stream, which is about fifty yards away, can one sometimes hear a tiny trickle. It is an ideal place for a wild garden of plants that like boggy ground and cool wood-side places. The wood rises to the south-west, so that the marshy region is mostly in shade. Between this boggy belt and the stream is rough grass and a few low thorn bushes and brambles, in ground which is not exactly marshy, but always cool and damp.

Some of the Firs that come down to the very edge of the wood stand on the low scarp of blackish sandy-looking ground. Here and there it is broken down into a little gently-sloping bank that sucks up the moisture from below and is sunless from the shading of the wood. These little banks, naturally mossy, are just the place for *Linnaea* and for *Pyrola* and *Trientalis*, three plants of a nature that is neither large nor showy, but that has that charm that cannot be described, that makes the heart leap, and frames the lips into the utterance of an exclamation of joy and thankfulness, and that holds the mind en-

thrilled by the subdued and mysterious poetry of beauty that is a character of these lovely little modest growths of the woodland wilds of our own and other lands.

Here too, rather more in the open, is the Mountain Avens (*Dryas octopetala*), and in that moist hollow, almost swampy and always somewhat in shade, is *Epigæa repens*, the May-flower of New England. Then in the damp grass, more towards the stream, there are here and there tufts of the two Marsh Orchids with flowers of greenish purple, and handsome clear-cut foliage, the Marsh Helleborine and the broad-leaved Helleborine (*Epipactis palustris* and *E. latifolia*).

In a place like this these beautiful things can be seen and enjoyed at ease, and far better than when they are cramped close together in a smaller space. Here again will be the marsh-loving Ferns, and foremost among them great groups of the Royal Fern (*Osmunda*) at the edge of one of the small marshy pools that are deeply fringed and sometimes filled with the pale-green bog-moss *Sphagnum*.

These little still pools, some of them only a yard or two across, are not stagnant, for they are constantly fed by the trickle of the springs, and the moisture—scarcely running water—finds its slow way to the stream. Their fringes are a paradise for Ferns. Besides the Royal Fern there are two of the largest and most graceful of British Ferns, *Asplenium Filix-fœmina* and *Nephrodium dilatatum* (Dilated Shield Fern), and

down at the moistest pool edge are *Nephrodium*, *Thelypteris* and *Lomaria*, and a little way up on the cool bank, always in shade, the North American *Onoclea sensibilis*. In a moist nook already filled with Sphagnum, in this region of Fern beauty, and with the dusky wood beyond, is a considerable planting of the North American Mocassin-flower (*Cypripedium spectabile*), with its great pouched and winged flowers of rose and white, and its fine pleated leaves of bright fresh green. What a plant! Its beauty almost takes away one's breath. Any one who had never seen it before, suddenly meeting it in such a place, with no distractions of other flower-forms near, would think it was some brilliant stove Orchid escaped into the wild. It loves to throw its long cord-like roots out into black peaty mud, when they will grow strong and interlace into a kind of vegetable rook's-nest. Every year the tufts will become stronger and send up still nobler spikes of leaf and bloom.

Such a sight seems to give the mind a kind of full meal of enjoyment of flower beauty, and it is well that following it there shall be some plant of quite another class. So the next boggy patch has another American plant of a very different form, the curious *Sarracenia purpurea*; a weird, half-hooded trumpet of a thing, of a dull-green colour, closely veined with red purple, and near it, in striking contrast to its mysterious aspect, the frank and pure-looking Grass of Parnassus (*Parnassia palustris*), with its white bloom daintily veined with green and its pretty pearl-like buds. Near



GALAX APHYLLA. (See next page.)

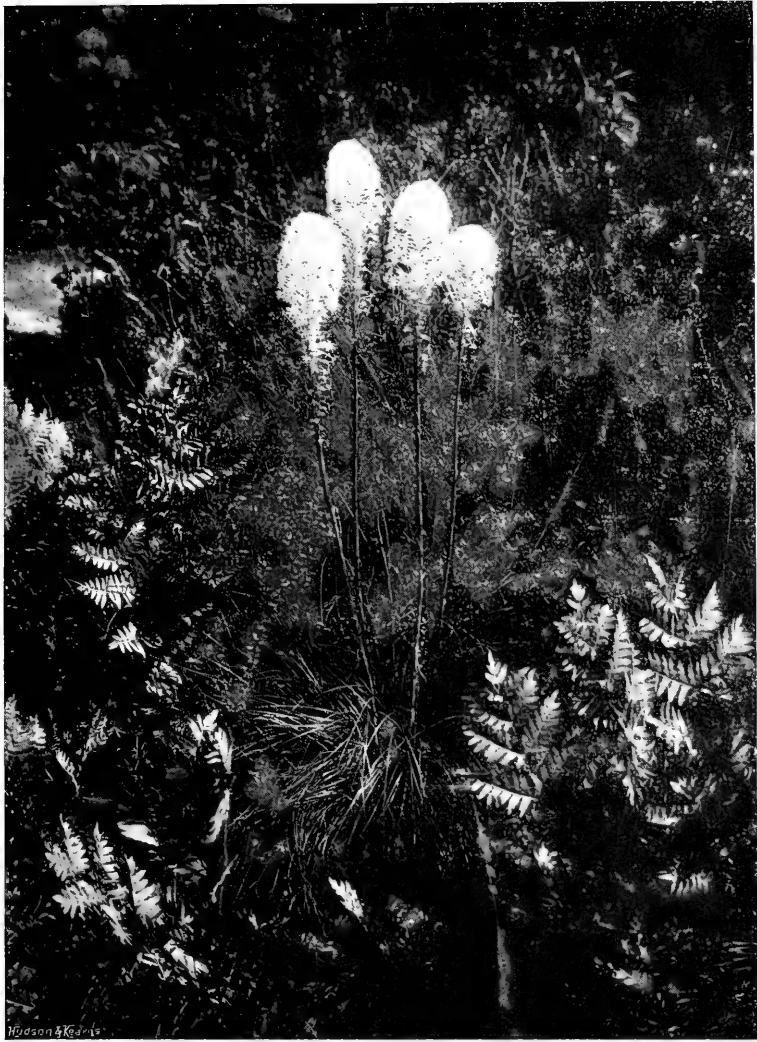
these may also be *Pinguicula grandiflora*, the finest of the native Butterworts, that grows in the bogs of the south-west of Ireland, and looks like handsome Violets rising from the pale-green bog-moss.

One spot of Sphagnum-haunted bog-land should have some of the native marsh plants that are perfect gems of beauty. The little Bog Pimpernel, whose small pink flowers remind one of those of *Linnæa*, the more so that they are generally borne in pairs, though of different habit, in that they stand up instead of drooping. Then there will be the Ivy-leaved Bell-flower, smallest of its kind, its flowers carried on hair-like stalks, and its little leaves of tenderest tissue, Ivy-like with pointed lobes. Then the small Cornish Moneywort (*Sibthorpia europæa*), not hardy in the north, with pretty tender pale-green leaves and flowers scarcely noticeable; and here may be grown the two little native Bog Orchids, *Malaxis* and *Liparis*. All these are such small things that they might easily be overlooked unless one knew that in such a special place they were to be found for a little searching.

At a place where the bank between wood and marsh is cool and moist, yet not boggy, will be *Gaultheria procumbens*, closely carpeting the ground with its neat sheets of green lighted up by its bright red berry, and above it and stretching in under the Firs its larger relative, *Gaultheria Shallon*. On some cool mossy bank there will be two charming little

plants, one native, one North American—*Goodyera repens*, with its brightly veined and marbled leaves, creeping close to the ground, where it may have to be looked for among the moss, and *Mitchella repens*, the Partridge Berry. This little plant also creeps among the moss. It has neat entire leaves veined with white, and bright red berries following whitish flowers.

Another plant from North America, a strange, handsome thing that deserves to be better known, will have a place in this region. Out of bloom it would never be noticed among its neighbouring clumps of Royal Fern, for it looks only like a tuft of grass; but when it throws up its tall flower-spikes, *Xerophyllum* is a plant that commands admiration and even some surprise. It flourishes in a peaty place that is cool and damp though not swampy. Another plant of considerable beauty, *Galax aphylla*, likes exactly the same conditions, with a little shade added. This is another of the good things that has come to us from North America, and is a precious plant in several ways of gardening; it is so neat and pretty that it is suitable as a single plant among the choicest things in a restricted collection, while in the wild garden it is equally in place in considerable masses. It thrives where there is peat or sandy leaf-mould that can always be kept a little moist, and though rather slow at first, yet as soon as the tufts begin to grow strongly they increase, spreading outwards, fairly fast. The flowers are gracefully carried on thin, strong,



XEROPHYLLUM ASPHODELOIDES.



almost wire-like stems, and the leaves, tough and leathery, though not thick, assume a beautiful winter colouring.

Some charming native bog-plants must also not be neglected. The Bog Asphodel (*Narthecium*), with its straight spikes of yellow bloom and neat sheaves of small Iris-like leaves; the Cotton Grass (*Eriophorum*), and the Sundew (*Drosera rotundifolia*). These all thrive in beds of Sphagnum.

Here also should be the bog-loving Heath (*Erica tetralix*), the Pink Bell Heather, and its white variety, and our native Sweet Bog Myrtle. Sweeter still and here in place will be the Canadian Candleberry Gale (*Myrica cerifera*), and another of the same most fragrant-leaved family, *Comptonia asplenifolia*, the "Sweet Fern" of the Northern States.

One little marsh pool must be given to *Calla palustris*, rooted in the margin and spreading towards the water; a very clean-looking plant with its solid leaves and ivory-white flowers. Its near relative and natural associate, *Orontium*, may well be with it, rising from the bottom in water about a foot deep.

In the green space of rough grass between the marsh pools and the running water, there is already a fair quantity of the pretty pink-flowered Marsh Rattle (*Pedicularis*), and in the same region *Gentiana Pneumonanthe* has been planted. There is no occasion to cram this space with plants, and yet it is pleasant to come across surprises; here and there a

78 WALL AND WATER GARDENS

clump of some good Fern, or, in the drier places, some interesting Bramble.

The lower part of the little valley (the Marsh Marigold and Alder region is at the upper) is less peaty; in parts more of an alluvial loam. Here the English Fritillaries are at home in scattered groups, some purple and some white. Here also will be representatives of the small Trumpet Daffodils, *N. Pseudonarcissus*, *N. nanus*, and *N. minor*; and here will be the Globe-flowers (*Trollius*) and the handsome purple-blue-flowered *Geranium pratense*.

PLANTS FOR THE STREAM AND STREAM-SIDE

<i>Myosotis palustris.</i>	<i>Spiræa Ulmaria fl. pl.</i>
<i>Spiræa palmata.</i>	<i>S. venusta.</i>
<i>S. Aruncus.</i>	<i>Osmunda regalis.</i>
<i>Iris lævigata.</i>	<i>Asplenium Filix-fœmina.</i>
<i>Mimulus luteus.</i>	<i>Impatiens Noli-me-tangere.</i>
<i>Ranunculus aquatilis.</i>	<i>Iris Pseud-acorus.</i>
<i>Lysimachia vulgaris.</i>	<i>Lythrum Salicaria roseum.</i>
<i>Heracleum giganteum.</i>	<i>Petasites vulgaris.</i>
<i>H. mantegazzianum.</i>	<i>Caltha palustris.</i>

PLANTS FOR DAMP PEATY BANK

<i>Linnæa borealis.</i>	<i>Pyrola minor.</i>
<i>Orientalis europæus.</i>	<i>P. arenaria.</i>
<i>Dryas octopetala.</i>	<i>Epigæa repens.</i>
<i>Gaultheria procumbens.</i>	<i>Goodyera repens.</i>
<i>G. Shallon.</i>	<i>Mitchella repens.</i>
<i>Asplenium Filix-fœmina.</i>	<i>Lomaria spicant.</i>
<i>Nephrodium dilatatum.</i>	<i>Osmunda regalis.</i>

PLANTS FOR PEATY BOG-POOLS AND BEDS
OF SPHAGNUM

<i>Cypripedium spectabile.</i>	<i>Sarracenia purpurea.</i>
<i>Calla palustris.</i>	<i>Orontium aquaticum.</i>
<i>Parnassia palustris.</i>	<i>Pinguicula grandiflora.</i>
<i>Anagallis tenella.</i>	<i>Campanula hederacea.</i>
<i>Sibthorpia europæa.</i>	<i>Malaxis paludosa.</i>
<i>Liparis Loeselii.</i>	<i>Narthecium ossifragum.</i>
<i>Eriophorum angustifolium.</i>	<i>Drosera rotundifolia.</i>

IN COOL PEAT

<i>Xerophyllum asphodeloides.</i>	<i>Galax aphylla.</i>
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IN DAMP GRASS NEAR STREAM

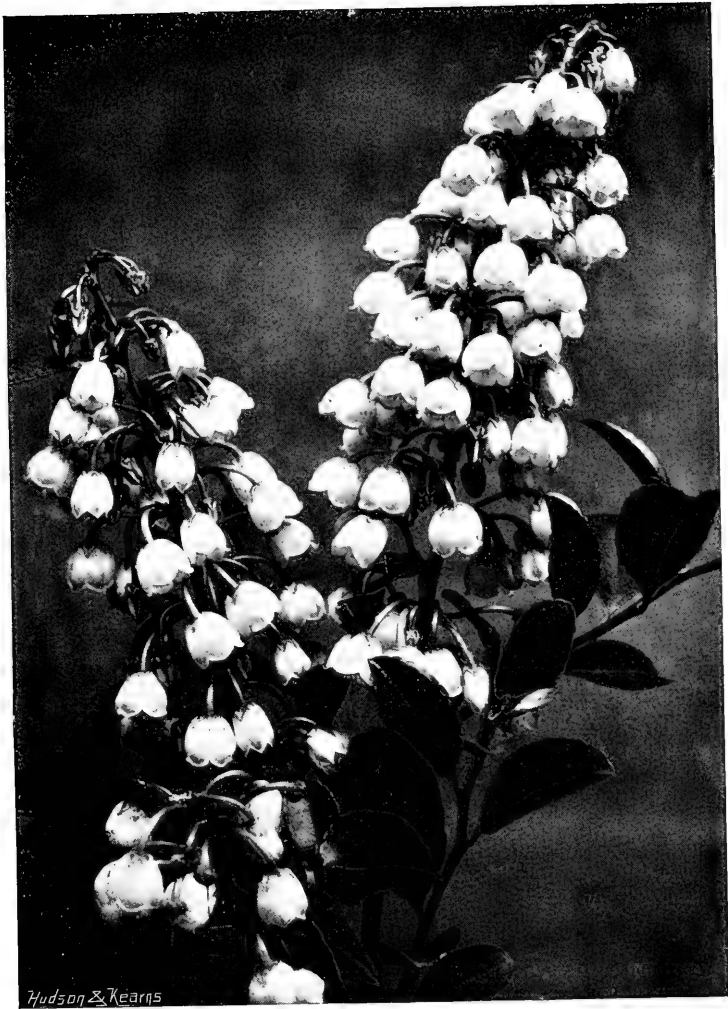
<i>Pedicularis palustris.</i>	<i>Gentiana Pneumonanthe.</i>
<i>Fritillaria Meleagris.</i>	<i>Trollius europæus.</i>
<i>Geranium pratense.</i>	<i>Narcissus Pseudo-narcissus.</i>
<i>Narcissus nanus.</i>	<i>N. minor.</i>

CHAPTER XI

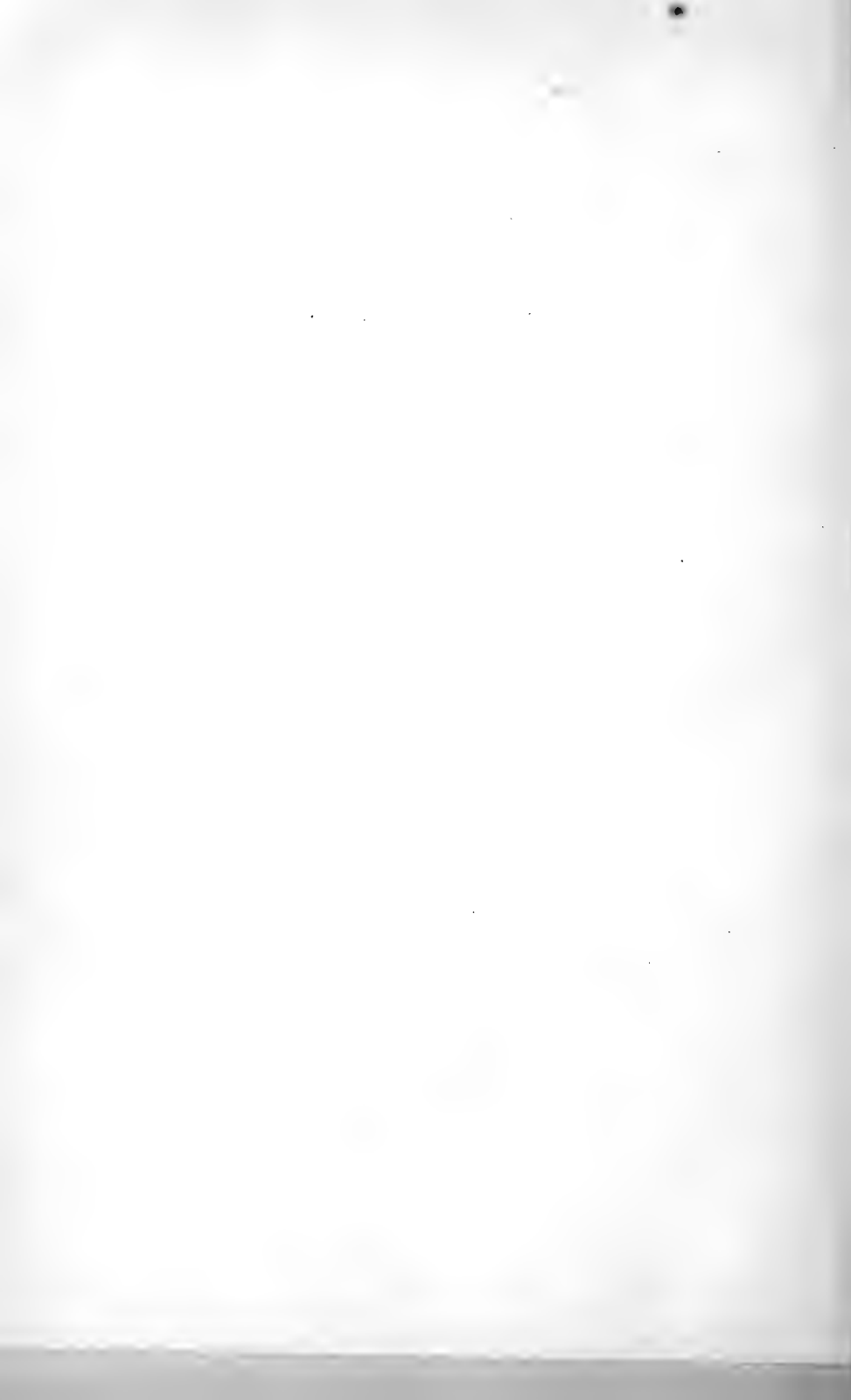
THE ROCK-GARDEN—GENERAL ARRANGEMENT

AFTER the marsh pools and still on the homeward journey, and between this region and the shrubbery portion of the garden proper, will be the rock-garden (see plan, p. 89), approached on the marsh side by some of the plants of rather large size. Nothing is more strikingly beautiful than a large patch of *Equisetum Telmateia*, a native plant; mysterious, graceful, and almost tropical-looking. Near it there are two large-leaved plants, *Saxifraga peltata*, in moist rich soil carrying its great leaves three feet high, and *Rodgersia podophylla*, with palmate leaves as large as those of the Horse Chestnut, but the divisions handsomely jagged at the ends, and the whole leaf of a fine reddish-bronze colouring. It is sometimes crippled by late frosts, and well deserves the protection of a few Fir boughs.

If there is space enough here would also be a place for the giant Gunneras (besides their other water-side sites), and for another spreading patch of *Heracleum mantegazzianum*, for *Arundo Donax*, and for the Bamboos. These giant Reeds and Grasses should in such a good garden as this have a large space, of which they would be the chief occupants. They should be



ZENOBIA (ANDROMEDA) SPECIOSA (FULL SIZE).
(Type of small evergreen flowering shrub for the Rock-Garden.)



in bold, informal clumps, with easy grassy ways passing between. In the present case the fringe of their masses on the rock-garden side is approached by shrubs that will enjoy the same conditions. These will be *Kalmias*, *Azaleas*, *Ledums*, *Andromedas*, *Vacciniums*, *Gaultherias*, and *Myricas*, the bog and peat-loving shrubs. Of these the *Kalmias* and *Myricas* will suit the dampest places. As clumps or groups of these approach the rock-garden they will join on to it without any jarring obstruction. The green path that skirts the cool foot of the mound or promontory that forms the rock-garden will only be one of several others that pass among the *Bamboos* and join the path that we came along by the bog pools. The plan shows the general arrangement. Even where the peaty foot of the rock mound comes down to the level, the rock-garden's influence will still cross the grass path; for the same kind of planting is continued on the other side, only then dying away into the larger growths that will continue the scheme of planting in that direction.

Now we are clear of the *Fir-wood* hill, and the ground to the south-west, though still slightly rising, and thinly wooded with *Oak*, *Thorn*, and *Holly*, is not steep enough to shade the rock-garden; moreover, some trees have been cut away to ensure that full light and clear air space that so many rock-plants need.

The rock-garden has been made in what was a natural knoll of sharply rising ground, or rather a kind of promontory thrust out from the wood.

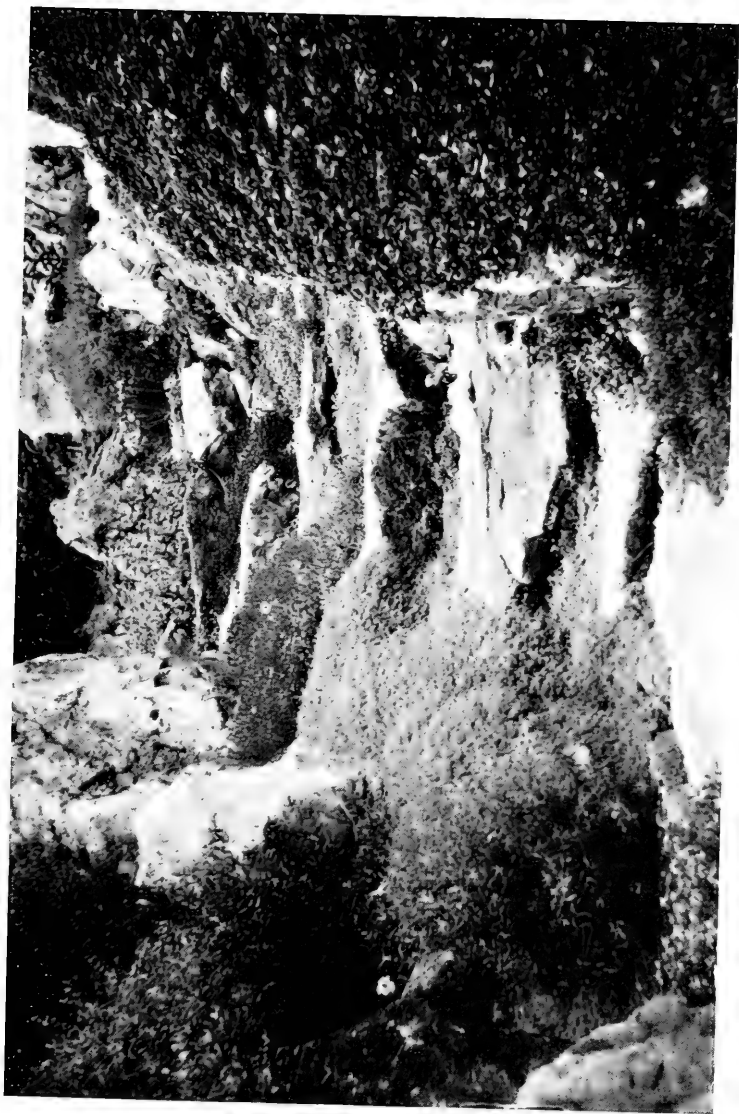
82 WALL AND WATER GARDENS

Three main paths pass through it ; the one on the right skirts the natural foot of the promontory, passing first north-east, then north, then a little north-west ; the one to the left mounts its shoulder by an easy ascent, partly excavated so as to give rocky banks right and left ; but it is nearly level at the top before coming to the further descent. Here will be the place for fine short turf to be pierced by the bloom of mountain bulbs, Snowdrops, Spring Snowflakes, and the like ; each kind having its own little region, informally bordered by some group of small bushes.

The third path will be cut through the heart of the knoll, gently turning, and having steep banks right and left. In forming such a rock-garden as this the rock-builder must use all his skill, so that the lines of the work shall not only be good in themselves, but shall not jar with anything that comes before or after, or with any view of the half distance that can be seen from any portion of the garden scheme.

This scheme of three main pathways supposes a fair space of ground, such as a third of an acre to half an acre. If less space has to be dealt with it is better to have an easy path alone and a sloping bank on either side, as in the good rock-garden shown in the illustration at the next page.

When the ground is shaped and the rocks placed, the next matter of importance, and that will decide whether the rock-garden is to be a thing of some dignity or only the usual rather fussy mixture, is to have a solid planting of suitable small shrubs crowning all the heights. Most important of these will



STEPS IN ROCK-GARDEN, AS IN PLAN BETWEEN N. & B.



A WELL-ARRANGED ROCK-GARDEN IN THE FORM OF A LITTLE VALLEY.

be the Alpine Rhododendrons; neat in habit, dark of foliage, and on a scale that does not overwhelm the little plant jewels that are to come near them. No shrubs are so suitable for a good part of the main plantings in the higher regions. Then there will be Heaths, among which the white *Menziesia* would be largely used on the cooler exposures, and *Pernettyas* in quantity. The pretty and fragrant *Ledum palustre* will also be a useful shrub in the backward regions of the cooler portions, while the neat *L. buxifolium*, on the fringes of the solid shrub planting, will lead well to the smaller plants. Other shrubs that will suit these upper portions are *Cistus laurifolius*, *Cistus cypricus*, with Spanish Gorse and various Brooms in the hottest places; *Andromedas*, *Gaultherias*, *Pernettyas*, and *Ledums* will come in the cooler spots. In addition to the Alpine Rhododendrons there will be *R. myrtifolium* and several small garden hybrids.

These are all shrubs of dark coloured foliage; by using them in bold masses they will give the whole rock-garden that feeling of unity and simplicity of design that often in such places is so painfully wanting.

Other small evergreen shrubs, such as *Skimmias* and *Daphne pontica* should also be used rather near together, but from their brighter and paler colour preferably in a group by themselves.

By working on such a general plan we shall avoid that rude shock so often experienced when the rock-garden comes into view, from its appearance being so uncompromisingly sudden. Perhaps there is a

84 WALL AND WATER GARDENS

smooth bit of lawn, with pleasant easy lines of flower or shrub clump; then you pass round some bush, and all at once there is a shockingly *sudden* rock-garden. I cannot think of any other term that gives the impression I wish to convey. It often comes of want of space. Only a certain space can be given to the rock-plants, and it must be made the most of; still, even in small gardens it might be more or less prepared or led up to. But I am not just now considering the limitations of the smallest gardens (a tempting theme, but one that should be taken by itself), but rather the best way to lay out ground that is not cramped in space or stinted of reasonable labour. Therefore, where the region of groups of handsome hardy moisture-loving exotics ends (to the left of M and P on the plan), we come to an occasional flattish boulder or blunt-nosed rock just rising above the ground, as the path rises very gently. Presently these large plants, of which the furthest back were in quite moist ground, are left behind, and we are among bushes four to seven feet high (N and above on plan). These give place to lower shrubs, rather more thinly grouped, while the rocky boulders are more frequent and more conspicuous. Presently, and only by a gentle transition, the rock-mound comes into view, and we see that there are three paths, each having a slightly different aspect, while the whole mound, clothed with dark, close-growing, and for the most part, dwarf shrubs, has a unity of character which presents no shock to the mind, but only a pleasant invitation to come



A ROCK-GARDEN CROWNED WITH SMALL SHRUBS.

and see and enjoy. There is no bewilderment, because there is no jumble or crowding of irrelevant items. Everything falls into its place, and a quiet progress through any one of the paths presents a succession of garden-pictures that look not so much as if they had been designed and made but as if they had just happened to come so. There is nothing perhaps to provoke that violent excitement of wonderment so dear to the uneducated, but there will be, alike to the plant lover and to the garden artist, the satisfaction of a piece of happy gardening, without strain or affectation, beautiful and delightful in all its parts and growing easily and pleasantly out of its environment.

The shrubs named as those best fitted for the upper portions of the rock may well have an occasional exception, for though the masses must be large enough to give a feeling of dignity, they must not degenerate into monotony. This can be secured either by the free growth or rather overgrowth of some of the shrubs named, such as that of Brooms and *Cistus cyprius* or by the use of a shrub of larger stature, such as Juniper.

Veronica Traversi, as it grows older and assumes a small tree shape, is one of this class and *Cassinea fulvida* is another. Rosemary and Lavender also, after a few years of rather close and neat growth, rise and spread and open out, showing trunk-like stems. This older state, which has a somewhat unkempt look in the neater parts of the garden, give these shrubs that rather wilder habit that fits them

86 WALL AND WATER GARDENS

all the better for their place among the boulders of the rocky heights.

There is also a class of shrub of trailing character that is most useful for leading from those of stiffer growth on the higher ground, to the lower regions where there will be more flowery plants. The low growing Cotoneasters, Savin, and *Mühlenbeckia*, are some of the best of these, and Heaths of many kinds from the tall Tree Heath of the Mediterranean to the low-growing and early-blooming *Erica carnea*. Among the different kinds of Heath nothing can well exceed the usefulness of the white *Menziesia*, for it is not only a neat dark green tuft in winter, but in all the summer months and even into autumn it bears its large Heath-bells in good quantity.

These dwarf shrubs should be planted so as to appear to stream out of the dark and solid growths above, following and accentuating the stratified lines in which the stones are laid. If they are planted just above the stones they will fall naturally into their places.

It will also add greatly to the feeling of general cohesion which it is so important to obtain in such a garden, if below these again the same kind of scheme is carried out in plants that have some kind of solidity of appearance or persistence throughout the year, such as Thrift and *Asarum*; their long-enduring dark foliage being highly becoming as a setting to flowers of lively colour. Ferns also, on the shady side, should be used in the same way, while on the sunniest exposures the same idea would be carried out by some of the



MENZIESIA POLIFOLIA ALBA, THE IRISH HEATH; ONE OF THE BEST DWARF SHRUBS FOR THE ROCK-GARDEN.



neat whitish or glaucous-leaved plants, Rock Pinks, *Antennaria*, *Achillea*, and so on.

Now and then among the small shrubs, and just below the larger ones, a single plant of bold aspect will make a great effect, though the general scheme of planting should be in easy informal groups or long drifts. The kind of plant to use in these points of exceptional isolation is such a one as the best type of *Eryngium alpinum*, or one of the more important Euphorbias, or a tuft of *Yucca flaccida*.

If the rock-garden is very large, larger than the one in contemplation, great groups of the nobler Yuccas are magnificent, but they would be on a scale rather too large for the present garden.

EVERGREEN SHRUBS FOR THE UPPER PART OF THE
ROCK-GARDEN

<i>Rhododendron ferrugineum.</i>	<i>Cotoneaster horizontalis.</i>
<i>R. hirsutum.</i>	<i>C. microphylla.</i>
<i>R. myrtifolium.</i>	<i>Cassinea fulvida.</i>
<i>Pernettya</i> , vars.	Double Gorse.
<i>Abies clanbraziliana.</i>	<i>Genista præcox.</i>
<i>A. pumila.</i>	<i>G. andreana.</i>
<i>Juniperus Sabina.</i>	<i>Cistus laurifolius.</i>
Lavender.	<i>C. cyprius.</i>
Rosemary.	<i>Ruscus racemosus.</i>
<i>Erica carnea.</i>	<i>Veronica Traversi.</i>
<i>E. Tetralix alba.</i>	<i>Daphne Mezereum.</i>
<i>E. arborea.</i>	<i>D. pontica.</i>
<i>E. ciliaris</i> , <i>E. vagans.</i>	<i>D. Cneorum.</i>
<i>E. cineria</i> , vars.	<i>Ulex hispanicus.</i>
<i>Calluna</i> , vars.	<i>Andromeda floribunda.</i>
<i>Menziesia polifolia.</i>	<i>A. Catesbei.</i>
<i>Mühlenbeckia complexa.</i>	<i>Zenobia speciosa.</i>

PLAN OF THE ROCK-GARDEN AND GROUND SURROUNDING IT

The dark tinting shows the dwarf shrubs on the rock-garden and in the portions or clumps connected with it. At the top of the plan is wooded ground, mostly of oak and holly, gradually rising out of the top of the plan. It sinks a little right and left, chiefly to the left where an arrow shows the direction of drainage into the last of the bogs-pools in a sort of shallow sub-valley between the oak-wooded ground and the fir-wooded hill. This hill is out of the plan to the left top.

A, B, C, D, shows the line of the ridge of the knoll on which the rock-garden is made, D being the lowest point where the foot of the knoll dies away into the level.

The portion described as of high shrubs leading to the rock-garden is shown at N and above it, across the path, the uppermost of the three rock-garden paths.

Leading up the steps to B is the portion laid in granite, C in limestone, D in sand and peat.

H is a clump which on one side feels the influence of the rock-garden, while the other side, next the wider grass paths, belongs to the clump I.

H is planted at the top end with small shrubs in relation to the rock-garden end above it, as is also the tip of O and the right hand end of N. The large groups marked in M, O, P, J, and I are important plantings of Bamboos. The smaller plants among these in the same groups and also in H are for the most part hardy Azaleas, with Kalmias and some of the larger of the Vacciniums and Andromedas. In N the Kalmias are indicated by a half-dark tint, the lighter circular forms standing for Azaleas. There are also some Azaleas in H and a few in I, but the circles in I that measure twelve to fifteen feet across are free-growing Roses.

Between P and J the greater number of the Azaleas are the large hardy yellow *A. pontica*. At M, and just right and left, which is a cool bank, almost wet towards the path, are clumps of plants of large foliage and important aspect, such as *Gunnera* and *Arundo Donax*.

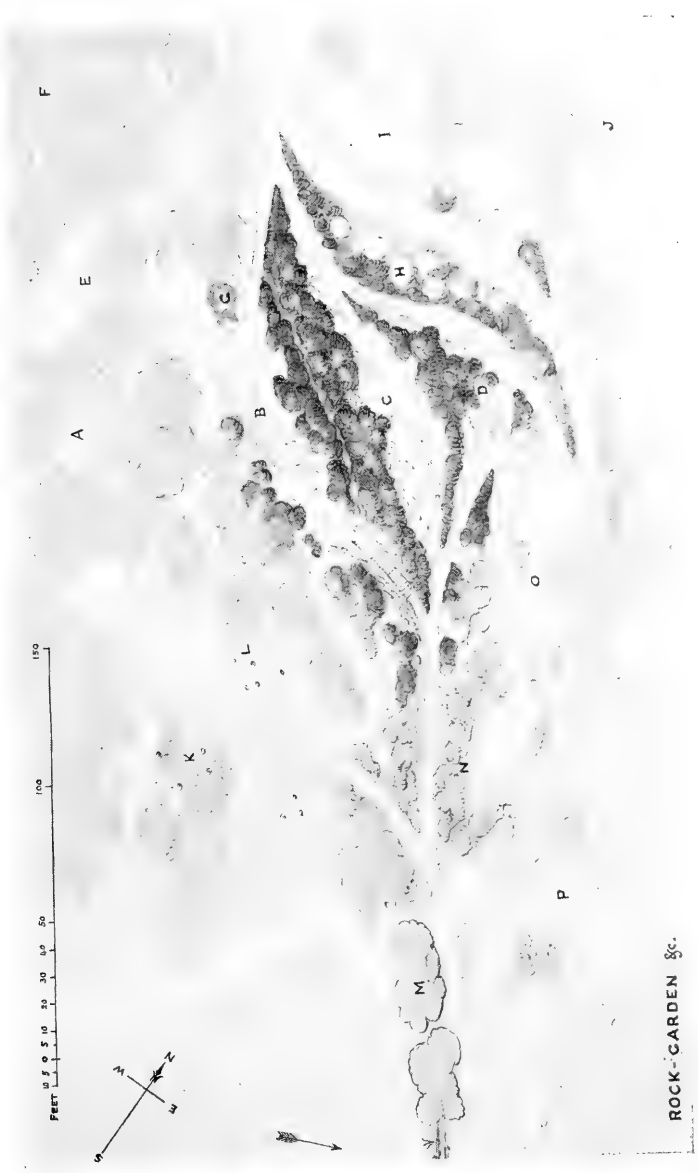
K and L show groups of Birch trees accompanied by Holly, and from L towards A and E are large bushes of Holly with Oaks.

Between L and B, backing the smaller bushes tinted dark, are clumps of Juniper, which occur again on the bank beyond G towards F and E. At E and between K and L are paths leading into woodland; not garden paths but wood paths.

The large grass paths leading out of the plan to the right go towards the home garden and the house.

To the right of J and I (out of the plan) is the place for a good plantation of Rhododendrons, out of sight of the Azaleas and hidden from them by the large group of Bamboos.

In the region of A, E, and F would be long drifts of Dafodils; here also white Foxgloves would be sown.



ROCK-GARDEN &c.

PLAN OF THE ROCK-GARDEN AND ITS NEIGHBOURHOOD.



SOME OF THE EASIEST GROWN ROCK-GARDEN PLANTS.

- Acæna microphylla, pulchella.*
Achillea umbellata.
Adonis vernalis.
Æthionema grandiflorum.
Ajuga, vars.
Alchemillia alpina.
Alyssum saxatile.
Anemone blanda, nemorosa,
vars., sylvestris, apennina.
Anthericum liliastrum, liliago.
Antennaria dioica, tomentosa.
Antirrhinum glutinosum.
Arabis albida.
Arenaria balearica, montana.
Armeria vulgaris, cephalotes.
Artemisia sericea.
Asarum europæum.
Aster alpinus.
Aubrietia deltoides, græca.
Campanula pulla, cæspitosa,
carpatica, pusilla, barbata.
Cardamine pratense fl. pl., tri-
folia.
Cerastium tomentosum.
Coptis trifolia.
Cheiranthus alpinus, Mar-
shalli.
Corydalis bulbosa, capnoides.
Delphinium nudicaule.
Dentaria diphylla.
Dianthus cæsius, deltoides, fra-
grans, and vars.
Draba aizoides.
Epimedium macranthum.
Erica, vars.
Erinus alpinus.
- Gentiana acaulis, asclepiadea.*
Helianthemum, vars.
Hemerocallis Dumortieri.
Hieraceum aurantiacum, villo-
sum.
Hutchinsia alpina.
Iberis sempervirens.
Iris cristata, pumila, vars.
Linaria alpina, pallida, hepati-
cæfolia.
Linum flavum.
Lithospermum prostratum.
Lychnis alpina.
Mentha Requieni.
Mimulus cupreus.
Nierembergia rivularis.
Orobus vernus, aurantius.
Papaver alpinum.
Phlox setacea, vars.
Polygala Chamæbuxus.
Polygonum affinis, vaccini-
folium.
Potentilla alchemilloides,
dubia.
Primula rosea, denticulata,
sikkimensis.
Sanguinaria canadensis.
Saponaria ocymoides.
Saxifraga, Sempervivum, and
Sedum, many sps.
Silene alpestris.
Thymus lanuginosus, Serpyll-
um albus.
Tiarella cordifolia.
Urnularia grandiflora.
Vescicaria utriculata.

CHAPTER XII

THE ROCK-GARDEN (*continued*)

IT can never be repeated too often that in this, as in all kinds of gardening where some kind of beauty is aimed at, the very best effects are made by the simplest means, and by the use of a few different kinds of plants only at a time. A confused and crowded composition is a fault in any picture; in the pictures that we paint with living plants just as much as in those that are drawn and painted on paper or canvas. Moreover, the jumbled crowd of incongruous items, placed without thought of their effect on one another, can only make a piece of chance patchwork; it can never make a design. However interesting the individual plants may be, we want to get good proportion and beautiful combination in order to make the good garden-picture, while the individuals themselves gain in importance by being shown at their best. I have therefore thought it would be helpful to put together lists of plants for the different situations, and within the lists to bracket the names of some that look the best as near neighbours. In many cases they can be intergrouped at the edges. These lists appear at the end of the chapter. Where the same plant is named more than once, it is to be understood that it is good



AUBRIETIA IN THE ROCK-GARDEN.



LITHOSPERMUM PROSTRATUM (BRIGHT BLUE) HANGING OVER
ROCK; A SILVERY SAXIFRAGE BELOW.

to use in more than one combination. A few examples of such groupings of plants will be described, and others given in the lists.

When I think of the rock-garden plants, and try to bring to mind those that have given me most pleasure for a fair length of time, I think the roll of honour must begin with *Lithospermum prostratum*. There are many that give one as keen a feeling of delight and thankfulness for a week or ten days, or even a little more; but for steady continuance of beautiful bloom I can think of nothing so full of merit. It is, therefore, the best of plants for any important rocky knoll, and, as its habit is to trail downwards, it may well go on the very top of some jutting promontory fairly to the front, or be at the top of a bit of almost wall-like rock-work as in the picture. It is neat-looking all the year through, and the deep colour of the small rough leaves sets off the strong pure blue of the flowers. In winter the leaves turn to a kind of black bronze, but never lose their neat appearance, as of a well-fitting ground carpet. The colour blue in the garden, as also in other fields of decorative practice, seems to demand a treatment by contrast as an exception to the generally desirable rule of treatment by harmony. Therefore I do not hesitate to plant near the *Lithospermum* the brilliant pale yellow *Cheiranthus alpinus*, and, though I do not find use for many plants with variegated foliage, I like to have in the same group the pretty little *Arabis lucida variegata*.

Among a host of plants that are of so eminent a degree of merit that it is almost impossible to give

precedence to any one, *Achillea umbellata* takes high rank. The two illustrations in the chapter on the Sunny Rock-wall (pp. 6 and 7) show it both in summer bloom and winter foliage. With this charming thing I should group some of the plants of low-toned pink blossom, such as Thrift and the pink-flowered Cudweed (*Antennaria*), and any of the encrusted Saxifrages; or separately with the charming *Phlox setacea* "Vivid," in this case with nothing else then in bloom quite near.

There are some little plants that grow in sheets, whose bloom is charming, but on so small a scale that other flowers of larger size or stouter build would seem to crush them. Such a one is the dainty little Linnæa, which should have a cool shady region of its own among tiny Ferns, and nothing large to overmaster it.

The little creeping *Linaria hepaticæfolia* is another of this small, dainty class, best accompanied by things of a like stature, such as *Arenaria balearica*, and perhaps little Ferns and Mossy Saxifrages. *Arenaria balearica* is a little gem for any cool rocky place; it grows fast and clings close to the stones. It always spreads outwardly, seeking fresh pasture; after a time dying away in the middle. The illustration having this *Arenaria* on the angle of a small rock-garden shows a little dark patch on its surface, first flowerless and then dying away, while the outer fringe of the patch grows onward. *Aubrietia*, *Arabis*, *Iberis*, and *Cerastium*, four of the commonest of spring-blooming plants of Alpine origin that have long been grown in



ARENARIA BALEARICA (AT THE ANGLE AND ON PATH), AND DOUBLE CUCKOO-FLOWER IN A
SMALL ROCK-GARDEN.



LONDON PRIDE (*SAXIFRAGA UMBROSUM*); TYPE OF ONE
IMPORTANT CLASS OF SAXIFRAGE.

gardens, are capital companions, making sheets of hanging or trailing bloom at that flowery time when spring joins hands with summer. The palest coloured of the Aubrietias are among the best, and should not be neglected in favour of the stronger purples.

A little later in the year *Campanula pulla* and *Silene alpestris* do well together, plentifully framed with small Ferns and Mossy Saxifrages. The lovely *Iris cristata* is charming with *Corydalis capnoides* of the pale yellowish white bloom and bluish almost feathery leaves.

In the upper and bolder regions of the rock-garden where there will be small shrubs, the fine blue-flowered dwarf Flag Iris, *I. Cengialti*, should be grouped under a bush of *Eurybia gunniana*.

London Pride, the best of the Saxifrages of that class, should be plentifully grouped with strong patches of the lovely white St. Bruno's Lily, backed by some bushes of dark foliage as of *Gaultheria Shallon* or Alpine Rhododendron.

It is one of the pleasures of the rock-garden to observe what plants (blooming at the same time) will serve to make these pretty mixtures, and to see how to group and arrange them (always preferably in long-shaped drifts) in such a way that they will best display their own and each other's beauty; so that a journey through the garden, while it presents a well-balanced and dignified harmony throughout its main features and masses, may yet at every few steps show a succession of charming lesser pictures.

It is only possible to point to a few examples, but those who work carefully in their rock-gardens will see the great gain that rewards a little care and thought in putting the right things together. If they will take the trouble to work out the few examples given, they will be able to invent many other such combinations for themselves.

Then there comes the question of putting the right plants in the right places. The picture of *Androsace lanuginosa* may be taken as an illustration of a good rock-plant well placed, partly on the flat, but also falling down the face of the rock. Nothing but a knowledge of the plant's ways and a lively sympathy with its wants can make right placing a certainty, but the gradual learning of these things is one of the pleasures of gardening.

Where the garden adjoins ground of a rocky, or rocky and woody character, the difficulty of construction is reduced to the lowest point. There are thousands of acres of such ground in the remoter parts of our islands, many of them no doubt so placed that with a very little alteration and the addition of just the right plants, the most beautiful of rock-gardens could be made. Such ground as the rocky wood with its own wild Foxgloves shown in the illustration could hardly be bettered as a rock-garden background, and would suggest bold treatment, indeed would absolutely forbid anything petty or niggling.

It is highly interesting to have a space in one of the warmest and most sheltered regions of the rock-



ANDROSACE LANUGINOSA.

Hudson & Merrill



A WILD ROCK-GARDEN.



DOUBLE SEA CAMPION (*SILENE MARITIMA*).



*HARDY RED-FLOWERED OPUNTIA (O. XANTHOSTEMA) IN
STEEP ROCK-WORK.*

garden for the hardy *Opuntias*. They are the more desirable in that they are not only the sole representatives of the large Cactus family that are hardy in England, but that they are also desirable flowering plants, of large bloom and moderate habit of growth. The family comprises so many species of monstrously ungainly or otherwise unsightly form that it is fortunate for our gardens that the hardy species should be beautiful things.

Opuntia Raffinesquii has long been with us, and more lately we have had the good yellow-bloomed species *O. camanchica*, *arenaria*, *fragilis*, and *Engelmanni*. To these with yellow flowers have been added still later *O. rhodanthe* and *O. xanthostema*. They are all North American plants, most of them natives of Colorado. They like a place among steep rocks in a soil of poor sand and broken limestone, in the hottest exposure. The only thing they dislike in our climate is long-continued rain, from which the steep rock-wall in a great measure protects them, by means of the complete drainage that it secures.

We have a fine example of good rock-gardening accessible to the public in the Royal Gardens, Kew. Here there is not only a copious collection of mountain plants of the kinds suitable for rock-gardens and their immediate neighbourhood, but we see them as well arranged as is possible in an establishment that, it must be remembered, is primarily botanical; indeed the way in which the gardens have been of late years enriched with large breadths of bulbous plants in

grass and beautiful flowering shrubs, not in single specimens only, but in bold groups, has been a powerful means of instruction, and has done as much as anything to help people to know the good plants and how best to use them.

There is a beautiful rock-garden in the grounds of Messrs. Backhouse of York, a firm well known for their admirable collection of Alpine plants. It is most instructive to see in this fine garden some of the difficult Alpine plants looking perfectly at home.

The growth of interest in rock-plants has necessarily given an immense impetus to horticultural trade and allied crafts, for there are other good firms that make a specialty of constructing rock-gardens, while the success that is attained may be seen by the illustrations. Indeed, rock-gardens and Alpine gardens great and small, carefully made and intelligently planted, may now be seen throughout the country.

In planting the rock-garden it is a good plan to allot fairly long stretches of space to nearly related and nearly allied plants, especially to those genera that contain many desirable species and varieties. Several genera will be largely represented; of these the principal are *Saxifraga*, *Sedum*, *Sempervivum*, *Campanula*, *Silene*, *Linaria*, *Iberis*, *Iris*, *Draba*, *Dianthus*, and *Primula*. This way of grouping, if well arranged with some intergrouping of smaller plants, will not only have the best effect but will have a distinct botanical interest; not botanical in the drier sense of mere classification, but botanical as a living exposition



IN THE ROCK-GARDEN AT THE ROYAL GARDENS, KEW.



A BANK OF SPRING-FLOWERING ALPINE PLANTS (ARABIS, AUBRIETIA, ETC) IN THE BOTANIC GARDEN, BATH



POOL IN THE ROCK-GARDEN OF MESSRS. BACKHOUSE OF YORK.



MESSRS. BACKHOUSE'S ROCK GARDEN AT YORK.

of variation of form within the law of a common structure.

Besides the grouping in families, the following list contains, bracketed together, names of plants that have a good effect when grouped near each other :—

{ <i>Lithospermum prostratum.</i>	{ <i>Silene alpestris.</i>
{ <i>Cheiranthus alpinus.</i>	{ <i>Campanula pulla.</i>
{ <i>Arabis lucida variegata.</i>	{ <i>Saxifraga umbrosum.</i>
{ <i>Achillea umbellata.</i>	{ <i>Anthericum liliastrum.</i>
{ <i>Antennaria tomentosa.</i>	{ <i>Silene maritima fl. pl.</i>
{ <i>Armeria vulgaris.</i>	{ <i>Othonnopsis cheirifolia.</i>
{ <i>A. cephalotes.</i>	{ <i>Iris cristata.</i>
{ <i>Saxifraga</i> (encrusted vars.).	{ <i>Corydalis capnoides.</i>
{ <i>Linaria hepaticæfolia.</i>	{ <i>Tiarella cordifolia.</i>
{ <i>L. pallida.</i>	{ <i>Myosotis dissitiflora major.</i>
{ Small Ferns.	{ <i>Mertensia virginica.</i>
{ <i>Cardamine pratensis fl. pl.</i>	{ <i>Ramondia pyrenaica.</i>
{ <i>Arenaria balearica.</i>	{ <i>Haberlea rhodopensis.</i>
{ Mossy Saxifrage.	{ <i>Cystopteris fragilis.</i>
{ <i>Aubrietia græca</i> , &c.	{ <i>Dianthus alpinus.</i>
{ <i>Arabis albida.</i>	{ <i>Cardamine trifoliata.</i>
{ <i>Iberis sempervirens.</i>	{ <i>Hutchinsia alpina.</i>
{ <i>Cerastium tomentosum.</i>	{ <i>Achillea Clavennæ.</i>
{ <i>Iberis corracifolia.</i>	{ <i>Scabiosa Pteroccephala.</i>
{ <i>Phacelia campanularia</i> (sown).	{ <i>Anemone blanda.</i>
{ Mossy Saxifrage.	{ <i>Galanthus Elwesi.</i>
{ <i>Cornus canadensis.</i>	{ <i>Iris reticulata.</i>
{ <i>Waldsteinea fragarioides.</i>	{ Mossy Saxifrage.
{ <i>Adonis vernalis.</i>	{ <i>Orobus vernus.</i>
{ <i>Tulipa sylvestris.</i>	{ <i>Aubrietia græca.</i>
{ <i>Tunica Saxifraga.</i>	{ <i>Veronica satuireifolia.</i>
{ <i>Saponaria ocymoides.</i>	{ <i>Silene alpestris.</i>
{ <i>Dianthus deltoides.</i>	{ <i>Anemone apennina.</i>
{ <i>Vescicaria utriculata.</i>	{ <i>Trillium grandiflorum.</i>
{ <i>Cheiranthus mutabilis.</i>	{ <i>Omphalodes verna.</i>

98 WALL AND WATER GARDENS

SOME BULBOUS PLANTS FOR THE ROCK-GARDEN

<i>Acis autumnalis.</i>	<i>Scilla sibirica.</i>
<i>Triteleia uniflora.</i>	<i>S. italica alba.</i>
<i>Crocus</i> species.	<i>S. bifolia</i> and vars.
<i>Narcissus minor.</i>	<i>Muscari botryoides</i> and white
<i>N. minimus.</i>	var.
<i>N. Bulbocodium</i>	<i>M. azureum.</i>
<i>N. B. citrinus.</i>	<i>Tulipa Greigi.</i>
<i>N. juncifolius.</i>	<i>T. persica.</i>
<i>N. odorus minor.</i>	<i>T. kaufmanniana.</i>
<i>N. poeticus verbanus.</i>	<i>T. sylvestris.</i>
<i>N. triandrus.</i>	<i>Iris reticulata.</i>
<i>Leucojum vernum.</i>	<i>I. reticulata Krelagei.</i>
<i>Galanthus Elwesii.</i>	<i>I. Danfordiæ.</i>
<i>Fritillaria armena.</i>	<i>I. bakeriana.</i>
<i>F. aurea.</i>	<i>I. balkana.</i>
<i>F. pudica.</i>	<i>I. Cengialti.</i>
<i>F. Meleagris.</i>	<i>I. olbiensis.</i>
<i>Oxalis enneaphylla.</i>	<i>I. pumila</i> and vars.
<i>Cyclamen Atkinsii</i> and vars.	<i>I. Chamæiris.</i>
<i>C. Coum.</i>	<i>I. tolmeana.</i>
<i>C. repandum.</i>	<i>Lilium croceum.</i>
<i>C. europæum.</i>	<i>L. longiflorum.</i>
<i>Anomatheca cruenta.</i>	<i>L. Browni.</i>
<i>Chionodoxa Luciliæ.</i>	<i>L. Krameri.</i>
<i>C. sardensis.</i>	<i>L. elegans</i> and vars.
<i>Dodecatheon</i> , vars.	<i>L. tenuifolium.</i>
<i>Puschkinia libanotica.</i>	<i>Erythronium Dens-canis</i> , vars.
<i>Corydalis bulbosa.</i>	<i>E. giganteum.</i>
<i>C. bracteata.</i>	<i>E. grandiflorum.</i>
<i>Sternbergia lutea.</i>	<i>E. Hartwegi.</i>
<i>Tecophilæa cyanocrocus.</i>	<i>Trillium grandiflorum.</i>
<i>Eucomis punctata.</i>	<i>T. sessile.</i>

DWARF SHRUBS AND HALF-SHRUBBY PLANTS AND OTHERS OF RATHER SOLID HABIT FOR THE USE ADVISED AT P. 86

<i>Polygala chamæbuxus.</i>	<i>Cornus canadensis.</i>
<i>Polygonum vacciniifolium.</i>	<i>Tiarella cordifolia.</i>
<i>Dryas octopetala.</i>	<i>Asarum europæum.</i>



WHITE HOOP-PETTICOAT NARCISSUS (N. BULBODIUM MONOPHYLLUS).

(Two-thirds natural size. Should be in a rocky nook where a stone can be placed above them to keep the roots dry in Summer, or at the foot of a wall where Summer foliage will do the same.)



TYPE OF THE SMALLER SILVERY SAXIFRAGES.

Salix reticulata.

Andromeda tetragona.

Gaultheria procumbens.

Iberis sempervirens.

I. correaefolia.

Menziesia polifolia.

Megasea, smaller vars.

Armeria vulgaris.

A. cephalotes.

Genista sagittalis.

Daphne blagayana.

D. cneorum.

Spiræa decumbens.

Erica carnea, and other Heaths.

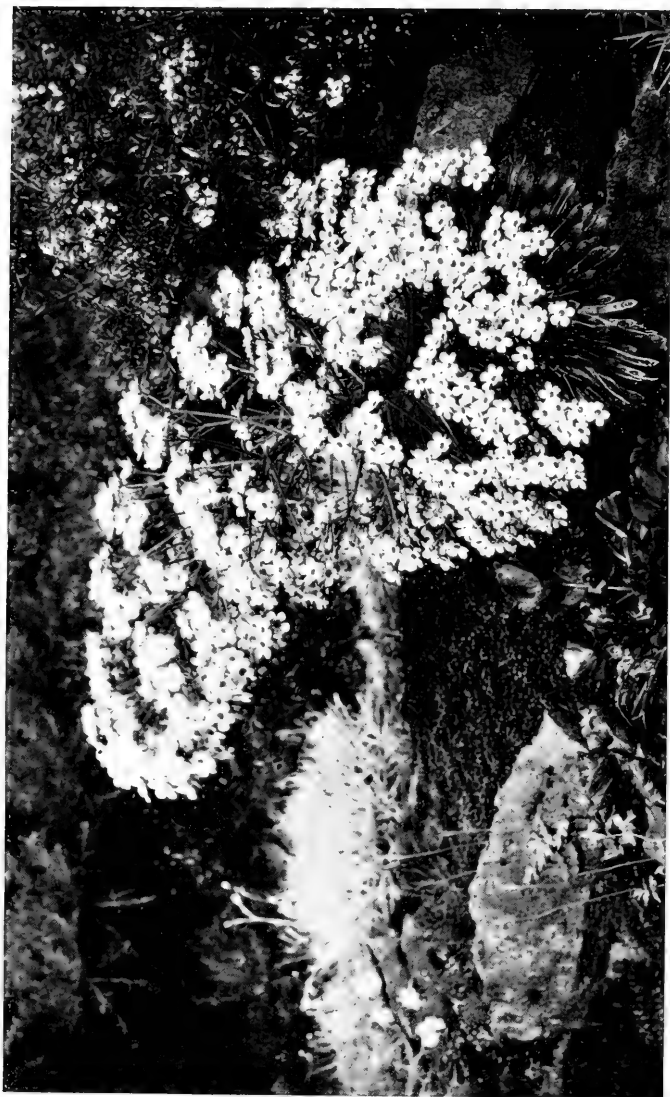
CHAPTER XIII

THE ALPINE GARDEN

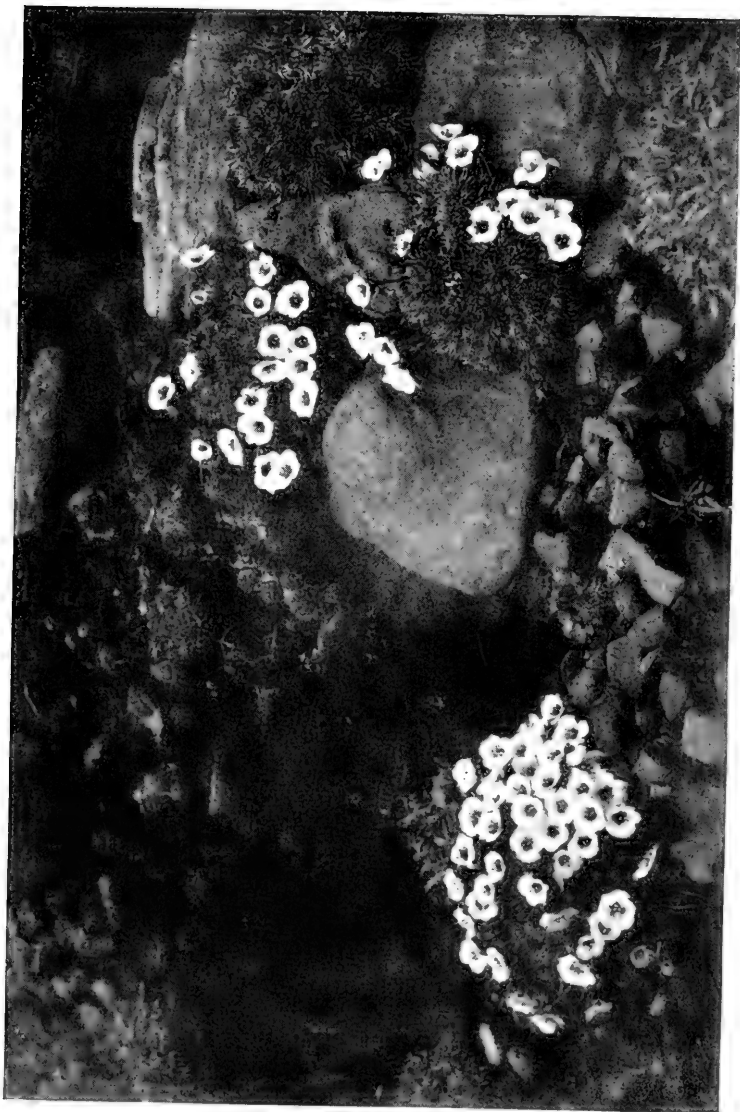
THIS chapter is for the most part a résumé of the teaching conveyed in some highly interesting and instructive letters to *The Garden* from Mr. Henry Correvon of the Jardin Alpin d'Acclimatation at Geneva. No one is more intimately acquainted with the flora of the Alps than Mr. Correvon, or is better able to instruct and advise upon their use and adaptation to our gardens.

In making an Alpine garden, and considering what plants are to adorn it, it must be remembered that in the mountains of Europe there are whole chains that are of limestone and others that are entirely of granite. Many of the failures in our rock and Alpine gardens are due to this fact either being unknown or disregarded. Each of those two great main geological formations has a flora proper to itself. It stands to reason, therefore, that if we plant a shrub or herb that belongs to the granite on a calcareous soil, or a limestone plant on granite, that we are only inviting failure.

It is true that there are a good many Alpine plants that will grow in almost any soil, and a number of



SAXIFRAGA LONGIFOLIA; THE LARGEST FLOWERED OF THE SILVERY OR ENCRUSTED
SAXIFRAGES. (See opposite p. 27. Flower 18 inches long.)



SANFRAGA BURSERIANA. (One-third natural size.)

others that are fairly well content with one that is not their own, but there are a certain number that are not so tolerant, and if we would do the very best we can for the lovely plants of the mountain regions they should be given the kind of soil and rock that suits them best.

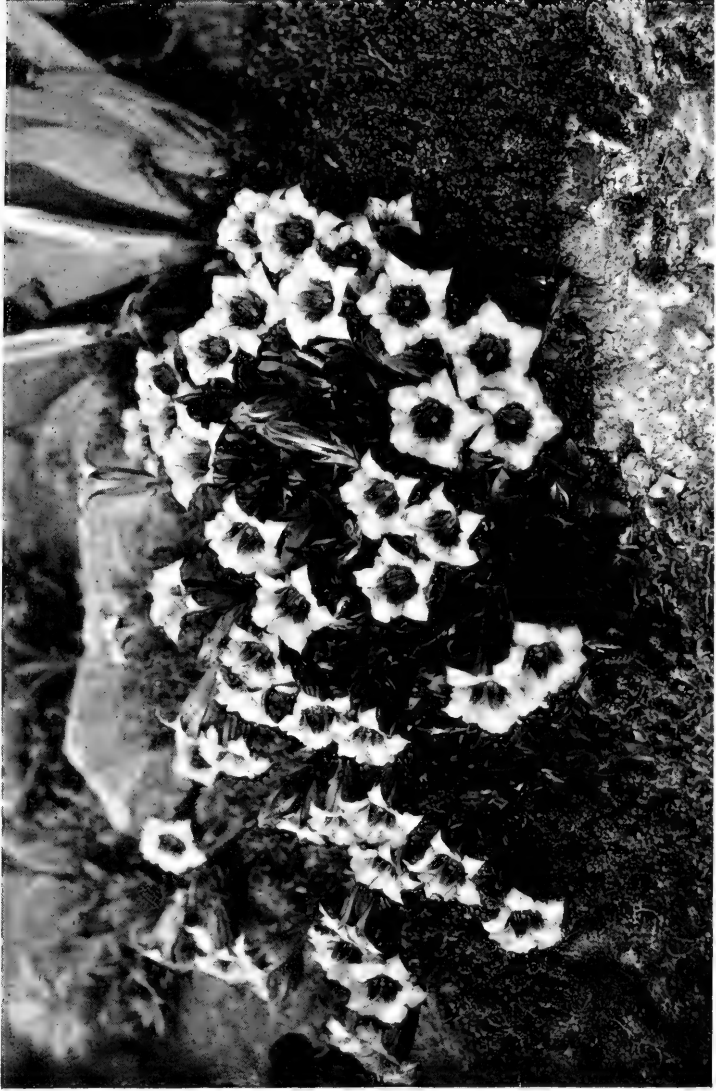
From its very beginning then, if an Alpine garden is to be made in a calcareous soil let it be planted with the lime-loving plants and those that are tolerant in the matter of soil, but not with those that demand granite. Hitherto the mistakes of amateurs may have been excused, because in the books and plant lists that have till now been available the great importance of this has not been clearly and concisely put before them.

If the Alpine garden is to accommodate a larger range of plants than those proper to the one soil, or if preparation from the first has to be made for plants of these two geological divisions, it is well that one distinct portion of the garden should be prepared with limestone and the other with granite. In this way it will not only be easier to work the garden and to know the destination of any newcomer, but the plants themselves will be in better harmony. I would earnestly counsel intending planters, if they have to do with a small space only, to be content with plants of the one or the other class of soil, because, as in all other kinds of gardening, the mere dotting of one plant, or of two or three only of a kind, will never make a beautiful garden, but at the best can

only show a kind of living herbarium. Single examples of these lovely little children of the great mountains may be delightful things to have, and in the very smallest spaces no doubt will be all that is possible; but we wish to consider gardening in its nobler aspects, not merely the successful cultivation of single specimens of the Alpine flora.

In planning an important Alpine garden it should be remembered that in preparing homes for some of the best of these lovely plants, not only the rocky places must be considered, but the grassy ones as well, for the pasture land of the Alps is as bright with flowers as the more rocky portions. It is here that are found the Snowflakes and the Snowdrops, the Dog's-tooth Violets and the Anemones of the Pulsatilla group. Here also are the glorious *Gentiana acaulis*, the bright gem-like *G. verna*, and in boggy places *G. bavarica*, near in size to *G. verna*, and sometimes mistaken for it, but different in the shape and arrangement of its more crowded leaves, and in the still more penetrating brilliancy of its astounding blue. These little gems are not often seen at their best in English gardens, but *G. acaulis* is a much more willing colonist, and in some gardens where the soil is a rich loam it grows rapidly and flowers abundantly and proves one of the best of plants for a garden edging. Though properly a plant of the pastures, the illustration shows how kindly it takes to the rock-garden in England.

The difficulty of imitating the close short turf of



GENTIANELLA (GENTIANA ACAULIS) IN AN ENGLISH ROCK-GARDEN.



the upland Alpine pasture is that here the grasses grow too rank and tall; the only ones therefore that should be employed are the smallest of the wiry-leaved kinds, such as the short Sheep's Fescue with the tufted base.

A true Alpine garden, it should be understood, is a place where plants native to the Alps alone are grown. It should not be confused with a general rock-garden where we have mountain and other plants from the whole temperate world.

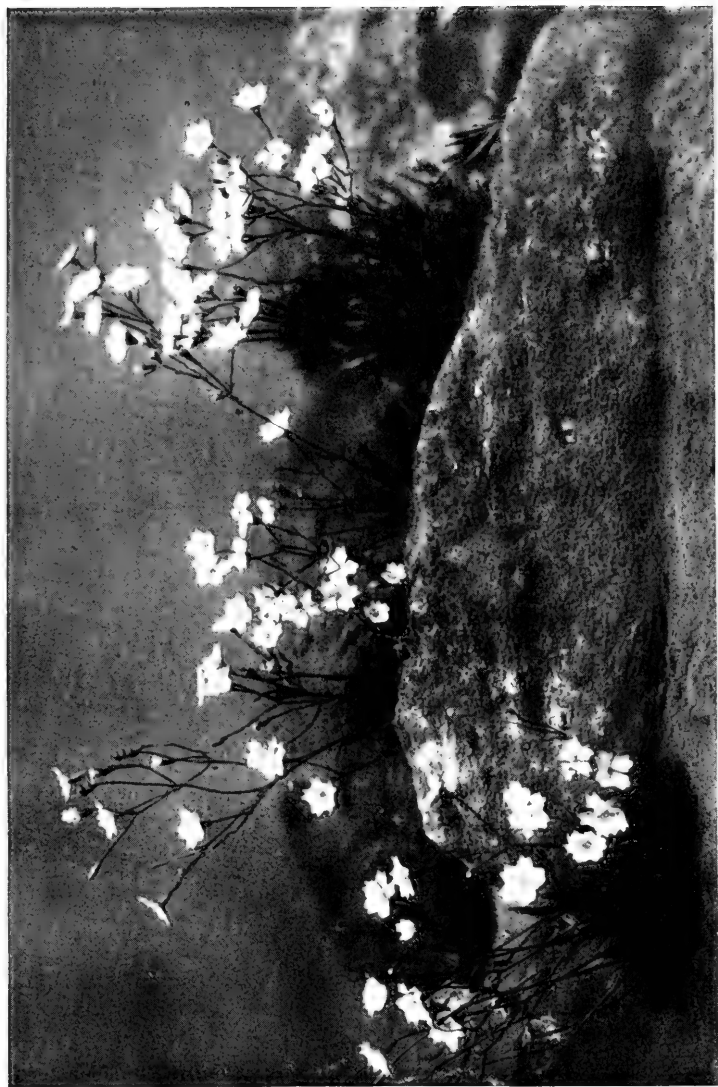
Besides those that one generally classes as plants, meaning flowering plants, there will be many of the beautiful small Ferns of the Alps to be considered, and the small shrubs whose presence is so important in the more prominent eminences of our rock-gardens and the tops of our rock-walls. Of the latter, in the true Alpine garden, the most important are the dwarf Rhododendrons, and nothing could be so fitting a groundwork or setting for the little bright-blossomed jewels that will be their companions. Especially in the mass and when out of flower, their compact form and dark rich colouring are extremely helpful in securing a feeling of repose in the composition of the main blocks of the rocky region, while their beautiful bloom makes them, when in flower, some of the loveliest of dwarf shrubs.

Here again it must be noticed that care must be taken to suit each kind with its geological requirement. The genus *Rhododendron* is represented by three species in the Alps; in those of Switzerland

by *R. ferruginium* and *R. hirsutum*, and in those of the Tyrol by *R. Chamæcistus*. Still further east, in the Eastern Carpathians, is found *R. myrtifolium*. It is with the two Swiss kinds that our rock-gardens are mostly concerned, though *R. myrtifolium* is also of value, and will grow in many soils, though it prefers sandy peat. Of these Swiss kinds *R. ferruginium* is a plant of the granite, while *hirsutum* belongs to the limestone, as does also the *R. Chamæcistus* of the Tyrol.

Subjoined are lists of plants proper to the two main geological divisions. It will be seen that in each genus the species seem to be nearly equally divided, so that in a garden devoted to one or other there would be no exclusion of any of the more important kinds of plants. Those that will do well in either soil are not included in the list. If in the case of some plants proper to the one formation we find in England that they *can* be grown in the other, it will not affect the general utility of these lists, which are meant to point out the conditions under which *only* they are *found* in nature, and under which they thrive best in gardens. It must also be understood that the lists do not aim at being complete. They comprise only the most characteristic examples of the species special in nature to the limestone and the granite, and that have been tried and proved either in the Jardin d'Acclimatation at Geneva, or at one of the two experimental stations in the mountains that are on the limestone and on the granite respectively.

It must also be understood that a good number of



SILENE ALPESTRIS; ONE OF THE BEST DWARF ALPINE PLANTS.
(Half the natural size.)



the Alpine plants that we are familiar with, that are tolerant of a variety of soils, and that are so well represented in the best trade lists, do not appear here; so that if it is not convenient to supply any plants with either granite or limestone, those named in the following lists may either be avoided, or we may be content with what success we may have in such a soil as we are able to give them.

There are certain plants of the higher Alpine regions that are usually failures in English rock-gardens, of which *Eritrichium nanum* may be taken as a type. Others in the same list of what we know as difficult plants are: *Androsace glacialis*, *Charpentieri*, *helvetica*, *pubescens*, *wulfeniana*, and *imbricata*; *Achillea nana*, *Thlaspi rotundifolium*, *Artemisia spicata*; *Campanula cenisia*, *Allionii*, *excisa*, *petræa*; *Saxifraga Seguieri planifolia*, and *stenopetala*.

In order to succeed with these plants they must have the poorest possible soil; only a coarse gravel of small stones with a little sandy peat; such a soil as will always be poor, light, and porous; in one containing more nutriment they simply die of indigestion. The drainage must be perfect. They delight in full exposure and sun heat, and will succeed either in a wall or the flatter rock-garden, though here they are much benefited by the ground around them being covered with little stones in order to keep it cool.

The following is a list of plants proper to the calcareous and granitic formations respectively:—

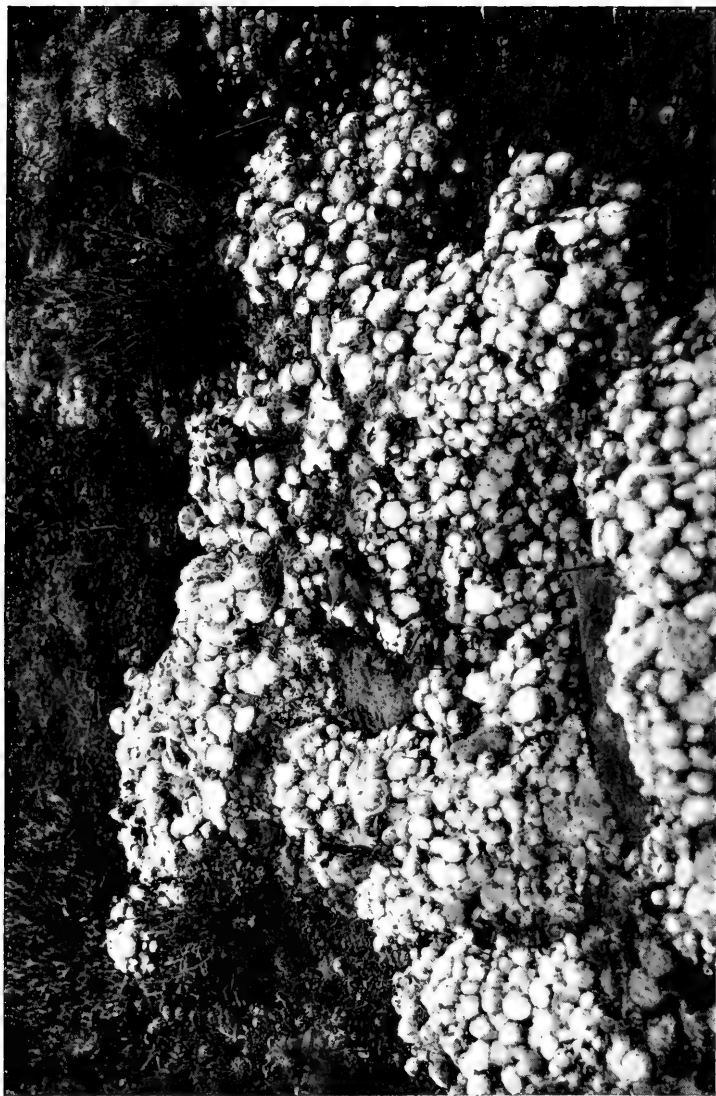
106 WALL AND WATER GARDENS

CALCAREOUS

Achillea atrata.
Aconitum Anthora.
Adenostylis alpina.
Androsace chamæjasme.
 " *arachnoidea.*
 " *helvetica.*
 " *pubescens.*
 " *villosa.*
Anemone alpina.
 " *narcissiflora.*
 " *Pulsatilla.*
 " *Hepatica.*
Anthyllis montana.
Artemisia mutellina.
Braya alpina.
Campanula thyrsoidea.
 " *cenisia.*
Cephalaria alpina.
Cyclamen europæum.
Daphne alpina.
 " *Cneorum.*
Dianthus alpinus.
Draba tomentosa.
Erica carnea.
Eryngium alpinum.
Erinus alpinus.
Gentiana alpina.
 " *angustifolia.*
 " *Clusii.*
 " *ciliata.*
 " *asclepiadea.*
Geranium aconitifolium.
Globularias.
Gnaphalium Leontopodium.
Gypsophila repens.
Lychnis Flos-jovis.
Moehringia muscosa.

GRANITIC

Achillea moschata.
Aconitum septentrionale.
Adenostylis albifrons.
Androsace carnea.
 " *lactea.*
 " *glacialis.*
 " *imbricata.*
 " *vitaliana.*
Anemone sulphurea.
 " *baldensis.*
 " *montana.*
 " *vernalis.*
Arnica montana.
Artemisia glacialis.
Astrantia minor.
Azalea procumbens.
Braya pinnatifida.
Campanula spicata.
 " *excisa.*
Daphne petræa.
 " *striata.*
Dianthus glacialis.
Draba frigida.
Ephedra helvetica.
Eritrichium nanum.
Gentiana brachyphylla.
 " *Kochiana.*
 " *frigida.*
 " *Pneumonanthe.*
 " *pyrenaica.*
Geranium argenteum.
Gnaphalium supinum.
Linnæa borealis.
Lychnis alpina.
Meum althamanticum.
Oxytropis campestris.
Papaver rhæticum.



SEMPERVIVUM LAGGERI; TYPE OF THE COBWEB HOUSELEEK, ON A FLAT SPACE IN THE
ROCK-GARDEN.



CALCAREOUS

Oxytropis montana.
Papaver alpinum.
Primula Auricula.
 " *clusiana.*
 " *integrifolia.*
 " *minima.*
 " *spectabilis.*
Ranunculus alpestris.
 " *Seguieri.*
Rhododendron hirsutum.
Ribes petræum.
Saussurea discolor.
Saxifraga longifolia.
 " *cæsia.*
 " *diapensioides.*
 " *burseriana.*
 " *tombeanensis.*
 " *squarrosa.*
 " *media.*
 " *aretioides.*
Senecio abrotanifolius.
 " *aurantiacus.*
Sempervivum dolomiticum.
 " *hirtum.*
 " *Neilreichii.*
 " *Pittoni.*
 " *tectorum.*
Silene acaulis.
 " *alpestris.*
 " *Elizabethæ.*
 " *vallesia.*
Valeriana saxatilis.
Viola cenisia.

GRANITIC

Phyteuma hemisphæricum.
 " *pauciflorum.*
Primula hirsuta.
 " *glutinosa.*
 " *wulfeniana.*
 " *Facchinii.*
 " *longiflora.*
Ranunculus crenatus.
 " *glacialis.*
Rhododendron ferrugineum.
Ribes alpinum.
Saussurea alpina.
Saxifraga Cotyledon.
 " *Hirculus.*
 " *Seguieri.*
 " *moschata.*
 " *aspera.*
 " *bryoides.*
 " *ajugæfolia.*
 " *exarata.*
 " *retusa.*
Senecio uniflorus.
 " *carniolicus.*
Sempervivum arachnoideum.
 " *acuminatum.*
 " *debile.*
 " *Gaudini.*
 " *Wulfeni.*
Silene exscapa.
 " *rupestris.*
 " *pumilio.*
 " *quadrifida.*
Vaccinium uliginosum.
 " *oxycoccus.*
Valeriana celtica.
 " *Saliunca.*
Veronica fruticulosa.
Viola comollia.

FERNS

Cystopteris alpina." *montana.**Aspidium Lonchitis.**Asplenium Selovi.*" *fontanum.*" *viride.**Woodsia hyperborea.*" *ilvensis.**Blechnum spicant.**Allosorus crispus.**Asplenium germanicum.*" *septentrionale.*



SCOTCH FIR ON A LAKE SHORE.

CHAPTER XIV

LAKES AND LARGE PONDS

EXCEPT in the case of Water-Lilies I have often noticed that the smaller the pool or pond in which ornamental water-plants are grown the better one is able to enjoy them. In the large pond, and still more in the lake whose length is measured by miles, the scale of the water surface is so large, and the visible extent of land and water so wide, that one does not feel the want of the small water-plants nearly so much as one desires a bold treatment of tree and bush, and such fine things as will make handsome groups upon the shore and masses in the middle and further distance. If I had a large space of water, with land more or less bare and featureless sloping to it, I should begin by planting a good extent of the coolest and dampest slope with Spruce Fir, bringing some of the trees right down to the water's edge.

The Spruce would be planted as far apart as they were to stand when full grown, but more thinly to the water's edge, so that here, as they grew, they could be thinned by degrees till they stood in good groups. Birches would also be planted near the water, and would show as graceful silver-stemmed trees standing reflected in the lake and backed by a

dense forest of Spruce. Scotch Fir is also beautiful near water, especially in hilly ground, and it might be better to plant Scotch than Spruce if the land was very poor and sandy. But Spruce is essentially a damp-loving Conifer, and nothing gives a more solemn dignity to a water landscape than a large extent of its sombre richness of deep colouring, especially when this is accentuated by the contrast of the silver Birches.

If the soil is strong or of a rich alluvial nature Alders will grow to a large size, forming great rounded masses. But some smaller matters will also be wanted to give interest to the lake shore, so that here will be clumps of the Royal Fern (*Osmunda*), and the graceful Lady Fern, and where the path passes there should be clumps of Water Elder (*Viburnum Opulus*) giving its pretty white bloom in early summer and its heavy-hanging bunches of shining half-transparent berries in the autumn months, when the leaves also turn of a fine crimson colour.

The sunny bank of the lake I should keep rather open and grassy, with only occasional brakes of bushy growth of Thorn and Holly, wild Rose and Honeysuckle, with woodland planting of Oak and Hazel, Thorn, Holly, and Birch beyond.

If the lake or large pond is in flat low-lying country the large growing Poplars and Willows named in the next chapter will suit its banks or near neighbourhood.



ROYAL FERN (OSMUNDA) BY THE WATER-SIDE.



CHAPTER XV

SMALL PONDS AND POOLS

IT is probably in the smaller ponds and pools, or in river banks and back-waters, that most pleasure in true water-gardening may be had.

Every one who has known the Thames from the intimate point of view of the leisured nature-lover in boat or canoe, must have been struck by the eminent beauty of the native water-side plants; indeed our water-gardens would be much impoverished if we were debarred from using some of these. Many of them are among the most pictorial of plants. There is nothing of the same kind of form or carriage among exotics that can take the place of the Great Water-Dock (*Rumex Hydrolapathum*), with its six feet of height and its large long leaves that assume a gorgeous autumn colouring. Then for importance as well as refinement nothing can be better than the Great Water Plantain, with leaves not unlike those of the *Funkia* but rather longer in shape. Then there is the Great Reed (*Phragmites*) and the Reed-mace that we call Bulrush (*Typha*), and the true Bulrush (*Scirpus*) that gives the rushes for rush-bottomed chairs—all handsome things in the water close to the bank.

Flowering Rush (*Butomus*) makes one think that here is some tropical beauty escaped from a hot-house, so striking is its umbel of rosy bloom carried on the tall, round, dark-green stem. It has the appearance of a plant more fitted to accompany the Papyrus and blue Water-Lily of ancient Egypt than to be found at home in an English river. This charming plant would look well near *Equisetum Telmateia*, which would grow close down to the water's edge.

The yellow Iris of our river banks is also an indispensable plant for the water-garden, and will do equally well just in the water or just out of it. Not unlike its foliage is that of the Sweet Sedge (*Acorus Calamus*), fairly frequent by the river bank. I have driven my boat's nose into a clump of it when about to land on the river bank, becoming aware of its presence by the sweet scent of the bruised leaves.

The branched Bur-reed (*Sparganium ramosum*) has somewhat the same use as the Sweet Sedge in the water-garden, making handsome growths of pale-green luscious-looking foliage, and spikes of bloom that are conspicuous for the class of plant; it is related to the Chair-Rush (*Scirpus*). It grows in very shallow water and in watery mud. The Cyperus Sedge (*Carex pseudo-Cyperus*) is also handsome for much the same use.

Of the floating river flowers the earliest to bloom is the large Water Buttercup (*Ranunculus floribundus*); its large quantity of white bloom is very striking. Where this capital plant has been established there might be a good planting of Marsh Marigold near it



RIVER-EDGE. IN THE FOREGROUND IS *RANUNCULUS FLORIBUNDUS* (OF BABINGTON)
THE LARGER FORM OF *R. AQUATILIS*, COMMON IN WATERS ABOUT LONDON
BEYOND IS A BANK OF *SCIRPUS LACUSTRIS*, THE TRUE BULRUSH
THAT IS USED FOR BOTTOMING CHAIRS.



on the actual pond edge. The two look very well together, and all the better with a good stretch of the dark Chair-Rush behind them. One point of botanical interest in the Water Buttercup is its two distinct sets of leaves; those under water divided into many hair-like segments, while those that float are flatter and wider. It has been noticed that when the plant grows in swiftly running water, which would tend to submerge the upper leaves, they disappear, and the finely divided ones only remain.

The charming *Villarsia nymphæoides*, with fringed yellow bloom, though not a common plant, may be found here and there on the Thames, sometimes in large quantities. It grows in water three to four feet deep or even more; its small, thick, rounded leaves looking like those of a tiny Water-Lily. Each neat little plant is anchored by a strong round flexible stem to the root in the mud. It is well worthy of a place in the water-garden. I used to get the plants up by dragging the bottom with a long-handled rake, and transferred them to the pond of more than one friend. If a place is chosen a little shallower than their original home and a stone tied to each root, they will soon establish themselves and make a good patch the next year. It likes still but not stagnant water.

The Arrow-Head (*Sagittaria*) is another handsome native thing that likes a place near the pond or river edge. There are other and still better species, one American and one Chinese, and a good double-flowered variety.

Frog-bit is another pretty floating plant, with heart-shaped leaves and habit of growth not unlike *Villarsia*.

The Water Soldier (*Stratiotes*) is a curious thing and handsome in its way. The whole plant is not unlike the bunch of spiny-edged foliage in the top of a Pine Apple, but of a dark bottle-green colour and a foot long. It grows at the bottom, rising only to flower and then sinks again. It is more a curiosity than a militant water-garden ornament, but it certainly gives interest to a watery region to know that this strange thing is there and that with luck one may be on the spot to see it flower.

The Butter-bur (*Petasites*), with its large leaves a foot or more across, makes a great effect as a foliage plant on the pond edge, or where a space of very shallow slope comes down to the water.

The Buckbean (*Menyanthes*) is one of the prettiest of English flowers. Its home is the muddy edge of river or pond or very wet bog; it does not need running water. The leaves are rather like three leaves of Broad Bean, joined into a large trefoil; they stand up out of the water. The flowers, which also stand well up, are a spike of pretty pink bloom; the whole blossom is delicately veined by a fringing of white hairs. It is a plant of the Gentian tribe, as is also the *Villarsia*.

The Summer Snowflake (*Leucojum æstivum*) is beautiful beside the pond or pool; in strong alluvial soil growing to a surprising size. It is one of the best of plants for growing in quantity in tufts like Daffodils; indeed in meadow land by stream or pond the two plants would meet and amalgamate happily, the



BUCK-BEAN (MENYANTHES) IN FRONT, CHAIR-RUSH (SCIRPUS) BEYOND.



GUNNERA MANICATA, IN MR. WILSON'S GARDEN.

damp places of the Daffodils agreeing with the drier of the Snowflake. Here again the addition of groups of Marsh Marigold would come very well.

There are still three important wild river-side plants that are worthy ornaments of the water edge. The Yellow Loosestrife (*Lysimachia*) and the purple Loosestrife (*Lythrum*); both are excellent things to use in large masses at the edge of pond or pool. Of the *Lythrum* there is an improved kind with still brighter flowers than the type. Here is also the Tansy, a plant that makes a considerable show with its large level-topped corymbs of hard yellow flower. It is a plant that will grow anywhere, but is especially luxuriant near water.

The Water-Violet (*Hottonia palustris*), in the foreground of the picture at page 119, is another pretty native that must have a place in the water-garden. It should be somewhere near the path in rather shallow still water, so that the tufts of submerged leaves can be seen as well as the flower-spikes.

So far no plant has been named that is not wild in England, and yet here already is a goodly company; indeed the foreign plants for the water-garden are not so very many in number though they are extremely important.

The two great Gunneras, herbaceous plants with enormous radical leaves, something like the leaves of *Heracleum* six times magnified, are noble plants for the water's edge. The illustration shows *Gunnera manicata* at Mr. Wilson's garden at Wisley, well placed on the

further side of a small pond. No plant can be more important in the water-garden ; but its scale is so large and its whole appearance so surprising that it is well to let it have a good space to itself. The Gunneras are natives of the cooler mountain regions of the north of South America, but have proved hardy in England in all but the most trying climates. They are splendid in Cornwall and the south-west of Ireland.

A most important water-side plant is from Japan, the beautiful *Iris lævigata*. It rejoices in rich moist soil close to the edge of the water.

Another water-loving Iris of the easiest culture, liking a damp place by the water, is *I. sibirica*, with its larger variety *orientalis*. If the two are planted together and young ones are grown from seed, which is borne freely and easily germinates, a whole range of beautiful forms will ensue. There are already several colourings of *I. sibirica*, the white being of special beauty, but all are good flowers, with their thick tuft of leaves gracefully bending over and their daintily veined flowers borne on perfectly upright stems. This Iris has the hollow reed-like stem that proclaims it a water-loving plant.

The Cape has sent us a delightful water-plant in *Aponogeton distachyon*, very easily grown in a shallow pond or tank. It has neat oval floating leaves and curious whitish flowers that fork into two flowery prongs ; they have a white alabaster-like appearance and a scent like Hawthorn.

From North America comes one of the very best water-plants, *Pondetaria cordata*, beautiful alike in its



NYMPH.EA ODORATA, WITH *BUCKBEAN (MENYANTHES)* AND
YELLOW LOOSESTRIFE (LYSIMACHIA) AT THE
POND MARGIN.



RHODODENDRONS BY THE WATER-SIDE.

bold leaf and blue bloom. It flourishes in rather shallow water and is quite easy to grow. The upright habit of growth of its leafy flower-stems is unusual among aquatic plants.

The *Thalictrums* should not be forgotten ; they are suited for much the same kind of massing on land at the water edge as the *Loosestrifes*. *T. flavum*, the cultivated and improved form of a native plant, being the finest.

The large white Daisy, *Leucanthemum lacustre*, though truly a plant for wet ground and water edge, I always think has a flower-garden look about it that seems to make it less fit for water-gardening, where one wishes to preserve the sentiment of the more typical water-side and truly aquatic vegetation.

It would be well that a good planting of *Rhododendrons* should, at one of its ends or sides, come against a pond, though these shrubs are too large in size and too overwhelming in their mass of bloom to combine with smaller plants. But in connection with a pond of *Water-Lilies*, the dark foliage of *Rhododendrons*, coming down to one shore and backed by the deep shade of further trees, preferably *Spruce* for the sake of their deep quiet colouring, would be a noble background for the white and tender tints of the *Nymphæas*; and as the *Rhododendrons* would have done flowering before the main blooming season of the *Water-Lilies*, the two sources of interest would not clash. This would be much to the advantage of both, while each would be suited with a place both fitting in appearance and suited to its needs.

I venture to entreat those who are about to plant Rhododendrons in watery places not to plant them, as has been done so often, on a small round island. I lived for twenty years in a pretty place of some fifty acres where there were three streams and two good-sized ponds. In one of the ponds were three islands, two of them of fair size and closely wooded with Alders and large Grey Poplars and smaller under-wood, but the third and smallest was the worst form of small round pudding of Rhododendrons, about thirty feet across. When ponds are being artificially made it is tempting to leave islands, and if well arranged and planted they may be beautiful, although, in nearly all cases, except where there is unlimited space, a promontory is more pictorial, and favours in a greater degree the sense of mystery as to the extent of the water and the direction of the unseen shore.

If there is or must be a small island it is far better to plant it with an Alder and a group of Silver Birch. The rounded forms of the Rhododendrons add painfully to the rounded dumpiness of the little island. It is better to group them on the shore and to plant the island with something of upright form that will give beautiful reflection in the water, or to let it be covered with non-woody vegetation.

The common *Rhododendron ponticum*, with one or two of bold growth that have white flowers, such as "Minnie," and some of the tall, free lilac-whites such as *Album grandiflorum* and *Album elegans*, will make the best possible combination. If with these there are some groups of Silver Birch, and the



*POPLARS BY THE STREAM-SIDE, WATER-VIOLET (HOTTONIA)
IN THE FOREGROUND.*

whole shows against a background of Spruce Fir, it will probably be as noble a use of these grand flowers as could be combined in a half wild place.

Here, even more than in a garden, where also it is often seen and always to be regretted, an unconsidered mixture of the various colours of the many *Rhododendron* hybrids should be carefully avoided; moreover, the foliage in individuals differs so much in character, that in grouping kinds together this should be considered as well as the colour of the bloom. There is perfect safety in the group as advised above, its constituents all having the handsome dark-green long-shaped leaves that is so good an attribute of *R. ponticum* and its nearest relations.

The ponderous masses of *Rhododendrons* near water are much improved by good groupings of Silver Birches, an association always to be advised; indeed a shallow valley of rather damp peaty soil leading to water, where the wild Birches are thoroughly at home, is the very place for *Rhododendrons*. When both come down to the water's edge, and the dark evergreen masses with the graceful silver-backed stems are reflected in the still water, it shows about as good a picture of wild gardening with shrub and tree as may well be, and one that is scarcely less beautiful in winter than it is in summer.

Of other trees and bushes of the water-side, Willows and Poplars are the most important. The White Willow (*Salix alba*) becomes a good-sized tree. There are occasionally places where the Weeping Willow can be planted with good effect, perhaps for pre-

ference at the edge of small pools. But much more generally useful are the Willows or Osiers with highly-coloured bark, especially the Cardinal and the Golden Osiers. In winter they quite light up the water-side landscape with their cheerful colouring, which is all the more brilliant if they are cut down every year; the young rods bearing the brighter bark. Nearly as bright in winter is the Red Dogwood, also willing to grow near water.

The Poplars are the largest of the deciduous trees for the river or pond side or anywhere in damp ground. Grand great trees they are—the White, the Grey, the Black and also the Aspen Poplar; but grandest of all and the most pictorial is the tall upright Lombardy Poplar.

Sometimes nearly a straight line of these tall trees will occur near a river, and often have they been so planted with the very best effect; the strangely clear contrasting line of straight tall tree and level water being acutely accentuated when the one is reflected in the other.

As mentioned in the last chapter the Spruce and its varieties are damp-loving things. The handsome American Hemlock Spruce is one of the finest, and a grand tree for the water-side or for any damp ground.

Quinces also love a damp place, and as true water-side bushes are not many in number they should be more freely planted, for not only do they give a harvest of excellent fruit, but they are beautiful bushes or small trees. Moreover, they are good at all times



*ROCKY STREAM-GARDEN AND LILY-POOL, BY MESSRS. VEITCH,
OF EXETER*



ROCK-GARDEN POOL, DESIGNED AND PLANTED BY MESSRS. VEITCH, OF EXETER.

of the year—in flower, in fruit, and when the leaves are gone, for then the remarkable grace of the little tree can best be seen. For this use the old English Quince, with the smooth roundish fruits, is by far the best, the varieties that bear the largest pear-shaped fruit being not nearly so graceful in habit.

The native Water Elder (*Viburnum Opulus*) is a grand bush or small tree, and should be largely planted by the water-side. Where garden meets water, is one of the many and one of the best of places for its derivative, the Guelder Rose. Among foreign hardy bushes one above all is precious for the water-side, the Snowdrop Tree (*Halesia tetraptera*) from North America. I have grown it both as bush and tree; and in every shape, and for all garden uses, have found it one of the very best of deciduous flowering shrubs.

The pond water-garden naturally leads to the bog-garden; indeed the tendency of the valley pond to silt up at its upper end, where the stream that feeds it lets fall the lighter particles it has held suspended and leaves the heavier ones that it has driven along its bed, points to this region of boggy deposit, narrowing to the true stream, as the proper place to grow many bog-plants.

Here, in the case of many swamp-loving things, will be found ready made, quite as good if not better places than could possibly be prepared for them, while other spaces within the moist influence of the region can easily be adapted for others that we may wish to grow.

Moreover, in the naturally silted bog there will probably be already that handsome groundwork of great tussocks of Sedge or stretches of Reed or Rush that will secure that valuable sense of unity and cohesion of the whole place, while at the same time they will make a distinct and easy separation between any such group of flowering plants as one may wish to see undisturbed by the view of the group that is next to follow.

It will be greatly to the advantage of a portion of this region if there is a copse-like growth of something that will give summer shade ; for many are the lovely plants that are not exactly marsh plants, but that like ground that is always cool and rather moist. In the wettest of this would be a plantation of *Primula denticulata*, a grand plant indeed when grown in long stretches in damp ground at the edge of a hazel copse, when its luscious leaves and round heads of lilac flower are seen quite at their best. Several others of the Asiatic Primroses like such a place better than any other. Next to it, and only divided by some clumps of Lady Fern, would be the equally wet-loving *P. sikkimensis*, and then a further drift of *P. japonica*.

The two latter kinds come easily from seed ; *P. denticulata* increases so fast and divides so well that there is no need to grow it from seed. The type colour of *P. japonica*, a crimson inclining to magenta, is unpleasant to my eye and to that of many others, but seedlings of a much better, though quite as bright a colour, have been obtained, and also a pretty low-toned white, with many intermediate pinkish shade.



A CASTLE MOAT WITH WILD FLAGS AND WATER-LILIES. (See next page.)

The soft lemon colour of the hanging bells of *P. sikkimensis* makes it one of the prettiest of woodland plants.

Two beautiful Indian Primroses of a smaller size that also like a damp place, though less shade, are *P. rosea* and *P. involucrata Monroi*; the latter seldom seen in gardens, though it is one of the most charming of hardy Primulas. These two gems, and our native tiny *P. farinosa*, should be close to the path in moist, mossy, peaty ground. Also near the path should be a good planting of the brilliant *Mimulus cupreus*, well known but much neglected; in appearance it would suit the neighbourhood of the Bog Asphodel, the latter in a rather moister hollow with Sphagnum.

In the same cool and rather damp copse-edge the Alpine Willow-leaved Gentian (*G. asclepiadea*) will be glad of a place, and also the North American *G. Andrewsii* that flowers in October, and in the cool leafy mould of the copse the Canadian Bloodroot (*Sanguinaria*), *Trilliums*, and the fine Californian Erythronium (*E. giganteum*), should be in some quantity; for though they are also delightful plants to have even in a moderate patch, yet their true use is to be in such generous masses that they form distinct features in the woodland landscape. In this way of bold planting, no one who has seen them disposed in long-shaped rather parallel drifts, having some relation either to the trend of the ground, or the direction of the woodland path, or the disposal of the masses of tree or undergrowth, or some such guiding impulse, will ever be content with a less careful mode of plant-

ing. This applies equally to Daffodils, whose place will also be here as well as in other woody spaces. It is of less importance with the wood plants whose flowers are less showy, such as Lily of the Valley and *Smilacina*, though even with these some consideration of the form of the ground in relation to the shape of their masses will give much better grouping; the result showing as a piece of skilled work rather than as a bungle. As the ground rises, and, though still in cool woodland, is assured of perfect drainage, these dainty little woodlanders will be happy. Further back there will be Solomon's Seal and here again White Foxglove. Presently there will be the wild Wood Sorrel and the native wood Anemone, and perhaps one of the larger-flowered single kinds of the same.

As the wood walk approaches the garden there will be the beautiful blue *Anemone nemorosa robinsoniana* and *A. apennina*, and near them the best of the three North American Uvularias (*U. grandiflora*) and the handsome white *Dentaria* of Alpine woods. Here also will be our own Purple Orchis and the Spanish Squills (*Scilla campanulata*) with the white variety of our native Wood Hyacinth or Squill, all closely related.

But woodland matters, though tempting, not being within the scope of the subject of the present volume, must, however regretfully, be let pass with but scant notice.

The old castle and its moat offer some pleasant places for gardening both in wall and water. In the



A ROCK AND POOL GARDEN IN GLOUCESTERSHIRE

case of this old Kentish castellated house the originally enclosed space is extremely restricted. The overgrowth of Ivy on the ancient walls, and the moat half choked with Flags and wild Water-Lilies, tell the tale of the encroachment of nature. Such a place seems almost best as it is ; its own character stands out so strongly defined that it would be almost a shock to see the last new plants on its walls or in its waters. Rather one would be disposed to have only the oldest of our garden plants, Garden Roses, Rosemary, Lavender, Pæonies, and Irises, and in the water only native things ; the Flowering Rush (*Butomus*), Arrow-head, and Buckbean. Incongruity in a case like this would seem to be akin to desecration.

Rocky pools, when cleverly designed and judiciously planted, may be among the very best of garden accessories. But unless there is some knowledge of the best ways of disposing the rocks, and some definite design, it is best left alone. In the pool-garden shown, the rocks, especially on the further side of the water, are admirably placed, showing their continuous natural stratification. But this garden was laid out by an owner who would not have tolerated glaring geological absurdities, and it was planted with things both rare and rightly used, a combination not often effected.

The picture does not show the garden at its best, as the water is below the proper level, and leaves an unsightly edge of shelving bottom. It has somewhat of the character of the Japanese gardens, though it

has an advantage over these in that it aims at simple beauty of rock and water and vegetation unhampered by the strict traditional laws that give the gardens of Japan a certain stiffness, and suggest a certain whimsicality to the Western eye.

In some large places there are bathing pools, but few have bathing pools that are beautifully planned. A bath in running water in the early sunlight of our summer days would be a much appreciated addition to the delights of many a good garden. It might be a beautiful thing in itself, with a long swimming-pool; the lower end in sunlight; the upper giving access to a small building, perhaps of classical design, standing in a grove of Ilex, or it might take such a form as that of this pool at the Villa d'Este, that wonderful Italian garden of wall and water.

PLANTS ROOTING UNDER WATER BUT CLOSE TO
THE BANK

<i>Rumex Hydrolapathum.</i>	<i>Butomus umbellatus.</i>
<i>Phragmites communis.</i>	<i>Typha latifolia.</i>
<i>Scirpus lacustris.</i>	<i>Acorus Calamus.</i>
<i>Iris Pseud-acorus.</i>	<i>Sparganium ramosum.</i>
<i>Alisma Plantago.</i>	<i>Carex pseudo-Cyperus.</i>
<i>Menyanthes trifoliata.</i>	

PLANTS FOR WATER ONE TO FOUR FEET DEEP

<i>Ranunculus aquatilis.</i>	<i>Villarsia nymphæoides.</i>
<i>Sagittaria sagittifolia.</i>	<i>Stratiotes aloides.</i>
<i>Hottonia palustris.</i>	<i>Aponogeton distachyon.</i>
<i>Pondetaria cordata.</i>	



POOL AT THE VILLA D'ESTE.



SMALL PONDS AND POOLS 127

PLANTS FOR ROOTING IN LAND AT DAMP WATER-SIDE

<i>Petasites vulgaris.</i>	<i>Leucojum æstivum.</i>
<i>Lysimachia vulgaris.</i>	<i>Caltha palustris</i> (also rooting in water).
<i>Lythrum Salicaria.</i>	
<i>Gunnera scabra.</i>	<i>Iris lævigata</i> , syn. <i>I. Kæmpferi.</i>
<i>G. manicata.</i>	<i>I. orientalis.</i>
<i>Heracleum mantegazzianum.</i>	<i>I. sibirica.</i>
<i>H. giganteum.</i>	<i>Leucanthemum lacustre.</i>
<i>Thalictrum flavum.</i>	<i>Equisetum Telmateia.</i>

TREES FOR DAMP AND WATER-SIDE PLACES

<i>Populus</i> (Poplar), <i>canescens</i> ,	<i>Salix</i> (Willow) <i>alba</i> , <i>Russelliana</i> .
<i>nigra</i> , <i>tremula</i> , <i>fastigiata</i> .	

SHRUBS FOR THE WATER-SIDE

Cardinal Willow (cut down).	<i>Viburnum Opulus</i> (GuelderRose).
Golden Osier " "	<i>Cydonia vulgaris</i> (Quince).
<i>Cornus sanguinea</i> " "	<i>Halesia tetraptera.</i>

CHAPTER XVI

TUBS IN SMALL WATER OR BOG GARDENS

WHERE there is not space enough for any approach to such a bog and water garden as I have attempted to sketch in the last chapter, a good deal may be done with small cemented tanks and channels, or even with petroleum casks sawn in half and sunk in the ground. The tubs can, of course, equally be kept above ground if it is preferred, but as I always like to consider all garden problems from their best-looking point of view, and as the use of the same plants would be advised whether the tubs were sunk or not, I will suppose that they are sunk so that they are not seen, their rims being an inch below ground. They will be so placed with regard to each other that they form such a chain as will be convenient for allowing the water, when it is turned on, to refresh the contents of each tub in succession, if it comes by gravitation. Therefore each tub, whether near its next neighbour or a little way distant from it, must be so placed that there is a continuous fall from the first tub to the last.

If the water is from the mains of a company there should be one whole barrel at a higher elevation, with a tap near the bottom whose outlet is above the level of the highest of the sunk tubs. The water should be

let into this supply barrel from a height of a foot or so, and will be all the better if it can come through a rose-like nozzle that will help to aërate the water before it reaches the barrel, in which it should also stand some hours (the longer the better) before it is let into the sunk tubs. One whole barrellful would probably be enough to partly renew, or at any rate to refresh, the contents of the water and bog tubs.

It would be a convenient arrangement for the sunk tubs to follow the line of path on one of its sides, with space round them for bog-plants; thus forming the section for water-plants of a small rock-garden, whose drier raised portion would be on the other side of the path. If the little garden is made in level ground, it will be well to excavate the space of the path and the boggy area by its side to a depth of some eighteen inches, and to throw it up on the other side, and to arrange the pathway to come into the lowered space from either end by some shallow rock steps of the kind shown at p. 14.

The space where the tubs and surrounding bog-plants are to be, should be further excavated to quite half the depth of the tubs; then these must be nicely let in to their proper depth, and adjusted with the necessary fall (about an inch) from one to the other, though each should stand quite level. Prepared soil will then be filled in to the level of the rims. It should be of peat and leaf-mould, with one stiffer corner for the few bog-plants that like loam. Then the rims of the tubs should be closely covered with flat stones that just overlap, laid in such a way that

they do not slavishly follow the circle of the tub edge, but rather serve to mask it. These stones may be anything from two inches to four inches thick. Now the little channel must be made that supplies the water. It will look best if it is of the same stones, some larger and some smaller, laid as a kind of rough little trough on a bed of cement, so that the water is carried without loss. There will have to be also a slight ridge of cement and stones between the main stones that cover the tub edges, so that the water shall be compelled to flow onward, and not be lost over the edge; this can still be kept so informal that the round rim is not defined. The same kind of channel will connect all the tubs. It will be quite enough in a small space if there are five of the tubs for true aquatics. My choice for these would be the little white-flowered *Nymphæa pygmæa*, and the pretty pale yellow seedling from it called *Helvola*, raised by M. Marliac; then one tub each for *Pondetaria*, *Aponogeton*, and *Butomus*. Other tubs could be sunk for the marsh plants, but if the service barrellful of water could by some clever way of diversion be given alternately to the tubs themselves and to the ground around them, this ground being sunk just below the path level would keep fairly moist. It would, however, be a more effective place for marsh plants if the whole excavated space had on the sides and bottom a coat of rough cement concrete followed by a finer coat trowelled on or "rendered" as a bricklayer would say.

The insides of the paraffin barrels will be made all the more durable if they are burnt out before using.

This is done by lighting a wisp of straw placed in each. The wood is saturated with mineral oil which soon catches fire. The whole inside is allowed to blaze for three or four minutes, till it has a completely carbonised coating, which forms the best preservative from decay. The fire is put out by turning the tubs upside down.

Any of the marsh plants already mentioned will do in the moist area, but in addition other small plants may be named. The yellow Mountain Saxifrage (*S. aizoides*), the Alpine *Campanula barbata*, the North American *Rhexia virginica*, and the pretty native Bog Asphodel; and on the shady side *Epigæa repens*.

The following groups will also come well: the delicate Fern, *Nephrodium Thelypteris*, with *Nierembergia rivularis* and the Water Forget-me-not; *Galax aphylla*, *Shortia galacifolia*, and *Cornus canadensis*; the double Cuckoo-flower and the neat *Cardamine trifoliata*; the lovely little *Houstonia*, with the dainty creeping foliage of *Sibthorpia*; the brilliant blue *Gentiana bavarica* by itself; the violet-like Butterwort also alone; *Primula rosea* and *P. involucreta Monroi* and the fairy-like *P. farinosa*; then severally, the American *Helonias*, *Gentiana Pneumonanthe*, and in the more backward places where rather larger plants will have space, *Cypripedium spectabile*, *Gentiana asclepiadea*, and, if in shade, the handsome American Fern, *Onoclea sensibilis*. Any bare spaces, when the little garden is first planted, can be filled with Mossy Saxifrages, and the wettest places with Sphagnum moss, whose presence is a comfort to many of the plants of the peat bog.

Where tubs of aquatic plants are not sunk in the ground their form seems to suggest some rather symmetrical arrangement, but in this case their disposition would entirely depend on what local circumstances would offer or demand.

The little bog-garden will probably belong to persons of small or moderate means, to whom it is an object to avoid costly labour. Many an owner of such a little place has pronounced mechanical tastes and will do all but the heaviest earth-work himself. He will set the stones and make the cemented channels, and knock up a rather close-paled trellis to hide the supply barrel, or even cover it with an outer skin of rough rock-walling that would make a good show on the bog-garden side. It would be as well not to build the barrel right in, but only to make a veiling wall showing to the bog-garden, so that the barrel could be changed if necessary. The piece of rock-wall would be buttressed back on each side of the barrel and a little rough arch made in front for hand access to the tap. Then somewhere there might be a small dipping tank; such as the one whose corner shows in the illustration. This is an actual tank in just such a garden as has been described. It is filled by rain water that runs down a path beyond the mound which rises at its back, and a ten-foot length of iron pipe brings it through. It was an easy job to make a foot or two of stone and cement channel with a small catchpit to stop the sand at the upper end of the pipe. The dark hole under the



ROCK-BANK AND DIPPING TANK IN A SMALL BOG-GARDEN.



ROUGH SEAT IN A DRY CORNER OF A BOG-GARDEN. TRILLIUM, UVULARIA,
ANEMONE NEMOROSA, ETC.

TUBS IN WATER-GARDENS 133

Harts-tongue shows where the hidden pipe delivers the water into the tank.

Then in such places it is pleasant to make rough seats of wood or stone. The wooden seat in the picture looks very rugged, but is better to sit on than it appears to be, and after all the purpose of a seat in such a place is only as an occasional perch. Still, if it is the right height, and the back has the right slope, and the rail across comes at the proper place—in this case it was too high when the photograph was done and was lowered four inches—a fair amount of comfort may be secured. The Ivy took very kindly to this rough seat, wreathing the stumps, and, later, the supports of the back rail. Another seat was built of stone in an adjoining bit of garden, with a low back against a bank. On the top of the bank tufts of Thyme were planted that came bushing out and over the edge of the stone, and made a living cushion that was not only pleasantly restful but delightfully fragrant.

PLANTS FOR BOG-GARDEN

IN TUBS

Nymphæa pygmæa.

Pondetaria cordata.

Butomus palustris.

Nymphæa Helvola.

Aponogeton distachyon.

IN BOG OR DAMP GROUND

{ *Saxifraga aizoides.*

{ *Rhexia virginica.*

{ *Narthecium ossifragum.*

{ *Nierembergia rivularis.*

{ *Myosotis palustris.*

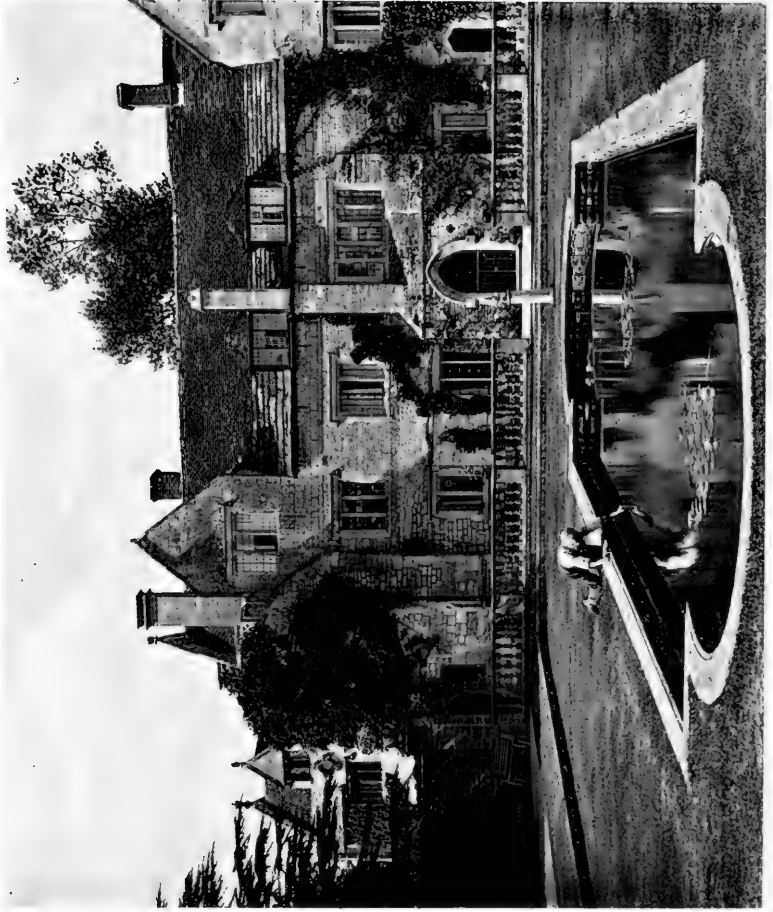
{ *Nephrodium Thelypteris.*

134 WALL AND WATER GARDENS

<i>Gentiana bavarica.</i>	{ <i>Cardamine pratensis fl. pl.</i>
{ <i>Primula rosea.</i>	{ <i>C. trifoliata.</i>
{ <i>P. Monroi.</i>	{ <i>Arenaria balearica.</i>
{ <i>P. farinosa.</i>	<i>Pinguicula grandiflora.</i>
{ <i>Helonias bullata.</i>	{ <i>Gentiana asclepiadea.</i>
{ <i>Galax aphylla.</i>	{ <i>Onoclea sensibilis.</i>
{ <i>Shortia galacifolia.</i>	<i>Gentiana Pneumonanthe.</i>
{ <i>Cornus canadensis.</i>	<i>Cypripedium spectabile.</i>
{ <i>Epigæa repens.</i>	

The names in brackets are those of plants that group well together or near each other.





GARDEN TANK WITH A FLAT KERB.

CHAPTER XVII

TANKS IN GARDEN DESIGN

THE recent remarkable development of the Water-Lily as a garden flower has already had a marked effect on garden design, in that an important modern pleasure ground is scarcely complete without its Lily tank. The Water-Lily's simple form both of flower and foliage seems to adapt it specially for being grown in basins in the ornamental garden. The illustration shows a good example of such a Lily pool. The broad flat kerb of wrought stone is in harmony both with the level lines of the water and the flat expanse of grass. Such an edging is far better than the lumpy raised erections of poor design that so often disfigure our garden pools. Raised parapets are only good when they are very well designed, as in an illustration at the beginning of the next chapter.

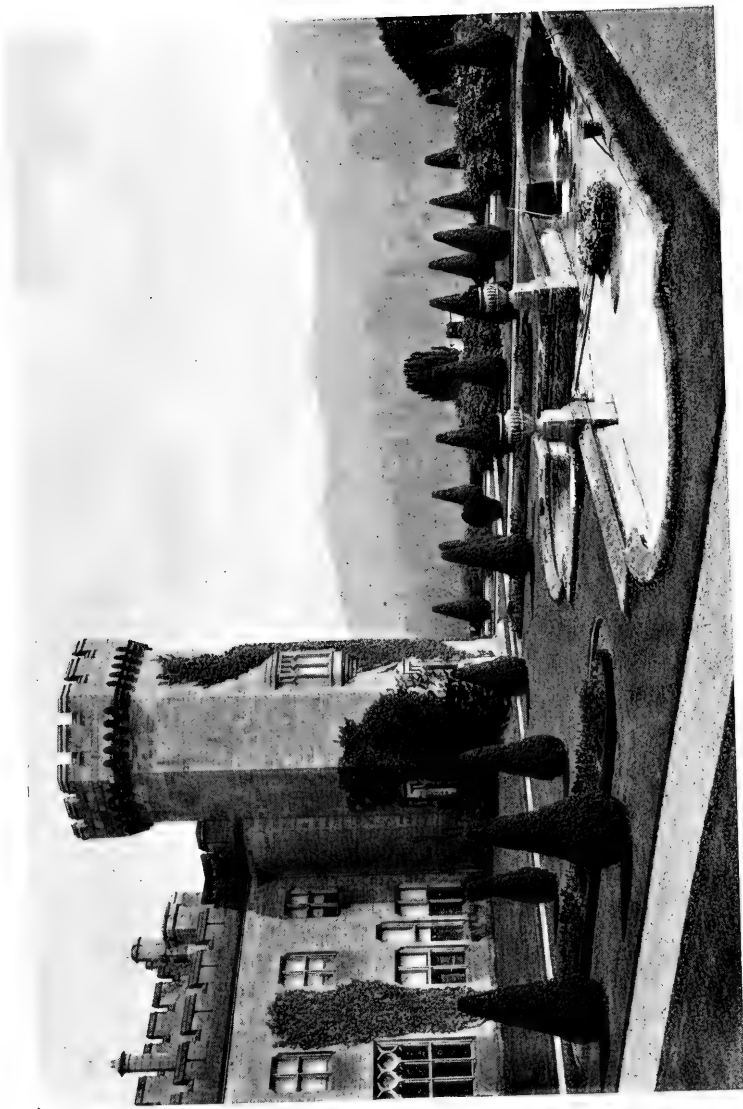
The proper relation of the water-level to the edge of the tank is a matter that is often overlooked. It should not be far from the level of the lower inside line of the kerb. Nothing, except an empty tank or fountain basin, has a much more unsatisfactory appearance than a deep tank with only a little water in the bottom. They are often built quite needlessly

deep. It is most important in the garden landscape that the tanks or basins should always have the water at the proper level. In the case of a service tank that is a necessary reservoir, or one whose use is to dip from, it is another matter, but if a basin of water forms a definite part of a garden scheme the line of the water at the right height is as important as any other line in the design.

The second example illustrated shows a larger tank, also of good design and enriched with angle piers supporting stone vases. Here the border is a little raised, with a boldly curved section as befits its larger area, but is not raised enough to impede the view of the water or to cut it off from the beholder's enjoyment.

Many people will no doubt put forward an objection to the unprotected edge on account of danger to children. But even a flat-edged tank need not and should not be dangerous. In the first place there is no need for any tank to be more than two feet deep, while its under-water margin need not be more than one foot deep. It is much better that this should be in two distinct steps, the outer and shallower part being two or three or more feet wide according to the size of the pool. This would also help to keep the water-plants in their place, as in a dressed tank it looks better that whatever is grown in it should be kept well away from the edge, and be surrounded by a distinct margin of water.

Nothing is better suited to this kind of tank than Water-Lilies, described at length in another chapter,



GARDEN TANK WITH SLIGHTLY RAISED KERB; WATER LET OFF FOR CLEANING.



POOL IN A BRICK-WALLED GARDEN COURT.



POOL IN A GARDEN COURT.

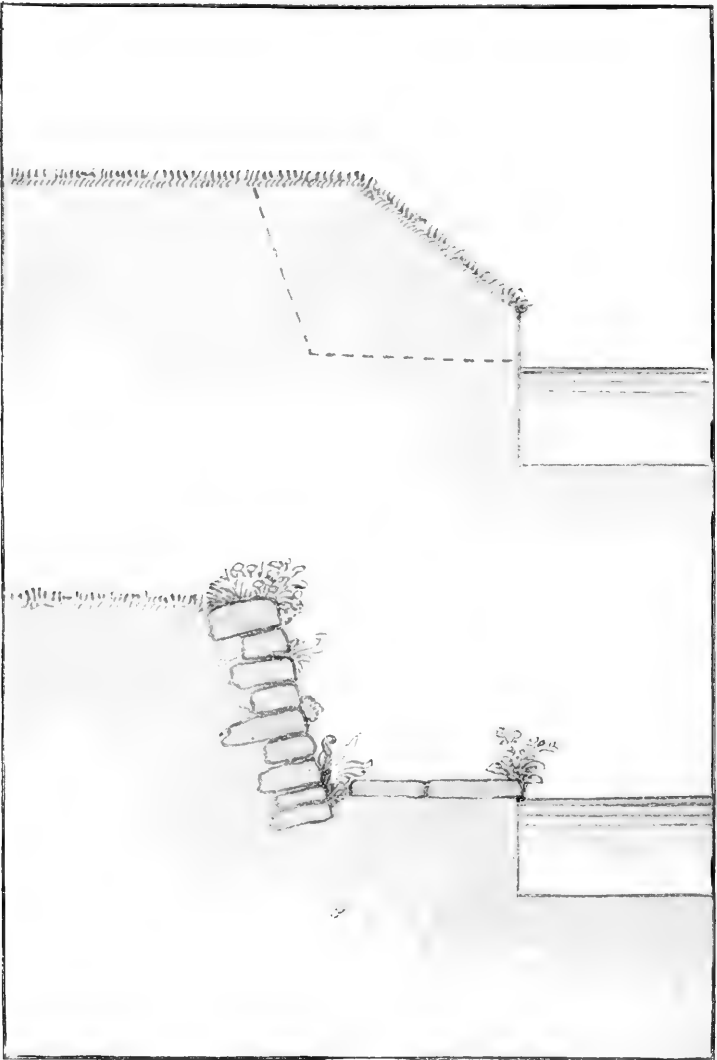


DIAGRAM SHOWING ALTERATION FOR A POOL WITH DANGEROUS EDGE.

and Arums (*Calla Æthiopica*); and in tanks of smaller size *Aponogeton* and *Pondetaria*. It is quite likely that *Nelumbium* might be grown as a tank plant in the milder parts of England, but it would not be suitable for dressed ground, as the water would have to be run off in winter and the roots covered with a thick layer of leaves or other material for protection from frost.

In another chapter a Lily tank is described in a court of beautiful architecture; but a much more homely enclosure, with plain walls of brick or stone, a large tank and a framing of handsome flower borders, is a delightful thing in the garden. Such a pleasant place is shown in the illustration.

Here it must be allowed that the unprotected edge gives some impression of danger, but this is still more apparent when a tank is set low in a garden and has a steep turf slope next to it. In this case not only is the mind perturbed but a golden opportunity is wasted. For, by cutting away the slope and a little more, as shown by the dotted line in the upper figure of the diagram, and making a pathway just above the water-level, paved with stone or brick, and putting in a dry wall and two sets of steps for easy access, a little wall-garden may be had on the land side, and on the water side a choice place for moisture-loving plants such as *Mimulus* and *Caltha*, Water Forget-me-not, and those Ferns that delight in a place where their roots can suck their fill of water.

This part of the garden design alone, of tanks in

enclosed spaces, is worthy of much further development. It would combine equally well with upright mortared walls of brick or stone, or with gently sloping dry walls. How easily such a wall and water garden could be made just below a pond-head, with a fall of water dashing into a little rocky basin, then passing under a bridge of one flat stone into a long-shaped pool, with its narrow water-walk below and its wider wall-walk on the higher level. What a paradise for Ferns and Wall Pennywort and Mossy Saxifrages would be the cool and rather damp rock-walling under the head, this being on the western or southern side, and what a pretty and interesting place altogether!

Throughout the history of the world, as it is written in the gardens that remain to us of old times, and from these, through all chronicled ages down to our own days, some kind of walled space of garden ground, cooled and enlivened with running and falling water, has always been made for human enjoyment and repose. It may be said to have been, especially in warmer climates than our own, one of the necessities of refined civilisation. The old gardens of Spain, in the ancient Moorish palaces of Granada and Seville, are as complete to-day with their many fountain jets and channels of running water as when they were first built; and though, as we see them now, the original design of the planting, except perhaps in the lines of giant Cypresses, is no doubt lost, yet they still illustrate in their several ways that



A COURT IN THE GENERALIFE GARDENS, GRANADA



POMPEII. ATRIUM OF A GRÆCO-ROMAN HOUSE WITH IMPLUVIUM. PILLARED PERISTYLIUM ENCLOSING GARDEN SHOWING BEYOND.

simple human need for the solace of a quiet garden, plentifully watered and well furnished with beautiful flowers and foliage and noble tree-form, as shown in the garden courts in the hearts of these fortress-palaces of many centuries ago.

How beautiful some of these walled and fountained courts are, not only in Spain, but in many a southern and Oriental land, and all the more beautiful when they are simply planted with just the few things that seem to have been there from all time. Perhaps a Pomegranate with its scarlet bloom and ruddy sun-browned fruit, and a large-flowered Jasmine; a Lemon-tree, yielding shade and perfume; and, shooting up straight and tall, the pink willow-like wands of the rose-bloomed Oleander; while giving grateful shade within, though growing in some outer garden space, there is a group of Date Palm or a giant Ilex, a Sweet Bay or a Terebinth.

Tanks of water combined with beds of flowers and cool greenery formed an essential part of the Roman and Græco-Roman houses of old, as we know and can see to this day in the well-preserved remains of the houses of Pompeii, where the pillared peristylum enclosed a garden with fountains and tanks. The annexed illustration of a Pompeian house shows the peristylum some fifteen paces forward, the shallow tank in the foreground being the impluvium in the central space of the atrium or main hall of the building. Above the impluvium an open space in the roof admitted the rain water.

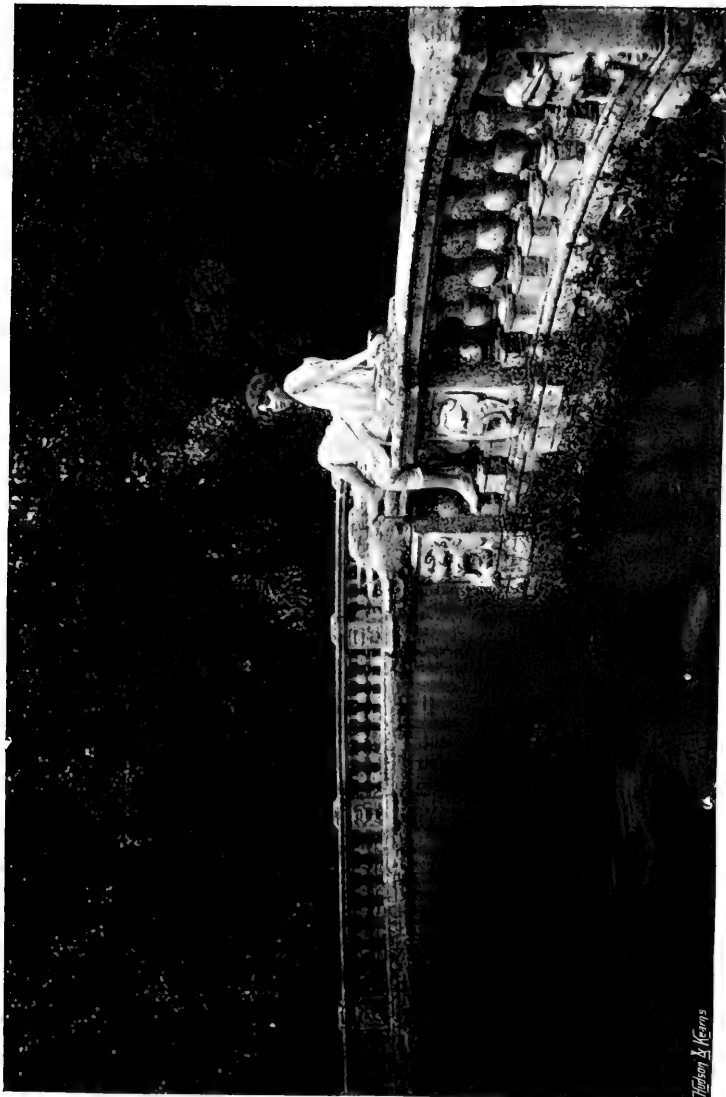
The best of the basins with high parapets may be

140 WALL AND WATER GARDENS

seen in some of the old Italian gardens. Sometimes a fountain basin will rise out of the path or pavement with a dwarf wall of stone or marble some two feet high, panelled and enriched, and surmounted by a coping so nearly flat that it forms a convenient seat, while the water within rises nearly to the cornice moulding. In the case of very large basins they are often and beautifully surrounded by an open balustrade, good to lean upon, while the water remains at or a little below the ground level.



MOIST ROCK-WALLS AT THE VILLA D'ESTE, THICKLY CLOTHED WITH MAIDEN-HAIR FERN.



POOL IN AN ITALIAN GARDEN SURROUNDED WITH A BALUSTRADE.

CHAPTER XVIII

A LILY TANK IN A FORMAL GARDEN

WHENEVER I have seen the large formal gardens attached to important houses of the Palladian type that are so numerous throughout England, I have always been struck by their almost invariable lack of interest and want of any real beauty or power of giving happiness. For at the risk of becoming wearisome by a frequent reiteration of my creed in gardening, I venture to repeat that I hold the firm belief that the purpose of a garden is to give happiness and repose of mind, firstly and above all other considerations, and to give it through the representation of the best kind of pictorial beauty of flower and foliage that can be combined or invented. And I think few people will deny that this kind of happiness is much more often enjoyed in the contemplation of the homely border of hardy flowers than in many of these great gardens, where the flowers lose their attractive identity and with it their hold of the human heart, and have to take a lower rank as mere masses of colour filling so many square yards of space. Gardens of this kind are only redeemed when some master-mind, accepting the conditions of the place as they are, decides on

treating it in some bold way, either in one grand scheme of colour-harmony, or as an exposition of this principle combined with the display of magnificent foliage-masses, or by some other such means as may raise it above the usual dull dead-level.

And, seeing how many gardens there still are of this type, I scarcely wonder that our great champion of hardy flowers should put himself into an attitude of general condemnation of the system, though I always regret that this should include denunciation of all architectural accessories. For if one has seen some of the old gardens of the Italian Renaissance, and the colossal remains of their forerunners of still greater antiquity, one can hardly fail to be impressed with the unbounded possibilities that they suggest to a mind that is equally in sympathy with beautiful plant-life and with the noble and poetical dignity of the most refined architecture—possibilities that are disregarded in many of these large gardens, with their often steep or mean flights of steps, often badly-designed balustrades, and weary acreages of gravelled paths.

I always suppose that these great wide dull gardens, sprawling over much too large a space, are merely an outgrowth of plan-drawing. The designer sitting over his sheet of paper has it within such easy view on the small scale, and though he lays out the ground in correct proportion with the block-plan of the house, and is therefore right on paper, yet no human eye can ever see it from that point of view; and as for its use in promoting any

kind of happiness, it can only be classed among others of those comfortless considerations that perplex and worry the mind with the feeling that they are too much, and yet not enough.

For the formal garden of the best type I can picture to myself endless possibilities both of beauty and delight—for though my own limited means have in a way obliged me to practise only the free and less costly ways of gardening, such as give the greatest happiness for the least expenditure, and are therefore the wisest ways for most people to walk in—yet I also have much pleasure in formal gardens of the best kinds. But it must be nothing less than the very best, and it is necessarily extremely costly, because it must entail much building beautifully designed and wrought. It must also have an unbounded supply of water, for so only could one work out all the best possibilities of such a garden.

There seems to me to be a whole mine of wealth waiting to be worked for the benefit of such gardens, for, as far as I am aware, what might now be done has never been even attempted with any degree of careful or serious study. When one thinks of the very few plants known for garden use to the ancients, and to those who built and planted the noble gardens of the Italian Renaissance, and when one compares this limited number with the vast range of beautiful shrubs and plants we now have to choose from, one cannot help seeing how much wider is the scope for keen and critical discrimination. And though some of the plants most anciently in cultivation, such as the Rose,

Violet, Iris, Poppy, Jasmine, and Vine, are still among the best, yet we are no longer tied to those and a few others only. The great quantity we have now to choose from is in itself a danger, for in the best and most refined kinds of formal gardening one is more than ever bound to the practice of the most severe restraint in the choice of kinds, and to accept nothing that does not in its own place and way satisfy the critical soul with the serene contentment of an absolute conviction.

I therefore propose to give one example of a portion of a formal garden such as I hold to be one of the most pleasant and desirable kind, and such as will present somewhat of the aspect, and fill the mind with somewhat of the sentiment, of those good old gardens of Italy. And though the initial expense will be heavy—for in work of this kind the artist's design must be carried out to the smallest detail, without skimping or screwing, or those frequent and disastrous necessities of lopping or compromise that so often mar good work—yet the whole would be so solid and permanent that the cost of its after-maintenance would be small out of all proportion with that of the usual large gardens. These always seem as if purposely designed to bind upon the shoulders of their owners the ever-living burden of the most costly and wasteful kind of effort in the trim keeping of turf and Box edging and gravelled walks, with the accompanying and unavoidable vexatious noises of rumbling roar of mowing machine, clicking of shears, and clanking grind of iron roller. In the chief por-

tions or courts of my formal garden all this fidgetty labour and worry of ugly noise would be unknown, and the only sounds of its own need or making would be the soothing and ever-delightful music of falling and running water.

Thoughts of this kind have come to me all the more vividly within the last year or two when I have seen in the gardens of friends the beautifully-coloured forms of the newer Water-Lilies. Lovely as these are in artificial pools or in natural ponds and quiet back-waters, they would probably be still more beautiful, or rather their beauty could be made still more enjoyable, by their use in a four-square tank in the Water-Lily court of a formal garden, one's mind all the more readily inviting the connection because of the recollection of the *Nymphæum* of the ancient Roman gardens, of tank or canal form, with stone-paved walks shaded by a pillared portico, and of *Nymphæa*, the botanical name of the Water-Lily. There is a perfectly well-dressed look about those Lilies, with their large leaves of simplest design, that would exactly accord with masonry of the highest refinement, and with the feeling of repose that is suggested by a surface of still water.

All gardening in which water plays an important part implies a change of level in the ground to be dealt with. I am taking as an example a place where ground slopes away from the house, so that it demands some kind of terraced treatment. First, there would be the space next to the house; its breadth having due relation to the height of the building. From this

space a flight of easy steps (the first thing shown at the top of the plan) would descend to the Water-Lily court, landing on a wide flagged path that passes all round the tank. On all four sides there are also steps leading down from the path into the water. I cannot say why it is, but have always observed that a beautiful effect is gained by steps leading actually into water. In this case I would have the two lowest steps actually *below* the water-line. Although steps are in the first instance intended for the human foot, yet we have become so well accustomed to the idea of them as easy means of access from one level to another that in many cases they are also desirable as an aid to the eye, and in such a place as I think of, the easy lines of shallow steps from the level of the path to that of the water-surface and below it, would, I consider, be preferable to any raised edging such as is more usually seen round built tanks. It would give the eye the pleasant feeling of being invited to contemplate the Lilies at its utmost ease, instead of being cut off from them by a raised barrier. On the sides of the path away from the tank is a flower border, backed by the wall that bounds the whole area of the court. On the three sides, to the right and left and across the tank as you stand on the main flight of steps, the wall, midway in each space, falls back into a half-round niche. The niche across the tank is filled with Cannas, the taller kinds at the back for stately stature and nobility of large leafage; the smaller ones, of lower habit and larger bloom, being planted towards the front. Coming down the steps

you see the level lines of water-surface jewelled with the lovely floating bloom of white and pink and tender rose colour, the steps into the tank on the near and far sides still further insisting on the repose of the level line. The eye and mind are thus in the best state of preparation for enjoying the bold uprightness of growth of the Cannas. In the flower borders next the wall I would have Lilies, and plants mostly of Lily-like character, Crinum and Funkias, and of the true Lilies a limited number of kinds—the noble White Lily, *L. Harrisii*, *L. longiflorum*, *L. Brownii*, and white and rosy forms of *L. speciosum*. These would grow out of the groups of the beautiful pale-foliaged *Funkia grandiflora* and of the tender green of the Lady Fern and of Harts-tongue. I would not let the walls be too much covered with creepers, for I hold that wherever delicate architecture marries with gardening, the growing things should never overrun or smother the masonry; but in the Lily court I would have some such light-running creeping things as can be easily led and trained within bounds, such as *Clematis Flammula*, blue Passion Flower, and, if climate allows, *Rhodochiton volubile*, *Cobæa scandens*, and *Solanum jasminoides*. These would be quite enough, and even perhaps too many.

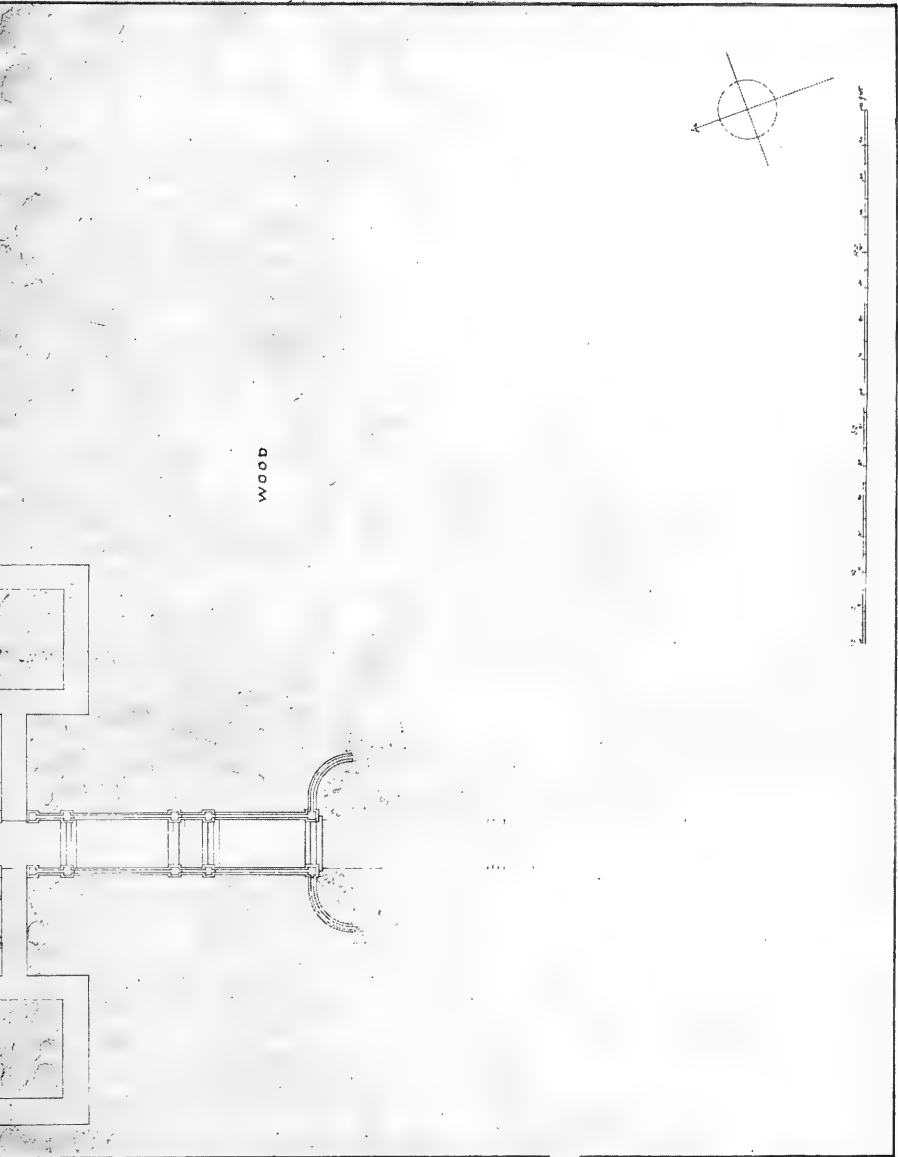
The half-round niches to right and left are partly occupied by small basins, into which water falls, through a sculptured inlet, from a height of some feet. From these it runs under the flagged pathway into the tank. Two overflows pass underground from this to right and left of the Canna niche, from which

the water is led out again into the small tanks at the angles of the paved space below the semi-circular stairway. From these it is again led away into a series of little channels and falls and then makes two rippling rills by the side of the next flights of steps and lengths of pavement. To return to the Water-Lily tank, its border spaces at the angles of the basin would have raised edges, and would be planted with dwarf flowering Cannas, mostly of one kind and colour. The enclosing walls would be about eight feet high, and as groves of beautiful trees would be in their near neighbourhood, I should wish that any foliage that could be seen from within the court should be that of Ilex.

In describing and figuring such a small piece of formal garden, I am endeavouring to show how a good use can be made, in what might be one detail of a large scheme, of beautiful plants whose use was unknown to the old garden builders, for, with the exception of the White Lily, hardly any of the plants just named could have been had.

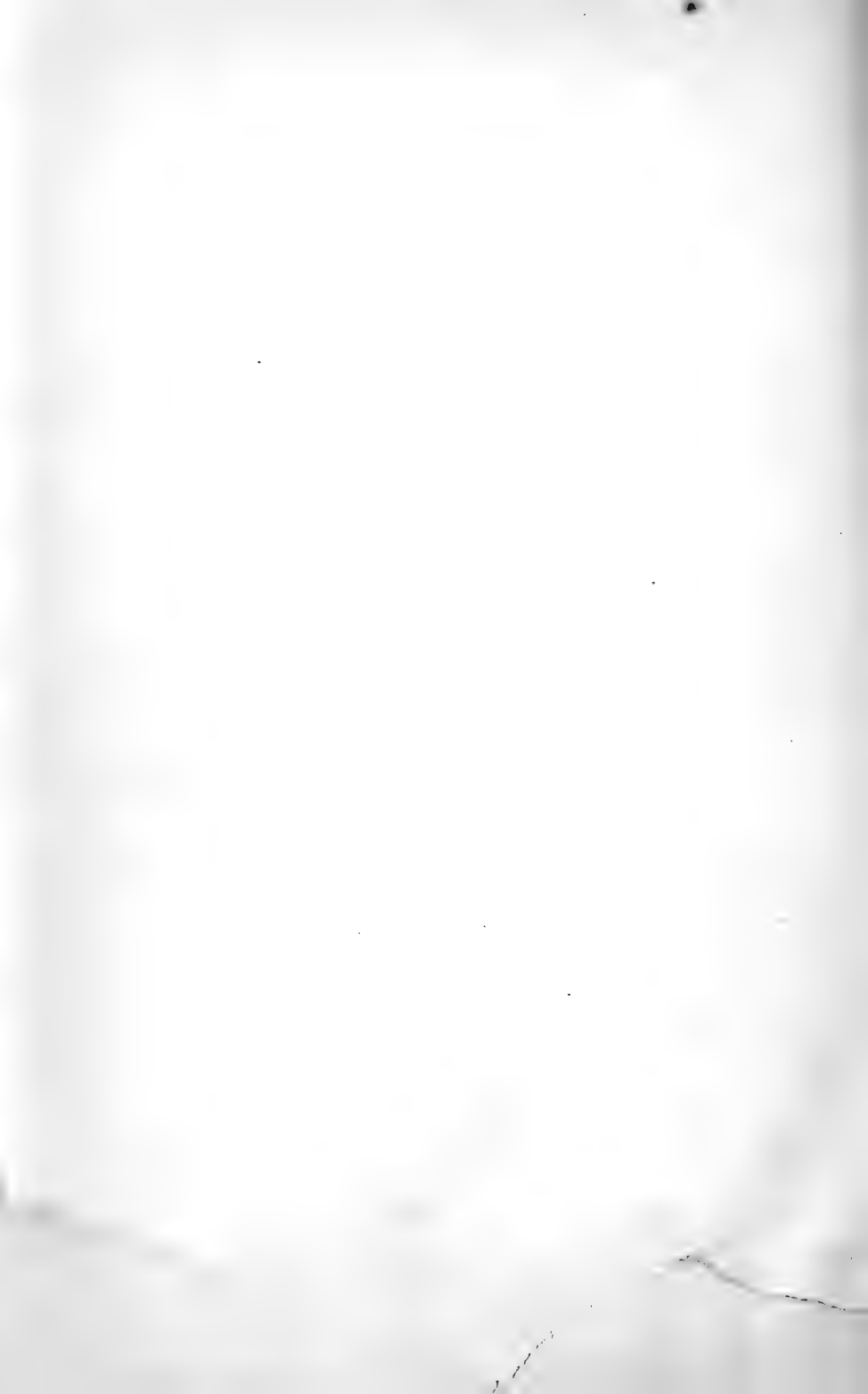
Had I ever had occasion to design a garden in what I should consider the most reasonable interpretation of the good Italian style, I should have been sparing in the use of such walled courts, keeping them and the main stairways for the important and mid-most part of the design, as shown in the plan, whether the formal design was placed on the next level below the house, or, as in the case I am contemplating, at a right angle to it, and coming straight down the face of the hill. In this case, wherever flights of steps





WOOD

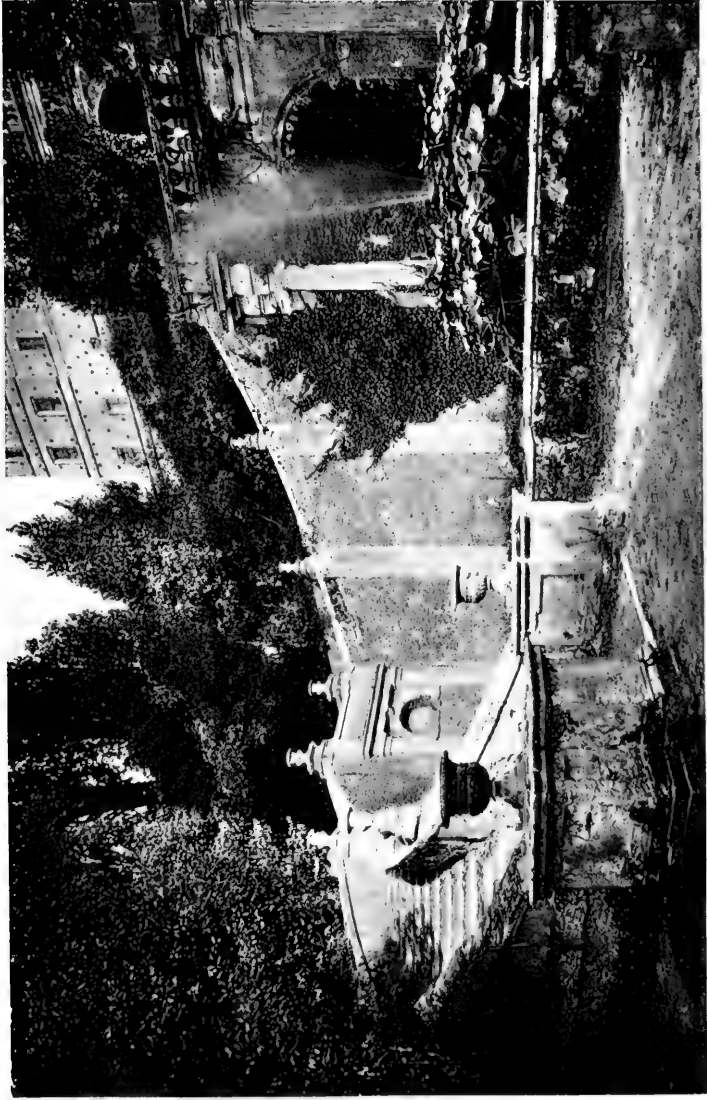
PLAN OF THE GARDEN DESCRIBED.



occurred, there would be walls well planted above and below, stretching away to right and left, and below them long level spaces of grass. One of these long grassy spaces might well be made into a perfect picture gallery of the lovely modern developments of Water-Lily, in connection with a Water-Lily court. Straight down the middle of the turfed space might be a narrow rill of water fifteen inches wide, easy to step over, bounded by a flat kerb a foot to eighteen inches wide and level with the grass. At intervals in its length it would lead into separate small square-sided tanks only a few feet wide, but large enough to show the complete beauty of some one kind of Water-Lily at a time, so that the lovely flowers and leaves and surface of still water would be as it were enclosed in a definite frame of stone or marble.

Where at the lower or valley edge of these long grassy spaces a descent occurred to the next lower level there would be a dry wall planted with Cistus and free-growing Roses—never, *never*, sharp sloping banks of turf. I always try to avoid the spirit of intolerance in anything, but for these turf banks, so frequent in gardens, I can only feel a distinct aversion. Did such a turf bank ever give any one the slightest happiness? Did any one ever think it beautiful? The upper terrace wall above the level of the Lily court would no doubt be surmounted by a wrought-stone balustrade, but as the scheme descended towards the lowest level the architectural features would diminish, so that they would end in a flagged walk only, with steps where needful. But

the treatment of this would depend on what was below. If it was all pleasure ground, or if there was a river or lake, the architectural refinements would be continued, though not obtruded; if it was a kitchen garden it would be approached by perhaps a simpler walled enclosure for Vines and Figs, the paved walk passing between two green spaces, in the centre of each of which would stand a Mulberry tree. On the upper levelled spaces right and left the formal feeling would merge into the free, for there is no reason why the two should not be combined, and on one level at least the green expanse should be seen from end to end, the flagged path only passing across it. And all the way down there would be the living water, rippling, rushing, and falling. Open channels in which it flowed with any considerable fall would be built in little steps with falls to oblige the water to make its rippling music, and in the same way throughout the whole garden every point would be studied, so as to lose sight of no means, however trifling, of catching and guiding any local matter or attribute, quality, or circumstance that could possibly be turned to account for the increase of the beauty and interest and delightfulness of the garden. One small section I have ventured to describe and figure in detail, but only as a suggestion of how much may be done with a limited number of plants only. One wants to see one beautiful picture at a time, not a muddle of means and material that properly sorted and disposed might compose a dozen. I do not say that it is easy; on the contrary, it wants



IN THE GARDEN OF THE VILLA D'ESTE, TIVOLI; NELUMBIUM IN THE RAISED TANK.
(The Garden as described and shown on the plan is of this type.)

a good deal of the knowledge that only comes of many forms of study and labour and effort. But the grand plants are now so numerous and so easily accessible that one should consider all ways of using them worthily.

As far as I understand the needs of such a garden as I have sketched, with a nucleus or backbone of pure formality, how grandly one could use all the best plants. How, descending the slope, at every fresh landing some new form of plant beauty would be displayed ; how, coming up from below, the ascent of, say, a hundred feet, instead of being a toil, would be a progress of pleasure by the help of the smooth flagged path and the wide flights of easy steps. Every step in the garden would be nearly two feet broad and never more than five inches high, no matter how steep the incline. If ground falls so rapidly that steps of such a gradient cannot be carried straight up and down, we build out a bold landing and carry the steps in a double flight right and left, and then land again, and come down to the next level with another flight. Then we find what a good wide space is left below for a basin and a splash of water or some handsome group of plants, or both, and that the whole scheme has gained by the alteration in treatment that the form of the ground made expedient. Then there are frequent seats, so placed as best to give rest to the pilgrim and to display the garden-picture.

Where the lower flights of steps occur we are passing through woodland, with a not very wide

space between the edge of the wood and the wide paved way, here unbounded by any edging. Here we have, in widespread groups, plants of rather large stature—Bamboos, and the great Knotweeds of Japan, the large Tritomas and the Giant Reeds and grasses, Arundo, Gynierium and Eulalia, and between them the running water, now no longer confined in built channels, but running free in shallow pebbly rills. Here we have also other large-leaved plants—the immense Gunneras and the native Butter-bur, the North American Rodgersia, and the peltate Saxifrage, all happy on the lower cooler levels and gentle slopes; watered by the rill, and half shaded by the nearer trees. As the path rises it comes clear of the wood, and the garden spreads out right and left in the lower levels of its terraced spaces. One of these, perhaps the lowest, I should be disposed to plant with Bamboos on both sides of a broad green path. As the paved path mounts, the architectural features become more pronounced; the steps that were quite plain below have a slight undercutting of the lower part of the front. A little higher, and this becomes a fully moulded feature, with a distinct shadow accentuating the overhanging front edge of the step, and so by an insensible gradation we arrive at the full dress of the Lily court and terrace above.

In so slight a sketch as this one cannot attempt to describe in detail all the beautiful ways of using such good things as Roses and Clematis (among hosts of others) that such a garden suggests. But it is perhaps in gardens of formal structure that some of their

many uses may best be seen ; for the long straight line of the coping of a parapet may be redeemed from monotony by a leaping wave-mass of a free-growing Rose, with its spray-showers of clustered bloom, and the tender grace of the best of the small white-bloomed Clematises of spring and autumn is never seen to better advantage than when wreathing and decorating, but not hiding or overwhelming, the well-wrought stonework that bounds the terrace and crowns its wall.

CHAPTER XIX

WATER MARGINS

HAPPY are those who desire to do some good water-gardening and who have natural river and stream and pond, as yet untouched by the injudicious improver. For a beautiful old bank or water edge is a precious thing and difficult to imitate. If it is lost it is many years before its special features can be regained. But if the pond still possesses its own precious edge, and has its upper end half silted with alluvial mud, its great tussocks of coarse Sedges, its groups of Alders and luscious tufts of Marsh Marigolds, it is as a canvas primed and ready for the artist's brush.

In such a case what will have first to be thought of will be some means of comfortable access. For if a quiet bay in pond or river has near the bank a bed of Water Crowfoot or the rarer *Villarsia*, we want to get close to it on firm ground without fear of slipping into the water or getting bogged among the rushes on the bank. So we make a path by putting down some rough ballast and ramming it partly into the moist ground, and lay flat stepping stones upon it, and level up to them. In the very wettest places, or if the path has to be taken actually into the water, some small



ROCK AND STREAM GARDEN IN DEVONSHIRE.



Alder trunks, cut up two feet long and driven into the wet ground, will make a durable and effectual sub-structure.

It is a matter of simple comfort to provide these easy ways ; but it is equally important that such paths should be so done that they have no appearance of garden paths. It is not an easy matter to get a labourer to understand that a path in woodland or on water margin or other wild place must not have hard edges, but that, once the needful width is cleared or dug out or levelled, that the edge should die away imperceptibly into the true character of what is next to it on either side, just as it does in a forest track that has been used for ages, but has never been made or mended.

Any hard edge of walling, cement, or wooden campshooting is fatal to beauty of wild water margin, and makes free planting almost impossible. Such edges may be needed in more formally designed garden ground, but they are not only needless, but actually destructive of beauty in a pond or pool of informal shape. A pond-head sometimes must be rather straight and in some cases may have to be walled, but when the wall is not needful and the pond edge is to be planted for beauty, its natural shore should be treasured and retained, no matter how boggy or unsound it may be in places. It is all the prettier if the path does not exactly follow its edge, but only occasionally reaches it ; and it can be made quite dry and sound by some such method as that above described at a far less cost than

would have to be undertaken for an edge-destroying walling.

It was a good day for our water margins when the Giant Gunneras were introduced, for the immense size and noble form of their foliage enables us to make water-pictures on a scale that before was impossible. They are well seen across some little breadth of water like the narrow pool at that wonderful half-wild garden at Wisley ; but one would like to grow them in several other ways, one of them being on the banks of some stream that passes down a narrow valley with a wide and shallow stream-way strewn with great grey boulders.

The Gunneras are so overpoweringly large that they dwarf everything near them ; their size seems to demand some association with primeval rock-forms and evidences of primeval forces. Alone among such rocks, and in a valley or mountain hollow whose sides are clothed with dense darkness of Firs, one can imagine these great plants looking their noblest.

In that same good garden at Wisley the beautiful Japanese *Iris lævigata* or *I. Kämpferi* grows by the thousand—in the flowering grassy banks by the narrow water opposite the Gunneras, by the edges of other ponds, and in a meadow-like space of several acres. In all these and other such places this good plant is doing well. It is certainly *the* Water Iris above all others.

I have often found that among lovers of flowers of the less careful order there is a general idea that all



Hudson & Kearns

IRIS L. EVIGATA OR KAEMPFERI IN MR. WILSON'S GARDEN.



COIV-PARSNEP (HERACLEUM) BY THE POOL SIDE.

Irises like water, and that Irises, with them, mean Flag-leaved Irises. These are for the most part mountain plants, while *Iris florentina* grows on wall-tops; and though they may do fairly well on a well-drained river bank, they are not the true Irises for water edges.

Among those most commonly in cultivation, the ones for the water-sides are the native yellow-flowered Sword-flag (*Iris Pseud-acorus*), *I. ochroleuca*, grand in cool, moist loam; the varieties of *I. sibirica*, and the noble Japan flower so grandly grown at Wisley.

Plants that are distinct of habit and large of leaf always look well near water; this has been felt in the Devonshire garden, where a tuft of *Veratrum album* is seen seated on a rock overhanging the rushing stream, though it is not a true water-plant.

The great Cow-Parsnep (*Heracleum*) is one of the best of water-side ornaments. The kind we have known and used so long seems likely to be superseded by the new and still handsomer *H. mantegazzianum*. The plants of Cow-Parsnep in the picture are rather too much smothered among other growths, which hide the handsome radical leaves. It is seen at its best in grassy water edge or other cool damp place where it is backed by dark foliage. It would be excellent about old water-mill buildings.

Thalictrum flavum is a first-rate water-side plant. Originally a native and not unfrequently to be found on river banks, it has been improved and much increased in size by cultivation, and now throws up its grand heads of feathery yellow bloom to a height of seven feet or more.

It is always well in planting pond edges to have a good quantity of the flag-like native growths—Bulrushes and Sweet-sedge and the best of the other Sedges. Unless the pond is in immediate connection with garden ground, masses of handsome flowering plants look all the better when they are detached from one another, as they are usually seen in nature. It maintains the wild-garden character that is suitable in places that are rather distant from the garden. *Equisetum* is also one of the best of the water-side plants for this use; best in boggy ground in shade. The larger of the plants described in the chapter on small ponds or pools will, of course, also do well by the larger water spaces.

Where the pond adjoins the garden a more free use can be made of garden plants. The pond-edge in the picture has been boldly sown with Poppies and Foxgloves with capital effect. In such a place the perennial Oriental Poppy would also be excellent and the larger of the herbaceous Spiræas, the large white-plumed *S. Aruncus*, *S. venusta*, *S. palmata*, and the double Meadow Sweet, *S. Ulmaria*.

Often one sees some piece of water that just misses being pictorial, and yet might easily be made so. Such a case is that of the sheet of water in the illustration. It is in the park ground of a fine place whose ancient gardens are full of beauty, and whose environment is of grandly wooded hill and dale. The abrupt line of this pond cutting straight across the



A FLOWERY POND EDGE.



Hudson & Camps

A GOOD POND THAT MIGHT BE MUCH IMPROVED.

foot of the rising ground on the right is somewhat harsh and unnatural. A great improvement could easily be effected by a moderate amount of navy's work, if it were directed to running a sharp-pointed bay into the rising ground on the right, and tipping the earth taken out into the square corner on the near right hand; saving the bed of rushy growth and planting it back on the new edge and into the bay. The exact position of the excavation would be chosen by following any indication towards a hollow form in the ground above, and by considering how its lines would harmonise with the lines already existing. The two sides of the bay would also be eased down after the manner of those hollow places one sometimes sees by pond or lake in rising ground where cattle or wild creatures come down to drink.

PLANTS FOR WATER MARGINS.

<i>Caltha palustris.</i>	<i>Iris Pseud-acorus.</i>
<i>Gunnera manicata.</i>	<i>I. sibirica.</i>
<i>G. scabra.</i>	<i>I. lævigata.</i>
<i>Heracleum giganteum.</i>	<i>I. ochroleuca.</i>
<i>H. mantegazzianum.</i>	<i>Thalictrum flavum.</i>
<i>Equisetum Telmateia.</i>	Bamboos, in variety.
<i>Polygonum Sieboldi.</i>	<i>Polygonum sachalinense.</i>

CHAPTER XX

WATER-LILIES

It would be impossible to over-estimate the value of the cultivated *Nymphæas* to our water-gardens. These grand plants enable us to compose a whole series of new pictures of plant beauty of the very highest order. Their now great variety of colouring, as well as their diversity of size, allow us to make a wide choice so as to suit all purposes ; the largest, hybrids of the great American species, for the larger ponds, those of medium size for pools and tanks, and the smallest for those of us who have to be content with a few tubs or small cemented basins.

But certain plants, and especially those that, like the Water-Lilies, have a very clearly defined character, seem able to give us their highest beauty in just certain circumstances. We have to find out the right kind of environment. Beautiful they are and must be in all ways, but one of the things most needful in good gardening is to study the plants and provide them with the most suitable sites and surroundings. Thus, delightful as the Water-Lilies are in the margin of a wide lake, they are still better in a pond of moderate size, or even in one that has more the character of a



WATER-LILIES IN A SHELTERED POND.

large pool. If this has a near surrounding of wooded rising ground, not of trees overhanging the water, but at such a distance as to shut in the scene and to promote stillness of the water surface, the pond will be a happy one for its Lilies. Such a scene as Mr. Robinson's Lily pond in North Sussex is an example that could scarcely be bettered. Here are some of the largest of the good hybrids, white, pale yellow, and pale rose, in liberal groups of one good kind at a time, showing the very best that they can do for us in our own natural waters. Such ponds occur by the thousand in English parks and pleasure grounds, and the lovely Lilies only need planting where they will be free of rank growths of undesirable water-weeds, and where they can grow and increase and reward us year after year with their abundant bloom of surprising beauty.

In this, as in nearly all other gardening, if the best pictures are wanted, the simplest ways must be employed; for if too many kinds are mixed up or even used too close together, the best effect of the picture is lost. Thus if more than one colour or kind is to be seen at a time, it is best to put together gentle harmonies, as of white and pale yellow, or white and pale rose. Pale and deep rose also, with blush-white, will make a pleasant colour harmony; white and pale blue will be, we hope, a possible combination in the near future.

A heavy debt of gratitude is owing to M. Latour Marliac of Temple-sur-Lot, France; for to him is due

the credit of having perceived the adaptability of the various hardy species of Water-Lily for purposes of hybridisation, and for the yielding of a large variety of beautiful forms. It is to the labours of this gentleman that we owe the greater number of the beautiful flowers that we can now have in our ponds and tanks.

Other growers have followed M. Marliac's example, and now there are many who are working on the same lines ; so that, though we have already a large number of beautiful hybrid Water-Lilies, there is no doubt that we have by no means come to the end of their development, though it seems difficult to believe that anything handsomer than *Nymphæa marliacea albida* and the beautiful pale yellow *N. m. Chromatella* can possibly be produced. Already in the Laydekeri group there are rose and red and purplish flowers ; also the fine reds developed by Mr. Frœbel of Zurich, while M. Marliac promises some of blue colouring, probably the progeny of the blue *N. stellata* of Upper Egypt and the blue Water-Lily of Zanzibar. The difficulty of obtaining the blue colouring in the hardy plant is that these blues are natives of tropical regions, but there seems good reason to suppose that this will be got over, for there are also blue *Nymphæas* from the Cape and from Australia which will no doubt also play their part in the production of new garden kinds.

For planting Water-Lilies in ponds a depth of two or three feet is in many cases enough, though some



WATER-LILIES



are quite contented with eighteen inches. But if a vigorous kind is planted too shallow, as it insists on having stalks of normal length, both leaves and flowers become unduly spread. It will probably be found that growth in tanks will prove to be the more certain method of controlling the plants, for in some cases when the roots are in a restricted space and can be given a special soil of good loam the flowers are much more abundant. The rich natural mud of the ponds no doubt varies much in its nature, for whereas in one pond a Lily will flower abundantly, the same plant in another is found to run to a large mass of vigorous foliage, and to give very little bloom. This seems to point to the advantage of the tank.

The roots are generally planted in ponds by sinking an old basket containing the root, planted in good strong loam, a soil that all Water-Lilies delight in. The larger Lilies, such as the Marliacea hybrids, which owe their origin to the strong-growing American kinds, will do in fairly deep water, such as a depth of four feet or even more; while the smallest, *N. pygmæa* and its pretty yellow variety *Helvola*, of M. Marliac's raising, will do in a few inches. This little gem, with its neat marbled leaves and abundance of bloom, is the best of Water-Lilies for a tub.

The accompanying lists show which species and varieties, as at present known, are most suitable for the various uses :—

WATER-LILIES, SPECIES AND HYBRIDS

SPECIES AND SUB-SPECIES

Nymphæa alba.

* „ „ *candidissima* (the finest form, requires more room and a greater depth than the type, say five to six feet).

alba plenissima.

„ „ *rosea*, syn. *N. Caspary*, also *N. sphærocarpa rosea*; pale rosy-pink, the earliest to flower, ceasing also early.

„ *candida*, the Bohemian Water-Lily, growth medium.

„ *flava*, pale yellow, from Southern United States, only suited for warm water or the most sheltered of positions outside; growth weedy.

„ *gladstoniana*, a remarkably fine white, colour pure, petals broad, one of the very best.

„ *odorata*, the American white Water-Lily, growth medium.

„ *odorata rubra*, the Cape Cod variety of the preceding.

„ *pygmæa*, the Asiatic white Water-Lily, not so profuse of flower as some.

„ *tuberosa*, another American white Water-Lily, of strong but not robust growth.

„ *tuberosa maxima*, a stronger growing form.

- Nymphæa tuberosa Richardsoni*, reputedly the finest variety, with very double flowers.
- „ *tuberosa rosea*; in the way of *N. alba rosea*.

HYBRIDS

- Nymphæa Marliacea* hybrids are probably derived from *N. alba candidissima* and *N. odorata rubra*, or from a tender coloured species, or possibly *N. alba rosea*. Scarcely a trace of *N. odorata* is apparent in any of these hybrids, this latter having characteristics quite its own. These hybrids are :—
- * „ *Marliacea carnea*, very pale tinge of pink at base of petals.
- * „ *Marliacea candida*, a grand white, the largest of all, frequently measuring nine or ten inches in diameter.
- * „ *Marliacea rosea*, much better than *carnea*; the pink more decided and the flowers of finer form.
- „ *Marliacea flammea*, a highly coloured and very fine hybrid.
- * „ *Marliacea rubro-punctata*, of the largest size, colour reddish carmine.
- * „ *Marliacea Chromatella*, the only yellow of this section, a continuous flowering variety.
- * „ *Marliacea colossea*, reputedly the giant of the race.

The foregoing are all of vigorous and dense growth, being seen to the best advantage in deep water when well established, say from four to eight feet.

The Laydekeri section of the Marliac Water-Lilies appears to have some affinity with *N. odorata* in the form of their flowers, but the root-stock is quite different; possibly this resemblance was subdued in one of the parents. Of these hybrids *N. Laydekeri rosea* is extremely difficult to propagate; it is not disposed to make offsets, hence it is only increased by seeding. These are well suited to shallow pools of water, and for fountains, tanks, or tubs.

- Nymphæa Laydekeri rosea*, a pale rose colour, darkening each day with age; three colours are frequently seen upon the same plant; comes into flower quite early.
- „ *Laydekeri lilacina*, different, in that it propagates freely; flowers tinged with pale lilac.
- „ *Laydekeri purpurata*, a darker form of the foregoing, otherwise similar.
- „ *Laydekeri fulgens*, the darkest of this section, and larger in size of flowers and in growth.
- „ *Laydekeri rosea prolifera* is reputed to be true to its name.

The *N. odorata* section of the Marliacean hybrids have a greater resemblance to their parent on this

side. I am disposed to think these have been raised by crossing *N. odorata* with *N. odorata rubra*, because the first of these, viz., *N. odorata rosacea* and *N. exquisita*, appear to be true to this type. These Water-Lilies are better suited to shallow water, say from eighteen inches to two feet in depth. All are sweetly scented. These *Nymphæas* are all quite recognisable by their peculiar, hard, wiry-looking root-stock, which is long and slender; the roots also are not so succulent as in the preceding.

Nymphæa odorata exquisita is a charming form; it is a lovely shade of rosy-pink extending to the extremities of the petals.

„ *odorata rosacea*, much paler in colour than the preceding, and quite as beautiful in its tints; a profuse flowering plant.

„ *odorata suavissima*, another variety, the flowers of which are stated to be larger than the foregoing, but of the same tints, possibly darker on the whole.

„ *odorata Luciana*, in the way of *N. odorata exquisita*, perhaps lighter in colour of the two.

„ *odorata sulphurea*, a charming Lily, pale yellow in colour, flowers thrown well out of the water, foliage mottled. This and the following are in Water-Lilies what the Cactus Dahlia is in its family, having long, narrow, and tapering petals.

- Nymphaea odorata sulphurea grandiflora*, a finer form of the preceding, with more vigour.
- „ *odorata caroliniana*, a pale, clear, rosy pink.
- „ „ „ *nivea*, a pure white variety, extremely beautiful.
- „ *odorata caroliniana perfecta*, a most delicate tint of pale pink, quite lovely.

Other Marliacean hybrids are as follows. These have individual characteristics each of most variable description, whilst to fix their parentage is a difficult matter.

- * *Nymphaea lucida*, growth vigorous, flowers a soft rose-pink tinged with red, foliage very ornamental and distinct ; a fine variety.
- „ *ellisiana*,¹ growth vigorous, flowers of the richest carmine with age, much paler when first expanded ; a choice and desirable Lily.
- * „ *gloriosa*, the finest of all the Marliacean hybrids ; beyond a doubt a grand variety and most distinct ; colour rich carmine-red ; every well-developed flower has five sepals ; this is not seen in any other, and is most noticeable. It causes the flowers to expand more widely.
- „ *ignea*, exceedingly rich in colour, growth moderate.

¹ This should properly come under the Laydekeri section, which in its buds it resembles, though in vigour it is a great advance.

- Nymphæa sanguinea*, darker than the preceding and of smaller growth; a Lily that will become more popular.
- „ *Robinsoni*, quite distinct, dark in colour with a slight tinge of yellow; a good grower.
- „ *Seignoureti* has the yellow or orange more defined than in the preceding; not free in flowering.
- „ *andreana*, a purplish red, with handsome foliage.
- „ *Aurora*; in the way of *N. Seignoureti*, not so good on the whole.
- „ *pulva*; in the way of *N. Seignoureti*, not so good on the whole.
- „ *pygmæa Helvola*, the smallest of any of the many fine hybrids raised by M. Latour-Marliac. It is a perfect gem; colour a pale yellow, flowers stellate in shape, foliage small and beautifully mottled with bronze-red; it flowers freely. Well suited to shallow basins, or tubs, or aquaria; six inches of water over the crowns being ample.

N. Arc-en-ciel and *N. atro-sanguinea* are two of the more recent of M. Latour-Marliac's developments. So also is *N. colosse*, already enumerated. In England these have not yet been fairly tested. *N. James Gurney*, *N. William Doogue*, and *N. William Falconer*; these American varieties or hybrids appear to have a close

affinity to those raised by M. Latour-Marliac. The two first-named are after the *N. Marliacea* group, and the latter after *N. odorata*; this is the darkest I have yet flowered of any of the hybrids. The parentage of these three Lilies I do not recollect to have seen given or even suggested. Another American variety, James Brydon, I have not yet seen.

N. Fræbeli was described by J. F. H. in *The Garden* recently, and a coloured plate was given. This also is not yet well enough known to speak of its merits. It has a good reputation on the Continent.

As a rule the depth of water required for any variety may be gauged by the length of the petiole or leaf-stalk. Those with long petioles will be well adapted for deep water, such, for instance, as the varieties marked *.

INDEX

- Acæna* species, 33
Acantholimon, 24, 26
Acanthus, 25, 27
Achillea umbellata, 7, 8, 22, 87,
 91
Acorus Calamus, 112
Adoxa, 41
Æthionema, 20, 26
 Alders, 70, 110, 118, 154
 Alhambra, 26
 Alpine garden, 100; Alpine pas-
 tures, 103
 Alyssum, 9, 17, 26, 34, 61
Amaryllis Belladonna, 25, 27
 Andromeda, 81, 83
Androsace species, 32, 94
Anemone fulgens, 27; *A. apen-
 nina*, 32, 35
Anomatheca, 25, 27
Antennaria, 87, 92
Aponogeton, 116, 130, 137
 Arabis, 17, 26, 35, 59, 61, 91
 Architect and gardener, 54
 Architecture not to be smoth-
 ered, 54
Arenaria balearica, 8, 14, 92
Arnebia echioides, 21
 Arrow-head, 113
Artemisia nana, 7, 8, 22; *A.
 sericea*, 7
Arundo, 80, 152
Asarum, 86
Asplenium species, 38; *A. Filix-
 femina*, 73
 Aubrietia, 2, 26, 35, 59, 92
 Auriculas, 32
 Ayrshire Roses, 6
 Azalea, 81
- BACKHOUSE, Messrs., rock-gar-
 den, 96
 Balsam, 69
 Bamboo, 81, 152
 Bathing pool, 126
 Bay (*Laurus nobilis*), 46
 Bell-flower, Ivy-leaved, 75
 Berberis, 4, 5, 22, 27
Bignonia radicans, 48, 53
 Birches, 67, 71, 109, 119
 Bloodroot, 123
 Bog Asphodel (*Narthecium*), 77,
 123
 Bog-garden, 121, 128; plants
 for, 133
 Boggy ground, 71, 121
 Bog Myrtle, 77
 Bog Pimpernel, 75
 Box, 48
 Brambles, 4, 48, 78
 Bridge with wild overgrowth,
 57
 Briers, 5
 Brooms, 83
 Buckbean, 114

- Bulbous plants for rock-garden, 98
 Bulrush, 111
 Bur-reed, 69, 112
Butomus, 112, 130
 Butterbur, 71, 114, 152
 Butterwort, 75, 131
- CABBAGE Rose, 46
Calla palustris, 77, 137
Caltha (Marsh Marigold), 137
Campanula, 26, 34, 62; *C. isophylla*, 8, 9, 19; *C. garganica*, 8, 9, 18; *C. fragilis*, 8, 9; *C. muralis*, 8, 9, 19; *C. Raineri*, 19; *C. petraea*, 19; *C. Elatine*, 19; *C. elatinoides*, 19; *C. excisa*, 19; *C. macrorrhiza*, 19; *C. mirabilis*, 19; *C. pyramidalis*, 55; *Campanulas*, 56; *C. pulla*, 93; *C. barbata*, 131
 Candleberry Gale, 77
 Cannas, 147
 Caper, 23
 Capri, Island of, 19
Cardamine, 35, 131
Carpenteria, 53
Cassinia, 22, 27
 Catmint, 22
 Cementing steps, 13
Cerastium, 2, 7, 9, 17, 26, 59, 92
Ceterach, 14
 Chair-Rush, 112
Cheilanthes, 14
Cheiranthus alpinus, 91
Chimonanthus, 48
Choisya, 46, 53
Cistus, 4, 8, 9, 22, 25, 27, 83, 85, 149
Clematis Vitalba, 43; *C. Flammula*, 46, 147; *C. montana*, 46; *Clematis*, 142
- Cobæa scandens*, 147
 Columbine, 41
Comptonia asplenifolia, 77
 Conifers by water, 110
 Construction of dry walling, 11 and onward; of rock-garden, 10
Cornus, 131
 Correvon, Monsieur, of Geneva, 100
Corydalis, 2, 8, 34, 37, 93
Cotoneaster, 4, 86
 Cotton Grass, 77
Cotyledon umbilicus, 37
 Cow-parsnep, 71, 157
Crinum, 25, 27, 147
 Criticism on a terraced garden, 51 and onward
 Cyperus Sedge, 112
 Cypress, 44, 138
Cypripedium spectabile, 74, 131
Cystopteris, 14
- DAFFODILS, 78, 124
 Dangerous tank edges, 137
Daphne pontica, 83
Delphinium, 50
Dentaria, 124
Desmodium penduliflorum, 5
Dianthus, 96
Dianthus fragrans, 3, 9, 18; *D. cæsius*, 18; *D. plumarius*, 18; *D. superbus*, 18
 Difficult Alpines, 105
 Dog-Tooth Violets, 102
Draba, 96
Drosera rotundifolia, 77
Dryas octopetala, 73
 Dry walling, 1, 11 and onward
- Edraianthus*, 24
Epigæa repens, 73, 131

- Epipactis palustris* and *latifolia*, 73
Equisetum Telmateia, 80, 112, 158
Erinus, 2, 3, 8, 14, 35
Eriophorum, 77
Eryngium alpinum, 87
Erythronium, 123
Eulalia, 152
Euphorbia, 87
Eurybia, 26, 93
- FERNS IN WALLS, 2, 4, 8, 14, 28, 37, 55, 57, 58
 Ferns by water, 68, 73, 137; in rock-garden, 93, 103
 Fir, Scotch, 67, 71
 Foot of the wall, 25, 37
 Forget-me-not, Water, 66, 131, 137
 Flower-border, 50
 Forest pool, 65
 Formal garden, 141
Forsythia suspensa, 5
 Foxgloves, 36, 94, 124, 158
 Fritillaries, 78
 Fuchsia, 23, 26
 Funkias, 147
- Galax aphylla*, 76, 131
 Garden paved passage, 59
 Garden walls, 42
 Gargano, 18
Garrya elliptica, 48
Gaultheria procumbens, 75, 81, 83; *G. Shallon*, 75, 93
Gentiana Pneumonanthe, 77; species, 102, 123, 131
 Geology in the rock-garden, 12, 100; geological lists of Alpines, 106, 107
Geranium lucidum, 37
- Goodyera repens*, 76
 Grass of Parnassus, 74
 Grey foliage, plants of, 7
Griselinia, 25, 27
 Grouping plants in walls, 61; in rock-garden, 97
 Guelder Rose, 47, 121
 Gunneras, 80, 115, 152, 156
Gynerium (Pampas Grass), 44, 152
 Gypsophila, 17, 26
- Haberlea*, 32
Halesia, 121
 Harts-tongue Fern, 38, 147
 Heaths, 77, 86
Helianthemum, 22, 27, 40
Heracleum, 71, 80, 157
 Hillside gardens, 1
 Hollies, 67
 Honeysuckle, Japan, 4
Hottonia, 115
 Houseleek, 33, 40
Hutchinsia, 34
Hypericum, 4, 26; *H. coris*, 22; *H. repens*, 22
 Hyssop, 22, 26
- IBERIS, 26, 96
Iberis sempervirens, 20; *I. odorata*, 24; *I. correaefolia*, 20; *I. gibraltarica*, 20; *I. tenoreana*, 20; *I. Pruiti*, 20
 Ilex, 126, 148
Impatiens Noli-me-tangere, 69
Ionopsidium acaule, 35
Iris stylosa, 25; *I. fetidissima*, 41; *Iris*, 48, 50; *I. lævigata*, = *Kæmpferi*, 68, 115, 156; *I. Pseud-acorus*, 70, 157; *I. cristata*, 93; species, 96, 157; *I. sibirica*, 116

- Ivy, 25 ; Caenwood var., 46 ; on steps, 56
- JAPAN, Iris in, 69
 Jardin Alpin d'Acclimatation, Geneva, 100
Jasione montana, 40
 Jasmine, 47, 48
 Jerusalem Sage, 5
 Judging the merit of a plant, 17
- KALMIA, 81
 Kew, rock-garden at, 95
 Knot-weeds (*Polygonum*), 152
- LADY-FERN, 68, 73, 110, 122, 147
 Lakes and large ponds, 109
 Laurustinus, 46
 Lavender, 4, 5, 7, 9, 22, 26, 85
 Lavender-cotton, 22
 Lawn spaces, unbroken, 63 and onward
 Ledums, 81, 83
Leucanthemum lacustre, 117
 Lilies, 48, 50, 148
 Lily of the Valley, 124
 Lily tank in a formal garden, 141
Linnæa, 72
Linaria, 35, 37, 92, 96
Liparis, 75
Lithospermum Gastoni, 19 ; *L. graninifolium*, 19 ; *L. ros-mariniifolium*, 19 ; *L. prostratum*, 19, 91 ; *L. purpureo-cæruleum*, 39
 London Pride, 93
 Loosestrife, 70
Lysimachia nemorum, 41 ; *vulgaris*, 70, 115
Lythrum, 71, 115
- MAGNOLIA, 50
 Maidenhair Fern, 58
Malaxis, 75
 Marliac, Monsieur B. L., 161
 Marsh Helleborine, 73
 Marsh Marigold (*Caltha*), 71, 112, 115, 137, 154
 Marsh Rattle, 77
Meconopsis cambrica, 37
 Meadow-Sweet, 68
 Menyanthes, 114
Menziesia, 83, 86
Mesembryanthemum vars., 23, 26
 Mignonette, wild, 40
Mimulus, 57, 69, 123, 137
 Mixtures, desirable, 93, 96
Mitchella repens, 75
 Moneywort, 34
 Moorish gardens, 138
Mühlenbeckia, 86
 Mulleins, 36
Myrica, 81
- Narthecium*, 77
 Native plants in the rock-wall, 36
Nelumbium, 137
Nepeta, 22, 27
Nephrodium dilatatum, 73, 131 ; *Thelipteris*, 131
Nierembergia, 131
Nymphæa, 117, 130
- Olearia Haastii*, 27
Onoclea sensibilis, 74, 131
Opuntia, 9, 95
 Orchis, 124
Orontium, 77
 Osiers, 120
Osmunda regalis, 68, 73, 110
Othonnopsis, 7, 22, 29

- Overgrowth, watching and restraining, 55; advantageous, 57
Ozothamnus, 25, 27
- Pæonia*, 47, 48, 49
Panocratium illyricum, 25
Parnassia palustris, 74
Parochetus communis, 25, 27
 Partridge Berry, 76
 Paths, 5; in wild ground, 155
Pedicularis, 77
 Pennywort, wall, 8, 37
 Periwinkle, 4
Pernettya, 83
Petasites, 114
Petrocallis, 24, 27
Phlomis fruticosa, 5, 7, 9, 22
Phlox setacea, 21, 27, 92; *P. stellaris*, 21, 27
Phragmites, 111
Phyteuma, 24, 26
 Pinks in wall, 2, 9, 26, 39, 59, 61; Pinks in border, 50; Pinks in rock-garden, 87
Pinguicula, 85
 Plan of rock-garden, 88
Plumbago Larpentæ, 25, 27
 Polypody, 38, 62
 Pompeii, 139
Pondetaria, 116, 130, 137
 Pond-head, 155
 Poplars, 110, 118, 120
 Poppy, Welsh, 37, 57; Oriental, 158
Primula species, 32, 96, 122, 123, 131; Primroses, 41
Pyrola, 72
Pyrus japonica, 4, 5
- QUINCES, 120
- RAMBLING growths, 44
 Rambling Rose, 43
 Ramming, 12
Ramondia, 32
Ranunculus aquatilis, 70, 112, 154
 Reeds, 80, 111, 122, 152
 Renaissance, Italian, gardens of, 142
Reseda lutea, 40
Rhexia, 131
Rhodochiton, 48, 147
 Rhododendrons, Alpine, 83, 93, 103, 104
 Rhododendrons by water, 117, 118
 Rock-garden, 10, 80; plan of, 88
 Rock Pinks, 7, 17
 Rock-Rose (*Helianthemum*), 22, 27, 40
 Rocky pools, 125
Rodgersia podophylla, 80
Rosa lucida, 5, 9, 22, 27; *R. arvensis*, 5, 9; *R. wichuriana*, 5, 9, 22, 27; Roses, Ayrshire, 6, 47; *R. sempervirens*, 5, 9; *R. spinosissima*, 27
 Rose, Cabbage, 46; Damask, 46; Cottage Maid, 46; Maiden's Blush, 46; old H. P. vars, 47; China, 49
 Rosemary, 5, 7, 9, 27, 47, 49, 85
 Roses, hanging over walls, 5, 152
 Round islands in ponds, 118
Rubus species, 48
Ruta-muraria, 14
- Sagittaria*, 113
 Sandwort, 2, 3, 8
Sanguinaria, 123

- Santolina*, 9, 22, 26
Saponaria, 17, 24, 26
Sarracenia purpurea, 74
 Savin, 4, 86
 Saxifrage, 2, 3, 13, 31, 41, 96,
 131; *S. peltata*, 80, 152; *S.*
longifolia, 31
Scabiosa Pteroccephala, 22, 26
 Scilla, 124
 Seats in bog-garden, 132, 133
Sedum glaucum, 21; *S. Lydium*,
 21; *S. dasyphyllum*, 21; *S.*
pulchellum, 21; *S. Kamts-*
chaticum, 21; *S. cæruleum*,
 24; *S. Ewersii*, 21; *S. specta-*
bile, 21; *S. spurium*, 21
 Seeds in wall-joints, 2, 4
 Sedge, 122, 154, 158
Sempervivum, 33, 96
 Shady rock-wall, 28
 Sheep's Scabious, 40
Shortia, 131
 Shrubby plants for wall-top and
 foot, 21
 Shrubs for top of rock-garden,
 87, 98
Sibthorpia, 75, 131
Silene, 17, 24, 26, 93
Skinmia, 83
 Sloping banks of turf, 3
Smilacina, 33, 124
 Snapdragon, 2, 9, 33, 61
 Snowdrops, 82, 102
 Snowdrop tree, 121
 Snowflakes, 82, 102, 114
Solanum jasminoides, 147
 Solomon's Seal, 124
 Southern exposure, 6
 Spanish Gorse, 83
Sparanium, 69, 112
Sphagnum, 73, 131
Spiræa species, 68, 158
 Spruce Fir, 109, 117, 119, 120
Stachys corsica, 21, 26
 Stepping stones in boggyground,
 154
 Steps, 1, 13, 151; overgrown,
 55, 56
 Stitchwort (*Stellaria*), 36
 St. John's-wort, 4
Stobæa, 24, 27
 Stonecrops, 2, 21, 26, 40, 43, 96
Stratiotes, 114
 Stream garden, 66 and onward
 Succulents, 9, 23, 26, 28
 Swamp-pools, 72 and onward
 Sweet Fern, 77
 Sweet Herbs, 22
 Sweet Sedge, 112
Symphyandra species, 34

 TANKS in garden design, 135
 Tansy, 115
Teucrium Scorodonia, 40
 Terrace, double, 43
 Terraces of dry walling, 1 and
 onward; wall-top, 21
Thalictrum, 117, 157
Thelypteris, 74
 Thrift, 2, 9, 38, 62, 86
 Thyme at back of garden seat,
 133
 Toadflax, 37, 42
Trientalis, 73
Trillium, 123
 Tritomas, 152
 Tubs in bog-garden, 128
 Turf edges, 49; slopes, 149

Uvularia, 124

Vaccinium, 81
 Valerian, 38, 43, 61
Veratrum, 157

- Verbascum*, 36
Veronica hulkeana, 25, 27; *V.*
Traversi, 85
Viburnum Opulus, 110, 121
Villarsia, 113, 154
 Vines, 48, 59
 Violets, 59

Wahlenbergia, 24, 26
Waldsteinia, 34
 Wallflowers, 2, 9, 38, 43, 61
 Wall joints, planting in, 42, 59
 Walls, 45
 Wall-top, 21
 Water Buttercup, 70, 112
 Water-Crowfoot, 70, 112, 154
 Water Dock, 111
 Water Elder, 110, 121
 Water Lilies, 117, 136, 160; in
 tank, 141, 145, 149; list of,
 164

 Water margins, 154; plants for
 159
 Water plants, list of, 126
 Water rushing, 150
 Water Violet, 115
 Willows, 71, 110, 119
 Wisley, water plants at, 156
 Wood Anemone, 65
 Wood Pimpernel, 41
 Water Plantain, 111
 Wood Sage, 40
Woodsia, 14
 Wood Sorrel, 41, 65

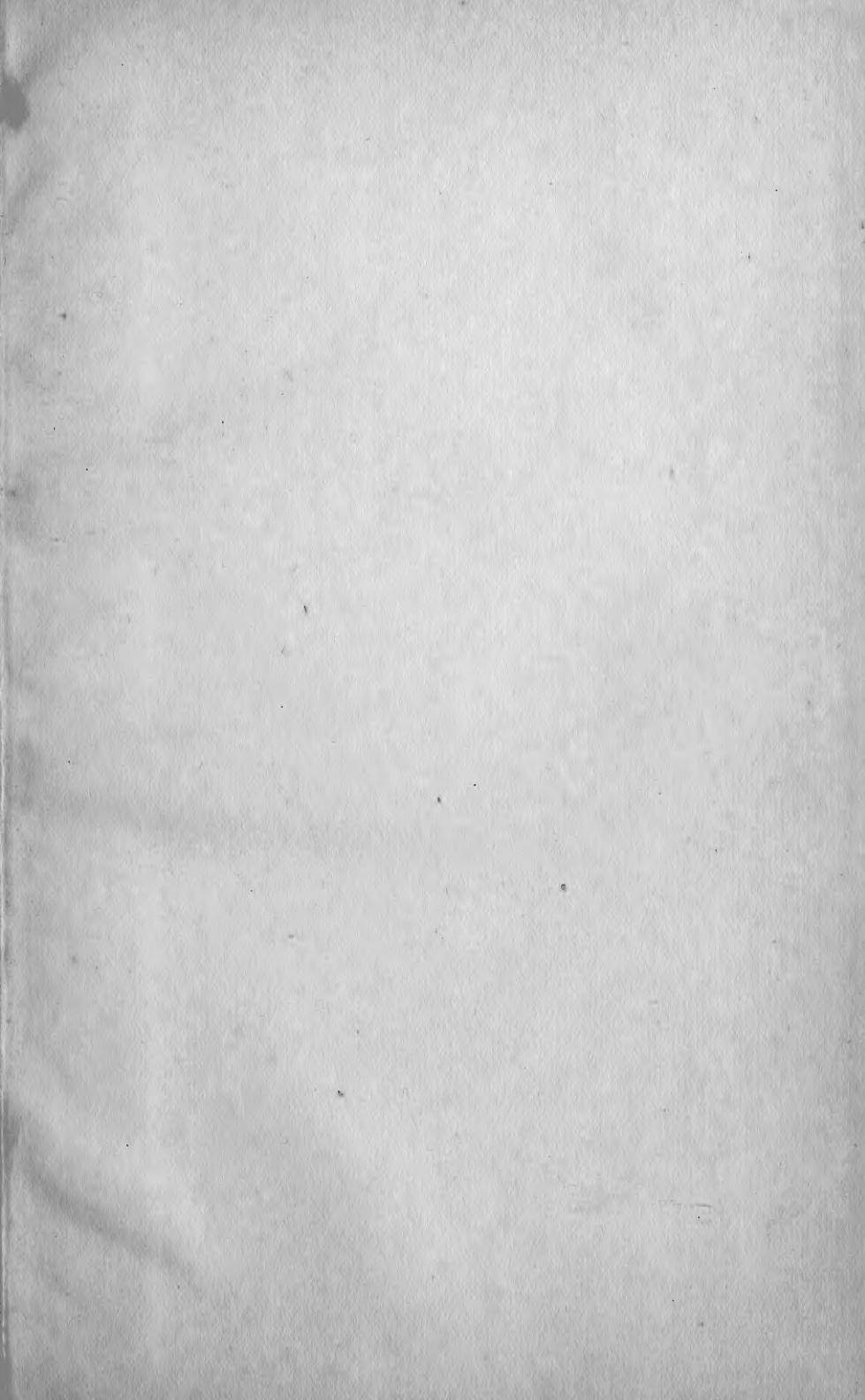
Xerophyllum asphodeloides, 76

 Yew, 48, 53
 Yuccas, 6, 9, 44, 53, 87

Zephyranthes carinata, 25, 27

THE END







119
37

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